

SRL Cycling Refrigerated Air Dryers

5.6-169.9 m³/min ■ 200-6000 SCFM

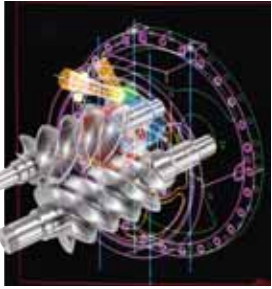


- Energy savings
- Reduced power consumption
- Accurate dew point control
- Microprocessor control
- Scroll compressor
- Environmentally friendly R407C refrigerant

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

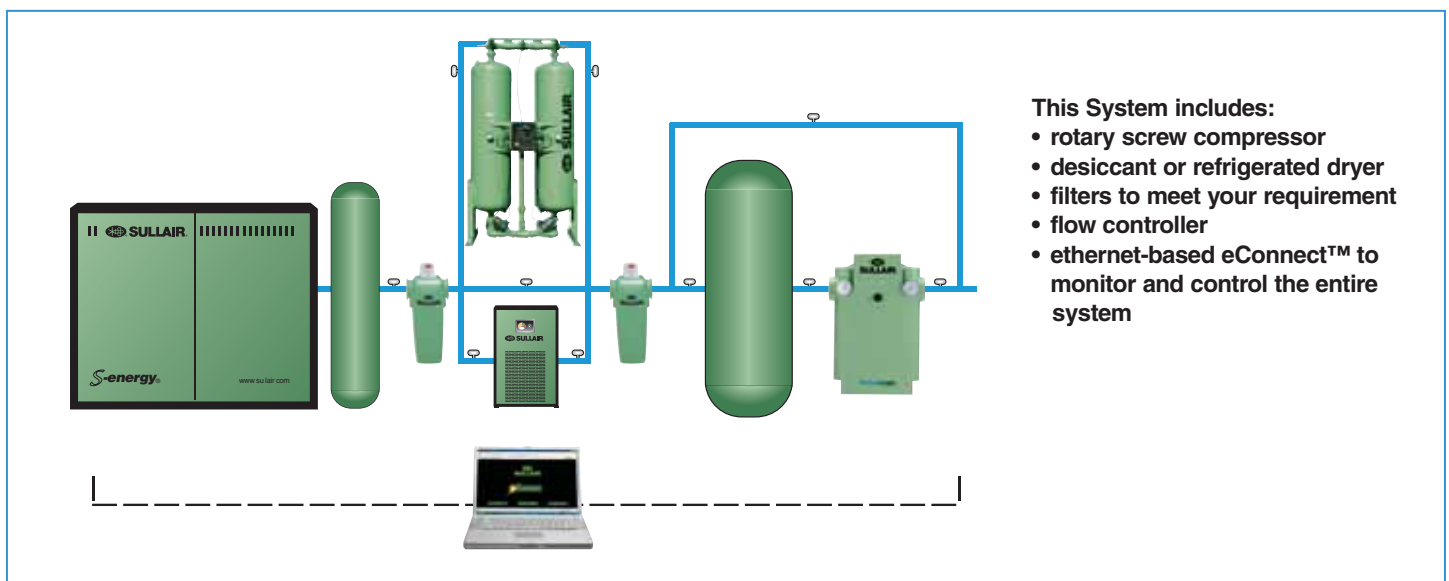
Underlying Sullair's leadership is a dedication to excellence and a commitment to innovation. Sullair is constantly exploring new ideas and seeking new ways to meet industry's need for increasingly energy-efficient compressed air and vacuum solutions.

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.



