Main Clients

ABB LUMMUS GLOBAL
CHIYODA CORPORATION
CMC - SERAING BELGIUM
CITEC
FISSA ITALIMPIANTI
FLUOR IB
FORMOSA CHEMICAL CORPORATION
FORMOSA PLASTICS CORPORATION
FOSTER WHEELER ITALIANA
FOSTER WHEELER FRANCE
GETABEC BOILER
IES
INTEC ENERGIA
ESDEMER
JEL
JGC CORPORATION
KELLOG BROWN & ROOT (KBR)
KOCK-GLITSC A.S.
PITOS ENGINEERING
NE-NOOTER BRISSEN
SAPIM
SIEMENS
SKODA PRAHA
SNC LAVALIN
SNAPROGETTI
SNAPROGETTI SUD
SUPERMETANOL
TECNIMONT
TECHNIP ITALY
TECHNIP FRANCE
TECHNIP MALAYSIA
WASHINGTON GROUP INTERNATIONAL

Simply everywhere
Design, manufacture and commissioning all over the world

Deaerators
remote / integrated types
Engineering, Procurement and Construction all over the world

Deaerators
Deaerated water
make up water

turbine
gas turbine
natural gas
steam
gas recovery boiler
stack

Deaerator
Design covered by official patent

Flow diagram spray valve / model 2.2

Flow diagram spray valve / model 2.3

TERMOCHIMICA IMPIANTI s.r.l. (ITALY)
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Deaeration is the mechanical removal of dissolved gases such as oxygen and carbon dioxide from a fluid. Feedwater to the boiler should contain less than 0.005 cc of O₂ per liter (7 ppb) which is the usual guarantee of Deaerator suppliers.

Termochimica’s Spray & Tray Deaerators incorporate a strong basis design covered by official patent that assure the above-mentioned performance over varying loads of incoming water.

The process of Termochimica Deaerators involves two main stages in which the steam and water move in opposite directions (see figures “Internal Diagrams”): horizontal or vertical tower disposition is selected on the grounds of inlet water capacity together with steam flowrates.

1) Cold water enters at the top of deaerating tower in order to be sprayed through special designed stainless steel spray-valves into a steam atmosphere. Self-adjusting spring-loaded spray valves provide the breaking down of water into thin films or droplets. By this action, the distance a bubble of gas has to travel to be released, is greatly reduced and a large percentage of the gases are removed in this section.

2) In the second stage the water rains through a series of special designed stainless steel perforated trays, countercurrent to the steam. Fresh gas-free steam enters from the bottom of deaerating tower and flows upwards scrubbing out the last traces of the residual oxygen and carbon dioxide. Efficient scrubbing is essential to achieve less than 7 ppb of oxygen effluent quality, as measurable following ASME PTC 12.3 test code according to HEI recommendations.

Gases O₂ and CO₂ mixed with a little steam flow-rate, are discharged to the external atmosphere through vent nozzles completed with calibrated orifices and vent condenser direct-contact type.

Since 1969 Termochimica supplied Deaerators to the main EPC Companies or Users involved in power stations, such as ABB Lummus, Agip Gas, Alstom Power, Enelpower, Foster Wheeler, JGC Corporation, Koch Glitsch, Nuovo Pignone, Tecnimont, Snamprogetti, Siemens. The performances of deaeration granted by Termochimica are based on dedicated processes developed by experienced engineers and project managers which enable Termochimica to design and supply Deaerators guaranteed to meet full compliance with the requirements of our customers.

The company

QUALITY

Termochimica’s quality system is registered by Istituto Italiano della Saldatura, according to ISO 9001 Certification.

ENGINEERING

A team of experienced engineers enables Termochimica to satisfy all requirements in terms of Codes, Directives and severe Specifications which are strictly examined by Termochimica before issuing the construction drawings, calculations, procedures, fabrication programs and any other project documentation during the job.

CONSTRUCTION

Termochimica disposed of highly qualified list of manufacturers for the construction of pressure parts according to our design.

Termochimica’s manufacturers guarantee the contractual delivery date and make promise for prompt action in case of variations required by customers during the job. Useful expediting is made by Termochimica to supervise the main tests in workshop, including the insertion and fixing of our special internals in deaerating towers before shipment.

SERVICE

Termochimica’s field service is available on site in order to assist with installation, commissioning and any additional service needs.