The Air Trac Supply System
The Air Trac Positive Pressure Conditioned Air System

For overhead crane cabs, coke oven machine cabs and travelling machinery

The Air Trac system is the positive method to air condition overhead crane cabs and coke oven machine cabs where extreme heat or fume conditions exist.

With the Air Trac air intake located remote from the cabs, the system uses clean air from outside the building.

The fresh air is filtered, cooled or heated as required then supplied under pressure to a modular duct system called "Air Trac", which parallels the crane runway and holds the conditioned air. As the crane travels along the bay, an "Air Transfer" lifts a stainless steel seal and releases a constant volume of fresh air to pressurize the crane cab. As an added benefit the same air can be used to pressurize stationary puplits and crane electrical panels keeping them free from dust and contaminants.

Guaranteed to Meet OSHA Standards
The Air Trac system is designed to meet OSHA air quality requirements for crane cabs working under even the most adverse industrial conditions.

By pressurizing the cab with 100% outside air the Air Trac system provides OSHA standard air quality for the crane operator regardless of the air contamination present outside his cab. With filtration, heating and cooling built into the outside Air Supply Unit, the system provides positive pressure temperature controlled filtered air year round ... performance is guaranteed.

Proven in Use
Tests carried out in actual plant installations have proven this system 100% successful in eliminating above level readings in cabs for such difficult contaminants as carbon monoxide, sulphur dioxide, coal tar pitch volatiles and free silica.

In these applications cab mounted air conditioning and filtering units were unable to do the job. Where industrial fume and heat conditions are too tough for cab mounted equipment the Air Trac system provides the positive answer for 24 hour per day year round operation.

With the same system for application in abrasives plants, lead, copper and aluminum smelters, coke ovens, carbon graphite, foundries, steel mills.

Maintenance Without Interruption to Crane Operation
Air Trac eliminates all crane downtime normally required for the maintenance of crane mounted air conditioning equipment.

Routine maintenance on the Air Trac system takes place at "Air Supply Unit" which is located at ground level ... remote from the crane bridge and usually outside the building.

This equipment is not subject to the severe vibration, high temperatures, corrosion and dust loadings present at crane bridge level ... conditions under which cab mounted equipment must operate. Access is convenient and crane operation and production is not interrupted.
The System

Application: Overhead Cranes

1. Insulated supply duct to Air Trac.
2. One Air Trac services all cranes on a common runway.
3. Conditioned air for cab year round, pressurized cab eliminates all fume conditions.
4. Air to cool and pressurize electrical enclosures.
5. Air supply to pulpit and 'hot spot' work areas at ground level.
6. Additional air supply units for multiple crane runways.

Application: Coke Oven Battery

1. Air quality: air inlet duct can be extended if necessary.
2. Positive Pressure: positive pressure is maintained even if large leaks develop around doors and windows. Normally does not require costly modifications to existing cab enclosures.
3. Future Air Quality Regulations: the system cannot only meet all presently applicable government regulations on air quality ... but places the user in the best possible position to meet future more stringent regulations with no modification necessary to equipment initially supplied.
4. Reliability: several units can be connected to a common manifold allowing the systems to operate with one or more units out of service. Units can be oversized to provide excess or stand by capacity. These units can be shut down for maintenance on a regularly scheduled basis.
5. Refrigeration Units: stationary units are water cooled with less condenser maintenance than air cooled units.

Air Supply Unit

1. Stationary air supply unit normally located outside building at ground level.
2. Air intake location selected to provide optimum source of clean air, plus easy access for maintenance. Air intake can be extended, if necessary, to clean air source.
3. One unit may supply two or more cranes in a building.
4. Each air supply unit contains disposable filter, electric heating coil, supply fan. Air conditioning is optional (air or water cooled). Units are complete with temperature controls for both heating and cooling. Where cooling is selected, units are shipped complete with refrigeration piping and controls.
Stainless Steel Air Seal

The heart of Air Trac System is designed for continuous year round operation in heavy industrial applications.

