

**WE SET NEW TRENDS  
IN CLIMATISATION**

# **SKAWEN**

**SKAWEN SAVES ENERGY  
AND ENSURES HEALTHY  
INDOOR AIR**



**SKAWEN**

## ENVIRONMENTALLY FRIENDLY AIR HANDLING

# Skawen is an innovative ventilation company developing, producing and selling AHU's with highly efficient heat recovery system

The ventilation systems are suitable for use in public and industrial areas, as well as for dehumidification of public/private swimming pool halls. Focus is on both in new construction and rebuilding markets.

When ventilating buildings and facilities with Skawen ventilation units, the energy required for heating, cooling and electrical power is reduced.



- Filtering the outside air creates a pleasant indoor climate
- The quality of the indoor climate is becoming increasingly important
- Skawen ventilation units can monitor the air quality parameters
- At the customer's request, these can be provided via a cloud service

## Casing

Skawen has developed a new casing design which makes the ventilation units lighter and mountable on site. The design is optimized for flat-pack logistics, enabling easier and cost-efficient transportation. The casing material is optimal for use in the harshest outdoor conditions, including applications for swimming pool halls

and industrial facilities.

- The practically thermal bridge free design with anodized profiles ensures a near condensate free operation
- The casing openings have a double sealing which offers a high airtightness

## Technical data

All devices with or without controls are CE marked. Within the framework of a project design and offer, the Skawen AHU design software checks the fulfillment of the efficiency criteria according to ErP Directive, before technical data are issued. Units with refrigeration technology meet the strict requirement of the F-Gas Regulation. The thermal bridge free design of the panels allows the use of a variety of insulation materials such as rock wool and PUR foam. The mechanical strength of the casing allows air outputs up to 31.800m<sup>3</sup>/h at pressure of up to 2000 Pa. The casing is smooth inside and wipe disinfectable according to the requirements of VDI 6022.

The special materials used in the panels ensure a highly efficient noise reduction for the emission of sound into the technical room or surrounding. The use of the latest EC fans in combination with highly efficient acoustic decoupling significantly reduces structure-borne noise.

- |                                    |                                 |
|------------------------------------|---------------------------------|
| • Low leakage rate                 | • High corrosion resistance     |
| • Low heat transfer                | • Noise reduction               |
| • High mechanical strength         | • Weight reduction of up to 30% |
| • Fiberglass reinforced base frame |                                 |

ENSURES HEALTHY INDOOR AIR

## Skawen one series suitable for all applications

- **SKW** — has modular assembly groups suitable for any demand
- **SKW Compact** — has standardized assembly groups and duct connection on top or at the side a high airtightness

In terms of building- or energy-renovation, the standardised casing dimensions may not fit the old facility. In this case Skawen offers SKWE with an Extended range of dimensions which meet the specific space requirements.

The casing design allows the construction of two casing types.

Skawen distinguishes these in the SKW and SKW compact.

SKAWEN SI

### VENTILATION

SKW RECU

SKW COMP

SKW ROTO

SKW RUAR

## Skawen air volume range

**SKW** Air volume range  
2.250–31.800 m<sup>3</sup>/h

**SKW Compact** Air volume range  
500–5.000 m<sup>3</sup>/h

## SKW SERIES

### DEHUMIDIFICATION

**SKW POOL**

**SKW COMP POOL**

**SKW POOL HP**

**SKW COMP POOL HP**

## Selection of components

- All devices of Skawen meet the strict requirements of the ErP 2018 guideline.
- Skawen uses reputable suppliers. The fans are driven by EC motors with controlled speed. In refrigeration mode, only power-adjustable compressors are used.
- The devices with a recuperator have an intelligent demand-dependent defrosting, in which the amount of air does not have to be reduced. The devices with a rotor or a circulation system work with an optimised efficiency control.
- The Skawen air handling design software ensures the ErP conformity of the designed devices. For the market sector outside the ErP Directive, Skawen offers all market available heat recovery systems.



## SKW Compact

SKW Compact units are designed for dispatch and installation as plug-in units. They can also be delivered pre-assembled for final assembly on site.

