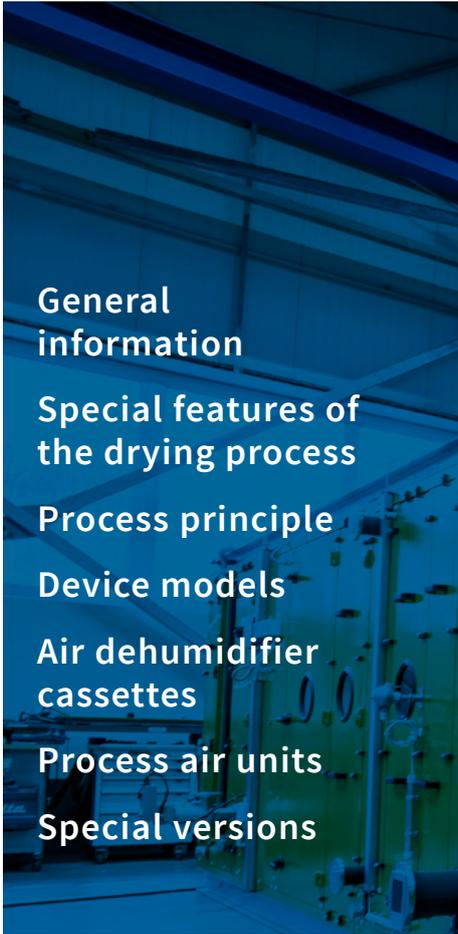


# R. Scheuchl GmbH

process engineering | environmental protection | custom machinery



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Your expert in  
air dehumidification

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YOUR EXPERT

SCHEURUSORB - air dehumidifier  
A pioneering system

## GERNERAL INFORMATION

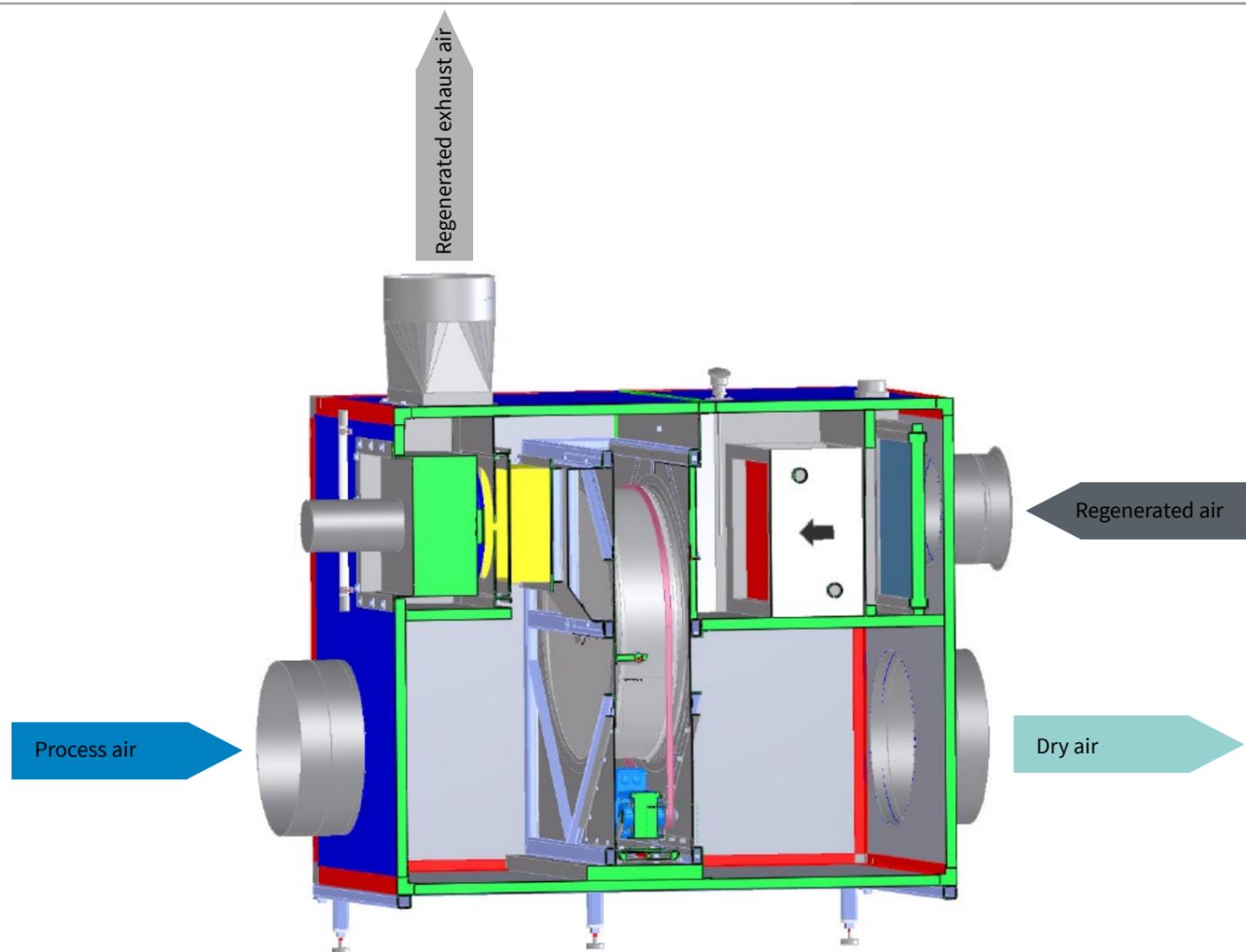
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In process engineering, gentle drying is becoming increasingly important. Compared to conventional drying processes, the Scheurusorb dehumidifier guarantees continuous production with constant air conditions even in the case of critical or changing outside air conditions. High availability of the production facilities with constant product quality is ensured.

