The Sullair AF System – Portable Instrument Quality Air

300 to 1600 cfm
8.5 m³/min to 45.3 m³/min
Clean, Instrument Quality Air, Wherever You Need It

An Innovative System
In today’s industrial and construction workplaces, there is an increasing need for extremely clean, high quality compressed air that can be produced on-site. To meet this need, Sullair has developed the AF System. This innovative portable compressed air system delivers instrument quality air, conveniently and cost effectively, wherever it is needed.

Instrument Quality Air
The Sullair AF System includes portable rotary screw compressors from 300 cfm up to 1600 cfm and rated pressures from 100 psig up to 200 psig. This system delivers aftercooled and filtered compressed air that meets or exceeds ISO 8573-1: Class 1.7.1 quality standards. (See chart on page 3.) Sullair has offered the AF System since 1995.

Wide-Ranging Applications
The AF System’s high quality air is ideal for instrumentation, process equipment and other sophisticated industrial applications. A mobile unit, the AF System is a convenient source of supplemental, replacement and emergency plant air. On construction sites, this system provides clean, instrument quality air for media blasting, painting and protective coating applications.

A Completely Portable System

System Components
The AF System consists of a specially designed Sullair portable compressor with a built-in high-capacity, low-approach aftercooler, a water-condensate trap and a highly efficient contaminant removal system.

The contaminant removal system includes primary and secondary filters with condensate traps. The primary filter is a coalescing type filter which captures and removes particles down to 1.0 micron and larger in diameter, and maximum remaining aerosol content at 0.5 PPM. The secondary filter is a high efficiency coalescing type which removes particulate to 0.01 micron and larger in diameter, and maximum aerosol content of 0.01 PPM.

Dual Function System
The Sullair AF portable compressor has two service valves: one for standard air and one for instrument quality air. This dual valve system eliminates the need for a second compressor that might be required for standard-air-only applications.

Automatic Drain Valve
The AF System’s large capacity water-condensate trap features an automatic drain valve that continuously releases water while the machine is operating.

Enclosed for Protection—All system components are located within the enclosure for weather and damage protection.
Why Air Filtration is Essential

Atmospheric Contamination
Under normal circumstances, the atmosphere contains dirt, water and hydrocarbon vapor from unburnt fuels and industrial processes. One cubic foot of air contains approximately 4 million particles—80% of them 2 microns or less in size. Since a compressor uses outside air, it constantly draws in atmospheric contaminants as well.

Clean Air, Virtually Free of Oil Aerosols
With a Sullair AF System, the air that reaches the equipment, application or process is virtually free of oil aerosols, particulates and other contaminants 0.01 and larger. (However, the system is not intended to remove carbon monoxide, methyl isocyanate or any other noxious, corrosive, toxic gases, vapors or fumes that may be in the atmosphere at the machine site.)

Completely Free of Condensate
The Sullair AF System delivers cool, compressed air that is free of condensate. In the AF portable enclosure, the compressed air leaving the aftercooler is reheated 5°F to 7°F before it leaves the machine, thus providing some buffer from the dew point. If a dew point is required, a separate dryer may be required.

Microns are Minute
A micron is one millionth of a meter, or 1/1000 millimeter. A 1.0 micron particle is invisible without magnification. (A 40-micron particle is the smallest size visible to the human eye.) Because micron particles are so small, air filtration is essential.

ISO 8573-1: 1.7.1

<table>
<thead>
<tr>
<th>Standard– Maximum Particle Size and Maximum Concentration</th>
<th>Particle Size Dew Point Oil Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1 Class 7</td>
<td>Oil Content</td>
</tr>
<tr>
<td>Standard</td>
<td>Class 1</td>
</tr>
<tr>
<td>0.1 Micron</td>
<td>No Requirement</td>
</tr>
<tr>
<td>Sullair AF Contaminant Removal Performance</td>
<td>0.01 Micron</td>
</tr>
</tbody>
</table>

If .01 micron is this big... then .1 micron is this big... and this arc is just part of a full 1.0 micron.

When you realize it takes 10 million particles 1.0 micron in diameter to cover this 1/8 inch dot, you can appreciate submicron particulate removal.
Portable Convenience and Instrument Quality Air – the Sullair AF System Offers Both

Sullair System Goes Anywhere
From manufacturing plants to construction sites, the Sullair AF System provides “instant” instrument quality air in any work setting.

