

# FlowLogic™



## *Flow Pressure Controllers 150–5500 SCFM*

Air Traffic Control for Compressed Air Systems

## Sullair Air Systems



The three most expensive components in operating a compressed air system are: inadequate, inefficient controls that waste energy; lost production due to an improperly maintained system; and leaks. By taking control of your system and using a Sullair FlowLogic™ Flow Pressure Controller, it can provide you with efficient volume and pressure relation of compressed air delivery, ensuring your system delivers the required flow, pressure and level of air quality at the lowest cost--no more, no less.

To stay competitive in today's environment, a manufacturer must have tight control of their costs. Compressed air, considered the industry's fourth utility, is often a significant cost of production. According to experts at the U.S. Department of Energy, 15-60%\* of compressed air system usage can be saved with a payback in less than two years.

Many typical compressed air systems waste 50%\* of the air produced, providing a tremendous opportunity to reduce production costs. That is where Sullair comes in, providing total compressed air systems to help you reduce energy costs and improve productivity by analyzing, managing and controlling your compressed air systems.

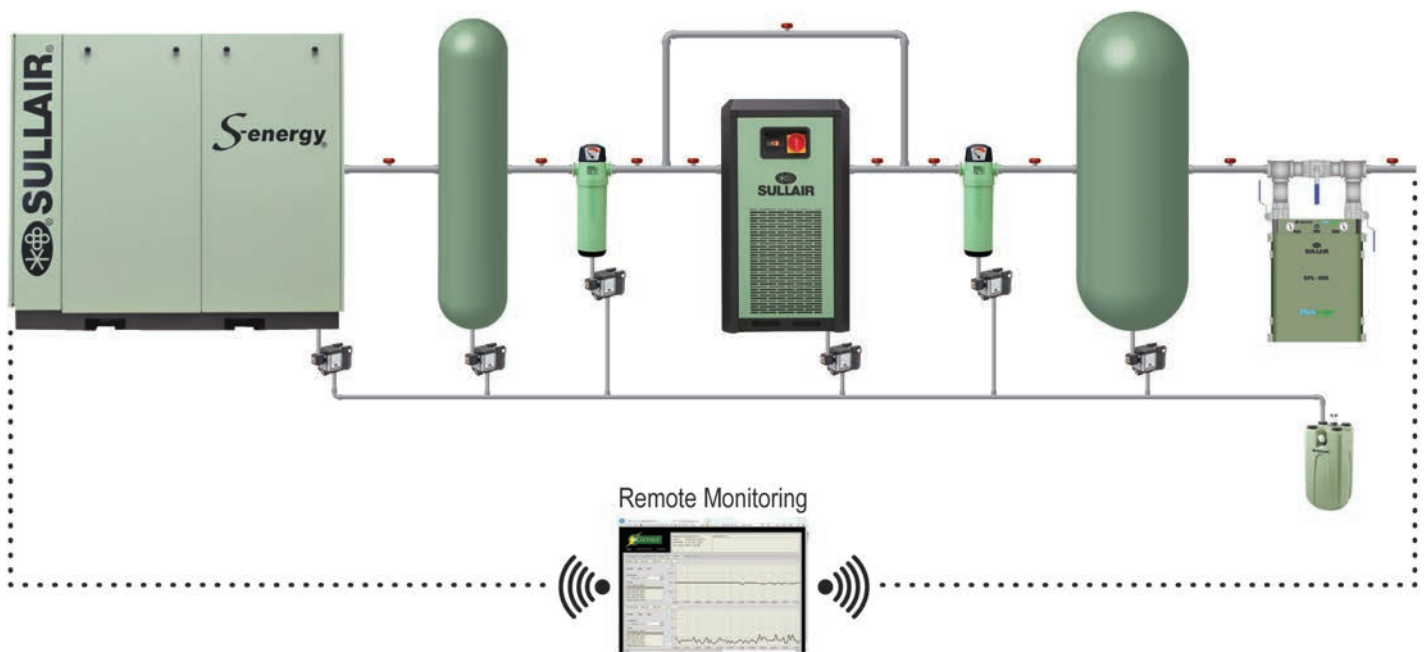
Sullair air systems include: plant air audits, energy efficient products, compressed air system controls, equipment to monitor and manage systems, air distribution products and after-purchase support.

