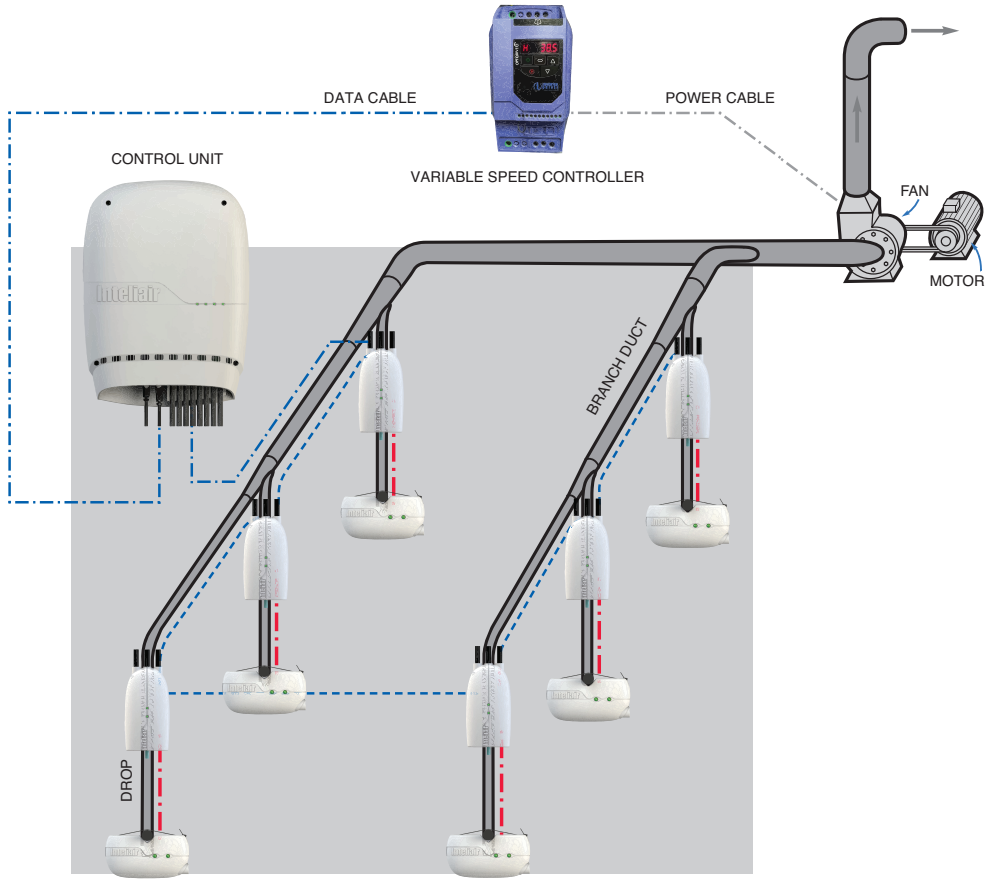
Inteliair

The Intelligent Air Control System



About Inteliair

Inteliair is a programmable logic controller (PLC) controlled intelligent air management system designed by industrial air quality engineers with over 40 years' experience to automate the process of air movement and control. Inteliair optimises the efficiency of dust extraction, fume extraction and ventilation systems by continually monitoring demand and regulating the extraction or supply of air in accordance with that demand.

Air movement systems account for a significant proportion of energy consumption by Industrial and Commercial Organisations; therefore we have designed Inteliair with the potential to reduce the energy consumption expenses of the majority of air movement systems by in excess of 40% and as such the environmental impact of energy generation is directly reduced by implementing the Inteliair system.

In most instances air movement systems are not able to react to actual demand; they are simply on or off. This results in systems that are highly inefficient, this in turn results in the energy costs associated with the operation of such systems being significantly higher than necessary along with the associated environmental impact this causes. Inteliair provides the solution to this problem by automatically regulating the complete system in accordance with actual demand including the ability to configure options during commissioning to maintain minimum airflows if appropriate.