Operates Efficiently
The Sullair AF System uses no air to operate the aftercooler or filter system. Therefore none of the system's air is consumed or lost.

Runs Quietly
The Sullair AF System meets EPA noise regulations of 76 dBA @ 7m.

Easy Start-Up
No special set-up or preparation is necessary at the work site. Normal start/run procedure is all that is required to obtain instrument quality air.

Package Design Features of the Sullair AF Compressor:

Dependable Rotary Screw Compressor
Single-stage, fluid flooded, with cast iron housing.

Ample, Pad-Lockable Service Doors
Front, side and rear doors provide easy access.

0 to 100% Capacity Control
Automatic inlet valve and unloaded starting.

Two-Stage Dry Type Air Filters with Safety Element
Positioned to draw cool outside air.

AWF Compressor Fluid
Provides faster, easier cold weather startups. Tolerates and separates water easily. Reduced fluid carryover extends filter life.

COMPASS® Controller
The brains of the system monitors every aspect of the compressor and engine. (Not available on 300HH, 375, 375H, 375HH, 425 and 425H)

COMPASS® Controller indicates:
- Discharge pressure
- Discharge temperature
- Ambient air temperature
- Separator restriction
- Aftercooler air temperature and louver activation if equipped
- Engine speed
- Hours of operation
- Voltage
- Engine coolant temperature
- Engine coolant level
- Fuel level
- Fuel usage rate
- Fuel pressure
- Fuel temperature
- Percent engine load
- Engine air temperature
- Engine oil pressure
- Compressor and engine status

Easy-to-operate valves allow the compressor to be used for both instrument quality air (A) and standard air (B).

- A – Instrument Quality Air
  - Particles <0.01 micron
  - Oil content <0.01 micron

- B – Standard Air
  - Not aftercooled or filtered
Aftercooler and Filters

Low-Approach Aftercooler with Condensate Trap
This feature is incorporated into the portable cooling system. The discharge air temperature is compatible with inlet air temperature requirements of your downstream dryer.

Primary and Secondary Filters
Filters with condensate trap remove particles and aerosols.

Differential Pressure Shutdown System for Filters
This system senses differential pressures when filters require maintenance. If there is no response, the system automatically shuts down the machine, to ensure that no contaminant or oil is allowed to go beyond the filter. (Option on 300HH, 375, 375H, 375HH, 425 and 425H)

An Environmentally Friendly Solution for Condensate Removal
Sullair’s standard condensate collection-disposal system, which consists of hoses from water and filter traps routed through the belly-pan of the machine, captures the condensate and allows you to dispose of it safely.

Optional “Cold Weather-Shutter” Package
Lowers the low temperature capability to -20°F, and can be installed to operate the AF System at 35°F and below. In sub-freezing ambient conditions, the thermostatically-controlled louvers open and close automatically to maintain above-freezing air temperature within the enclosure, thereby preventing ice from forming in the aftercooler-condensate removal system. (Not available on 300HH, 375, 375H, 375HH, 425 and 425H)

AWF and the 5-Year Air End Warranty
The Sullair portable compressor air end is warranted for 5-years or 10,000-hours, whichever comes first, when Sullair AWF fluid and genuine Sullair filters are used.

To answer these problems, Sullair developed AWF, the All Weather Fluid. AWF allows easier cold weather starting and warm-up, while providing exceptional lubrication during hot or severe service.

Sullair Parts and Aftermarket Support
Because Sullair believes that using Genuine Sullair Replacement Parts is critical for optimum compressor performance, we make them available on a global basis. Through our computer-based system, our distributors can procure Genuine Sullair Replacement Parts for any piece of Sullair equipment in any part of the world, quickly and efficiently.

