

## TC as in Touch Control


 Steam generators **UNIVERSAL TC** series

Size	Steam capacity kg/h	Method of combustion
4	500 – 600	Oil, gas or combination
5	700 – 850	Oil, gas or combination
6	1000 – 1300	Oil, gas or combination
7	1500 – 2000	Oil, gas or combination

 Steam generators **ELEKTRO E 6 – 72 M** series

Size	Steam capacity kg/h	Method of heating
One size	8 – 97	Electrical 6 – 72 kW

 Steam generators **ELEKTRO E10MX – E320MX** series

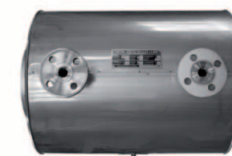
Size	Steam capacity kg/h	Method of heating
One size	10 – 320	Electrical 8 – 240 kW



**CONTAINER STEAM SYSTEM**  
Completely equipped and ready to operate



**CVE**  
Supply unit as complete ready-to-operate  
boiler housing installation  
In addition: Water softening equipment, measuring equipment



**CERTUSS EXHAUST GAS HEAT EXCHANGERS**  
CERTECON for Junior 80 – 400 as well as  
CERTECON and ECO SPI for Universal 500 – 1800



**DESALINATION HEAT EXCHANGER**  
Heat recycling from the desalination  
condensate to heat feed water  
Reduction of the amount of cooling water at steam systems with  
mixing heat exchangers when waste water cooling is required



Junior 80 – 400 TC at a glance

Efficiency

- + Extremely high degree of efficiency (with exhaust gas heat exchanger up to 98%) achieved through the 3-fold air insulation with simultaneous preheating of combustion air at very low emission losses
- + Short heat-up time. Full steam output is reached after a maximum of 5 minutes
- + Immediate output adjustment to the respective stream requirements which saves energy and thus costs through electronic combustion management and pilot flame system (gas burner)
- + Low-maintenance triplex feed water pump
- + Low-emission burner developed specially to latest European standards for all sizes

User friendliness

- + Notably simplified operation through self-explanatory touch screen menu navigation
- + Graphically supported start and shutdown instructions
- + "Thermotimat" automatic system for fully automatic operation\*
- + Remote control and control via Ethernet and mobile communications\*
- + Optionally: "CVE" supply unit as complete boiler housing installation of boiler feed pump, steam dryer, water conditioning and waste-water mixing heat exchanger

Operation and installation

- + Secure installation without foundation at low space requirements
- + Can be installed in work areas, no boiler housing required

- + No permit required for installation and use in Germany up to Category III
- + Standard equipping for operation without constant supervision in Germany

Safety and quality

- + Function and malfunction indications can be linked to central control system / building services control system provided by customer
- + Can be remotely programmed and read out or controlled via Ethernet, CAN bus, PROFIBUS or GSM/UMTS modem\*
- + Recognized exemplary service
- + Customer service standby 24 hours a day, 365 days a year
- + Spare parts supply guaranteed for 20 years
- + Function and error messages as well as service instructions through clear text in many languages

Advantages of our technology

- + Robust all-steel design with double-shell air cooling without insulation materials
- + Air intake from above, trapped heat in boiler house extracted, floor dust remains
- + Noise and vibration damping, elastic aggregate fastening
- + Flue-gas recycling (NO<sub>x</sub> reduction)\*
- + Vertical tension-free central mounting of the heating system with low-point clarifying filtration
- + Can optionally be equipped with burners for EL heating oil, natural gas, biogas or liquid gas, tested and approved by the TÜV-Rheinland in accordance with the latest EU regulations for burners

The new generation of a proven series

The steam generators CERTUSS Junior 80 – 400 TC are characterized by the immediate output adjustment and the graphics-explanatory operation.

Complete and safe

The new Junior 80 – 400 TC series encompasses completely equipped, ready-to-operate, electronically controlled steam generators with all safety devices for burner technology, pressure and temperature. An electronic combustion management with self-monitoring of the latest generation can be programmed for all types of fuel. The Universal 80 – 400 TC steam generators are started via flow controllers. Steam and waste gas temperatures are controlled through self-monitoring electronic thermostats with approval.

