

**Plants for
Water Treatment**



| Steam generators JUNIOR SC 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 – 1800 | Oil, gas or combination |

| Steam generators ELEKTRO E 6 – 72 M and E 100 series | | |
|--|---------------------|-------------------------|
| Type | Steam capacity kg/h | Method of heating |
| E 6 – 72 | 8 – 97 | Electrical 6 – 72 kW |
| E 100 | 135 / 160 | Electrical 100 / 120 kW |



CONTAINER Steam System
Completely equipped and ready to operate



CVE
Supply unit as complete ready-to-operate boiler housing installation



CERTECON
Exhaust gas heat exchangers for Junior 80 – 400
In addition: Exhaust gas heat exchangers ECO SPI for Universal 500 - 1800 TC



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



PARCOVAP®
Condensat Heat Recovery





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

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