Sullair SRL Cycling* Refrigerated Dryers Reduce Your Cost of Producing Highest Quality Air

Why You Need a Compressed Air Dryer

Compressed air is a vital source of energy for industry. Quality air treatment—particularly the removal of condensate—is often overlooked. When cooled, condensate will turn into water, damaging both the compressed air system and product or process. Sullair SRL Series refrigeration dryers remove condensate to achieve near perfectly dry compressed air. The benefits to you are:

- Less system downtime
- Reduced costs and maintenance
- Improved finished product



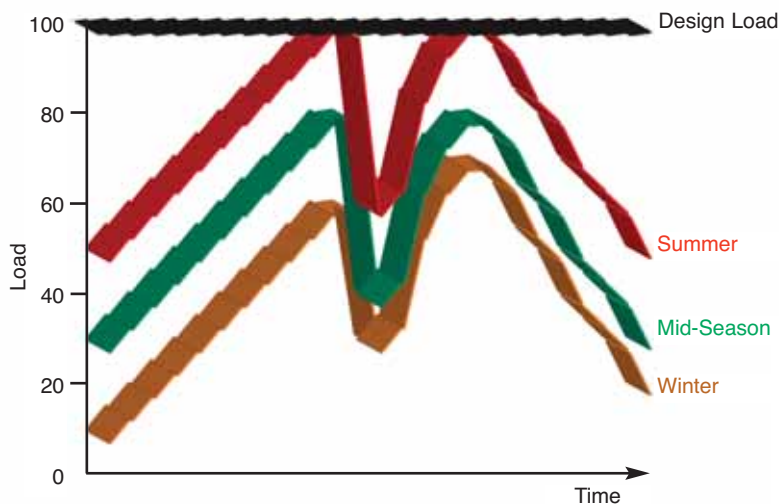
Key Features:

- Optimum dew point levels for the highest system performance
- Advanced patented designs
- Cycling control for increased energy savings*
- Energy efficient scroll compressor*
- Lowest total operating costs
- Lowest average pressure differential of 2.0 psig
- Environmentally friendly R407c refrigerant
- Zero air loss drain
- Optional communications package

Refrigerated air dryers rarely operate at full load. They are sized for maximum operating conditions – usually the hottest time of day at the hottest time of year with the air compressor at full load – however this is rarely the case.

Air demand and heat load fluctuate during the day. Temperatures fluctuate throughout the year, such that the dryer may rarely, if ever, operate at full load.

By choosing a dryer that matches power consumption to actual operating conditions, a significant amount of energy and energy cost can be saved.



The graph above illustrates how heat loads fluctuate season to season. The SRL recognizes these fluctuations, maintaining dew point while maximizing energy efficiency.

R407C: Friendly and Efficient Refrigerant

The Most Environmentally Friendly Refrigerant

R407C is used on all SRL dryer models. Why? With R407C being the most environmentally green refrigerant on the market, as well as being the most efficient, its many benefits made it an obvious choice:



on the market, as well as being the most efficient, its many benefits made it an obvious choice:

- Zero ODP, ensuring compliance with the Montreal Protocol
- Lowest global warming potential
- No damage or depletion of the ozone layer
- No planned phase-out date

It's More Efficient Than Any Other Refrigerant:

In addition to having the lowest environmental impact, R407C offers lower power consumption. This refrigerant is so efficient, smaller refrigerant charges are required and therefore use of a smaller refrigerant compressor.

- More efficient
- Less refrigerant required
- Smaller refrigerant compressor
- Lower power consumption

*From SRL-325

Why You Need a Sullair SRL Cycling Refrigerated Compressed Air Dryer!

- **Digital dew point display**
- **Self diagnostic control with warnings and alarms**
- **Cycling Control**
- **Optional R485 BMS interface**

