SSD Heatless Desiccant Dryers

100 to 3,000 scfm

- 100 to 3,000 scfm at up to 150 psig
- Dry air from –40°F to –100°F pressure dew point

SULLAIR®
Always air. Always there.™

Sullair Capabilities

Sullair Leadership

Since 1965, Sullair has been recognized around the world as an innovator and a leader in rotary screw compression and vacuum technology. For more than 40 years, Sullair has designed and manufactured its own rotors and air end assemblies at the corporate headquarters in Michigan City, Indiana.

The award-winning rotary screw design sets the industry standards and delivers the quality and reliability one expects from a leader.

Sullair Technology

Utilizing the most modern technologies, equipment and advanced manufacturing techniques, Sullair designs, manufactures, assembles, and tests the most innovative compressed air and vacuum products in the industry.

Sullair products are known around the world for their universally applicable design, outstanding craftsmanship and superior quality.

Sullair's Statistical Process Control

Sullair's Statistical Process Control (SPC) system monitors rotor quality standards to assure consistent compressor and vacuum performance.

Sullair's Commitment to Innovation

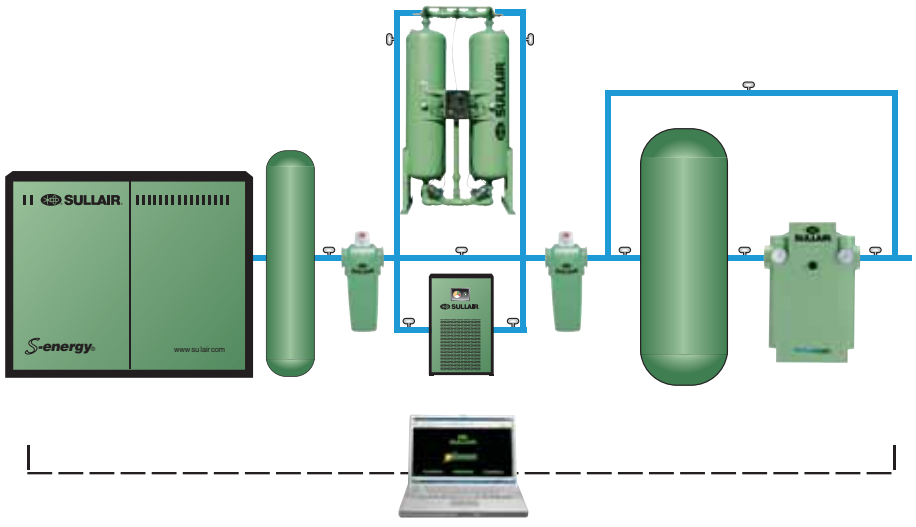
Underlying Sullair's leadership is a dedication to excellence and a commitment to innovation. Sullair is constantly exploring new ideas and seeking new ways to meet industry's need for increasingly energy efficient compressed air and vacuum solutions.

Sullair Stationary Air Power Systems

Sullair offers total compressed air systems to help compressed air users reduce energy costs and improve productivity by analyzing, managing and controlling their compressed air systems.

Sullair's air systems include: plant air audits, energy efficient products, compressed air system controls, equipment to monitor and manage systems, air distribution products, and after-purchase support.

Each component of the system is carefully matched for capacity and pressure to provide maximum performance and energy efficiency. A total Sullair system provides the user with an air quality guarantee.



This System includes:

- **rotary screw compressor**
- **desiccant or refrigerated dryer**
- **filters to meet your requirement**
- **flow controller**
- **ethernet-based eConnect™ to monitor and control the entire system**

How it works

Sullair SSD Series regenerative desiccant air dryers utilize the adsorption method to remove moisture from compressed air by directing the flow of saturated compressed air over a bed of desiccant. Desiccant is generally activated alumina, a tough spherically shaped and chemically inert material which is contained in "dual" or "twin" tower pressure vessels.

The solid state controller cycles the flow of compressed air between the towers, one tower is drying while one tower is regerrnerating. The moisture is adsorbed by the desiccant during the drying process. As the purge air flows through the regenerating bed, it desorbs accumulated moisture on the desiccant and exhausts it to the atmosphere.

Desiccant Dryer Flow

Up-Flow Drying
- Moisture falls due to gravity

Down-Flow Regeneration
- Bulk moisture exits close to its entrance
- Minimizes effects of liquid slugging

The Importance of Clean, Dry Compressed Air

Water Jeopardizes Everything You Want Your Compressed Air System To Do.
It Ruins Product and Fouls Processes.