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

*According to the U.S. Department of Energy, more than half\* of industrial plant air systems are candidates for large energy savings opportunities with relatively low project costs.*

\*Assessment of the market for compressed air efficiency services. Technical report, U.S. Department of Energy, June 2001

# Sullair Total Air System



## This system includes:

- rotary screw compressor
- wet storage
- refrigerated or desiccant dryer
- filters to meet your requirement
- dry storage
- flow controller
- drains
- oil/water separator
- ethernet-based eConnect™ to monitor and control the entire system

Sullair FlowLogic™ Flow Pressure Controller is a critical component of the total air system. The Controller's unique parallel design allows a very small movement in the valve to affect a large change in flow, making it a high gain device and quick to respond. The Controller also holds its system pressure set-point throughout the flow range of the valve, all the way to the point of zero flow.

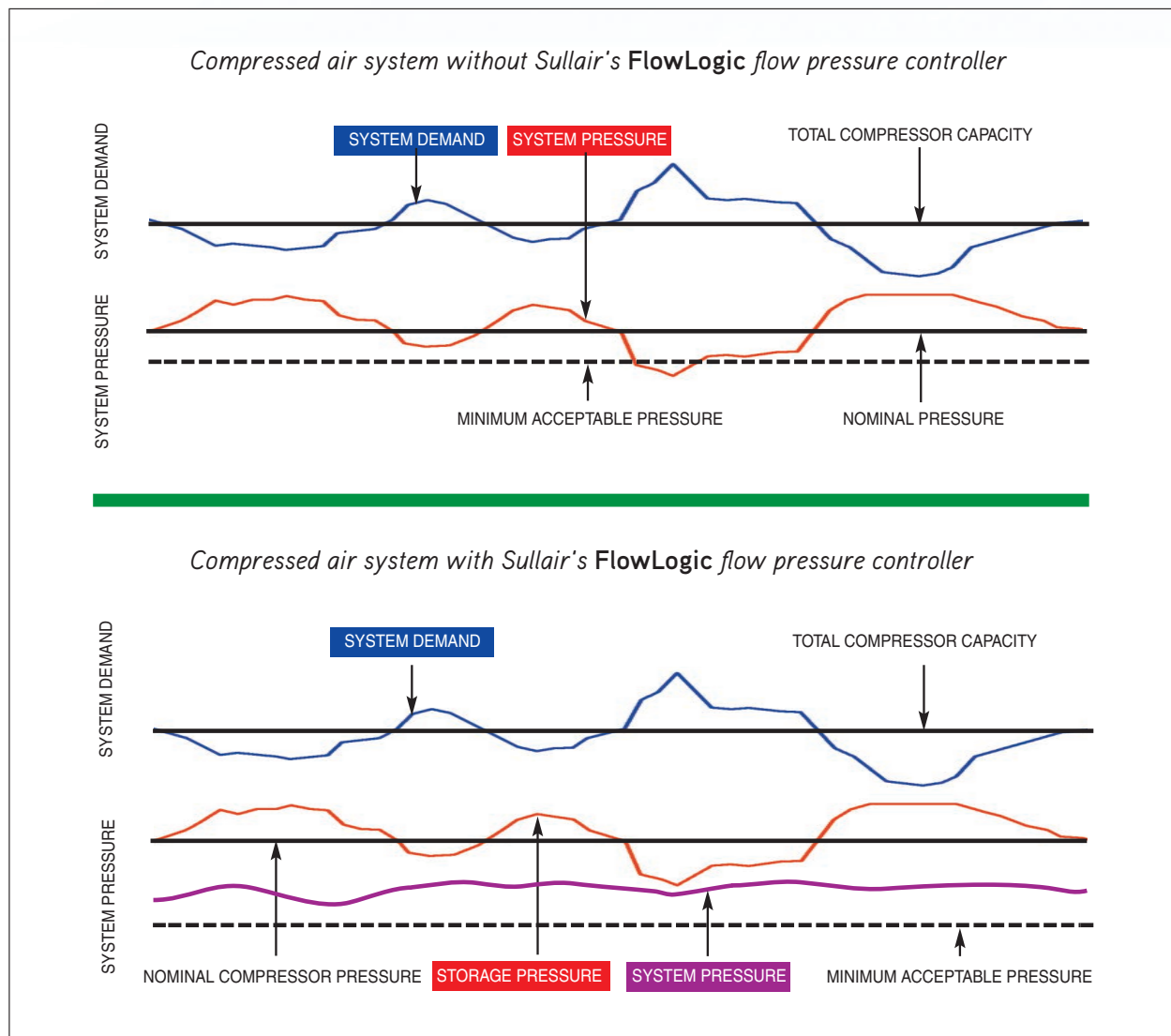
# Fluctuating Compressed Air Problem...