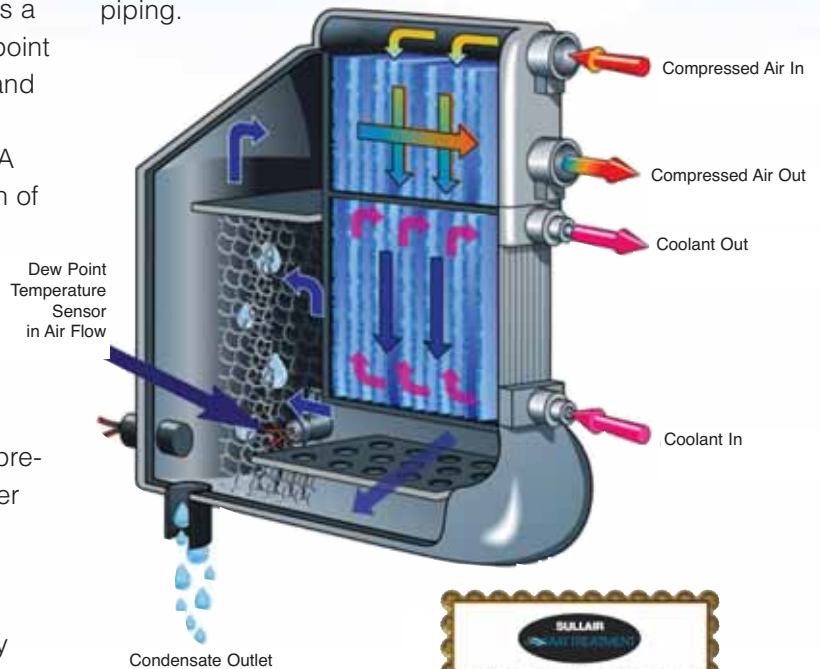
The SRL Series multifunction Cycling Control* provides a versatile platform for user interface and precise dew point control. Cycling Control continually monitors the demand placed on the dryer. At conditions of low demand, the refrigerated compressor is cycled off to save energy. A formulated procedure continually adapts the operation of the dryer for optimum energy efficiency while minimizing the dew point spikes.

How It Works

The hot wet air enters the SRL Dryer, where it immediately passes through the air-to-air exchanger, which cools the incoming air with the exiting air. This pre-cooled air then enters the evaporator, where it is further cooled by the refrigerant, to achieve the dew point temperature. Because of this cooling process, the condensate in the air has now become a liquid and is efficiently separated by the demister, then removed by the condensate drain.

* included on all models SRL-325 and larger

The now dry but cold air passes back through the return side of the air-to-air exchanger, where it is heated up by the incoming air. This process not only saves energy by pre-cooling the inlet air, but also heats the exiting air to well above dew point and prevents sweating in the piping.



Intelligent Integral Zero-Loss Drain

The Drain Is One of the Most Important Components

Dryer models SRL-325 and larger utilize a truly unique zero air loss drain integrated into the heat exchanger. Condensate is collected in a chamber, segregated from the air flow. As condensate builds, it activates a drain level sensor built into the chamber. This opens an external solenoid valve to evacuate the condensate, closing the valve again before any air escapes. The drain cycle continually adjusts itself to working conditions.



Self-diagnostic software avoids fault situations. And should an error occur, an alarm will be signalled and the drain will continue to operate on a pre-programmed timed drain cycle. The controls for the drain are part of the microprocessor's fully integrated control and alarm system.

Sullair offers a drain alcove on all its standard dryers. This simple solution is a major benefit to the user. The drain is one of the most important components within the dryer. If it doesn't work properly the dryer's whole operation is compromised. The alcove offers simple access to perform any required maintenance.



Features That Make Them Efficient

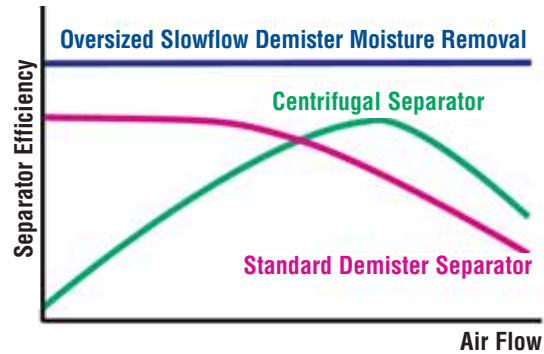
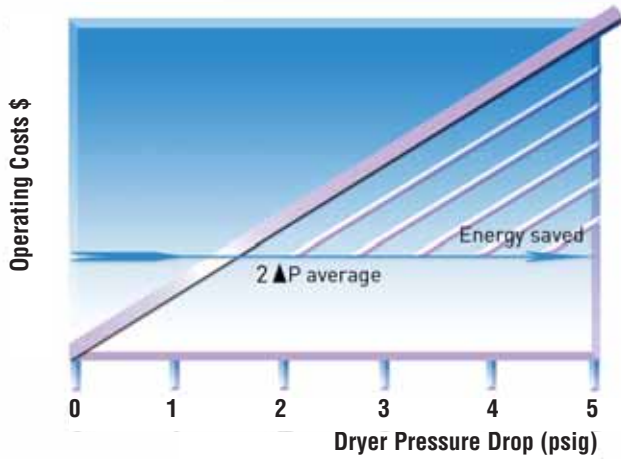
Demister Separator

