



AQUA AURA™

COMPACT DESICCANT DEHUMIDIFIER



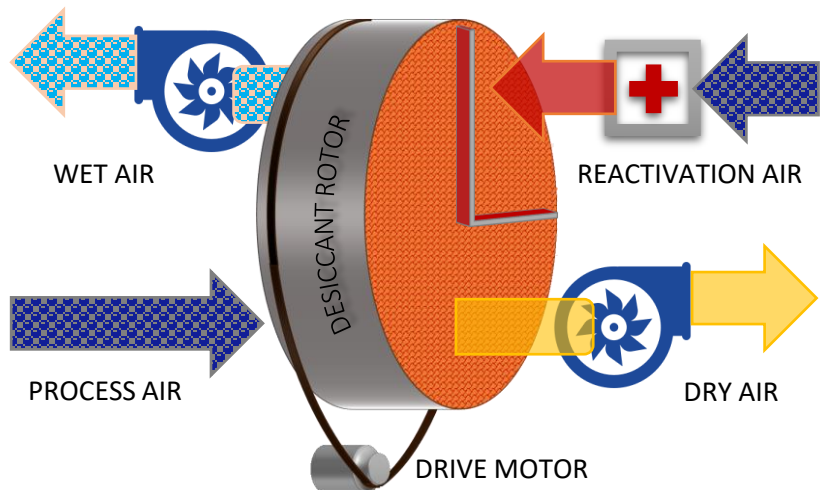
Product Highlights:

- Built with European Rotor
- Best-in-class Moisture-removal Efficiency
- Fully Factory Assembled - Easy Installation
- Guaranteed Power-savings up to 30%
- Maintenance-free

NSI 300D & NSI 600D

Aqua Aura India's (AAI) NSI-D series is desiccant-based dehumidifying solution. It is an ideal solution for enclosed application area where sensible heat-gain is not a concern. To solve the existing moisture problems; NSI-D equipment can be added to existing air-conditioning or conventional HVAC systems. The fully integrated dehumidifier comes with process and reactivation filters & fans, reactivation heater and the complete control system for safe operation.

Dedicated desiccant air-supply units provide low humidity discharge conditions necessary to maintain a dry environment. It's a simple solution to an old problem. The solid desiccant rotor absorbs moisture from Process air-stream. The moisture is taken out of the rotor by a second and separate Reactivation air-stream. This process enables the rotor to continually take moisture out of the air-stream without interruption.



AAI's desiccant dehumidifier can achieve ultra-dry-air at any desired application temperature requirement. NSI-D series is suitable for continuous operation as the dehumidification process is condensation free.

AAI's Compact Desiccant Dehumidifiers are maintenance-free solution with effective life of minimum 10 years. AAI's unique control technology facilitates considerable amount of power saving.

**TECHNICAL SPECIFICATIONS:**

Parameters	Unit	NSI 300D	NSI 600D
Performance:			
Moisture Removal ¹	Kg/Hr	2.25	4.5
Operating Temp	°C	-5 to 35	-5 to 35
Process/Activation Flow:			
Air Flow	m ³ /Hr	300	600
ESP	PA	250	250
Fan Motor Power	KW	0.25	0.25
Reactivation Flow:			
Air Flow	m ³ /Hr	100	200
ESP	PA	180	180
Fan Motor Power	KW	0.1	0.1
Heater Type		Finns	Finns
Heater Power	KW	3	5
Reactivation temp (max)	°C	120 ±5	120 ±5
Electrical Details:			
Power Supply	V/P/Hz	230/1/50	230/1/50
Total Power Consumption	KW	3.35	5.35
Current	A	13	22
Main MCCB	Pole/A	1P/32	1P/32
Other:			
Noise	dB	70	70
Weight	Kg	70	80

Notes:¹Tested at inlet conditions 20°C/60%RH.

ESP - External Static Pressure

*AAI upgrades its offering on continuous basis; therefore, all data is subject to change without any notice



Design & Construction:

- Robust & leak-proof design
- Totally self-contained equipment
- Single frame & light-in-weight construction
- CNC fabricated unit from GI material
- Skid: 14 Gauge GI coated structure
- Surface finish: Powder-coated as per ISO
- Color: Havel's Grey (7035)
- IP 55 rated control panel
- Insulated Process & Reactivation sections
- Silicon 'A' seals; prevents air-leakage
- Insulation: FM-approved Nitrile rubber with food-grade aluminum casing
 - Temperature tested as per; EN 14706, EN 14707 & EN 14304
 - Thermal conductivity test as per EN 12667
 - Water-vapour permeability as per EN 12086
 - Water-absorption tested as per ASTM C209
 - Fire Performance: Class-O fire category, UL 94- HB, V-0
 - Flame Spread: Class 1 as per BS 476

