

**SDE Series  
Heat Reactivated Desiccant  
Dryers 400–3500 SCFM**



**Solving the Problems of  
Moisture Contamination**

# the problem:

**Water jeopardizes everything you want your compressed air system to do. It ruins product and fouls processes.**

- In addition to water, compressed air can also contain dirt, wear particles, bacteria and lubricating fluid.
- Sludge blocks valves and orifices, causing high maintenance and costly air leaks.



# the *Sullair* solution:

**A Sullair Series SDE Heat Reactivated Desiccant Dryer will remove these destructive contaminants thus resulting in the following benefits:**

- Improves productivity and reduces maintenance costs.
- Air lines won't corrode; no need to drain or purge.
- Pneumatic equipment runs at peak efficiency.
- Increases service life of air tools, motors and cylinders.
- Improves both product and process quality.
- Pneumatic instruments and controls operate reliably.
- Painting/finishing operations quality is improved.

## **Here's how:**

The adsorption principle used in this design is simple, robust and flexible. Continuous drying is accomplished by the operation of two desiccant towers. Compressed air is dried through one tower while the other desiccant tower is being regenerated. The regeneration heating cycle of the desiccant is accomplished using a small flow of dry compressed air, heated by an external electric (or steam) heater. The regeneration cooling cycle is performed using a small flow of dry compressed air to ensure dewpoint performance.



## Features:

- Carbon steel inlet and switching valves with Teflon seat and double-acting pneumatic actuator.
- Constant pressure dewpoint of -40°F (-40°C) PDP.
- Fully automatic, interlocked operation controlled by PLC on a fixed 8 hour NEMA time cycle.
- Dryers operate between zero and full rated capacity without adjustment.
- Electric heater with low watt density incoloy sheath elements.
- Energy efficient temperature controlled heating and cooling cycles..
- Separate low and high voltage control panels. (SDE-820 and up.)
- Heater housing and hot air lines are insulated to conserve utilities.
- Dryer cycling and heater are totally interlocked with the controls to eliminate the possibility of system malfunction.
- NEMA 12 electrical class.
- Designed in accordance with ASME VIII Div. 1. and ANSI 31.1. Other approvals on request.



**5 year**  
WARRANTY

*5-Year Warranty is standard on valves and tanks.*

## Options:

- Filters mounted option with 3-valve bypass.
  - Models SDE-400 to SDE-650: filters and bypass valves are mounted on the dryer skid.
  - Models SDE-820 to SDE-3500: filters and bypass valves are mounted on separate skid. (Piping between dryer and filter skid to be provided by installer.)
  - 6-valve and 9-valve bypass are also available.
- Dewpoint Dependent Switching (DDS) system for full operational economy and energy management.
- Electric/Steam regeneration heater.
- Rigid copper control tubing.
- Rigid stainless steel control air tubing.
- Consult Sullair for additional options

# Sullair SDE specifications

## SDE Heat Reactivated Desiccant Air Dryers

Dryer Model	Max Inlet Flow (scfm) <sup>1</sup>	Connection Size	Required Pre- and After-Filter <sup>2</sup>	Height (in)	Width (in)	Depth (in) <sup>3</sup>	Standard Voltages	Total Weight (lbs)
SDE-400	400	2" FLG	MPH/MPR 420	88	62	34	230/3/60	1300
SDE-500	500	2" FLG	MPH/MPR 470	88	62	34	230/3/60	1900
SDE-650	650	2" FLG	MPH/MPR 700	100	62	34	230/3/60	2500
SDE-820	820	3" FLG	MPH/MPR 910	100	62	48	460/3/60	4946
SDE-1000	1000	3" FLG	MPH/MPR 1315	112	62	48	460/3/60	6428
SDE-1225	1225	3" FLG	MPH/MPR 1315	124	62	48	460/3/60	7512
SDE-1500	1500	4" FLG	PH/PR 1600	113	71	51	460/3/60	8758
SDE-1800	1800	4" FLG	PH/PR 2100	127	71	51	460/3/60	9750
SDE-2100	2100	4" FLG	PH/PR 2100	128	71	51	460/3/60	10920
SDE-2500	2500	4" FLG	PH/PR 2750	119	84	50	460/3/60	12642
SDE-3500	3500	6" FLG	PH/PR 4100	139	81	62	460/3/60	16178

### NOTES

Optional voltages: models SDE-400 through SDE-650 are 460/3/60 and 575/3/60; models SDE-820 through SDE-3500 are 230/3/60 and 575/3/60.

<sup>1</sup> Maximum rated inlet flow at CAGI conditions of 100 deg F and 100 psig.

<sup>2</sup> Filters are sold separately unless 3V option is purchased.

<sup>3</sup> Depth does not include mounted mufflers which project beyond the dryer skid in some models.

Weights and dimensions are approximate and do not include 3V option. Contact Sullair for drawings.

### Additional Data:

Flow Range @ 100 psi g (7 bar g): up to 5000 cfm (140 m<sup>3</sup>/min) Maximum  
 Operating Pressure: 140 psig (9.6 bar g)  
 Pressure Dewpoint: -40°F (-40°C) pdp Nominal  
 Air Quality Class: ISO 8573.1 Class 1.2.1 Nominal  
 Maximum Operating Pressure: 140 psig (9.6 bar g)  
 Minimum Operating Pressure: 60 psig (4.1 bar g)  
 Standard Inlet Temperature: 100°F (38°C)  
 Maximum Inlet Temperature: 120°F (49°C)  
 Minimum Inlet Temperature: 50°F (10°C)

### Technical Features:

- 575V/3ph/60Hz or 460V/3ph/60Hz electrical input—please specify
- Chamber and purge air pressure gauges
- Chamber relief valves
- Chamber and purge air temperature indicators
- Pilot air filter
- Switching failure alarm
- Heater failure alarm
- High heater sheath temperature alarm + shutdown
- Dryer status indication—chamber drying/chamber heater/dryer in standby
- Common Dryer alarm contacts and alarm panel indication

Sullair is committed to a program of continuous improvement. Features and specifications may change without notice. Consult your Sullair representative or authorized Sullair distributor.



Member



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