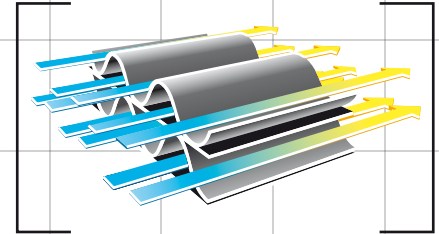


Anatomy of a RL-71

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Powder coated panel
Color: RAL 6005
Thickness: 125 µm



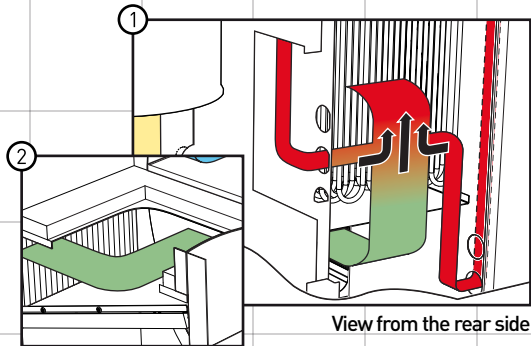
DST SORPTION TECHNOLOGY

DST's dehumidifiers are desiccant. The basic principle is that the air to be dehumidified is passed through the rotating rotor which adsorbs the moisture. The moisture in the rotor is removed by hot air stream.

- Wet air outlet
- Regeneration air inlet
- Process air inlet
- Dry air outlet

DUAL HEAT RECOVERY PROCESS

- ① A small portion of the regeneration air stream is diverted to cool the electrical components.
- ② The main regeneration air is pushed through the purge sector to cool the rotor matrix.



View from the front side

View from the rear side

The pre-heated air streams are channeled into one air stream and enters the regeneration heater. The dual heat recovery effectively reduces the energy consumption to heat the regeneration air during dehumidification process.

Regeneration fan

Control panel

Process fan
Available in high airflow/pressure fan

Constructed with brushed stainless steel
Available in Stainless steel 316L*
Design: Single-casing skin
*1 Corrosive resistant

17kW resistive regeneration heater
Available in steam and 24kW electric heater

Panel insulation

F7 regeneration filter

F7 process filter

Removeable service panel
Front and rear side

All information and illustrations are for guidance only and are subject to change without notification. DST do not accept liability for any errors or omissions herein.

See next page on components details.

Non-flammable desiccant rotor with silica gel bonded to the carrying material. Durable and washable.
Available in hygienic and silicone free



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Revision no: Version no: Filename:
RevD 2.0 Overview

Anatomy of a RL-71

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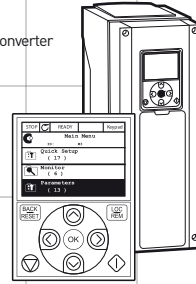
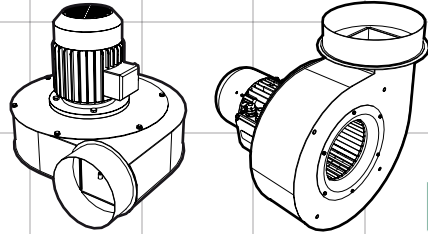
(*) Option

Regeneration fan

Process fan

VSD*

Frequency converter

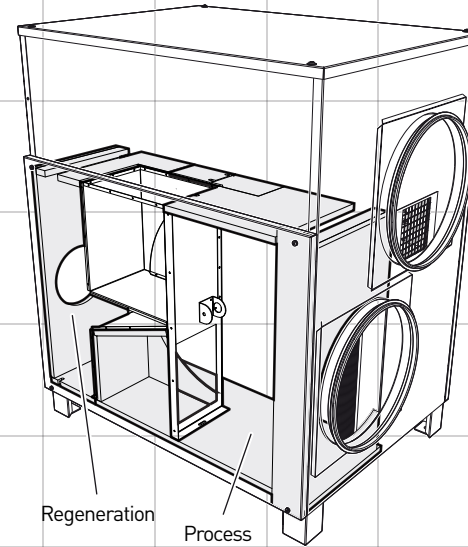


Material
The centrifugal fans are all made as rugged bolted steel construction with forward curved aluminium impellers.

ICE fan with increased airflow/pressure is available as an option.