Desiccant Rotor:

- High-performance Silica gel with peripheral seal
- Honeycomb structure facilitates larger surface area for faster moisture accumulation
- Incombustible construction
- High content of Active Desiccant - NREL tested
- Acrylic surface coating provides sealing and ensures durability
- High density and compression strength
- ASTM E- 84 -97A tested
 - Flame Spread Index: 0
 - Smoke Index: 0
- Silica gel and acrylic coating have no known toxic properties

Reactivation Heater:

- Power-efficient SS FINNS Heater with solid-state relay (SSR) control

Process & Reactivation Blowers:

- German Make
- Higher static pressure
- Low-noise operation

Process & Reactivation Inlet:

- Synthetic non-woven mesh filters
- Rating: EU4

Drive System:

- Continuous rotation, with drive belt arrangement

Instrumentation:

- Temperature + RH sensor for Process air
- Differential air-pressure switch for providing Process & Reactivation air-flow
- Rotation safety limit switch for rotor
- Independent Reactivation cool-down device
- Thermostat cut-out for high temperature safety
- Electrical interlocking of fan motors, heater and rotor drive

Controls:

- PID controller for Process RH and Reactivation temperature
- Hours-run counter to monitor the number of hours the system is operational

AAI Smart Controls (Optional):

- PLC and HMI consisting 4.5-inch digital display + touch screen
- AI with additional Power Savings up to 10%
- Display & control of all technical parameters
- Continuous data logging & monitoring
- RS232/RS485/USB serial data interface
- Auto / manual mode selection
- Remote start/stop provision via USB connection
- Auto-fault Detection with Alarms
 - Blocked filter
 - Rotor stopped
 - Motor Overload
 - PLC/HMI Stop
 - Heater OFF
 - Blower Tripped

Optional Features:

- CNC fabricated Stainless-Steel Construction
- High-performance Silica gel rotor intended for dehumidifiers with process requirement ultra-high RH input & low RH output
- High-performance molecular sieve rotor for dehumidifiers with process requirement of hot or low RH input and ultra-low RH output

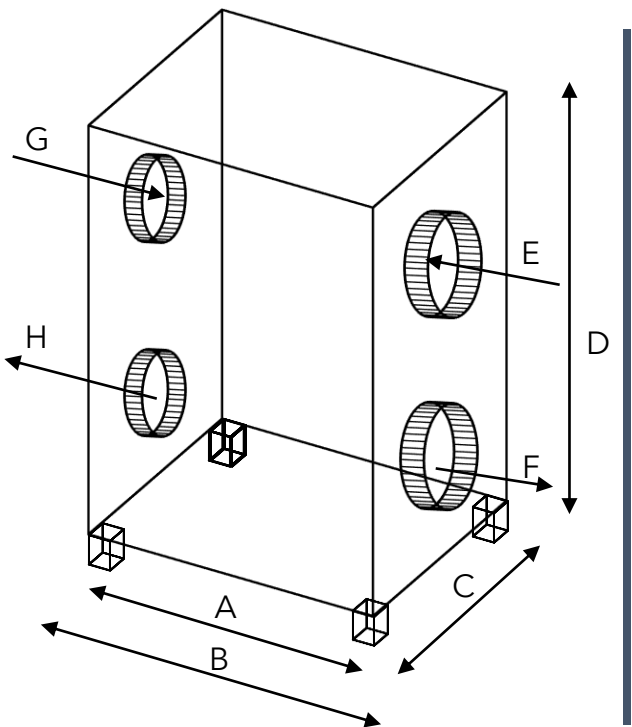


Features:

- Weather-proof design and corrosion-resistant surface-finish
- Easy installation: pre-assembled equipment delivery & simple ductwork requirement
- Multiple Installation options: Machine placement inside/outside the application area
- SSR controlled heater for maximum energy-efficiency
- Rotor peripheral sealing prevents waring and mixing of air-stream
- Noiseless operation
- Intelligent restart following a power failure
- Ease of inspection and maintenance
- Replaceable components & spares
- Fully Demountable equipment construction
- Washable Rotor and Filters
- Equipment - ORGALIME S 2012 complied
- Safety data directive: Regulation 1907/2006/EC

Model	Unit Dimensional Data				Process Duct Connections		Reactivation Duct Connections	
	Length (A)	Total Length (B)	Width (C)	Height (D)	Inlet (E)	Outlet (F)	Inlet (G)	Outlet (H)
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
NSI 300D	550	600	400	1000	150	150	100	100
NSI 600D	550	600	400	1000	150	150	100	100

Layout and dimensions are approximate intended only for reference



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