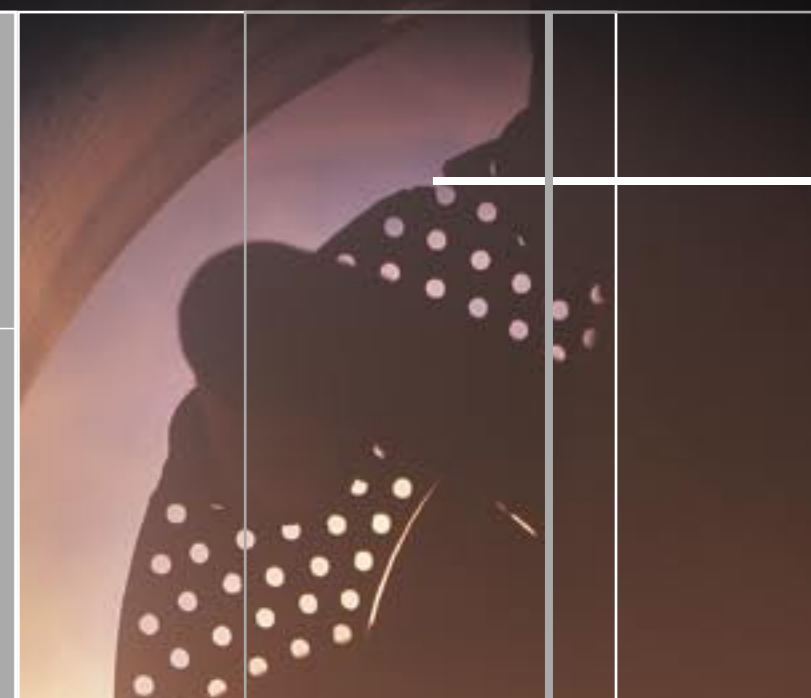
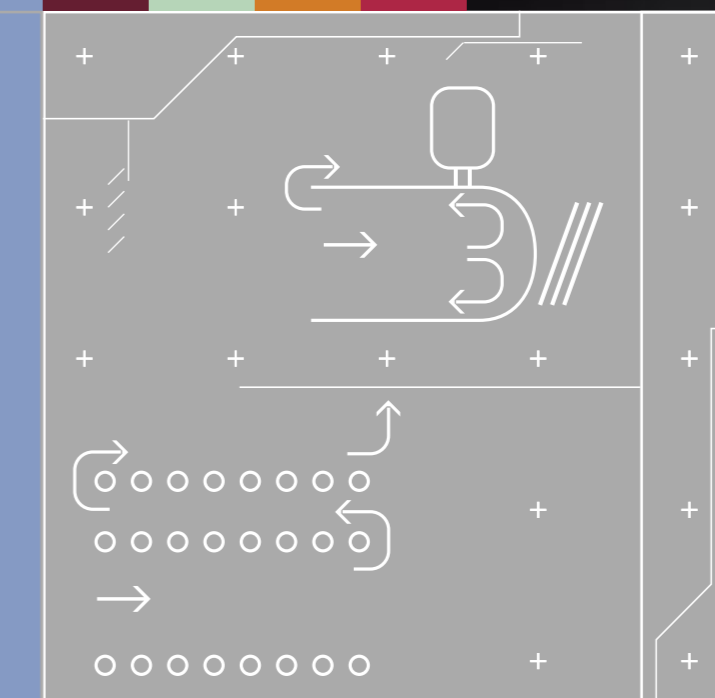


L.C.Z. was founded in 1971, with the aid of three partners who already had considerable expertise in the construction of Steam Generators, by a company established in the Forties. In time, the company has specialized in the construction of steam generators, pressure equipment, heating systems and industrial installation, developing a complete range of products and installations for every industry, from food processing to packaging, from chemicals to apparel, from systems for industrial laundries to complete installations for processing milk and producing cheese.

L.C.Z. has become a reference at the national level in the design and construction of industrial steam systems.

Illustrations and technical specifications should be considered for reference purpose only. LCZ srl, constantly focused on ongoing production, reserves the right to modify these without prior notice.

IFEN September 2010



**ACCESSORIES AND COMPLEMENTS**

- **Installation and startup:** L.C.Z. installs and starts the equipment supplied, ensuring maximum efficiency and proper use. The professional skill gained in the sector by our structure guarantees the client prompt intervention with the maximum assurance of perfect function.
- **Design:** our technical department can solve any design problem indicating the most appropriate solutions for the type of industrial process you need to realize.
- **Assistance and spare parts:** our client need only do his own job. This philosophy has led L.C.Z. to develop over the years a service network with capabilities ranging from simple tune-up and adjustment to analysis of the waters, scheduled inspections and prompt replacement of malfunctioning equipment, from our well-stocked spare parts warehouse.
- **Heating systems:** for over thirty years we have been constructing steam heating systems on a turnkey basis. Our experience enables us to supply and install all the equipment in a steam heating system so as to provide the most efficient possible use of the generator.



