Liquid Desiccant Systems

Speaker Hikoo Miyauchi

Dyna-air Co., LTD
PRACTICAL STUDY on LIQUID DESICCANT PROCESSOR in MEDICAL FACILITIES

PROCESSOR

REGENERATOR
INSTALLATION PATTERN

PATTERN 1  1:1

PROCESSOR

1~100m

REGENERATOR

PATTERN 2  n:1

PROCESSOR(S)

REGENERATOR

PATTERN 3  n:m

PROCESSOR(S)

REGENERATOR(S)
HUMIDIFICATION PROCESS
in MIDWINTER

PROCESS SA

OUTSIDE AIR

20wt% Licl

PROCESSOR

HEAT EXCHANGER

HEAT PUMP

ASSIST GAS HEATER

MEDIA

BLOWER

CITY WATER

STOP

BLOWER

HEAT EXCHANGER

HEAT PUMP

PUMP

MEDIA

REGENERATOR
1. HIGH PERFORMANCE

Humid・Dehumid (Both $\Delta x > 13g/kg$) suitable for OA processor

2. RUNNING on LOW- QUALITY DRIVING HEAT SOURCE

Heating source $80^\circ C \rightarrow 50^\circ C$  STD type with high-efficient HP
Cooling source $5^\circ C \rightarrow 15^\circ C$ easy to use for waste-heat

3. LOW STATIC INTERNAL PRESSURE

Effective energy saving Fan—long drive

4. MULTI FUNCTION

Without any single purpose equipment
A CASE OF NURSING HOME

SUMMARY OF THE FACILITY

LOCATION  NIIGATA 300km north of Tokyo

100m × 30m  5,500 m²  cealing2.7m

Three floors

120 people
IAQ SOLUTIONS

Air-processing
- Cooling
- Heating
- Humidifying
- Dehumidifying
- Eradication of bacteria
- Dedusting
- Odor removal
- Ventilation

Three room ambiences
- Heat transfer
- Equable ventilation
- Deodorant effect
- Humidity control
INSIDE THE NURSING HOME

- PRIVATE
- CARE UNIT
- CORRIDOR
- CARE UNIT
- CARE UNIT
- RESTROOM
- OA-SA
- LAUNDRY
- LOUNGE
### TOTAL AIR-CONDITIONING ENERGY CONSUMPTION

#### (Air-Conditioning) CRUDE OIL CONVERSION

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**Reduction:** 24%
APPROXIMATELY 5,000 PEOPLE WHO STAYED AT 50 HOSPITALS AND NURSING HOMES FROM 2006 TO 2015

Only few announced the outbreak of the group infection of the flu and the norovirus

IAQ EFFECTIVENESS FOR MANAGEMENT AVERAGE UTILIZATION RATE 95.8% ⇒ 99% $1,000/PERSON
ABOUT DYNA-AIR Co., LTD

FOUNDED IN 2004

PROTOTYPe RELEASED AT 2004
CURRENT MODEL RELEASED AT 2009

FIVE TYPES VARIATION
300-9000CMH
MULTI-UTILITY SOURCE

TO DATE INSTALLED 90 UNITS IN TOTAL
AS OA-PROCESSOR