Fluctuating compressed air pressure often results in poor system performance.

Most plant air systems have sufficient compressed air capacity. The problem is distributing this capacity where and when it is needed in the system. Peak demands will often exceed capacity. The deficiency is made up by drawing air from the distribution system. To compensate for these demands, the system pressure is increased, leading to significant energy waste.

Significant Compressed Air System Pressure Changes Often Lead to:

- Wear and fatigue on compressor and air-using equipment
- Decreased productivity
- Poor product quality
- High operational costs
- Compressed air-related complaints
- Wasted energy





## Sullair FlowLogic™ Controllers help deliver required flow and pressure at the lowest possible cost!

**The new Sullair FlowLogic SFL Flow Controllers feature more than a fresh look. Improvements include:**

- Removable dashboard
- Black anodized aluminum header tubes
- SFLE option includes ModBus RTU communication
- New PM kits include all required parts, even for SFL/SFE

**The Principal Causes of Air Pressure Fluctuation are:**

- Lack of useful storage
- Insufficient on-line horsepower to meet peak demands

The traditional response was to "overpower" the system by increasing the pressure or adding compressors.

- Maintain minimum pressure – but higher pressure was OK
- Maintain air supply – but oversupply was OK

There is a new paradigm for your compressed air system. Oversupply is not the answer. The answer is delivering the required flow, pressure and level of air quality at the lowest cost--no more, no less.

Sullair FlowLogic Controllers provide a product-based solution in the total air system approach by managing the distribution of compressed air to production. This is done by creating upstream storage and controlling its flow into the plant air system.

**Results may include:**

- Stable system pressure ( $\pm 1\%$  or better)
- Reduced energy consumption
- Improved productivity
- Fewer complaints

### *Compressed air system with Sullair's FlowLogic flow pressure controller*

There are almost always periods where there is excess compressor capacity, of which the Sullair FlowLogic Controller takes advantage. The Controller stores compressed air whenever excess capacity is available. The Controller then releases the stored air to satisfy the demand peaks, allowing compressed air to be drawn from storage rather than directly from the compressors.

# Why Choose FlowLogic™?

FlowLogic helps stabilize air pressure, lower energy and operating costs, and improve productivity.

## Features Include:

- Standard sizes from 150 to 5500 scfm
- Compact integrated assembly
- Inlet and system pressure gauges
- Tamper-resistant servo-pilot controls outlet pressure
- One-year warranty

## Options

- 3-valve manual bypass
- Low pressure fail-safe with optional automatic bypass
- Electronic Control
  - Pressure scheduling
  - Communications capability

## FlowLogic Can Improve Production

- Helps stabilize air pressure
- Often lowers product defects and scrap
- Helps improve consistency of finished product quality
- Can minimize (or eliminate) compressed air related complaints

## FlowLogic Can Save Money

- Helps reduce the effect of compressed air leaks
- Helps reduce number of compressors required
- Helps reduce maintenance costs
- FlowLogic Controllers can pay for themselves – in energy saving alone – in as little as six months

The units are designed with a multi-paralleled valve system to provide instant response. A unique fail-safe bypass circuit (optional) minimizes the risk of production interruptions due to power loss or other system malfunctions.