- Positive air seal along full length of Air Trac
- Temperature range – 500°F plus
- Life tested for over one million cycles – Air Seal is virtually maintenance free
- Unaffected by abrasive airborne particles
- Air seal is internally insulated
- Does not require any mechanical fasteners
- If damaged by plant process, it can be easily replaced in convenient lengths
Why Air Trac

- Manufactured in standard modules to suit all single and multiple crane applications.
- Heavy gauge metal, integral truss, welded construction provides rigid structural strength.
- Modules are flange connected for an air tight seal and arrive at the installation site bolted up in lengths to suit your building column centres.
- Air Trac is self-supporting between building column centres.
- Internally insulated with metal inner liner.
- Shipped pre-painted in accordance with industry colour coding.
- Standard mounting brackets suit all applications.
- Clearances required for installation of the Air Trac System are minimal.
Cab Pac

- Includes Air Transfer, Volume Control, Flexible Insulated Ducting, Optional Reheat Coil and Cab Discharge Plenum.
- Air Transfer is supported on rails integral with Air Trac.
- “Floating Action” drive mechanism overcomes any misalignment between crane and building structure without limitation.
- Wheel surface only contact between Air Transfer and Steel Seal – steel seal is virtually maintenance free – seal opening wheels are fail safe.
- Air Transfer requires minimal maintenance at only long intervals – (normally 12 months).
- Air wipe keeps steel seal and support track clean of any dirt or abrasive buildups.
- Air Volume Control maintains constant air volume to each cab automatically. Control is activated by system pressure – no external power required – volume control is virtually maintenance free.
- Crane cab discharge plenum features adjustable drum louvres providing operator control of air volume and direction.
- Cab thermostat (optional) allows operator to set constant cab temperature.
- Air can be ducted to bridge to pressurize crane electrical panels.
- Cab air can be redirected to provide fresh air ventilation for maintenance personnel when working in a contaminated atmosphere.

Installation

- The Air Trac system is designed specifically for installation in existing buildings while production is maintained.
- The system is assembled from standard modular components for fast, simple installation.
- Air Trac modules arrive at the installation site bolted-up in lengths to suit building column centres. A standard mounting bracket fits all building structures.
- Air Trac Incorporated provides complete installation drawings with each system, detailing the system installed in your building.
- Site supervision of installation or complete installation services are provided by Air Trac.
- Systems installed are currently operating in five countries.
Fresh Air Supply

No other system offers a fresh air supply to overhead crane cabs. If the working environment is hot, it is often possible to create reasonable operator comfort in summer by just increasing the number of air changes per minute. The system then need only include a fan and filter. There is no air-conditioning equipment to maintain.

In winter, the cab pack heater, in combination with a reduced number of air changes, can provide the crane driver with the same comfortable conditions he enjoyed in summer.

Many crane operators prefer the fresh air environment to air conditioning. The savings in capital and operating costs are significant. Compare the costs of the Air Trac system with bridge-mounted air conditioners. You will be surprised at the savings.

Applications

- Foundries
- Smelters
- Carbon graphite
- Abrasives
- Rolling mills
- Pickling lines
- Coke ovens
- Blast-furnaces
- BOF shops
- Soaking Pits
- Annealing lines

Customers

- Airco Speer Carbon Graphite
- Anglo Great Lakes Corp.
- Norsk Jernverk A/S
  (Norway National Iron Works)
- British Acheson Electrodes
- Burlington Steel Corp.
- Cominco Limited
- Dominion Foundries & Steel
- General Motors Corp.
- Great Lakes Carbon Corp.
- Inland Steel Company
- Interlake Incorporated
- Union Carbide Corp.
- Carborundum Abrasives
- Hawker Siddeley Canada Ltd.
- Inco (Eximbral, Guatemala)
- Stackpole Carbon Company
- Norsk Korsverk A/S
  (Norway National Coke Ovens)
- Soho
- Dresser Industries

Installations

- North America
- Europe
- Britain
- Central America

Patents received and pending in U.S.A., Canada and major countries of the world. Patents: 1412470, 3913470, 799956, 977602, 432,913. Patents Pending: 793789, P25 29 6593, 80464 / 75, 301, 593, 53309, 131374.