How Much Water is Too Much?

Any Amount of Water is Too Much.

- Relative humidity is the amount of water vapor in air relative to what it could hold at a given temperature
- Moisture in compressed air remains in a vapor state through the compression cycle, so it is not a problem until it leaves the compressor
- At 75°F and 75% relative humidity, a 75 hp compressor takes in 46 gallons of water vapor in 24 hours.
- Removing this moisture is essential to keeping equipment in top shape!

Liquid remaining after the aftercooler: 14.7 gallons (32%)

Liquid remaining after a refrigerated dryer: 1.8 gallons (.4%)

Liquid remaining after a desiccant dryer: .14 gallon (0.3%)

Sullair SSD Dryers

100 to 3,000 scfm at up to 150 psig
Dry air from –40°F to –100°F pressure dew point

Designed for Sub-freezing Temperatures

These regenerative dryers are ideal for installations with outdoor compressed air piping, and for processes that require an extremely dew point to as low as –100°F.

By combining the proven benefits of desiccant drying with the most advanced designs. Sullair offers an extremely compact, reliable system to clean and dry compressed air for the most critical applications.

Easy Installation

Sullair dryers are prepackaged requiring only air inlet/outlet and single point power connections. Sullair recommends the use of a Sullair SCH/PH coalescing pre-filter to ensure long desiccant life, and SCR/PR particulate after-filter to catch any desiccant dust.

Standard Features

- Solid state controller
- NEMA 4 control panel
- CycleLoc Demand Control
- Variable cycle control
- Purge flow regulator
- Control air filter
- High performance valves
- Cushioned seat check valves
- Stainless steel diffuser screen
- 150 psig design
- Moisture indicator
- ASME code vessels

Solid State Controller

Sequence annunciation shows the status of the dryer during normal operation. At a quick glance, the user can see the status of the towers and if the CycleLoc feature is activated.

CycleLoc is an energy saving feature that allows the dryer to be cycled off if the compressor unloads or shuts off saving valuable purge air. The dryer resumes at the point when it cycled off.

Variable cycle control is another energy saving feature that allows the user to customize the purge control to match expected load conditions thus saving purge air.

Inlet Switching Valves

100 –750 scfm

- Two way poppet valve
- Bronze body
- Stainless steel internals
- Teflon valve seat
- Parts commonality
- Also used as depressurization valve and re-pressurization valve on larger models

900 –10500 scfm

- High performance butterfly valve
- Carbon steel body
- Stainless steel internals
- Teflon valve seat
- Double acting pneumatic actuator
- Fail safe operation

High Quality Check Valves

Teflon seats
Wafer check valves (900-10500 scfm)
- Spring assist close
- Built in stop for longer life
- Enclosed hinge to eliminate body leakage
- Easy to maintain

Swing check valves (100-750 scfm)
- More durable than lift type
- Easy to maintain

Purge Exhaust Valves

- Two way poppet valve
- Bronze body
- Stainless steel internals
- Teflon valve seat
- Parts commonality
- Also used as depressurization valve on larger models

Power Saver (Optional)

- Power saver demand control –Low cost purge control
- Saves energy
- LED dew point display
- Power saver active light
- High dew point alarm with contacts

Power Saver Plus™ (Optional)

- Advanced purge control
- Digital dew point display
- Saves energy
- External to annunciator board
- 4-20 mA output for dew point
- High dew point alarm with contacts PS PLUS
- **Save up to 75% in energy costs**

The Sullair Warranty

All Inclusive "Peace of Mind" Warranty

Sullair backs our commitment to quality with an unparalleled, non-pro-rated 5 year warranty (*parts and labor*) on the major components. No other manufacturer offers a warranty that is as all inclusive.

(Note: a Sullair prefilter must be installed upstream of the dryer as a prerequisite for this warranty.)

Quality is Third Party Certified and Guaranteed.

Dryers are manufactured in an ISO 9001 environment and are ETL (UL), CSA Approved.

