

**Plants for  
Water Treatment**



Steam generators JUNIOR TC series		
Size	Steam capacity kg/h	Method of combustion
1	80 – 120	Oil or gas
2	150 – 200	Oil or gas
3	250 – 400	Oil or gas

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 and E10MX – E320MX series		
Type	Steam capacity kg/h	Method of heating
E 6 – 72	8 – 97	Electrical 6 – 72 kW
E10MX – E320MX	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



**CERTUSS EXHAUST GAS HEAT EXCHANGERS**  
CERTECON for Junior 80 – 400 as well as CERTECON and ECO SPI for Universal 500 – 2000



**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





### CERTUSS Water Softening Plants

Each steam boiler needs a good feed water pre-treatment which contributes decisively to a long life of the steam plant, its functionality and stability of value.

Water mainly contains hardening constituents in very different sizes which inevitably cause scale deposits when vaporizing, followed by a poor heat transmission and an increasing plugging of tanks and tubes.

CERTUSS water softening plants work with the ion exchange method. The raw water is lead through a heavy-duty resin. The calcium and magnesium ions are changed into sodium ions which are not settling down as hard deposits.

The exchange resin has physically conditioned a limited capacity and is exhausted after a certain number of raw water throughputs. Its regeneration is performed by means of a salt solution. The softening plant is then again ready for operation.

According to the plant s type, the timing of regeneration can be selected manually or automatically, dependent on time or quantity. The CERTUSS water softening plants perform the regeneration fully automatic.

**CERTUSS Water Softening Plant Type CEV** is electronically programmed and controlled. The regeneration (70 to 90 minutes) has to be selected outside the operational use of the steam generating plant.

**CERTUSS Water Softening Plant Type CEH** corresponds to the functions of the type CEV, but regeneration is to be started manually.

**CERTUSS Water Softening Plant Type CED** as twin plant is controlled in dependence on the quantity. The technical design corresponds to the other types, but regeneration is started in dependence on the flow volume. The type CED is especially suitable for continuous operation, because the regeneration is performed alternately without interruption of the soft water supply.



### CERTUSS Water Dosing Plant

To avoid corrosion defects at the steam generator and the tube system at site, caused by aggressive gases, it is – dependent on the water quality – necessary to add chemicals.

The CERTUSS dosing unit enables long-term corrosion protection through the exact quantity-proportional dosing of the dosing agent for oxygen scavenging developed specially for CERTUSS. The dosing agent is approved for the foodstuffs industry.

### Water Softening Plants

Type*	Capacity					Throughput CEV / CEH / CED m³/h	Salt- consumption per regeneration kg	Brine Tank contents ltr	Regenerat Medium (resin) ltr	Measurements (~ mm)						Weight ~ kg		Connections DN					
	between 2 regenerations in m³ with raw water m³/°dH 15° dH 20° dH 25° dH 30° dH									height CEV	height CEH	height CED	Ø pressure tank		Ø salt container		CEV and CEH	CED	raw / soft water	drain			
CEV CEH CED 06	60	4.0	3.0	2.4	2.0	2.0 / 1.5 / 1.5	3	100	15	1095	985	1080	184	184	184	490	490	490	28	76	CEH CEV CED R 3/4" R 1" R 1/2"		
CEV CEH CED 10	100	6.66	5.0	4.0	3.33	2.5 / 2.0 / 2.0	5	100	25	1095	985	1080	233	233	233	490	490	490	45	110			
CEV CEH CED 12	120	8.0	6.0	4.8	4.0	2.5 / 2.0 / 2.0	6	100	30	1095	985	1080	257	257	257	490	490	490	62	141			
CEV CEH CED 20	200	13.33	10.0	8.0	6.66	3.0 / 2.5 / 2.5	10	150	50	1575	1572	1555	257	257	257	540	540	540	103	223			
CEV CEH CED 24	240	16.0	12.0	9.6	8.0	3.0 / 2.5 / 3.0	12	150	60	1425	1322	1410	304	304	304	540	540	540	124	245			
CEV CEH CED 30	300	20.0	15.0	12.0	10.0	3.5 / - / 3.0	15	200	75	1572	-	1550	334	-	334	540	-	540	139	260			
CEV CEH CED 40	400	26.66	20.0	16.0	13.33	- / - / 4.0	20	200	100	-	-	1810	-	-	356	-	-	540	-	297			

\* Further sizes on request.

### Dosing Instrument

Type	CERTUSS Electronic		
<b>Capacity</b> at pressure 0.4 MPa (4 bar) max. 0.8 MPa (8 bar)	l/h l/h	3.55 3.1	
<b>Electrical Connection</b>	V Hz	210 – 250 50 – 60	
<b>Watts Input</b>	~W	12	
<b>Container</b> contents (litres) (also available as canister dosing)	l	60	
<b>Measurements</b> height diameter	~ mm	800 420	
<b>Weight</b>	~ kg	7.0	

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