



**DanX**  
Swimming Pool  
Air Management

# Comfortable swimming in every climate

A controlled and comfortable indoor climate is an important factor – particularly in swimming pool halls where high relative humidity and condensation can reduce the well-being of the occupants and cause damage to the building. With Dantherm Air Handling’s corrosion-proof, DanX unit you are guaranteed a superior solution, offering not only significant heat recovery but also the possibility of high-quality demand management.

It is impossible to avoid water evaporation in swimming pool halls, however using a carefully designed ventilation solution, the relative humidity can be controlled to a comfortable level. On the basis of pool size, water temperature, air temperature, humidity and bathing activity, Dantherm Air Handling’s DanX can be designed to accommodate any requirement. Available with a one or two stage heat recovery system and a bespoke controls package, it is the ideal device for providing energy- and cost-effective control of swimming pool hall environments – anywhere in the world.

## Robust materials

The DanX units have been specifically designed and developed to endure the aggressive environment encountered in swimming pools. A robust, powder-coating\* of framework and all internal surfaces, treated coils and a cross flow heat exchanger of anodized and epoxy-coated aluminum protect the DanX unit against any kind of corrosion.

## Focus on cost of ownership

Maintaining a comfortable indoor environment is a priority in any swimming pool project, but what is equally important to consider is the total life cycle cost of the chosen solution. The DanX provides for life cycle costs in the broadest sense. Highly

efficient heat recovery and low specific fan power, combined with an optimized control strategy, contribute to cost-efficient operation and significant energy savings, while durable components ensure reliable operation and long life. Ultimately, all of this results in economic gains in the long run and contributes to a low cost of ownership.

Dantherm Air Handling’s solutions are ideal for leisure, municipal and commercial projects. Our reference portfolio includes a wide variety of applications, from enormous leisure fun pools and luxurious hotel pools to spa resorts, sanatoria and traditional swimming pool halls.

\* optional



DanX	Nominal air volume (m³/h)	Dehumidification <sup>1</sup> (kg/h)	Dehumidification <sup>2</sup> (kg/h)
AF 3/6	4850	31	-
AF / AFs 5/10	7300 / 9500	49 / 61	-
AF / AFs 7/14	12000 / 14000	79 / 92	-
AF / AFs 12/24	19000 / 24000	126 / 154	-
XWPS / XKS 2/4	3350 / 3350	18 / 12	22 / 22
XWPS / XKS 3/6	4500 / 4500	26 / 16	29 / 29
XWPS / XKS 5/10	8400 / 8400	46 / 30	54 / 54
XWPS / XKS 7/14	12500 / 12500	67 / 44	81 / 81
XWPS / XKS 9/18	15500 / 15500	85 / 55	100 / 100
XWPS / XKS 12/24	21500 / 21500	121 / 76	139 / 139
XWPS / XKS 16/32	25500 / 25500	142 / 90	165 / 165

<sup>1</sup>Pool hall condition 30°C/54% r.h. - 30% outside air @ 5°C/85% r.h.

<sup>2</sup>In accordance to VDI 2089 (not possible for AF as max. 30% outside air)



Dantherm's powder coating provides by far the best corrosion resistance on the market, as all cabinet and other sheet components are powder coated after manufacturing but before the assembling process.



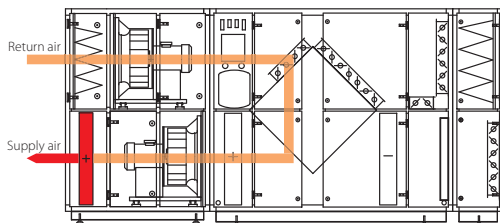
Dantherm's heat pump with scroll compressor and optional water cooled condenser will get you the most energy efficient solution available on the market today.

**DanX with 2 stage heat recovery**

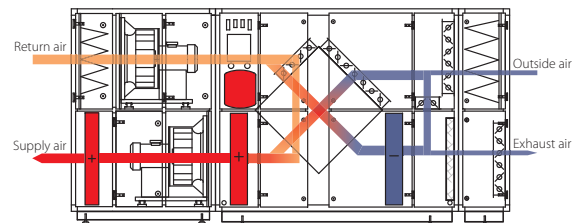
The DanX-XWPS combines the best advantages of a heat pump and outside air dehumidification system. The combination of heat pump and highly efficient cross flow heat exchanger is designed to perfectly control the humidity and indoor temperature.

Significant running cost reductions due to energy savings of up to 100%, make this system the obvious choice in climates with low outside winter temperatures. The integrated mixing box ensures that only the exact quantity of outside air required to sustain comfortable

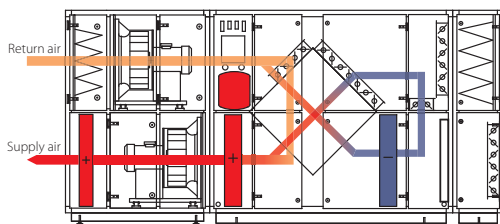
conditions is supplied. For further energy optimization, a water-cooled condenser can be integrated into the heat pump. This allows the excess heat, to be transferred to the pool or the hot water supply, where it is efficiently re-used.



