

## Applicationbrief

**Eclipse Product:** RatioMatic HeatPak 200, Exothermics RHT 500

**Submitted by:** Matthias Sulzer, Dipl. Ing. FH / Sia, MBA

**Application:** Desiccant Evaporative Cooling System

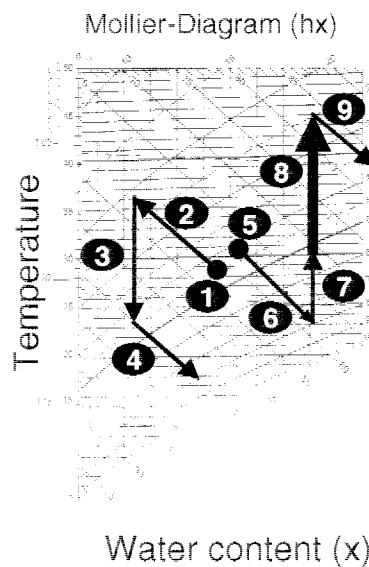
**Description:** An efficient DEC-System suits two main applications, cooling and dehumidification and therefore meets the following customer needs:

- space-conditioning (commercial and residential)
- humidity controlling (antisweat)
- frost reduction (build-up on frozen products)
- hygroscopic products drying
- pulverized products transportation

### The DEC-Process (Cooling)

#### Inlet-air process:

1. Outside air
2. Dehumidification
3. Cooling by heat-recovery
4. Supplementary cooling by evaporative coolers



#### Outlet-air process:

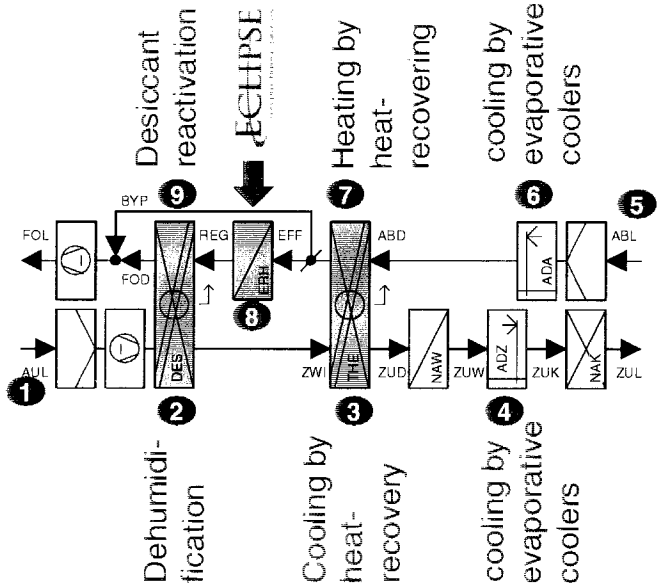
5. Space condition
6. Cooling by evaporative coolers
7. Heating by heat-recovering
8. Additional heating by gas burner
9. Reactivation of the desiccant media

### Customer Benefits

*(Over an equal investment in common vapor-compression units)*

- efficient energy combustion
- low operating costs
- reduced peak electric demand
- maintenance-free operation (desiccant)
- independent airflows
- versatile/flexible packaging
- low environmental impact (no CFC or HCFC)

## Components (Cooling)



## The National Renewable Energy Lab means:

The air-conditioning industry has been battling to meet new economic, environmental, and regulatory challenges:

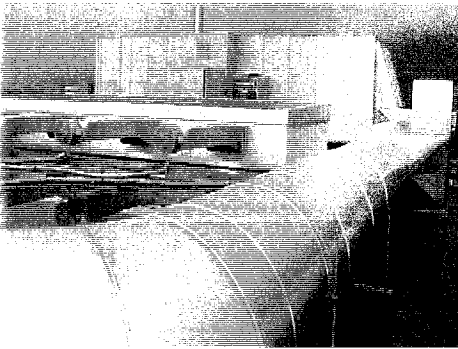
- improving ventilation-rate standards
- upgraded indoor air quality
- reducing levels of gaseous emission
- phase-out CFC refrigerants and
- peak electric demand.

At the National Renewable Energy Laboratory, engineers are focusing on desiccant cooling and dehumidification technology to meet these challenges.

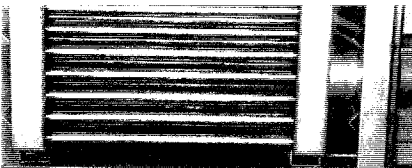
## Conclusion

The DEC-System creates very high customer value. The following references underpin the market success:

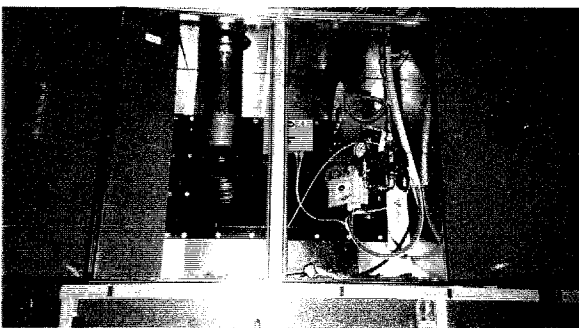
- Motorway-Tunnel, Biel (4 Dehumidification Systems)
- Supermarket CC (1 DEC-System)
- Ice-hockey stadium (10 DEC-Systems)



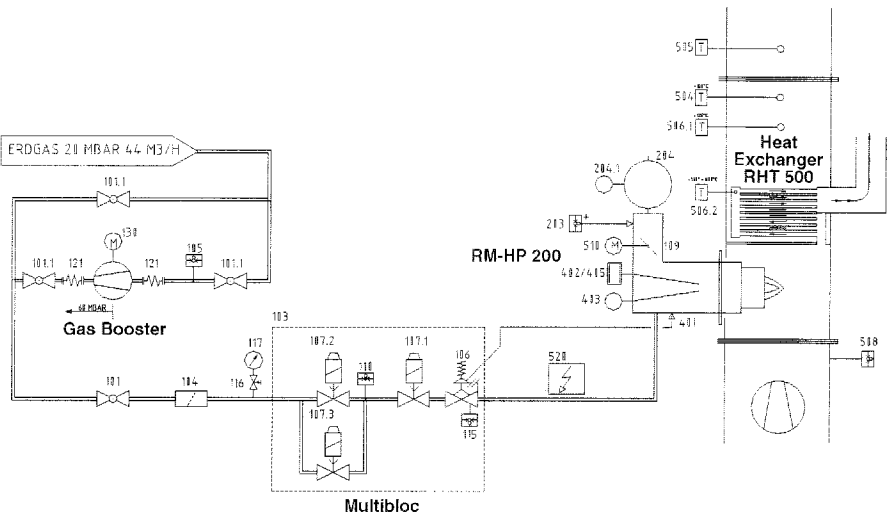
Overall view of system



RHT 500



Burner (heat for reactivation) and exhaust



System schematic

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