PRODUCT CATALOGUE · DD-SERIES

Desiccant Dehumidifiers

Precise, continuous humidity control from 1,000 to 40,000 CMH — engineered and built in Bangalore for pharmaceutical, lithium-battery, food and process industries worldwide.



−40 °C	10,000	Triple ISO	Made in India
DEW POINT −80 °C ON REQUEST	SQ FT PLANT HAROHALLI, BANGALORE	9001 · 14001 · 45001 UKAS ACCREDITED	

Non-conventional applications need innovative solutions

SORPS provides dehumidification tailored to your process. Our desiccant systems remove moisture from air by adsorption rather than refrigeration, so they hold humidity precisely and continuously — at levels and temperatures where cooling coils simply cannot go.

Every unit is designed around your moisture load, not around a catalogue box. Fourteen standard sizes cover 1,000 to 40,000 CMH; beyond that, and for any special construction, rotor media or integration, we engineer to order.

The result is dry air you can design a process around: tablet coating that does not tack, electrode coating that meets a dry-room dew point, biscuit lines that stay crisp through the monsoon, shell moulds that dry on schedule, and stored equipment that does not corrode.

Units are supplied self-contained, factory-tested and pallet-packed, with commissioning and service support from our Bangalore works.



A DD-Series unit installed with pre-cooling, post-cooling and insulated supply ducting.

Where refrigeration stops

Effective from −20 °C to +40 °C process air. No coil frosting, no loss of capacity in cold rooms.

No refrigerant, no drain

Moisture leaves as vapour on the reactivation stream. Nothing to leak, nothing to plumb.

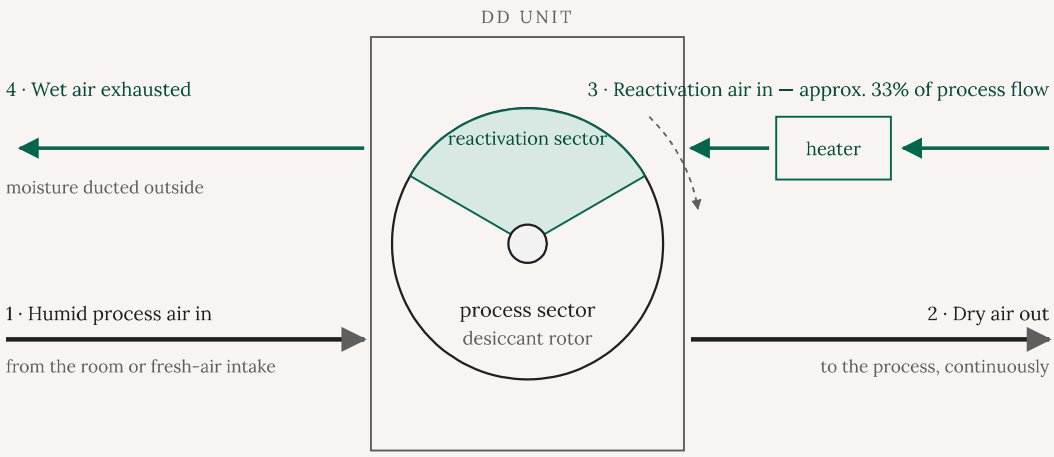
Continuous by design

The rotor adsorbs and reactivates at the same time — no cycling, no recovery period, no downtime.

THE PRINCIPLE

Two airstreams, one slowly turning wheel

A hygroscopic rotor — silica gel as standard, molecular sieve for ultra-low dew points — turns continuously through two sealed sectors. The large process sector dries your air; the smaller reactivation sector is purged with heated air that carries the collected moisture out of the building. Because both happen at once, dry air delivery never pauses.



Silicone P-seals separate the sectors · reactivation side insulated · G4 leak-tight filtration on both streams

01

Adsorb

Water vapour bonds to the desiccant surface as process air passes through the rotor flutes.

02

Deliver

Dry air leaves at 300–500 Pa ESP, warmed by the heat of adsorption — cool it if the process needs it.

03

Reactivate

Heated air drives the moisture back off the media in the smaller sector, restoring capacity.

04

Exhaust

Wet air is ducted out of the building. No condensate, no drain, no refrigerant circuit.

CHOOSING A TECHNOLOGY

Desiccant or refrigeration?

Both remove moisture; they do it in opposite ways, and the difference decides your project. A cooling coil can only take air down to its own surface temperature, so it stalls around 45–55% RH and frosts in the cold. A desiccant rotor is indifferent to temperature and keeps going to dew points a coil cannot reach.