Robust tubular header design



SFLE Electric Control Panel



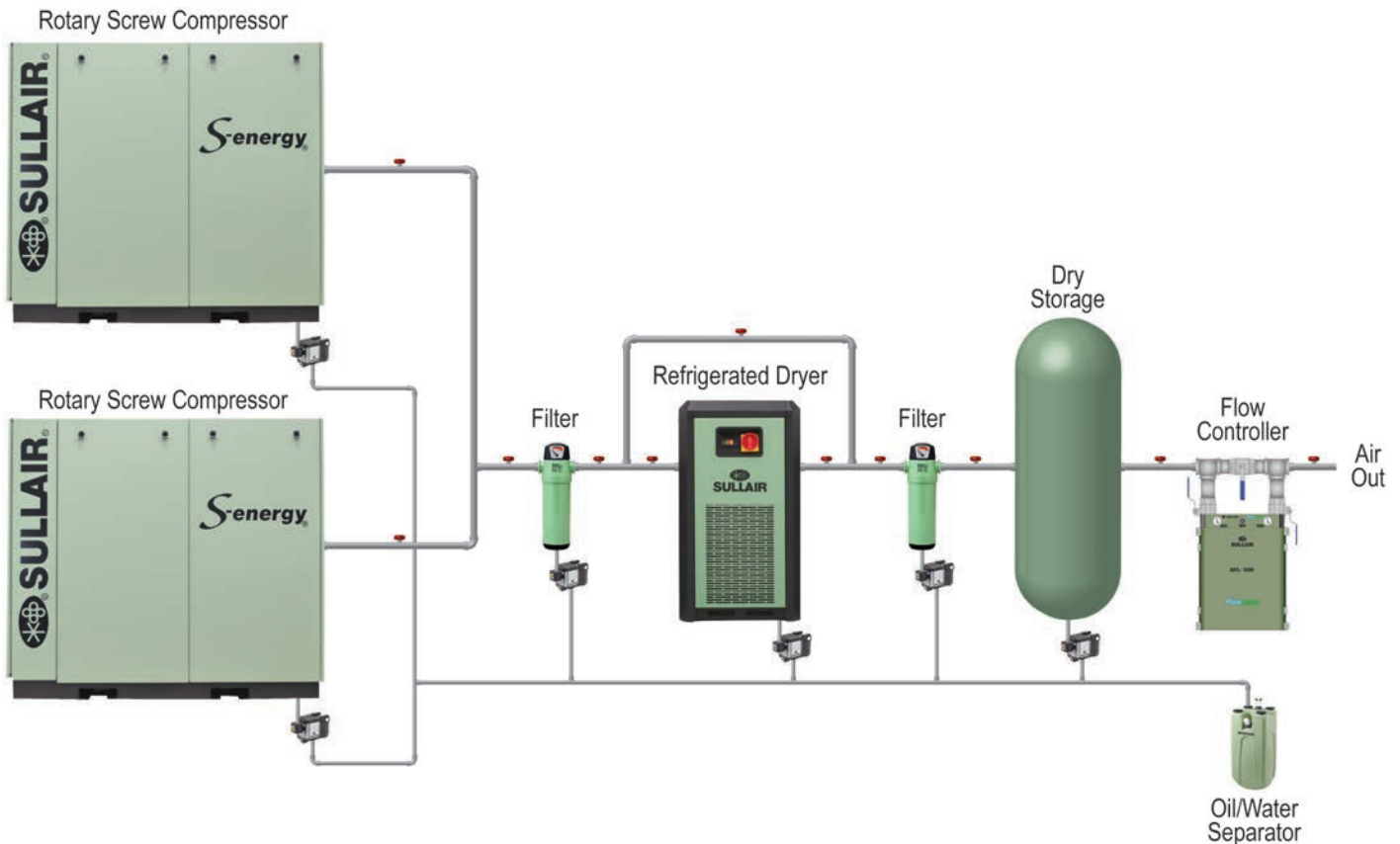
# How They Work

## FlowLogic™ Controllers address fluctuating air pressure at your work stations – where it counts.

The Sullair FlowLogic Controller monitors the air pressure as it's delivered. The Controller provides a stable air supply at the lowest optimal pressure. Pressure fluctuations are eliminated.

Compressor performance is optimized because it no longer has to react to the dynamic loading imposed by production.