Capacity Correction Factors

	Pressure	Inlet Air Pressure (psig)												
Temp.	**Factor**	**50**	**60**	**70**	**75**	**80**	**90**	**100**	**110**	**120**	**125**	**130**	**140**	**150**
		0.7	0.74	0.79	0.82	0.85	0.92	1	1.1	1.21	1.28	1.35	1.54	1.77
80°F	1.79	1.253	1.3246	1.4141	1.4678	1.5215	1.6468	1.79	1.969	2.1659	2.2912	2.4165	2.7566	3.1683
85°F	1.56	1.092	1.1544	1.2324	1.2792	1.326	1.4352	1.56	1.716	1.8876	1.9968	2.106	2.4024	2.7612
90°F	1.36	0.952	1.0064	1.0744	1.1152	1.156	1.2512	1.36	1.496	1.6456	1.7408	1.836	2.0944	2.4072
95°F	1.17	0.819	0.8658	0.9243	0.9594	0.9945	1.0764	1.17	1.287	1.4157	1.4976	1.5795	1.8018	2.0709
100°F	1	0.7	0.74	0.79	0.82	0.85	0.92	1	1.1	1.21	1.28	1.35	1.54	1.77
105°F	0.86	0.602	0.6364	0.6794	0.7052	0.731	0.7912	0.86	0.946	1.0406	1.1008	1.161	1.3244	1.5222
110°F	0.74	0.518	0.5476	0.5846	0.6068	0.629	0.6808	0.74	0.814	0.8954	0.9472	0.999	1.1396	1.3098
115°F	0.63	0.441	0.4662	0.4977	0.5166	0.5355	0.5796	0.63	0.693	0.7623	0.8064	0.8505	0.9702	1.1151
120°F	0.56	0.392	0.4144	0.4424	0.4592	0.476	0.5152	0.56	0.616	0.6776	0.7168	0.756	0.8624	0.9912

Corrected capacity = rated capacity X correction factor

Options

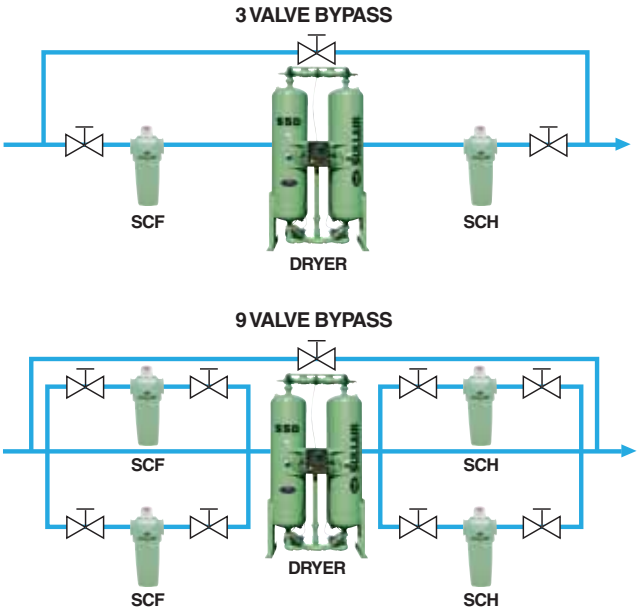
- Filters mounted (100-750)
- 3 Valve bypass with mounted filters*
- PowerSaver demand control
- PowerSaver Plus automatic demand control
- All NEMA classifications
- Pressure to 1,000 psig
- High humidity alarm
- Switch failure alarm
- –80°F to –100°F dew points
- 9 Valve bypass with dual filters*

* For dryer models SSD-900 and larger, the filter and bypass valves are supplied as a separate skid, to be piped to the dryer by installer.

3 Valve or 9 Valve Bypass

Bypasses allow maintenance of the dryer and/or filters without shutting down the entire air system.

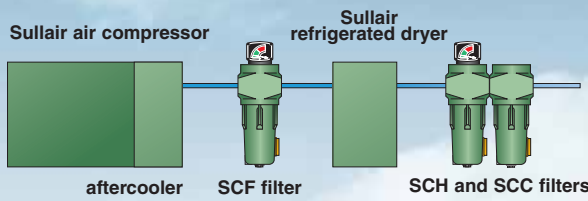
Other arrangements available on request.



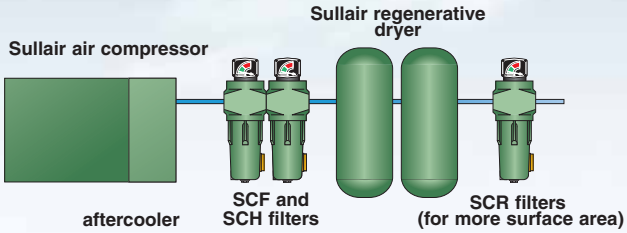
Air Quality Standards ISO 8573.1 Classes

Class	Solid Particle Maximum number of particles per m^3			Pressure Dew Point °F	Oil (incl. vapor) mg/m^3
	0.1-0.5 micron	0.5-1 micron	1.0-5 micron		
1	100	1	0	94	0.01
2	100,000	1,000	10	40	0.1
3	-	10,000	500	4	1.0
4	-	-	1,000	37	5.0
5	-	-	20,000	45	-
6	-	-	-	50	-

