CERTUSS Steam Generators

Water Treatment

Plants for Water Treatment

CERTUSS Steam Generators

Also in product range

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
4	500 – 600	Oil, gas or combination

Steam generators **UNIVERSAL SC** series		
Size	**Steam capacity kg/h**	**Method of combustion**
5	700 – 850	Oil, gas or combination
6	1000 – 1500	Oil, gas or combination
7	1500 – 2000	Oil, gas or combination

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 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 - 2000 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

CERTUSS Dampfautomaten GmbH & Co. KG • Hafenstr. 65 • D-47809 Krefeld
Tel.: +49 (0)2151 578-0 • Fax: +49 (0)2151 578-102
www.certuss.com • E-Mail: verkauf@certuss.com

Plants for water treatment at a glance

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.

Water Softening Plants

Type*	Capacity between 2 regenerations in m³ with raw water m³/°dH	15° dH	20° dH	25° dH	30° dH	Throughput CEV / CEH / CED m³/h	Salt-consumption per regeneration kg	Brine Tank contents ltr	Regenerat Medium (resin) ltr	Measurements (~ mm) height CEV	height CEH	height CED	Ø pressure tank CEV	Ø pressure tank CEH	Ø pressure tank CED x 2	Ø salt container CEV	Ø salt container CEH	Ø salt container CED	Weight ~ kg CEV and CEH	Weight ~ kg CED	Connections DN raw / soft water	Connections DN 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		
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	CEH	CEV CED
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	R ¾"	R 1"
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.

23.044.02.1782.01

Water Dosing Instrument

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.

Dosing Instrument

Type	CERTUSS Electronic
Capacity at pressure 0.4 MPa (4 bar) max. 0.8 MPa (8 bar)	 l/h l/h	 3.55 3.1
Electrical Connection	V Hz	210 – 250 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

1 MPa (10 bar) = 145 psi
10 psi = 0.069 MPa (0.69 bar)

1 kW = 3413 BTU
1000 BTU = 0.293 kW