Penmann
INNOVATIVE CLIMATIC SOLUTIONS FOR THE FOOD INDUSTRY

NR-DH31 Desiccant Dehumidifier

Product Overview

Desiccant rotor – located at the heart of the machine the washable rotor is designed to absorb moisture without the need for a refrigeration circuit

Robust construction – complete with stainless steel chassis

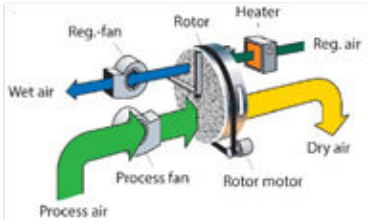
Digital controller – possible for the user to set a desired set point using the integrated controller in conjunction with humidistat

Self-regulating heater – providing heat for the 'regeneration' section – operation is fully managed by the unit's controller

Filtration section – can be easily accessed for cleaning & replacement of dirty filters when necessary

Operating Principles

There are two air streams of differing flow rates – typically having a ratio of approximately 4:1. The greater 'process' flow is dried as it passes through the dehumidifier – while the smaller 'regeneration' flow is used to heat the rotor material to drive the absorbed moisture vapour from the desiccant. The moisture removed from the process air is transferred as the rotor slowly turns.



Performance Data

Nominal Extraction Capacity (1)	2.1 kg/hr
Nominal 'Dry' Air Flow Rate	490 m^3/hr
Nominal 'Wet' Air Flow Rate	85 m^3/hr

Operating Limits

Maximum Inlet Air Temparature	40 °C
Minimum/Maximum Ambient Temperatures	-20/50 °C

Electrical Data

Power Supply	230/1/50 V/ph/Hz
Power Connection	16 A 3 Pin Plug

Spigot Connections

'Process' Air Inlet	160 mm Ø
'Regeneration' Air Inlet	80 mm Ø
'Dry' Air Outlet	160 mm Ø
'Wet' Air Outlet	80 mm Ø

Filtration - Process / Regeneration Circuits

Grade	G4

Physical Data

Length	520 mm
Width	455 mm
Height	464 mm
Operating Weight	32 kg

Performance data based on 'process' inlet air conditions of +20°C / 60% R.H.

Still have a question?

Get in touch with one of our expert team today.

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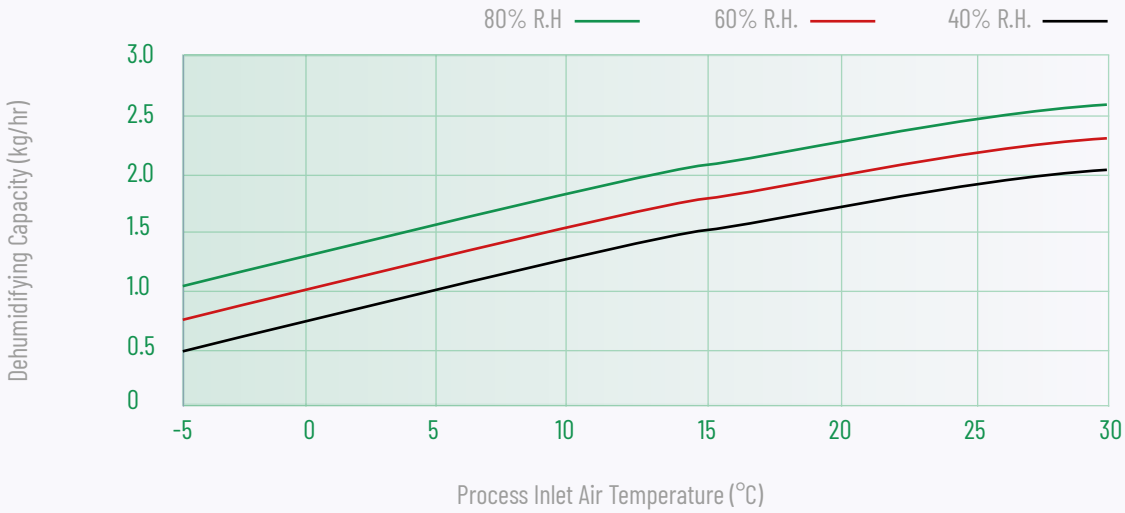
Cooling Capacity



The level of performance provided by each machine depends on the conditions at which it is operating.
The factors determining performance are the temperature & relative humidity (R.H.) of the inlet air.
The above graph illustrates the dehumidifying capacity – at three different R.H. levels – based on differing inlet air temperatures.