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Morandini Zerbinato - ph Mendini



# TF SERIES UP TO 300kg/h OF STEAM – 5 bar



The TF and TF Duplex series of steam generators contain a small volume of water and are constructed in reduced size and are therefore ideal for all small and medium uses where it's necessary to maintain a high steam/water ratio. Operation is fully automatic and directly controlled from the electric control panel installed on the machine. The insulating shell consists of pads of rock wool finished on the outside with thin stainless steel. On request it would be equipped with a skid, connected with the single base of steam boiler, complete of softener and a feed water / recovery tank.

They are supplied with CE inspection certificate for a single product (assembly) pursuant to directive 97/23/CE (PED) issued by a Certification organization. These boilers have a small volume of water and therefore do not require a licensed operator in the plant.

### TF & TF DUPLEX SERIES

The TF series steam boiler is a semi-fixed unit with water tube and flame reversal and pressure 5bar. The TF Duplex series is a water tube type steam generator, overlapped version with two furnaces.

It is easily transportable and thanks to generous evaporating surface, despite its modest dimensions, it guarantees a high steam/water ratio. It is supplied complete with all accessories of regulation, safety and control. All the equipment are just electronic and hydraulic connected to facilitate installation and start up of steam boiler.

All the operations of clearing and maintenance are easy.

- Functions with gas and gasoil burner
- High efficiency 91%
- High steam / water ratio
- Reduced sized
- Easy to transport
- Easy to use and to make maintenance

## TF MODEL



### STANDARD EQUIPMENT

Miniblock steam boiler installed on a single base complete with electric panel and connections to the various devices.

#### Accessories:

- n. 1 electronic depth regulator
- n. 2 certified safety probes (electrodes)
- n. 2 operating pressure switches
- n. 1 safety pressure switch
- n. 1 pressure gauge
- n. 1 certified safety valve

#### Valves and connections supplied:

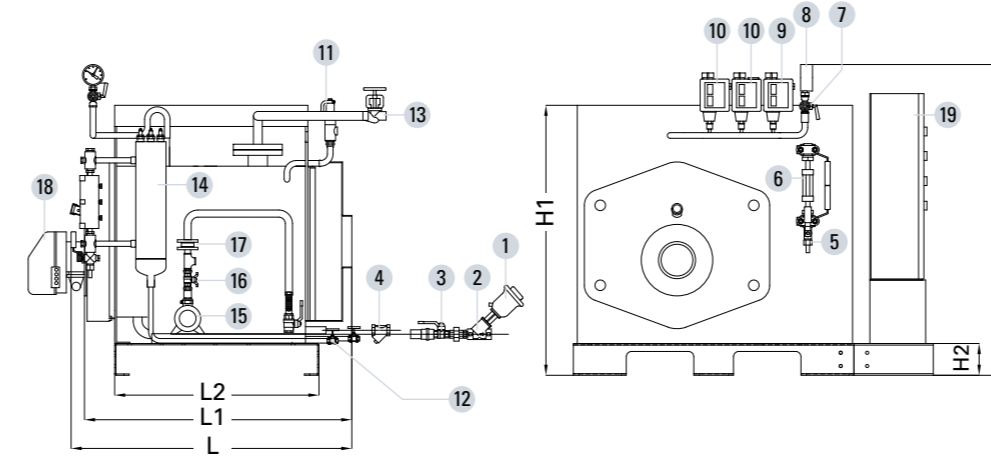
- n. 1 steam uptake valve
- n. 1 pressure gauge holder trap
- n. 1 visual level indicator
- n. 1 automatic drain valve complete with interception valve
- needle valve for continuous drain for salinity control

#### Infeed unit:

- n. 1 electric pump
- n. 1 interception valve
- n. 1 non-return valve

#### Accessories available on request:

- stand-by infeed pump for with interception valves, non-return valve and selection switch
- condensate separator
- double safety valve
- maximum level probe
- skid with softener and feed water/recovery tank



- 1 three way electric valve
- 2 pneumatic valve for quick discharge
- 3 ball valve
- 4 feed water bronze filter
- 5 level indicator valve
- 6 level indicator
- 7 pressure gauge cock
- 8 pressure gauge
- 9 safety pressure switch
- 10 operating pressure switch
- 11 certified safety valve
- 12 needle valve for continuous drain of tank
- 13 steam uptake valve
- 14 tank
- 15 electric pump
- 16 ball valve
- 17 non return valve
- 18 burner
- 19 electric panel

Model	Nominal usable power	Thermal power	Steam production	Geometric capacity	Level capacity	Weight	Loss of pressure	Øc	B	L	H	B1	L1	L2	H1	H2
	kW	kW	kg/h	l	l	kg	mbar	mm	mm	mm	mm	mm	mm	mm	mm	mm
TF 50	31,7	34,8	50	59	50	430	0,4	200	1360	1085	1235	300	960	800	1010	120
TF 100	70,5	77,4	100	59	50	430	1,5	200	1360	1085	1235	300	960	800	1010	120
TF 150	105,7	116,2	150	59	50	430	3,2	200	1360	1085	1235	300	960	800	1010	120

## TF Duplex MODEL



### STANDARD EQUIPMENT

Miniblock steam boiler installed on a single base complete with electric panel and connections to the various devices.