Max permissible temperature: 80°C
Conforms to energy efficiency ErP 2009/640/EC directive
Motor class: IE2 or IE3
IP class: IP55
VSD controlled using Vacon or Danfoss
Manufacturer: Ventur Tekniska

Type: AC drive
Input voltage: 208...240, 380...500
Input frequency: 50...60 Hz -5...+10%
Standards: Compliance with global standards and approvals E.g. EMC compliance, Safety: EN 61800-5-1 (2007)...
IP class: IP21 or IP54
Remote access: Built-in Modbus TCP and Modbus RTU
Feature: Real time clock with calendar based functions, Energy counter, Flying star, Motor Switch, Skip frequency range, Digital control panel, Safe torque off, Safe Stop
Manufacturer: Vacon



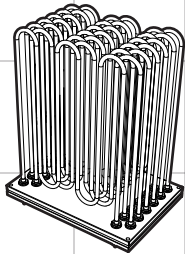
Insulation (*)

Insulation installed inside of process air inlet and/or regeneration air inlet to prevent condensate forming on the outside of the unit.

Material:
The insulator is a flexible closed cell insulation based on extruded elastomer rubber foam. Infused with Microban® antibacterial protection to inhibit growth of mould for long exposure of increased humidity.

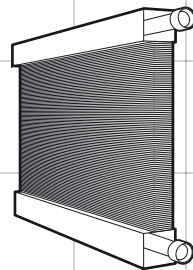
Material: Synthetic rubber based foam
Size: 19mmmm
Type: AF/Armaflex
Permissible temperature: -50°C/110°C
Thermal conductivity: 0.033 W/mK
Material density: 50kg/m³
Flameproof class: 0, A1 (ISO1182)
Misc: Antibacterial, infused with Microban®

Electric heater



Material: AISI 321
Tube diameter: 8.5mm
Current: 400V
Conforms to: EN60335-1 safety
Max. temperature: 650°C
Insulation: Magnesium oxide
Connection: 2 nipples on each end secured using heat resistant bushing and nut

Steam coil (*)



Material
The heat exchanger is designed using copper tubes and aluminium fins with a casing of hot-dip galvanised steel sheet and steel headers.

Fluid
Max. Fluid velocity: 1.5 m/s in tubes.
Max. Air velocity: 5.0 m/s.

Steam
Max. Operating pressure: 10 bar(g)
Max. Operating temperature: 185°C

All coils conforms to SS-EN ISO 228-1 and Pressure Equipment Directive PED 97/23/EC.

Rotors



Rotor:
Non-flammable desiccant rotor with silica gel bonded to the carrying material. Bacteriostatic, fungistatic, durable and washable.

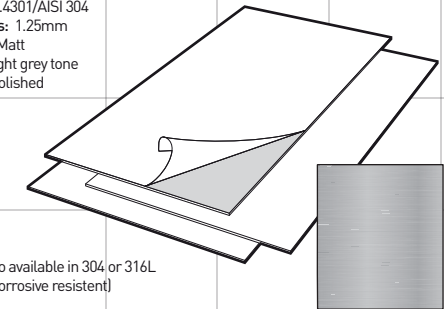
Manufacturer: Seibu Giken Japan

D-MAX (Standard)
D-MAX 100% SILICON FREE (*)
D-MAX BACTERICIDAL & HYGIENIC (*)

Steel sheet

Brushed stainless steel. An excellent steel with ability to long term resist corrosion in most atmospheric conditions.

Material: Stainless steel
ISO: EN 1.4301/AISI 304
Thickness: 1.25mm
Surface: Matt
Color: Light grey tone
Finish: Polished



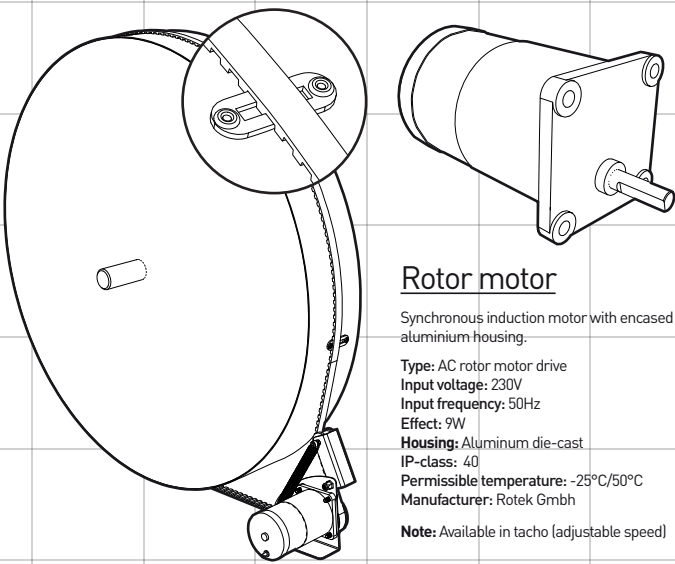
Note: Also available in 304 or 316L (316L is corrosive resistant)

Anatomy of a RL-71

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(*) Option



Rotor motor

Synchronous induction motor with encased inside an aluminium housing.