	SORPS DD-Series desiccant	Refrigeration dehumidifier
Principle	Adsorption onto a rotating desiccant wheel	Condensation on a cold evaporator coil
Working air temperature	−20 °C to +40 °C	Practical above roughly +15 °C; coil frosts below
Humidity achievable	Any set point down to below 1% RH	Typically 45–55% RH at best
Dew point achievable	−40 °C as standard; −80 °C with staged molecular-sieve rotors	Around +5 °C to +10 °C
Refrigerant	None in the drying circuit — preferred for GMP areas	Charge required; leak and GWP exposure
Moisture disposal	Exhausted as vapour — no condensate, no drain	Continuous condensate drain and trap
Operation	Continuous; no compressor, low vibration	Cycles on demand; defrost cycles in cool air
Energy input	Reactivation heat, recoverable with a heat wheel or heat pipe	Compressor power; efficiency falls as air dries
Choose it for	Dry rooms, pharma, battery, cold storage, casting, storage preservation	Warm, humid comfort spaces and basements at moderate RH

Not sure which you need?

Send us the room volume, target RH or dew point, fresh-air and infiltration rates, internal moisture sources and design ambient. We will return a moisture-load calculation and a sized selection — normally within two working days.

STANDARD RANGE

DD-Series models

	PROCESS AIR			REACTIVATION AIR			ELECTRICAL	
Model	Airflow CMH	ESP Pa	Motor kW	Airflow CMH	ESP Pa	Motor kW	Heater kW	Total kW
DD1000	1,000	300	1.1	333	250	0.75	10	11.9
DD1500	1,500	300	1.1	500	250	0.75	15	16.9
DD2000	2,000	300	1.1	667	250	0.75	20	21.9
DD2500	2,500	300	1.5	833	250	0.75	25	27.3
DD3000	3,000	300	1.5	1,000	250	1.5	30	33.0
DD4000	4,000	300	2.2	1,333	250	1.5	40	43.7
DD5000	5,000	300	3.7	1,667	250	1.5	50	55.2
DD6000	6,000	300	3.7	2,000	250	1.5	60	65.2
DD7000	7,000	300	3.7	2,333	250	1.5	70	75.2
DD8000	8,000	300	3.7	2,667	250	1.5	80	85.2
DD9000	9,000	300	5.5	3,000	250	2.2	90	97.7
DD10000	10,000	300	5.5	3,333	250	2.2	100	107.7
DD15000	15,000	500	7.5	5,000	250	3.7	150	161.2
DD20000	20,000	500	11	6,667	250	5.5	200	216.5
DD25000	25,000	500	15	8,333	250	5.5	250	270.5
DD30000	30,000	500	22	10,000	250	5.5	300	327.5
DD40000	40,000	500	22	13,333	250	5.5	400	427.5

Supply power 415 V / 3 Ph / 50 Hz on all models. Reactivation airflow is approximately one third of process airflow. Figures are for standard configuration at nominal duty; performance is confirmed against your design conditions at selection. Larger capacities, gas-fired reactivation and staged molecular-sieve rotors for dew points to −80 °C are engineered to order.



Compact and modular alike

Smaller duties ship as a single self-contained cabinet with the control panel and HMI mounted on the unit. Larger and multi-section machines are built as modular AHU-type trains, so a plant room can be entered in sections and serviced from either side.

INDUSTRIES WE SERVE

Applications and target conditions

Set points below are the conditions our units are most often asked to hold. Use them to locate your application; the final selection follows from your own moisture load and design ambient.

INDUSTRY	TYPICAL APPLICATION	TARGET CONDITION	USUAL MODELS
Pharmaceuticals	API handling, granulation, tablet coating	25–35% RH	DD1000–DD5000
Pharma packaging	Blister and strip lines, capsule filling	35–45% RH	DD1000–DD3000
Lithium battery	Electrode coating, dry rooms, cell assembly and formation	Below 1% RH · dew point under −40 °C	DD5000–DD20000
Food and beverage	Biscuit and confectionery lines, powders, packing halls	20–45% RH	DD1000–DD12000
Cold storage	Blast freezers, chill docks, frost and condensation control	Frost-free operation	DD2000–DD8000
Investment casting	Shell moulding and controlled drying rooms	30–40% RH	DD2000–DD4000
Labs and clean rooms	Weighing rooms, instrument rooms, QC areas	35–45% RH	DD1000–DD2000
Aerospace and defence	Long-term equipment storage, corrosion prevention	30–40% RH	DD2000–DD5000
Warehousing and museums	Dry-air storage, archives, artefacts and documents	40–50% RH	DD1000–DD3000

ALSO SERVING

Healthcare · Manufacturing · Seed and grain storage · Surface treatment and coating · Plastics and moulding · Water treatment plants · Electronics and SMT · Data centres

If your process is not listed, it is almost certainly still a moisture-load problem we have solved before. Tell us the condition you need to hold and we will size for it.