Sullair uses a high capacity demister separator to remove condensed liquids. This lowers the air velocity which maximizes the condensate separation from the air, even when the dryer is not operating at maximum flow. This design also ensures the differential pressure across the dryer is kept to a minimum.

Lowest Differential Pressure

SRL dryers have an average of 2.0 psid versus the industry average of 5.0 psid.

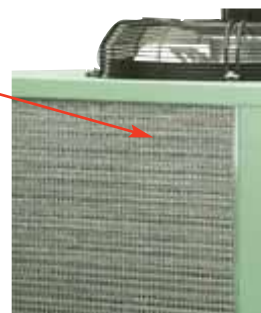
Example: 500 scfm dryer operating 8760 hours per year
 \$0.05 per KW = \$546 per year
 \$0.10 per KW = \$1091 per year
 \$0.15 per KW = \$1638 per year



Oversized Condenser and Prefilter

SRL Series dryers have been designed with oversized condensers to allow operation up to 140°F (60°C) air inlet and 122°F (50°C) in high temperature ambients.

It's a fact: in addition to poor ventilation, compressor rooms are often dirty. That's why Sullair uses a condenser pre-filter to reduce maintenance requirements, improve performance and achieve reliability in these dirty environments.



Efficiency and Reliability in Compliant Scroll Compressors

These compressors employ two identical, concentric scrolls, one inserted within the other. One scroll remains stationary as the other orbits around it. This movement draws gas into the compression chamber and moves it through successively smaller "pockets" formed by the scroll's rotation, until it reaches maximum pressure at the center of the chamber.



There, it's released through a discharge port in the fixed scroll. During each orbit, several pockets are compressed simultaneously, so operation is virtually continuous and pulse-free.

Benefits are:

- A higher efficiency rating leads to energy savings of over 20%
- Extremely high reliability due to reduced vibration levels and fewer moving parts
- Compliant technology offers near indestructibility, even permitting liquid refrigerant returns.

SRL Dryers Comprehensive Controls

Advanced, User-Friendly Microprocessor Controls

Features include:

- Digital multi-functional display
- Digital dew point temperature read-out for an accurate indication of actual working conditions
- Multiple alarm safety with easy-to-understand coded messages
- Extensive programmability allows system to be personalized to individual user needs
- Status reports for quick reference to dryer operation
- Indicator to optimize preventive maintenance
- Energy saving indicator shows when the dryer is in cycling standby
- Volt-free alarm contact offers a remote status signal