Type: AC rotor motor drive
 Input voltage: 230V
 Input frequency: 50Hz
 Effect: 9W
 Housing: Aluminum die-cast
 IP-class: 40
 Permissible temperature: -25°C/50°C
 Manufacturer: Rotek GmbH

Note: Available in tach (adjustable speed)



EH3 T2 electronic controller (*)

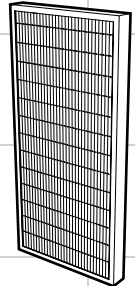
Microprocessor based controller with advanced programming functions. Features background illumination, modbus connection, floating dewpoint, alarm indicator, 2 PI-controller, two-step control & wide variety of settings. When selecting an energy saving package, the dehumidification capacity is control linear with accuracy.

Measuring range: -30°C... +80°C. 0-100%RH
 Accuracy: $\pm 2\%RH$ & $\pm 0.5^\circ C$
 Response time: At low air speed, 30 seconds
 IP-class: 65

2 analogue outputs: 0-10Vdc, 2-10Vdc, 0-20mA or 4-20mA.
 Parameters: %RH, g/kg, °Cdp & °C/K/°F
 Sensor: Honeywell
 Supply: 230VAC / 50Hz
 Misc: Panel mounted

Main filter

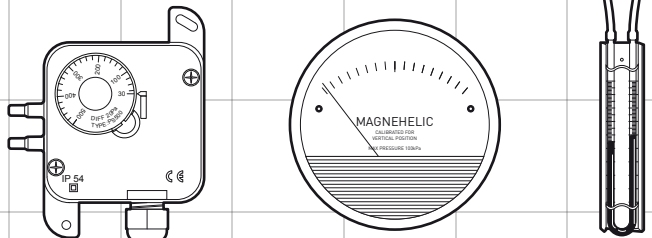
Process & Regeneration



Type: Disposable pleated panel filter
 Frame: Moisture resistant cardboard
 Media: Glass fibre
 EN779:2012 efficiency: F7
 Recommended final pressure drop: 250 Pa
 Maximum temperature: 70°C

Differential pressure switch & manometers (*)

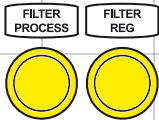
Multiple sub-options and combinations



Pressure range: 30-300Pa
 Type: Pressure switch
 Permissible temperature: -20°C/40°C
 Max. pressure: 50kPa
 IP class: 54

Pressure range: 0-250/750Pa
 Type: Manometer
 Permissible temperature: -20°C/60°C
 Max. pressure: 100kPa

Pressure range: 0-1200Pa
 Type: Manometer



Yellow light indicator for electromechanical control

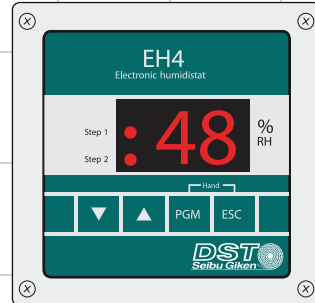
Note: Only available for differential pressure switches only
 Note: Magnehelic gauges can be added to the pressure switches

EH4 electronic humidistat (*)

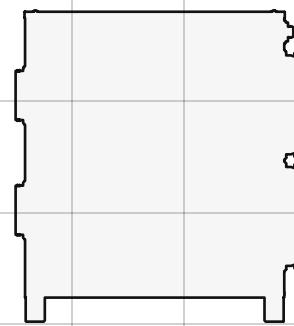
Two-step electronic humidistat with two independent programmable relays with adjustable hysteresis.

Measuring range: 0-99%RH
 Accuracy: $\pm 2\%RH$
 Response time: At low air speed, 30 second update
 IP-class: 44 (Box), 65 (Sensor)

2 separate relays: Potential free, max 230Vac 16A
 Sensor: Honeywell
 Supply: 230VAC / 50-60Hz
 Misc: Panel mounted



FLEX modules - (*)



For maximum versatility, combine the dehumidifier with FLEX modules to control the air temperature and airflow in inlet and/or outlet. Multiple configurations are available with cooler, heater, fan, filter and mixer to cover wide varieties of dehumidification needs as well as ventilation.

Contact your representative for more information.
 Note: The module illustration is a sample only, other configurations are available.