Class 2 (dirt), 4 (water), 1 (oil)



Class 2 (dirt), 2 (water), 1 (oil)



Sullair SSD Dryer Specifications

Model	Flow SCFM	Inlet/Outlet Connection	Dimension Height (in)	Dimension Width (in)	Dimension Depth (in)	Total Weigh (lbs)	Standard Voltage	Recommended Pre and After Filter
SSD-100	100	1-1/2" NPT	75	32	18	468	115/1/60	SCH/SCR-125
SSD-160	160	1-1/2" NPT	78	33	22	496	115/1/60	SCH/SCR-235
SSD-220	220	2" NPT	79	37	22	692	115/1/60	SCH/SCR-235
SSD-300	300	2" NPT	78	40	22	776	115/1/60	SCH/SCR-465
SSD-400	400	2" NPT	81	41	27	796	115/1/60	SCH/SCR-465
SSD-500	500	2" NPT	83	43	27	1626	115/1/60	SCH/SCR-700
SSD-600	600	2" NPT	83	45	27	1735	115/1/60	SCH/SCR-700
SSD-750	750	2" NPT	85	48	28	1740	115/1/60	SCH/SCR-910
SSD-900	900	3" FLG	88	65	35	2121	115/1/60	SCH/SCR-910
SSD-1050	1050	3" FLG	88	65	35	3676	115/1/60	SCH/SCR-1315
SSD-1200	1200	3" FLG	99	65	35	4605	115/1/60	SCH/SCR-1315
SSD-1450	1450	3" FLG	110	65	35	4985	115/1/60	SCH/SCR-2120
SSD-1750	1750	3" FLG	111	69	35	5100	115/1/60	SCH/SCR-2120
SSD-2000	2000	4" FLG	98	74	54	5206	115/1/60	SCH/SCR-2120
SSD-2500	2500	4" FLG	112	74	54	7600	115/1/60	PH/PR-2750
SSD-3000	3000	6" FLG	112	80	60	8300	115/1/60	PH/PR-4200

Sullair Air Quality Guarantee

Two Levels of Air Quality

Sullair recognizes that the requirements for air quality vary according to each compressed air application. For this reason, Sullair provides compressed air systems that achieve two distinct levels of air quality and a guarantee for each.

Sullair Stationary Air Power System

The Sullair Stationary Air Power System matches a Sullair compressor, a Sullair dryer and Sullair filters. Sullair assures that its System will meet specific performance levels throughout its operational life. We offer a one-year test/review period, backed by a purchase refund guarantee, to verify the performance of the Sullair System.

Select the System

Select the air quality level to meet your plant air or process requirements. You can be assured that the quality of air from the Sullair System you specify will remain consistent for the life of the equipment. Sullair guarantees it... and that's as good as gold.

The Sullair Oil-Free Air Quality Guarantee

The System consists of a Sullair compressor, Sullair dryer, and Sullair filters. The compressed air from this system contains particulates no larger than .01 micron, including coalesced liquid water and lubricants.

Maximum remaining oil aerosol content is 0.01 parts per million by weight (ppm/w) @ 70°F, including oil vapor. The air from this Sullair System meets the most stringent ISO standard (ISO 8573.1, Class 1 for oil vapor and Class 2 for particulate) for air quality.

The Sullair Critical Air Quality Guarantee

The compressed air from this Sullair System exceeds the ISO standard (ISO 8573.1, Class 1 for oil vapor and Class 2 for particulate). The System includes a Sullair compressor, Sullair dryer, and Sullair filters. The odor-free compressed air from this system contains particulates no larger than 0.01 micron, including water and oil aerosol content of 0.01 parts per million by weight (ppm/w) @ 70°F. The remaining oil vapor content is less than 0.003 ppm/w.

To get more information on Sullair's Air Quality Guarantee, please contact your Sullair distributor.

These Systems are not intended to remove carbon monoxide, methyl isocyanate or other noxious, corrosive or toxic gases, vapors or fumes. The System does not provide breathing air.

Sullair offers air systems to help compressed air users reduce their energy costs and improve their productivity by analyzing, managing and controlling total compressed air systems. Information on the compressed air system tailored to your specific needs can be obtained by contacting your local Sullair Distributor. To acquire local distributor contact information visit us online at www.sullair.com or call 219-879-5451.

SULLAIR®

Always air. Always there.™

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