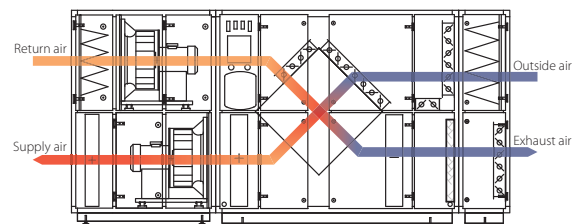
**Nighttime:**  
Recirculation with heating, without dehumidification.



**Daytime winter:**  
A proportion of recirculation air, with heating, 2 stage heat recovery and dehumidification with heat pump and outside air



**Nighttime:**  
Recirculation with heating and dehumidification with heat pump.



**Daytime summer:**  
Dehumidification with full outside air and if necessary partly heat recovery in the cross flow heat exchanger.

Dantherm's epoxy-coated aluminum cross flow heat exchanger is not only very efficient, but also highly resistant to the aggressive swimming pool environment.



### DanX with 1 stage heat recovery

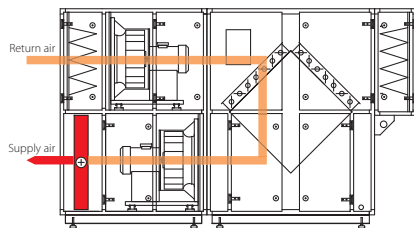
The **DanX-XKS** is a very effective outside air dehumidification system with highly efficient cross flow heat exchanger. This system perfectly controls the humidity and indoor temperature while offering significant running cost reductions due to real energy savings of up to 80%.

The integrated mixing section ensures that only the exact quantity of outside air needed is supplied – which keeps running costs at a minimum.

For countries with high outside summer temperatures the system can be equipped with an additional cooling

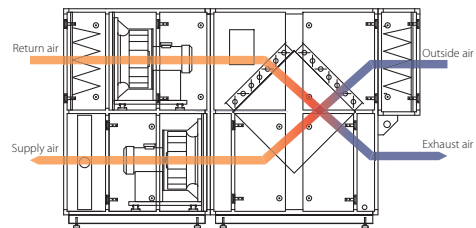
coil for further dehumidification and air cooling.

Optimally a large variation of fan types, filter qualities and coils are offered for the perfect match to the requirements.



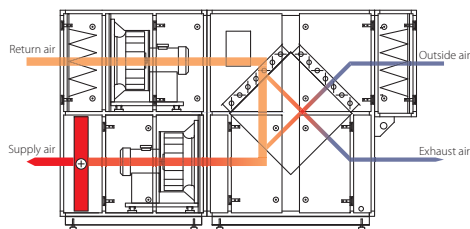
#### Nighttime:

Recirculation with heating, without dehumidification.



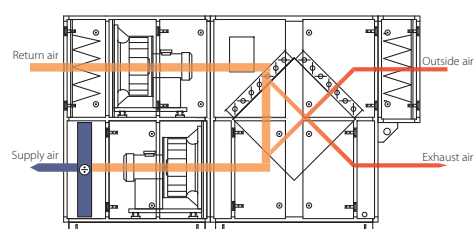
#### Daytime summer:

Dehumidification with full outside air and if necessary partly heat recovery in the cross flow heat exchanger.



#### Night time/daytime winter:

A proportion of recirculation air with heating, 1 stage heat recovery and dehumidification with outside air.



#### Daytime summer optional:

A proportion of recirculation air, cooling, 1 stage cool recovery and dehumidification with outside air and cooling coil.

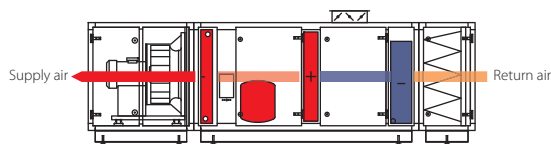


### DanX with heat pump

The DanX-AF is a very effective heat pump dehumidification system, which perfectly controls the humidity and indoor temperature while offering significant running cost reductions.

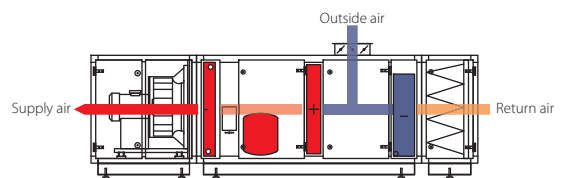
This system is the obvious choice where only limited space is available, or for pools with limited use, for instance hotel pools. Optionally it is also possible to install the unit suspended under the ceiling of the pool room

For further energy optimization, a water-cooled condenser can be integrated into the heat pump. This allows the excess heat to be transferred to the pool or the hot water supply, where it is efficiently reused.



