



SULLAIR COMPRESSED AIR SOLUTIONS

FOOD & BEVERAGE INDUSTRY



FROM PROCESSING TO CONVEYING TO PACKAGING—AND EVERYTHING IN BETWEEN

RELIABLE SOLUTIONS

When your operation depends on compressed air, reliability matters. Sullair offers a dynamic range of compressed air solutions you can rely on for every step of your operation.



Oil Free Air Compressors

Power: 2–30,000 hp (1.5–22,371 kW)

Flow: 6–118,000 cfm (.17–3341.4 m³/min)

Pressure: 15–725 psi (1–50 bar)

Lubricated Air Compressors

Power: 5–600 hp (4–450 kW)

Flow: 13–3000 cfm (.36–84.9 m³/min)

Pressure: 100–200 psi (7–13.8 bar)

*In Food & Beverage, little things can cause big problems.
Reliability is vital to getting it right every time.*

PristineFG™ Food Grade Lubricant

- Meets NSF and FDA H1 requirements for incidental contact
- Lasts up to 6000 hours

Refrigerated Compressed Air Dryers

Cycling; Non-Cycling; High-Temperature

Flow: 10–10,000 cfm (.28–283.2 m³/min)

Desiccant Compressed Air Dryers

Heated Blower Purge; Heated; Heatless

Flow: 3–10,000+ cfm (.08 - 283.2 m³/min)

Filtration & Mist Elimination

Activated Carbon; Coalescing; Particulate; High Pressure; High Temperature; Mist Elimination

Flow: 25–21,000 cfm

SULLIMAX™ Condensate Zero Loss Drains

Flows: Up to 50,000 cfm

OPERATIONS AROUND THE WORLD

DEPEND ON SULLAIR

BUT DON'T JUST TAKE OUR WORD FOR IT. HEAR IT FROM OUR CUSTOMERS.

DURABILITY WITH SPRINKLES ON TOP

SIGNATURE BRANDS

Signature Brands — America's leading innovator of specialty and holiday decorating products and accessories including sprinkles, icings, popcorn and more — depends on Sullair air power three shifts a day, five days a week. After nearly 80,000 hours of performance, Signature Brands came back to Sullair once again to replace and expand their air power system.

Oil free air is critical to this operation and Signature Brands trusts two Sullair oil free compressors and a refrigerated dryer to help them produce sweet treats as well as 1000 pounds of popcorn per hour.

"When transporting sugar, if there is any moisture it's an immediate clog"

Tim Hudgens

Signature Brands Maintenance Manager

RELIABILITY — A FRUITFUL INVESTMENT

BLUE BIRD, INC.

Blue Bird, Inc.—a premium Washington state fruit packer—has trusted Sullair air power since 1975. Starting in 1913, a group of pear growers started an organization that is now Central Washington's oldest co-operative. Adding in apple production in 1987 and cherry production in 1995, Blue Bird has continuously counted on Sullair to support their growing operations. Two Sullair compressors and a refrigerated dryer help provide worry-free operation to their facility.

"We can't run without compressed air."

Cynthia Hink

Maintenance Department, Blue Bird, Inc.

GEBBERS FARMS

Gebbers Farms—one of the world's largest providers of cherries and one of America's largest apple growers—relies on Sullair air power every day. After surviving the great depression and generations of harsh weather, reliable equipment is a must for this operation. And their 10 compressors and eight refrigerated dryers fit the bill.



In 1997, a consumer packaging expert found mineral oil in a vacuum-sealed sausage package. Hydrocarbons were present in the compressed air stream which entered the packaging equipment and then injected the lubricant into the food packaging.

This event caused several countries to develop and enforce more stringent food & beverage processing, production, packaging and transportation guidelines.

Today, many Food & Beverage operations require oil free air to help ensure safety and compliance.

Smith, R. (2007, August). Oil in the Sausage. Compressed Air Best Practices. Retrieved from: https://www.airbestpractices.com/sites/default/files/2007/CABP_August_07_LR.pdf

Compressed air used in Food & Beverage operations fall into one of three application categories.



1. Contact systems: Compressed air directly contacts the food or beverage products



2. Non-contact, high-risk systems:

Compressed air doesn't directly contact the food or beverage products but creates materials that do contact those products. Packaging is a common non-contact, high risk application. The example illustrates the risks of failing to employ proper procedures for this application.