#### Accessories:

- n. 2 electronic depth regulators
- n. 4 certified safety probes (electrodes)
- n. 4 operating pressure switches
- n. 2 safety pressure switches
- n. 2 pressure gauges
- n. 2 certified safety valves

#### Valves and connections supplied:

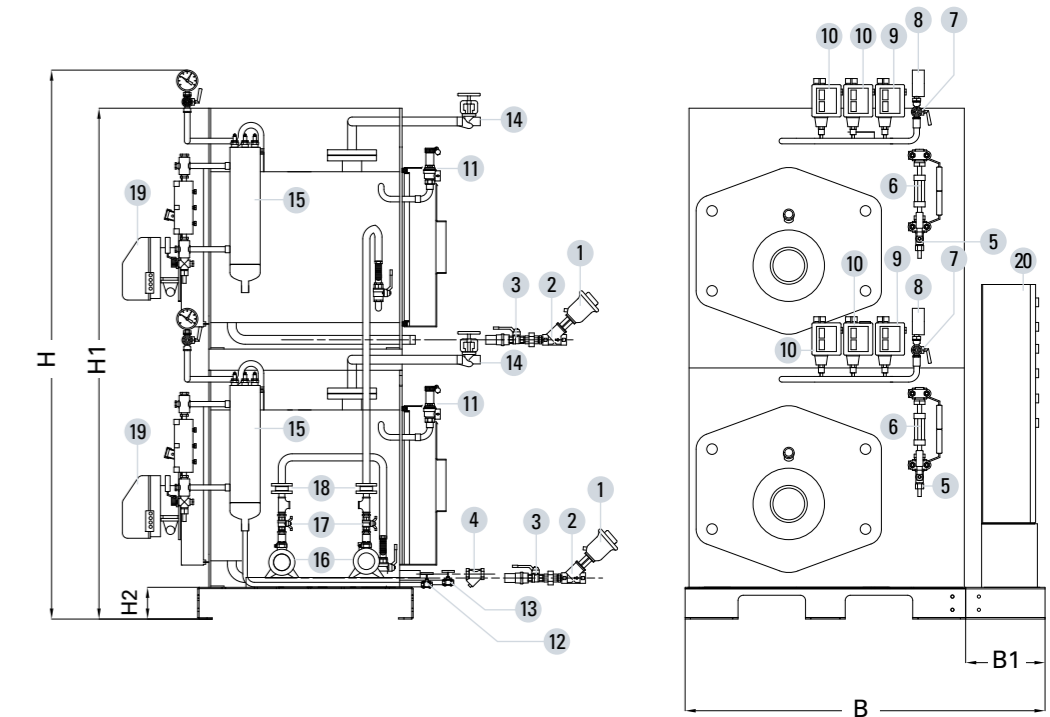
- n. 2 steam uptake valves
- n. 2 pressure gauge holder traps
- n. 2 visual level indicators
- n. 2 automatic drain valves complete with interception valve
- needle valve for continuous drain for salinity control

#### Infeed unit:

- n. 2 electric pumps
- n. 2 interception valves
- n. 2 non-return valves

#### Accessories available on request:

- stand-by infeed pump for with interception valves, non-return valve and selection switch
- steam distribution manifold
- condensate separator
- double safety valve
- maximum level probe
- skid with softener and feed water/recovery tank



- 1 three way electric valve
- 2 pneumatic valve for quick discharge
- 3 ball valve
- 4 feed water bronze filter
- 5 level indicator valve
- 6 level indicator
- 7 pressure gauge cock
- 8 pressure gauge
- 9 safety pressure switch
- 10 operating pressure switch
- 11 certified safety valve
- 12 needle valve for continuous drain of tank
- 13 needle valve for continuous drain for salinity control
- 14 steam uptake valve
- 15 tank
- 16 electric pump
- 17 ball valve
- 18 non return valve
- 19 burner
- 20 electric panel

Model	Nominal usable power	Thermal power	Steam production	Geometric capacity	Level capacity	Weight	Loss of pressure	Øc	B	L	H	B1	L1	L2	H1	H2
	kW	kW	kg/h	l	l	kg	mbar	mm	mm	mm	mm	mm	mm	mm	mm	mm
TF 100 D	63,4	69,6	100	118	100	830	0,4	200	1360	1085	2134	300	960	800	1916	120
TF 200 D	141,0	154,8	200	118	100	830	1,5	200	1360	1085	2134	300	960	800	1916	120
TF 300 D	211,4	232,4	300	118	100	830	3,2	200	1360	1085	2134	300	960	800	1916	120