CONSTRUCTION AND SPECIFICATION

What comes as standard — and what you can add

STANDARD BUILD

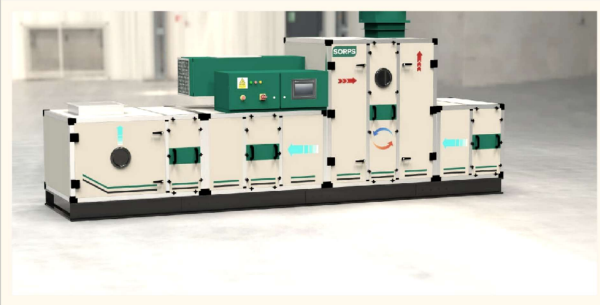
- Aluminium profile frame with PUF panels, or heavy-gauge sheet-metal body
- Totally self-contained unit — CNC fabricated
- Stainless steel 304 fasteners throughout
- Water-washable desiccant rotor
- Direct-driven fans on supply and return
- Inbuilt control panel
- G4 leak-tight filters on process and reactivation
- Electric reactivation heater
- Air leakage minimised with silicone P-seals
- Reactivation side fully insulated
- Rated for continuous operation
- Smaller footprint for the duty
- Wooden pallet packing for road, sea and air

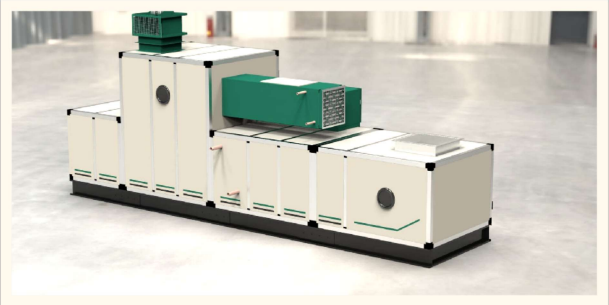
ADVANTAGES

- High efficiency and reliability
- High moisture removal capacity
- Advanced rotor technology
- Wider operating range
- Dual-access design for service
- PLC with HMI display
- IoT integration and remote monitoring
- Simplified maintenance
- Custom engineering as a matter of course

OPTIONS

- Low dew point rotors
- Low regeneration temperature rotor
- Non-flammable rotor
- Purge sector for reactivation
- Stainless steel construction
- SORPS heat recovery wheel
- Heat pipe heat recovery
- Integrated heat pump
- Pre-cooling, post-cooling, reactivation cooling
- Complete range of filtration to HEPA
- Turnkey project solutions





Modular sections allow a machine to be carried into a plant room in parts and serviced from either side.

INSTALLED BASE

Partial Client List

A selection of organisations across pharmaceuticals, life sciences, precision engineering and process industries served by SORPS.

Meiji / Medreich	Laurus Bio	Alta Bioscience
Ultra Biochem India	SPCPL Shimoga Precisions Casting Pvt Ltd	Biofern Caring for Health
Automed Knowledge : Solves	Rama	TAD Aircon
AMD	Cyient DLM	Vinyas IT — Customer Satisfaction is our Designature
SKF Boilers and Driers Pvt. Ltd. — We Count Every Grain!!	Vimäno	Apotex — Canadian-Based Global Health Company
Oriens Scientific Innovations Private Limited	ColoGenesis	Zenco Industries

Logos and trade names are the property of their respective owners and are shown for reference only. A full reference list is available on request.

QUALITY AND ASSURANCE

Built to a standard you can audit

SORPS operates a 10,000 sq ft works at Harohalli Industrial Area, Bangalore, under three certified management systems — audited by Intertek and accredited by UKAS. Units are fabricated, assembled and performance-tested in house, so the documentation you receive at handover describes the machine we actually built.

ISO 9001:2015

QUALITY MANAGEMENT

Design, manufacture and service of humidity control equipment.

ISO 14001:2015

ENVIRONMENTAL MANAGEMENT

Refrigerant-free drying, recoverable reactivation heat, controlled waste.

ISO 45001:2018

OCCUPATIONAL HEALTH & SAFETY

Safe fabrication, electrical and site commissioning practice.

Certified by Intertek under UKAS accreditation. Certificate copies, test reports, GA drawings, wiring schematics and IOM manuals are issued with every order.

Engineered to order

Send us these five things and we will return a moisture-load calculation, a sized selection and a budgetary offer:

1	2	3	4	5
Room volume and construction	Target RH or dew point	Fresh air and infiltration	Internal moisture sources and occupancy	Design ambient and site power

SORPS

SORPS TECHNOLOGIES PRIVATE LIMITED

B-59, Printech Park, Harohalli Industrial Area,
3rd Main Road, 1st Phase, Kanakapura,
Bangalore, Karnataka, India — 562112

+91 97418 51258
+91 98807 16097
sales@sorpstech.com
contact@sorpstech.com
sorpstech.com