A heat recovery rate of up to 90% is achieved with very low pressure drop. Compact units are available up to an air volume of 3.500 m<sup>3</sup>/h

- Regulated recirculation damper for swimming pool dehumidification
- Heat pump to recover the sensible and latent heat from the exhaust air
- Integrated dx cooling
- Cooling / Heating coil in the supply air
- CO<sub>2</sub> sensor control
- Constant flow / pressure control
- Humidity control

The design of the recuperators are optimised for the application. For example, aluminum recuperators are used in ventilation applications.

In dehumidification of swimming pool halls aluminum recuperators with epoxy coating are used.



## SKW product range

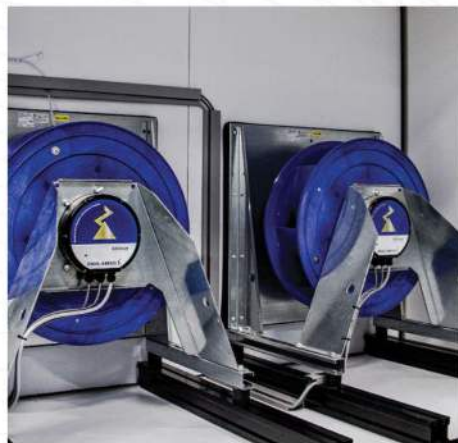
The quality of the Skawen casing allows us to build one casing for all demands. In our way to build casings we don't have a difference between ventilation applications or swimming pool units. Especially for rooftop units we just use an aluminum roof for the unit and the casing is still the same.

We offer different heat recovery systems to support the demand nearly all character of building:

- **Recuperators**
- **Rotors**
- **Run around coil systems**

Options:

- **Adiabatic cooling**
- **Integrated dx cooling**
- **Integrated heat pump**
- **Integrated reversible dx technology**



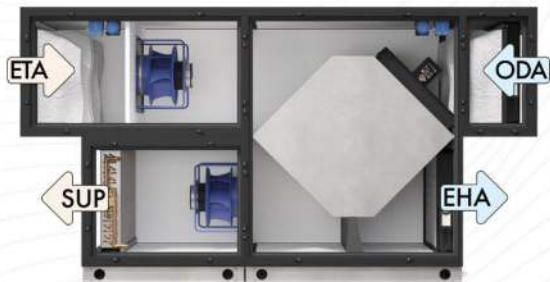
Our sales and project team will guide you, to find the right system with the best available benefit for your project.

Skawen offers, as we call it, FLAT PACK-delivery with a fully integrated controls concept, especially suited for renovation of buildings.

The hygienic solution includes a clean floor with just necessary profiles. This gives a good basis for disinfection and cleaning.

## ENVIRONMENTALLY FRIENDLY INDOOR AIR

One series fits all applications



### SKW Recu

All recuperative SKW Units will have a counterflow recuperator, alternatively a suitable dimensioned cross-counterflow recuperator. All units will fulfill the ErP regulations. All units have a constant air volume control and an active defrost management. These units will have optional adiabatic system, integrated dx cooling or heat pump or reversible dx. The user has the possibility to change from constant return temperature control to constant supply temperature control.



### SKW Roto

All Rotor Units have a high efficiency rotating wheel, which allows a big heat recovery effect and will bring some moisture back into supply air. All units will fulfill the ErP regulations. All units will have constant air volume control. The units will have the following options: Integrated dx cooling or heat pump or reversible dx. The user has the possibility to change from constant return temperature control to constant supply temperature control.





## SKW Pool HP

Skawen follows the VDI 2089 guideline for dehumidification. With respect to air quality, we dehumidify the swimming pool hall just with fresh air. The clever controls concept uses just the right fresh air volume to get rid of the moisture. The controls concept uses the heat pump to increase the heat recovery of the recuperator. The power-controlled compressor is fully integrated into the temperature controls concept. If there is a pool water condensator the pool heating request is able to run the pool water heating by the heat-pump for all the time. The recuperative units fulfill the ErP demands. All parts like recuperator or evaporator will be epoxy coated.



## SKW Ruar

Runaround System will be used if it is not allowed to have return air into supply air. Laboratories or hospital demand will need this technique. Runaround System have a big advantage in renovation projects, if the return air duct and supply air duct are not in one room. Both units will be placed separately in the building and just connected with the pipes. All Systems will meet the ErP regulations.

TROUBLE FREE AIR HANDLING

One series fits all applications

## Skawen casing

Skawen has developed a new casing for air conditioning units

The casing is made out of corrosion-resistant composite materials with the aim to reduce the weight.

The double sealing solution of the panels offers a high airtightness.