#### Nighttime:

Recirculation with heating and dehumidification with heat pump.



#### Daytime:

Recirculation with heating and dehumidification with heat pump and a proportion of outside air.

### User friendly control system

All systems are supplied with a controls package, which takes demand management to a new level. Based on years of experience and on-going development, the control strategy

has been optimized specifically for Dantherm Air Handling's swimming pool units. With automatic monitoring and control of temperature, humidity and energy consumption, you are guaranteed a balanced and comfortable

indoor climate – adapted to your specific requirements. The fully factory tested panel can be connected to the DanX unit through a unique plug system.





## Comfortable surroundings in any climate



Since 1958 Dantherm Air Handling has developed and produced climate control and air handling solutions that ensure optimum conditions for people and sensitive equipment alike. No climate is too extreme for us to handle – from the bitter cold at the North and South Poles to the searing heat of the Sahara.

Our core business areas are dehumidification, heating, air conditioning, ventilation and electronics cooling. Innovative, durable and cost-efficient products have secured us a position as a leading global manufacturer of stationary and mobile climate control units. And we are forever pursuing new techniques that will improve our solutions and ultimately your projects.

Our Head Office is located in Denmark, and we have companies in Denmark, Norway, Sweden, the United Kingdom, the United States and China, with an extensive European dealer network.

Dantherm Air Handling is part of the Dantherm A/S group.

### HEAD OFFICE

Dantherm Air Handling Holding A/S  
 Marienlystvej 65  
 DK-7800 Skive  
 Denmark  
 Tel.: +45 9614 3700  
 Fax: +45 9614 3800  
 E-mail: [dantherm.dk@dantherm.com](mailto:dantherm.dk@dantherm.com)  
[www.dantherm-air-handling.com](http://www.dantherm-air-handling.com)



### COMPANIES

#### DENMARK

Dantherm Air Handling A/S  
 Marienlystvej 65  
 DK-7800 Skive  
 Denmark  
 Tel.: +45 9614 3700  
 Fax: +45 9614 3800  
 E-mail: [dantherm.dk@dantherm.com](mailto:dantherm.dk@dantherm.com)  
[www.dantherm-air-handling.dk](http://www.dantherm-air-handling.dk)

#### NORWAY

Dantherm Air Handling AS  
 Løkkeåsveien 26  
 N-3138 Skallestad  
 Norway  
 Tel.: +47 33 35 16 00  
 Fax: +47 33 38 51 91  
 E-mail: [dantherm.no@dantherm.com](mailto:dantherm.no@dantherm.com)  
[www.dantherm-air-handling.no](http://www.dantherm-air-handling.no)

#### CHINA

Dantherm Air Handling (Suzhou) Co., Ltd.  
 Bldg. # 9, No. 855 Zhu Jiang Rd.  
 Suzhou New District, Jiangsu  
 215219 Suzhou  
 China  
 Tel.: +86 512 6667 8500  
 Fax: +86 512 6667 8501  
 E-mail: [dantherm.cn@dantherm.com](mailto:dantherm.cn@dantherm.com)  
[www.dantherm-air-handling.cn](http://www.dantherm-air-handling.cn)

#### ENGLAND

Dantherm Air Handling Ltd.  
 12 Windmill Business Park  
 Windmill Road  
 Clevedon  
 North Somerset BS21 6SR  
 United Kingdom  
 Tel.: +44 (0) 1275 876851  
 Fax: +44 (0) 1275 343086  
 E-mail: [dantherm.co.uk@dantherm.com](mailto:dantherm.co.uk@dantherm.com)  
[www.dantherm-air-handling.com](http://www.dantherm-air-handling.com)

#### USA

Dantherm Air Handling Inc.  
 4260 Orchard Park Blvd,  
 Spartanburg  
 South Carolina 29303-4400  
 USA  
 Tel.: +1 864 595 9800  
 Fax: +1 864 595 9810  
 E-mail: [dantherm.usa@dantherm.com](mailto:dantherm.usa@dantherm.com)  
[www.dantherm-air-handling.us](http://www.dantherm-air-handling.us)

#### SWEDEN

Kontrollelektronik Dantherm Air Handling AB  
 Virkesgatan 5  
 SE-614 31 Söderköping  
 Sweden  
 Tel.: +46 (0) 121-130 40  
 Fax: +46 (0) 121-133 70  
 E-mail: [infose@dantherm.com](mailto:infose@dantherm.com)  
[www.dantherm-air-handling.se](http://www.dantherm-air-handling.se)