3. Non-contact systems: Compressed air doesn't contact the food, beverage or packaging.

Knowing the applications of the air systems and employing the right food safety and monitoring procedures is essential to help keep your consumers and your bottom line safe.

FOOD SAFETY SHOULD BE MORE THAN JUST MITIGATING RISK— IT'S AN OPPORTUNITY TO GROW

\$10

MILLION IN DIRECT COSTS

In 2012, the Grocery Manufacturers Association (GMA) and Food Marketing Institute estimated the average cost for a food recall in the US was \$10 million in direct costs

\$30–99

MILLION IN RECALL COSTS

18% of GMA multi-national corporations have been involved in recalls estimated to cost between \$30 and \$99 million.
5% of reported recalls are estimated to cost over \$100 million

Ostroff, S. (2018, June/July). The Cost of Foodborne Illness, Product Recalls Make the Case for Food Safety Investments. FoodSafety Magazine. Retrieved from: <https://www.foodsafetytmagazine.com/magazine-archive1/junejuly-2018/the-costs-of-foodborne-illness-product-recalls-make-the-case-for-food-safety-investments>.

SULLAIR CAN HELP!

Sullair and our Authorized Distributors can design a compressed air system to help you operate safely and more efficiently.

OIL FREE AIR MATTERS

In the Food & Beverage industry, compressed air can be used in a variety of capacities including:

- Bottle/container blowing
- Fermentation
- Conveying/transporting product
- Automation
- Air tools
- Packaging

DRY, CLEAN AIR IS CRITICAL

Because preventing product contamination is the responsibility of the manufacturer, air purity is especially critical in these processes. Contaminants in a compressed air system can put the health and safety of consumers, and your reputation, at risk.

Along with proper air treatment, using an oil free compressor can help reduce the risk of moisture and contaminants entering the air stream, and ultimately, your products.

*Each manufacturer shall establish and maintain procedures to prevent contamination of equipment or product by substances that could reasonably be expected to have an adverse effect on product quality.**

IF THERE IS A WEAK LINK IN A PROCESS, EVERYONE PAYS THE PRICE



Class 0 Oil Free Air

Under the ISO 8573-1 Class Zero classification, Sullair compressors are designed to operate oil free, minimizing the risk of contaminating the process air or gas.

Air Quality Standards

ISO Class	Solid Particle Maximum number of particles per m³			Pressure Dew Point °F (°C)	Oil (incl. vapor) mg/m³
	.1–.5 micron	.5–1.0 micron	1.0–5.0 micron		
0	As specified by the end-user or manufacturer, and more stringent than Class 1				
1	100	1	0	-94° (-70°)	0.01
2	100,000	1000	10	-40° (-40°)	0.10
3	—	10,000	500	-4° (-20°)	1.00
4	—	—	1000	37° (2.7°)	5.00
5	—	—	20,000	45° (7.2°)	—
6	—	—	—	50° (10°)	—

* Food & Drug Administration. Code of Federal Regulations, Title 21, Section 820.70 (e).

OIL FREE AIR IS ESSENTIAL

Increasingly, oil free air power is essential to help ensure product quality and safety. When air purity is this critical, having a reliable oil free air compressor is key. And Sullair is it.

When Sullair became A Hitachi Group Company, two compressor titans joined forces to bring you oil free compressed air solutions backed by 100 years of Hitachi engineering experience and the reliability Sullair is known for.



SRL Series Scroll Compressors

Power: 2–44 hp (1.5–33 kW)

Flow: 6–129 cfm (.17–3.65 m³/min)

Pressure: 120–145 psi (8.3–10 bar)

- Certified Class 0 Oil Free Air
- Engineered for energy efficiency
- Quiet operation—sound levels as low as 48 dBA





DSP Series Rotary Screw Compressors

Power: 30–300 hp (22–240 kW)

Flow: 117–1303 cfm (3.3–36.9 m³/min)

Pressure: 125 psi (8.6 bar)

- Certified Class 0 Oil Free Air
- Exclusive Hitachi two-stage air end engineered for energy efficiency and durability
 - Stainless steel rotors in 1st and 2nd stage
 - Patented PTFE-free rotor coating for long life



DS-13 Series Rotary Screw Compressors

Power: 100–200 hp (75–150 kW)