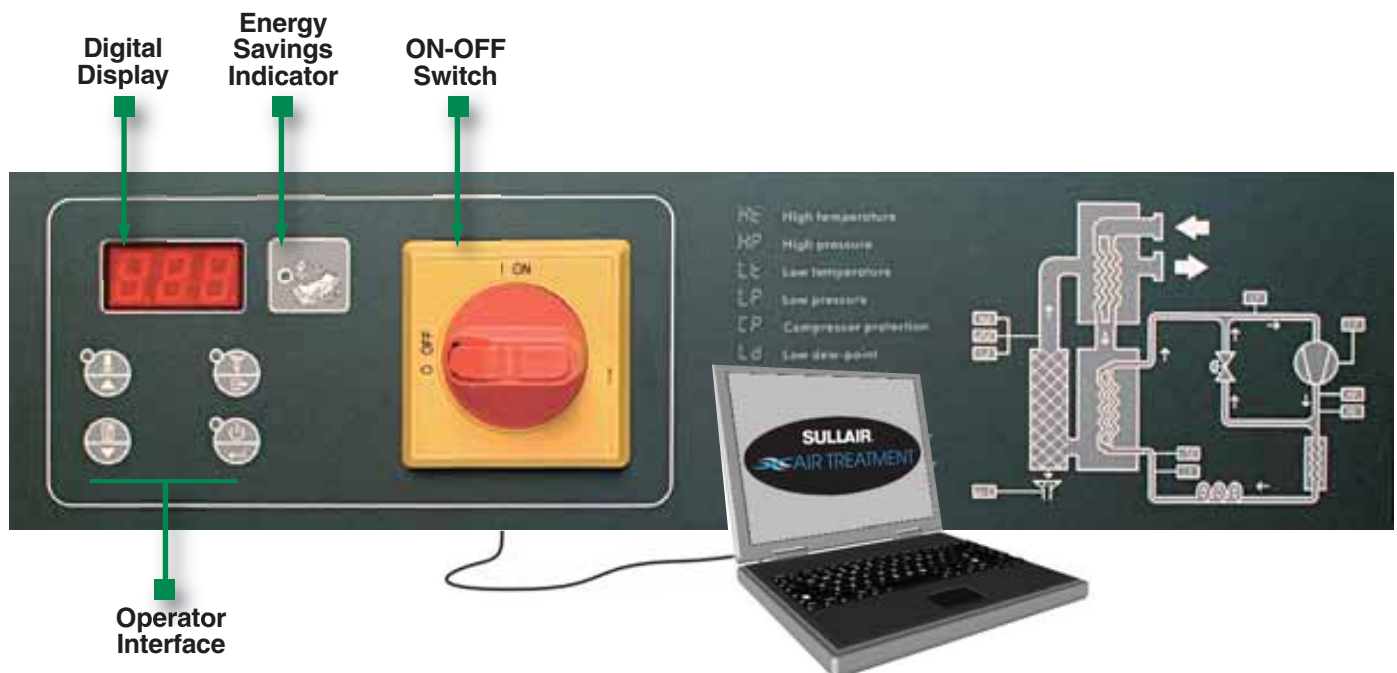
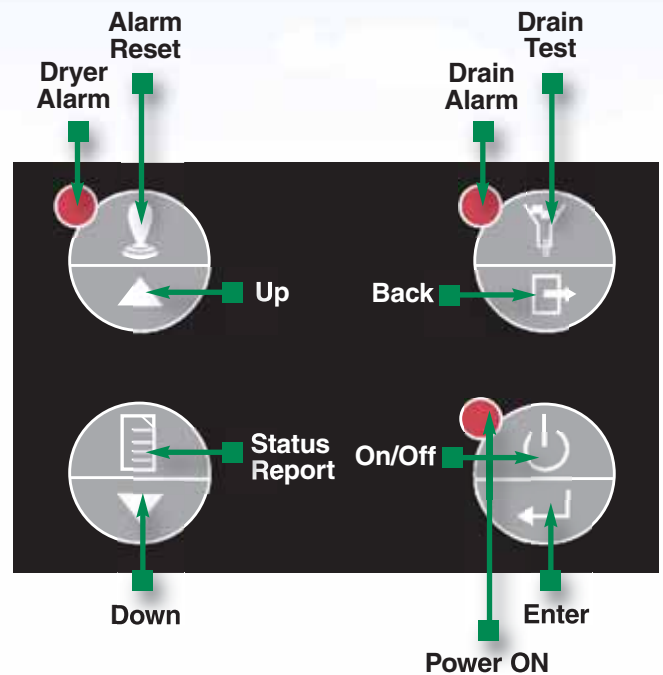
Remote Monitoring Capabilities (optional)

The SRL dryer is the first and only Sullair dryer that includes an option for remote monitoring capabilities beyond standard alarm contacts. Through a simple RS-485 connection, the dryer can be connected directly to any MODBUS compatible system. No gateway required. The user can remotely start the dryer, stop the dryer, reset any alarm, and monitor:

- dew point
- temperatures
- alarms and
- compressor hour counter

Operator Interface

Close-up view of panel shows its many features:



Specifications: Models SRL-200 to SRL-6000

Model	Nominal Flow (scfm)	Air Connections	A	Dimensions (in)			Weight* (lbs)	Primary Voltages
				B	C			
SRL-200	200	1.5" NPT-F	28	38	23	209	230V/1Ph/60Hz	
SRL-250	250	1.5" NPT-F	28	42	41	320	230V/1Ph/60Hz 230V/3Ph/60Hz 460V/3Ph/60Hz	
SRL-325	325	2" NPT-F	28	42	41	320	230V/3Ph/60Hz 460V/3Ph/60Hz	
SRL-400	400	2" NPT-F	28	42	41	320	230V/3Ph/60Hz 460V/3Ph/60Hz	
SRL-500	500	2" NPT-F	28	42	41	342	230V/3Ph/60Hz 460V/3Ph/60Hz	
SRL-700	700	3" NPT-F	32	52	46	529	230V/3Ph/60Hz 460V/3Ph/60Hz	
SRL-800	800	3" NPT-F	32	52	46	529	230V/3Ph/60Hz 460V/3Ph/60Hz	
SRL-1000	1000	3" NPT-F	32	52	46	551	460V/3Ph/60Hz	
SRL-1200	1200	3" NPT-F	40	67	43	816	460V/3Ph/60Hz	
SRL-1400	1400	4" FLG	40	67	43	947	460V/3Ph/60Hz	
SRL-1600	1600	4" FLG	40	68	71	1279	460V/3Ph/60Hz	
SRL-2000	2000	6" FLG	40	68	71	1477	460V/3Ph/60Hz	
SRL-2400	2400	6" FLG	40	68	71	1521	460V/3Ph/60Hz	
SRL-3000	3000	6" FLG	40	81	71	1609	460V/3Ph/60Hz	
SRL-3800	3800	6" FLG	40	81	71	1830	460V/3Ph/60Hz	
SRL-5000	5000	8" FLG	40	87	89	2425	460V/3Ph/60Hz	
SRL-6000	6000	8" FLG	40	87	89	2624	460V/3Ph/60Hz	

Performance Data Based On:

Ambient temperature	100°F
Inlet temperature	100°F
Inlet pressure	100 psig

For flow rates at other conditions, please contact Sullair for correct sizing

Performance data obtained and presented in accordance with CAGI Standard No. ADF 100, "Refrigerated Compressed Air Dryers – Methods for Testing and Rating"

Technical Data

Maximum ambient temperature	122°F
Maximum inlet temperature	140°F
Minimum ambient temperature	41°F
Maximum inlet pressure	203 psig
Refrigerant	R407c

Flow Correction Factors for Models SRL-200 to SRL-6000

Capacity correction to be used when operating conditions differ from those shown above. To obtain dryer capacity at new conditions, multiply nominal capacity x C1 x C2 x C3.

Ambient Temperature (C1)

°F	60	70	80	90	100	110	120
°C	16	21	27	32	38	43	49
Correction Factor	1.34	1.26	1.17	1.09	1.0	0.91	0.82

Inlet Pressure (C3)

Pressure psi g	50	60	70	80	90	100	110	120	130	140	150	160	175	190	200
Pressure bar g	3.5	4.1	4.8	5.5	6.2	6.9	7.6	8.3	8.9	9.6	10.3	11	12	13.1	13.8
Correction Factor	0.84	0.89	0.92	0.95	0.98	1.0	1.02	1.04	1.05	1.07	1.09	1.10	0.12	0.13	1.14

Inlet Temperature (C2)

°F	80	90	100	110	120	130	140
°C	27	32	38	43	49	54	60
Correction Factor	1.57	1.23	1.0	0.82	0.64	0.57	0.43



Sullair Supplies Compressed Air Systems

For the lowest total cost of ownership, Sullair provides an air system designed to lower operating cost, improve reliability and maximize return on investment.



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 Corporation
3700 East Michigan Boulevard, Michigan City, IN 46360
Telephone: 1-219-879-5451
www.sullair.com

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