DAS
Environmental Experts.

TILIA

Burn/Wet System

TILIA is the enhanced product line for advanced Etch and CVD applications

The combination of burning & scrubbing is used in several products from **DAS Environmental Experts** for the treatment of different dangerous and harmful waste gases. Our compact solutions have a small footprint and are easy to maintain. Operation costs and general safety can be optimised with a process tool interface.

Status
- Development started in 2016
- Market introduction in 2018

Application
- CVD
- Etch (Metal, Poly, Oxides, ...)
- Epitaxy
- GaN
- MOCVD
- LED

Goals
- To meet the need of increasing process gas flows
- Higher wafer throughput per abatement footprint
- To meet the increasing complexity of Etch and CVD mainframes → Combination of CVD and Etch chambers

Basic Features
- Burn/Wet scrubber with liquid recirculation
- Serves up to 8 or 12 process chambers with
  - Up to 2400 slm total flow depending on process
  - Best in class capacity per footprint
  - With cost effective integrated backup
  - Reactor capacity up to 1200 slm inert gas (per reactor) depending on process
- Implementation of safety requirements of new processes with
  - Higher number of process modules
  - Larger process gas flows
  - Higher total flows

Dual System **TILIA *DUO* 4+4**
Dual reactor system with internal redundancy

Dual System **TILIA *DUO* 6+6**
Dual reactor system with internal redundancy

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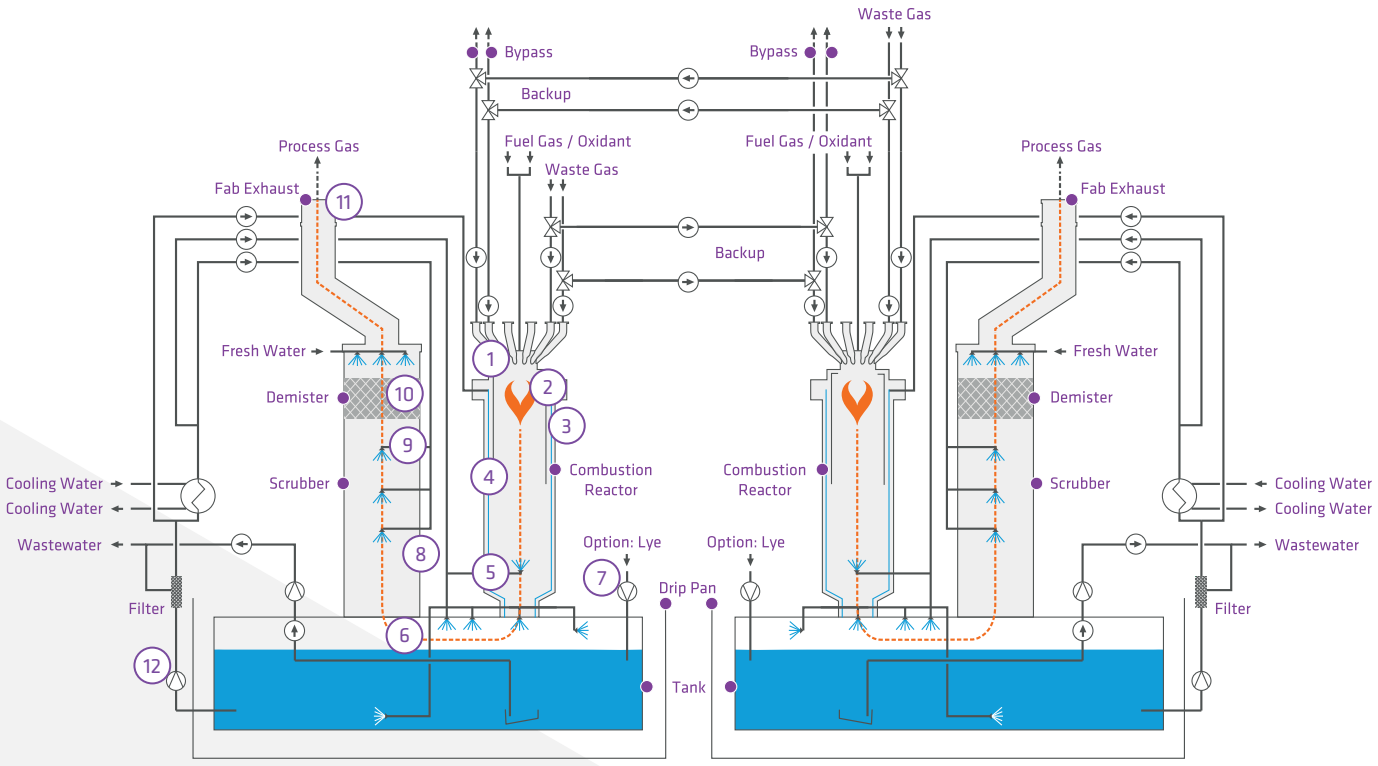
Technical Data

	TILIA *DUO* 4+4	TILIA *DUO* 6+6
Dimensions (W x D x H)	2700 mm x 1100 mm x 2134 mm	2700 mm x 1100 mm x 2500 mm
Pump down capacity	3000 slm (8 inlets)	3000 slm (12 inlets)
Burner power (tunable)	2 x 100kW	2 x 100kW
Inlets	8 x DN40 with internal redundancy	12 x DN40 with internal redundancy

System Description

Dual System **TILIA *DUO* 6+6**



1. One central burner, up to 6 main waste gas inlets and 6 backup gas inlets in top cover of reactor (optional heating jackets, plunger)
2. Burner flame detection (failsafe method)
3. Reactor wall inside covered by liquid film
4. Inserted heat reflector allows higher temperature
5. Hot gas is rapidly cooled by liquid spray
6. Treated gas passes through quench zone
7. Water or water/lye mixture can be used
8. Sprayed wet scrubber, large volume for better particle retention
9. Spray nozzle
10. Demister on top of wet scrubber to retain spray droplets
11. Additional ambient air nozzle
12. Scrubbing liquid is recirculated