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# AIR DEHUMIDIFICATION DRYING TECHNOLOGY



Scheurusorb dehumidifier with dehumidifier cassette, heating coil and regeneration air fan

## SPECIAL FEATURES OF THE DRYING PROCESS

The drying of bulk goods, foodstuffs and vegetables by use of the Scheurusorb dehumidifier is particularly gentle, as there are no high temperatures required for the drying process. The moisture content of the dry air can be individually adjusted and controlled for the respective drying process. Continuous dehumidification ensures a constant quality of the material to be dried.

## PROCESS PRINCIPLE

The Scheurusorb dehumidifier is a continuously operating dehumidifier for air and technical gases at atmospheric conditions. The dehumidification principle of the Scheurusorb dehumidifiers is based on the chemophysical behavior of strongly hygroscopic agents, which bind moisture at low temperatures and release this moisture again at high temperatures. Dew points far below  $-20^{\circ}\text{C}$  can be achieved. Inside the dehumidifier, a cylindrical honeycomb adsorption matrix with chemically bound silica gel rotates. The matrix forms the heart of the device. Two air streams, which are sealed from each other, flow through the rotor. The gas or air stream to be dehumidified passes through the rotor matrix, releasing the moisture to the adsorbent. At the same time, the regeneration sector is flushed with hot air, causing the sorption body to release the absorbed moisture.

The large internal adsorption surface of the rotor ensures optimum dehumidification performance with a minimum of required installation space. A laminar flow profile is present in the lamellar passages so that the flow resistance is low, and contamination of the channels is largely excluded. Another advantage of this process is the permanent hygienization of the dehumidification module with hot air.



Construction of the rotor matrix and dehumidifier cassette with dehumidification rotor

# CHARACTERISTICS

## DEVICE MODELS

The Scheurusorb dehumidifier is manufactured in a modular design and can therefore be optimally adapted to all process requirements. The housing has a rigid frame construction with double-layer, insulated cladding sheets. The dryers are supplied as standard in galvanized or stainless steel. Additional units such as pre-cooler, chiller or post-cooler can be easily retrofitted, even later.

The heating of the regeneration can be done electrically or with other media, e.g. steam, hot water, thermal oil, etc.

## AIR DEHUMIDIFIER CASSETTES RSX

As a ready-to-connect unit for use in your process air units:



## PROCESS AIR UNITS CPR

As complete process air units with fans, heat exchanger, pre-filter and further accessories according to specification:



Type Dehumidifier	Type Dehumidifier cassette	Dry air volume* [m³/h]	Dehumidification capacity* [kg/h]
CPR030	RSX-30-20	≤ 600	4.3
CPR045	RSX-45-20	≤ 1,200	8.6
CPR055	RSX-55-20	≤ 2,500	18
CPR077	RSX-77-20	≤ 5,000	36
CPR096	RSX-96-20	≤ 8,000	57.6
CPR122	RSX-122-20	≤ 12,000	86.4
CPR152	RSX-152-20	>12,000	> 86.4
CPR174	RSX-174-20	>12,000	> 86.4
CPR194	RSX-194-20	>12,000	> 86.4

\* The data on dry air volume and dehumidification performance depend on the input parameters as well as on the requirements for dry air conditions and must therefore be checked for each individual case. We are pleased to support you.

### FURTHER ADVANTAGES OF THE SCHEURSORB DEHUMIDIFIER:

- Maximum dehumidification performance up to particularly low dew point temperatures
- Continuously constant conditions in the process
- High efficiency through low energy consumption
- No re-soaking, replacement or refilling of the adsorber
- High mechanical strength without signs of wear and without abrasion
- Impingement with saturated air is possible
- Adsorber material used is physiologically harmless, chemically neutral, flame-resistant
- Resistant to many aggressive gases
- Integration of the entire technology in a maintenance-friendly, rigid, industrial grade housing

## SPECIAL VERSIONS

Examples:

- For low dew points (down to -60 °C)
- Deeper rotor dimensions (up to 400 mm)
- Larger rotor diameters (air volumes > 12,000 m³/h)
- Silicone-free (for paint shops)

The conception, project planning and production are carried out according to customer-specific requirements.

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