Portable compressors are usually operated and stored outside, often in extreme weather. Conventional rotary screw compressor fluids become thicker as temperatures drop. This causes a viscous drag on the rotors at startup, making it difficult for engines to generate enough power. In high temperatures and humid climates, conventional compressor fluids tend to lose viscosity and water tolerance, reducing service life.
## Specifications

The Sullair 300HH AF, 375 AF, 375H AF, 375HH AF, 425 AF and 425H AF Portable Air Compressors with Aftercooler, Water-Condensate Traps and Filters

### Specifications

<table>
<thead>
<tr>
<th>MODEL</th>
<th>300HH AF</th>
<th>300HH AF Export Only</th>
<th>375 AF</th>
<th>375 AF Export Only</th>
<th>375H AF</th>
<th>375H AF Export Only</th>
<th>375HH AF</th>
<th>375HH AF Export Only</th>
<th>425 AF</th>
<th>425AF Export Only</th>
<th>425H AF</th>
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<tbody>
<tr>
<td><strong>Actual Delivery–cfm (m³/min)</strong></td>
<td>300 (8.5)</td>
<td>300 (8.5)</td>
<td>300 (8.5)</td>
<td>300 (8.5)</td>
<td>300 (8.5)</td>
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<tr>
<td><strong>Rated Pressure–psig (bar)</strong></td>
<td>80 (5.5)</td>
<td>80 (5.5)</td>
<td>80 (5.5)</td>
<td>80 (5.5)</td>
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<tr>
<td><strong>Pressure Range, mini–psig (bar)</strong></td>
<td>200 (14)</td>
<td>200 (14)</td>
<td>200 (14)</td>
<td>200 (14)</td>
<td>200 (14)</td>
<td>200 (14)</td>
<td>200 (14)</td>
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<tr>
<td><strong>Pressure Range, max–psig (bar)</strong></td>
<td>125 (8.5)</td>
<td>125 (8.5)</td>
<td>125 (8.5)</td>
<td>125 (8.5)</td>
<td>125 (8.5)</td>
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### Engine

<table>
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<tr>
<th>Make and Model</th>
<th>JD4045HF(T3)</th>
<th>CAT C4.4(T3)</th>
<th>CAT C4.4(T2)</th>
<th>JD4045HF(T3)</th>
<th>CAT C4.4(T3)</th>
<th>JD4045HF(T3)</th>
<th>JD4045HF(T3)</th>
<th>CAT C4.4(T3)</th>
<th>JD4045HF(T3)</th>
<th>JD4045HF(T3)</th>
<th>CAT C4.4(T3)</th>
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<tbody>
<tr>
<td><strong>Operating Speed–rpm</strong></td>
<td>2200</td>
<td>2200</td>
<td>2200</td>
<td>2200</td>
<td>2200</td>
<td>2200</td>
<td>2200</td>
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<td>2200</td>
<td>2200</td>
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<tr>
<td><strong>Available Power–BHP (kw)</strong></td>
<td>80 (5.5)</td>
<td>80 (5.5)</td>
<td>80 (5.5)</td>
<td>80 (5.5)</td>
<td>80 (5.5)</td>
<td>80 (5.5)</td>
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</tbody>
</table>

### Fuel Consumption

| Fuel consumption 100% Load–GPH/(l/h) | 6.55 (24.8) | 6.45 (24.4) | 6.11 (23.1) | 5.72 (21.7) | 5.68 (21.5) | 5.20 (19.7) | 6.55 (24.8) | 6.45 (24.4) | 6.11 (23.1) | 6.55 (24.8) | 6.45 (24.4) |

### Max. Operating Altitude–ft (m)

| Max. Operating Altitude–ft (m) | 10000 (3048) | 10000 (3048) | 10000 (3048) | 10000 (3048) | 10000 (3048) | 10000 (3048) | 10000 (3048) | 10000 (3048) | 10000 (3048) | 10000 (3048) | 10000 (3048) |

Weights include aftercooler, traps and filters.
### Air Compressors with Aftercooler, Water-Condensate Traps and Filters

**The Sullair 600H AF, 750 AF, 750H AF, 825 AF, 900 AF, 900H AF, 1300H AF, 1450HH AF, 1600 AF and 1600H AF Portable Air Compressors with Aftercooler, Water-Condensate Traps and Filters**