Sullair FlowLogic Controller takes advantage of the peaks and valleys in the demand cycle by storing compressed air whenever excess capacity is available. The Controller then releases the stored air to satisfy the demand peaks, allowing compressed air to be drawn from storage rather than directly from the compressors.



*An air-using operation that needs only 50 cubic feet of air for 5 seconds, requires 125 hp of on-line compressor to handle it.*

*Releasing 50 cubic feet of air from storage, and replenishing storage over a less than two minute period, would require the equivalent of a 7.5 hp compressor. The advantages of operating a 7.5 hp compressor over a 125 hp compressor is clear.*

# FlowLogic™ Specifications

<b>Nominal flow ratings</b>	Based on <ul style="list-style-type: none"> <li>100 – 120 psig (6.9 – 8.3 bar) inlet pressure</li> <li>100° F (38° C) inlet temperature</li> <li>100° F (38° C) ambient temperature</li> <li>5 psig (.3 bar) control pressure differential</li> </ul>
<b>Maximum inlet temperature</b>	125° F (51.7° C)
<b>Maximum inlet pressure</b>	<ul style="list-style-type: none"> <li>150 – 1750 cfm (4.2 – 49.6 m<sup>3</sup>/min): 200 psig (13.8 bar)</li> <li>2600 – 5500 cfm (73.6 – 155.7 m<sup>3</sup>/min): 150 psig (10.3 bar)</li> <li>Consult factory for higher inlet pressures</li> </ul>
<b>Outlet pressure range</b>	<ul style="list-style-type: none"> <li>150 – 1750 cfm (4.2 – 49.6 m<sup>3</sup>/min): 50 – 195 psig (3.4 – 13.2 bar)</li> <li>2600 – 5500 cfm (73.6 – 155.7 m<sup>3</sup>/min): 50 – 145 psig (3.4 – 10.0 bar)</li> <li>Consult factory for lower outlet pressures</li> </ul>
<b>Pressure Regulation</b>	<ul style="list-style-type: none"> <li>+/- 1% at rated flow and pressure</li> </ul>

Model	Rated CFM @ 100psi	Connection Size	W x H x D (in)	Wt (lbs)
SFL-150	150	1-1/2"MNPT	9 x 12 x 8.6	20
SFL-250	250	1-1/2"MNPT	9 x 12 x 8.6	20
SFL-500	500	2"MNPT	18.5CL x 29.5 x 11.75	50
SFL-750	750	3"MNPT	18.5CL x 30 x 12.75	70
SFL-1000	1000	3"MNPT	18.5CL x 30 x 12.75	110
SFL-1500	1500	3"MNPT	18.5CL x 30 x 12.75	125
SFL-1750	1750	4"MNPT	18.5CL x 30 x 12.75	125
SFL-2600	2600	4" Flange	30CL x 33 x 17.25	375
SFL-3500	3500	6" Flange	30CL x 33 x 18.25	375
SFL-5500	5500	6" Flange	30CL x 33 x 18.25	400

Model	Rated CFM @ 100psi	Connection Size	W x H x D (in)	Wt (lbs)
SFL-150 w/Bypass	150	1-1/2"FNPT	34 x 17 x 8.6	65
SFL-250 w/Bypass	250	1-1/2" FNPT	34 x 17 x 8.6	65
SFL-500 w/Bypass	500	2"FNPT	24.5 x 44.25 x 12.75	107
SFL-750 w/Bypass	750	3"FNPT	24.5 x 44.25 x 12.75	127
SFL-1000 w/Bypass	1000	3"FNPT	24.5 x 44.25 x 12.75	167
SFL-1500 w/Bypass	1500	3"FNPT	24.5 x 44.25 x 12.75	182
SFL-1750 w/Bypass	1750	4" Victaulic	18.5CL x 51 x 12.25	205
SFL-2600 w/Bypass	2600	4" Flange	30CL x 57 x 17.25	575
SFL-3500 w/Bypass	3500	6" Flange	30CL x 51.5 x 18.25	575
SFL-5500 w/Bypass	5500	6" Flange	30CL x 51.5 x 18.25	600

Data subject to change without notice. Only Imperial measurements will be provided for pipe sizing. Consult factory for larger size flow controllers.