Flow: 427–801 cfm (12.1–22.7 m³/min)

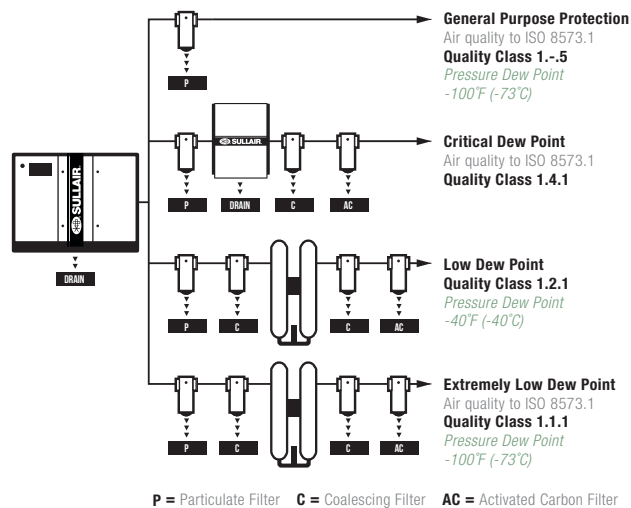
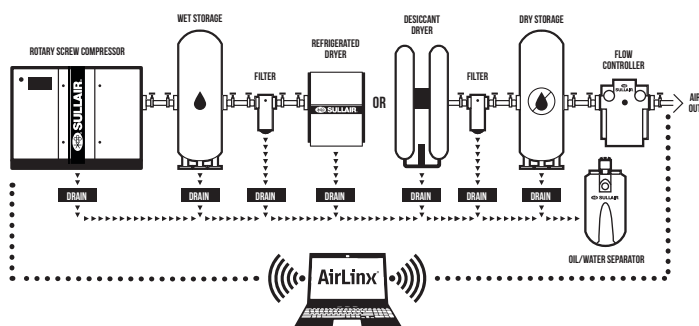
Pressure: 100–150 psi (7–10.3 bar)

- Class 0 Oil Free Air
- Three-stage intake filter for superior filtration
- Designed for minimal, easy maintenance



AIR TREATMENT

Moisture helps promote fungal and microbial growth which can contaminate Food & Beverage products. The particulates can pose a risk to the health and safety of consumers. That's why it's vital to have a reliable air treatment system in place to help keep your air stream clean and dry, thereby helping keep your products safe for consumption.



Air Quality Standards

ISO Class	A			B	C
	Solid Particle Maximum number of particles per m ³ .1–.5 micron	.5–1.0 micron	1.0–5.0 micron	Pressure Dew Point °F (°C)	Oil (incl. vapor) mg/m ³
0	As specified by the end-user or manufacturer, and more stringent than Class 1				
1	100	1	0	-94° (-70°)	0.01
2	100,000	1000	10	-40° (-40°)	0.10
3	—	10,000	500	-4° (-20°)	1.00
4	—	—	1000	37° (2.7°)	5.00
5	—	—	20,000	45° (7.2°)	—
6	—	—	—	50° (10°)	—

HOW TO READ ISO CLASS CHART — Each column represents a different requirement for compressed air purity.

Column A: Represents solid particles contained in the air stream and is indicated in the first number of the quality class value.

Column B: Represents the max allowable water content in the compressed air stream and is indicated in the second quality class value.

Column C: Represents the max allowable oil content in the compressed air stream and is indicated in the third quality class value.

Example: To achieve the Critical Dew Point Quality Class 1.4.1, the air stream purity would need to meet the highlighted criteria above for each column.



Desiccant Compressed Air Dryers

Heated Blower Purge; Heated; Heatless

Flow: 3–10,000 cfm

- Ideal for operations requiring extremely low dew points
 - -40°F/-40°C (-100°F/-73°C optional)
- Advanced design and monitoring technology
- Engineered to stand up to harsh environments

*Desiccant dryers are ideal for Food & Beverage. The extremely low dew point is below the FSIS Danger Zone (40 to 140°F/ 4 to 60°C).**



Refrigerated Compressed Air Dryers

Cycling; Non-Cycling; High-Temperature; Variable Speed

Flow: 10–10,000 cfm (.28–283.17 m³/min)