<table>
<thead>
<tr>
<th>Model</th>
<th>600H AF</th>
<th>750 AF</th>
<th>750H AF</th>
<th>825 AF</th>
<th>900 AF</th>
<th>900H AF</th>
<th>1300H AF</th>
<th>1450HH AF</th>
<th>1600 AF</th>
<th>1600H AF</th>
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<tbody>
<tr>
<td>Actual Delivery-cfm (m³/min)</td>
<td>600 (17)</td>
<td>750 (21.2)</td>
<td>750 (21.2)</td>
<td>825 (23.4)</td>
<td>900 (25.5)</td>
<td>900 (25.5)</td>
<td>1300 (39.6)</td>
<td>1450 (41.1)</td>
<td>1600 (46.3)</td>
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</tr>
<tr>
<td>Rated Pressure-psig (bar)</td>
<td>150 (10)</td>
<td>125 (9)</td>
<td>150 (10)</td>
<td>125 (9)</td>
<td>180 (7)</td>
<td>150 (10)</td>
<td>150 (10)</td>
<td>175 (12)</td>
<td>150 (10)</td>
<td></td>
</tr>
<tr>
<td>Pressure Range, min-psig (bar)</td>
<td>80 (5.5)</td>
<td>80 (5.5)</td>
<td>80 (5.5)</td>
<td>80 (5.5)</td>
<td>80 (5.5)</td>
<td>80 (5.5)</td>
<td>80 (5.5)</td>
<td>80 (5.5)</td>
<td>80 (5.5)</td>
<td></td>
</tr>
<tr>
<td>Pressure Range, max-psig (bar)</td>
<td>150 (10.3)</td>
<td>125 (8.6)</td>
<td>150 (10.3)</td>
<td>125 (8.6)</td>
<td>150 (10.3)</td>
<td>150 (10.3)</td>
<td>175 (12)</td>
<td>150 (10.3)</td>
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</tr>
</tbody>
</table>

### ENGINE

**Make and Model**
- CAT C-9 ATAAC (T3)
- CAT C-9 ATAAC (T3)
- CAT C-9 ATAAC (T3)
- CAT C-9 ATAAC (T3)
- CAT C-9 ATAAC (T3)
- CAT C-9 ATAAC (T3)
- CAT C-9 ATAAC (T3)
- CAT C-9 ATAAC (T3)
- CAT C-9 ATAAC (T3)
- CAT C-9 ATAAC (T3)

**Displacement (in³) (cm³)**
- 538 (886)
- 538 (886)
- 538 (886)
- 538 (886)
- 538 (886)
- 538 (886)
- 538 (886)
- 538 (886)
- 538 (886)
- 538 (886)

**Cooling System**
- Capacity-gal (l)
  - 140 (53.0)
  - 140 (53.0)
  - 160 (60.6)
  - 160 (60.6)
  - 160 (60.6)
  - 160 (60.6)
  - 160 (60.6)
  - 160 (60.6)
  - 160 (60.6)
  - 160 (60.6)

**Fuel Tank Capacity–gal (l)**
- 10500 (3200)
- 10500 (3200)
- 10500 (3200)
- 10500 (3200)
- 10500 (3200)
- 10500 (3200)
- 10000 (3048)
- 10500 (3200)
- 10500 (3200)
- 10500 (3200)

**Fuel Consumption**
- 9.31 (35.2)
- 12.7 (48.1)
- 11.6 (43.9)
- 11.6 (43.9)
- 11.6 (43.9)
- 12.7 (48.1)
- 20 (75.7)
- 24.8 (93.9)
- 24.8 (93.9)
- 24.8 (93.9)

**PERFORMANCE**

**Max. Operating Altitude–ft (m)**
- 10500 (3200)
- 10500 (3200)
- 10500 (3200)
- 10500 (3200)
- 10500 (3200)
- 10500 (3200)
- 10500 (3200)
- 10500 (3200)
- 10500 (3200)
- 10500 (3200)

Weights include aftercooler, baps and filters. Add 6 in. for exhaust.
Sullair Corporation is one of the world’s leading manufacturers of rotary screw air compressors. An innovator in this field since 1965, Sullair offers the broadest range of portable air compressors in the world today. The Company sets the standards for Portable Air Power for construction, mining and energy-related market segments.

At Sullair, a commitment to innovation and a dedication to excellence form the foundation of leadership. Like the HAF compressors in the brochure and the many compressors shown here, Sullair is continually exploring new ideas, seeking new ways to engineer and produce reliable, energy efficient compressed air products to meet the needs of our customers worldwide.