## Key features

- Attractive contemporary appearance
- up to 30% lighter than a comparable metal construction
- Low air leakage rate
- High mechanical strength
- Thermal bridge free construction
- High corrosion resistance, C4
- Excellent acoustic properties
- Wipe-disinfectable construction

## Framing details

- Extruded anodized aluminum profiles
- Thermally decoupled frame and construction profiles
- Thermally separated frame profiles

## Panel details

- Polymer and aluminum sandwich construction, filled with PUR or Rockwool
- High corrosion resistance
- High sound attenuation
- Light in weight

## Base frame details

- Corrosion-free glass fiber reinforced plastic, C4
- Practically condensate-free
- High mechanical strength
- Light in weight

TROUBLE FREE AIR HANDLING

One series fits all applications

## SKW Components

### Ventilators

Skawen works with the most modern EC fans. A constant air volume flow control is standard in all devices. Optionally, a constant pressure control or a constant speed control can be used. A unit with an air volume flow of more than 10,000 m<sup>3</sup>/h operates with two or more EC fans. This increases the operational safety.



Ventilator

### Integrated Heat pump

A power-controlled heat pump with a highly efficient controls algorithm allows for a smooth temperature control. This is supported by power adjustable compressors which have a working range of 20 to 100%.

Compressor  
+  
Receiver





## Integrated DX cooling

Skawen AHU's run on power adjustable compressors. These can provide cooling capacity in a range of 20 to 100 %. The components reduce refrigerant supply as well as the environmental footprint as defined by the F-Gas Regulation.

Evaporator + Compressor + Receiver + Kondensator



## Cold water Chiller

The Skawen air handling units can optionally be equipped with a chilled water cooler, which is connected to an on-site chilled water network. The device takes over the temperature control.



Coil

## Dampers

The louvers are made of corrosion-resistant aluminum.



Damper

## Frost protection

The defrosting of the recuperator is performed via a logic, which ensures that defrosting-mode is active only when it is needed. The fresh air volume of the device does not need to be reduced during defrosting.



Recuperator

## Filters

The filter standard of the devices meets the requirements of VDI 6022. Optionally, the filters can be adapted to the requirements of a specific project. The filters are available in pocket form or as a compact cell.



Bag  
Filter



Panel Filter

## Base frames

The base frame is a U-profile made of fiberglass reinforced plastic. This material is corrosion resistant and reduces the total weight. Optionally, a base frame made of galvanized steel can be selected.



Baseframe

## Controller

The programmable and configurable Controller family provides a comprehensive controls solution for a wide variety of HVAC/R equipment. These controllers are designed to provide direct, closed-loop control over mechanical and electrical HVAC/R equipment.

### Special Features are:

- Real-time switchable communications protocols from BACnet® MS/TP, N2 or Modbus through the onboard local display or Mobile Access Portal gateway.
- Standard BACnet ® protocol — provides interoperability with building automation systems (BAS) product that use the widely accepted BACnet ® standard.
- Standard hardware and software platform — uses a common hardware design throughout the family line to support standardized wiring practices and installation workflows. Also uses a common software design to support use of a single tool for control applications, commissioning, and troubleshooting to minimize technical training.
- Proportional adaptive control (P-Adaptive) and Pattern Recognition Adaptive Control (PRAC) technologies reduce commissioning time, eliminate change-of-season recommissioning, and reduce wear and tear on mechanical devices.
- Handling via Wifi by Smartphone or Tablet with easy access and without any App necessary.

## SKAWEN QUICK SELECTION

	SKW Recu	SKW Ruar	SKW Roto	SKW Pool	SKW Pool HP	SKW Comp	SKW Comp Pool	SKW Comp Pool HP
<b>INDUSTRIAL APPLICATIONS</b>								
Office building	✓		✓			✓		
Production plant	✓	✓	✓			✓		
Process air		✓						
Food applications		✓						
Data Center	✓							
<b>PUBLIC BUILDING</b>								
Office building	✓		✓			✓		
Shopping mall	✓		✓					
Public areas	✓		✓					
<b>HEALT AND CARE</b>								
Healt center	✓	✓				✓		
Treatment room	✓							
Septic treatment room	✓	✓						
Surgery room		✓						
<b>POOL DEHUMIDIFICATION</b>								
Private pool							✓	✓
Public pool				✓	✓			

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