- Energy-saving technology
 - Oversized condensers
 - Smaller high-performance compressors
- Hot gas bypass designed for stable dew point in all operating conditions
- Unique heat exchanger designed for minimum pressure drop and gravitational self-cleaning



Filtration & Mist Elimination

Activated Carbon; Coalescing; Particulate; High Pressure; High Temperature; Mist Elimination

Flow: 25–21,000 cfm

- Engineered for energy efficiency — helps reduce operating costs
- Durable housing construction for corrosion resistance
- Optimized air flow design to help increase efficiency and reduce pressure loss



SULLIMAX™ Condensate Zero Loss Drains

Flow: Up to 50,000 cfm

- True zero loss drain for maximum energy savings
- Sensor-controlled to help automatically clear clogs
- Designed for low maintenance

NON-CONTACT SYSTEMS OFFERINGS



Lubricated Air Compressors

Power: 5–600 hp (4–450 kW)

Flow: 13–3000 cfm (.36–84.9 m³/min)

Pressure: 100–200 psi (7–13.8 bar)

Each hour, minute and second counts in your operation. Equipment durable enough to withstand constant operation with minimal downtime keeps food on the table, drinks in hand and money in your pocket.

Sullair makes lubricated rotary screw compressors with features you can count on.

- Legendary Sullair Air End
- Diamond Warranty*
- Ease-of-use
- PristineFG™ food grade lubricant optional
- Designed for easy maintenance

* Maintaining the Sullair 10-Year Diamond Warranty requires using Genuine Sullair parts and Sullube, as well as the oil sampling program.

Sullair LS Series — The Ultimate Sullair Lubricated Compressor



Designed for world-class efficiency, unprecedented ease of use and the legendary durability Sullair is known for.

- Patent-pending air end designed to be the most efficient Sullair Air End ever
- 10" Sullair Touch Screen Controller (STS) provides easy access to all key compressor performance parameters
- Capacity control options:
 - Sullair Electronic Spiral Valve Technology: Proven Sullair Spiral Valve performance now with more precision and control to match capacity to system demand
 - Variable Speed Drive (VSD): Provides maximum energy efficiency and operating consistency by adjusting the speed of the motor to match compressed air supply needed
- And more!

PLANNING AHEAD FOR SAVINGS

The Food & Beverage industry is trending toward increased emphasis on sustainable production practices and purity requirements. Rising land and labor costs as well as timely construction projects are also a big challenge and huge cost for Food & Beverage producers.

DYNAMIC OPERATIONS WIN

As the world changes at a rapid pace, regulations also change. Having an agile and dynamic operation is key to not only surviving, but remaining competitive in even the toughest of markets.

Planning ahead for safe, productive and hygienic production, facilities and employing practices ensuring these key elements are crucial to becoming or remaining competitive in the market.

Little changes can have a big impact. A holistic assessment of your operation can lead to maximized savings while reducing strain on the grid.

Compressed air represents a major opportunity for savings—especially when it comes to energy. Sullair offers reliable and energy efficient compressed air solutions.

- Capacity control options
- Heat recovery systems
- Diesel-driven or electric backup air
- Air Audits/AirSuite™
 - Identifies actual delivery, system reliability and quality of compressed air (ISO classes)
 - Simulations showing the impact of changing compressor setups — helping you decide if a different compressor setup is the right option

FOR MORE INFORMATION, CONTACT YOUR LOCAL AUTHORIZED SULLAIR DISTRIBUTOR.

HORSEPOWER (hp)

600
575
550
525
500
475
450
425
400
375
350
325
300
275
250
225
200
175
150
125
100
75
50
25
0

OIL FREE AIR COMPRESSORS



FOR CONTACT SYSTEMS



SRL Series
2–44 hp
1.5–33 kW



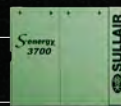
DS-13 Series
100–200 hp
75–200 kW



DSP Series
30–300 hp
22–240 kW

LUBRICATED AIR COMPRESSORS

FOR NON-CONTACT SYSTEMS/OTHER APPLICATIONS



S-energy® Series
15–60 hp
11–45 kW



SN Series
75–100 hp
55–75 kW



LS Series
125–200 hp
90–160 kW



Single-Stage
200–350 hp
160–261 kW



Two-Stage
150–600 hp
112–450 kW



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