Manual, remote-controlled or automatic

The new series disposes of a self-explanatory control and operation function and a graphical user interface on a 7" touch screen. All the operating and fault messages as well as service instruction are displayed in all the desired languages. Controlling is carried out either manually or graphics-supported start and shutdown instructions or with optional "Thermotimat" automatic system in the system for fully automatic operation without operating personnel. Controlling via a central control system / building services control system or an external pulse is possible as is the display and transfer of operating and fault messages via Ethernet, CAN bus or PROFIBUS, as well as remote programming via a GSM modem.

Automatic desliming and start dewatering

The Junior 80 – 400 TC steam generators are equipped with

Junior 80 – 400 TC in detail



an automatic desliming and start dewatering in connection with the "Thermotimat" automatic system.

Installation conditions

In accordance with the European Pressure Equipment Directive 2014/68/EU the CERTUSS steam generators are classified as Category I, II or III depending on the operating overpressure. They have been tested in accordance with the EC type examination. No permit is required for installation and use in Germany. Initial and repetitive tests can be carried out by the CERTUSS customer service as a qualified person. The exception is the Junior 250 – 400 series with a maximum permissible operating overpressure of 32 bars, whose initial and repetitive tests have to be carried out by an approved inspection agency, such as the TÜV, in accordance with the German "BetrSichV" Sections 15 – 16.

Size	Capacities			Levels	Pressures			Consumption			Dimensions (~ mm)						Weight (~ kg)	Connections								Regulations (Germany)	TÜV
	Steam-capacity  kg/h	Nominal heat output kW	Heat input  kW		Max. operating pressure  MPa (bar)	Min. operating pressure MPa (bar)	Max. permissible overpressure  MPa (bar)	Heating oil (EL) kg/h	Natural gas m³/h	Liquid-gas m³/h	Height  A	Width  B	Depth  C	Boiler Ø D	Flue gas pipe Ø E	Flue gas (center) F		Electrical connection load kVA	Oil connection DN	Natural gas DN	Liquid gas DN	Feed water DN	Steam connection DN	Safety valve DN	Start-up line DN	Building inspectorate approvals or notifications are required for the combustion systems	
1	80 120	52 79	58 87	1	0.8-1.4-2.2-2.9 (8-14-22-29)	0,6 (6)	1.0-1.6-2.5-3.2 (10-16-25-32)	4.9 7.4	5.8 8.7	2.2 3.4	1515	730	1295	500	180	1050	320	3.33	3/8"	20	20	1 1/4"	15	1"	3/4"	Categorized into Category I, II or III in accordance European Pressure Equipment Directive 2014/68/EU depending on the output and maximum permissible operating overpressure  No approval in accordance with the German regulations on health and safety at work ("Betriebs-sicherheitsverordnung" (BetrSichV)) is required	** Free of TÜV testing and monitoring
2	150 200	98 131	109 145	1	0.8-1.4-2.2-2.9 (8-14-22-29)	0,6 (6)	1.0-1.6-2.5-3.2 (10-16-25-32)	9.2 12.3	10.9 14.5	4.2 5.6	1600	770	1475	560	200	1120	420	3.37	3/8"	32	20	1 1/4"	20	40	3/4"		
3	250 300 350 400	164 197 230 262	182 218 255 291	1	0.8-1.4-2.2-2.9 (8-14-22-29)	0,6 (6)	1.0-1.6-2.5-3.2 (10-16-25-32)	15.3 18.4 21.5 24.5	18.2 21.8 25.5 29.1	7.1 8.4 9.9 11.3	1850	875	1580	640	250	1360	520	3.92	3/8"	40	25	1 1/4"	25	40	1"		

Reference values: Natural gas 10 kW/Nm<sup>3</sup> - 8600 kcal/Nm<sup>3</sup>, liquid gas 25,8 kW/Nm<sup>3</sup> - 22200 kcal/Nm<sup>3</sup>. Dimensions and weights have been rounded up or down. MPa and bar are overpressure values. For positioning purposes lateral fittings are detachable. **Delivery complete with water pump.** Performance values referenced to 100°C feed-water temperature and 1 MPa (10 bar) steam overpressure. CERTUSS burner with flue-gas recycling (NO<sub>x</sub> reduction)\*.

\* Supplementary equipment  
\*\* With the exception of the steam generators of the Junior 250 – 400 series with maximum permissible overpressure of 32 bars.

We reserve the right to make technical modifications.