By reducing the energy consumption associated with the operation of supply and extraction fans, motors and air handling units Inteliair provides a proven and effective way to assist businesses with the fight against climate change, by reducing carbon emissions.

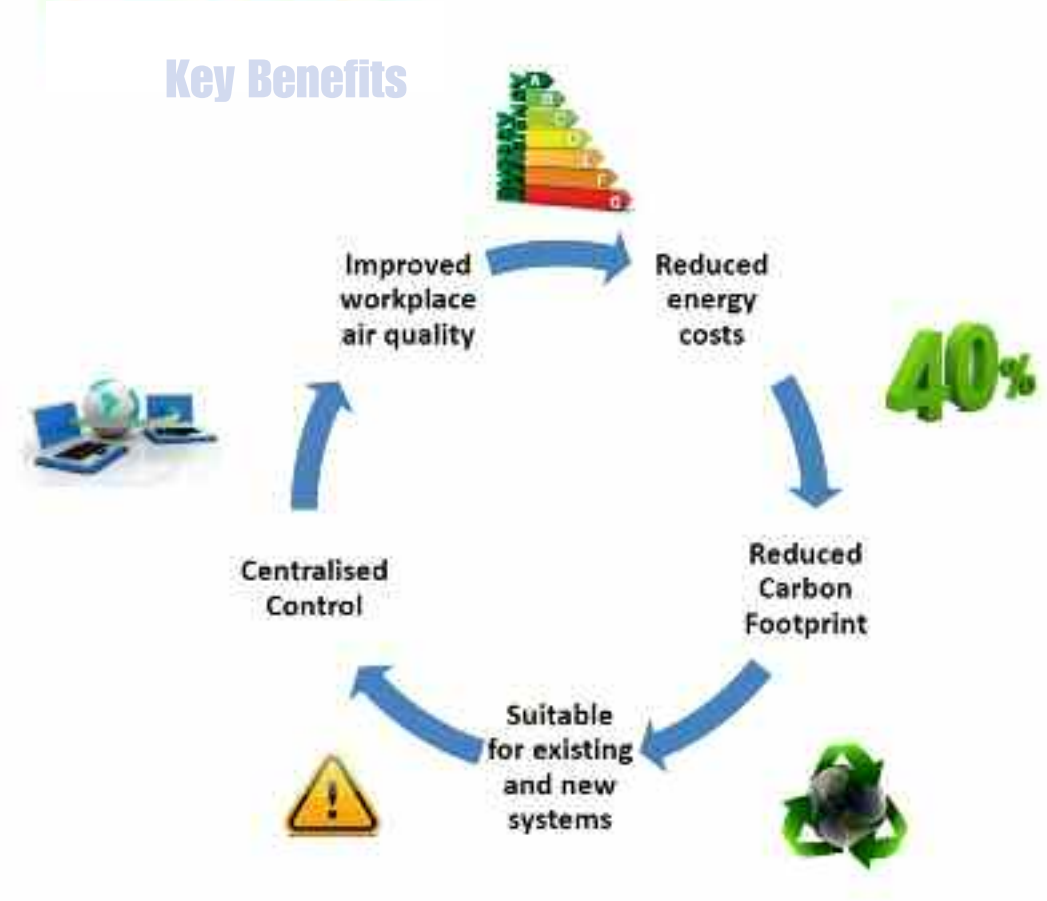
Inteliair has a dedicated training facility based in the South West of England where we are able to offer bespoke training in all aspects of the Inteliair system. Our 2-day theory and practical course covers installation and configuration training so that managers and engineers can confidently recommend, install and set-up Inteliar.

Benefits of Inteliair

- Will reduce operating energy costs by in excess of 40% for the majority of installations.
- Will reduce the initial capital costs of the majority of new systems through the capability to accurately size systems based on actual usage as opposed to the total number of positions.
- Will reduce the Carbon Footprint and the Environmental Impact of air movement systems.
- Will improve workplace air quality as a result of automating the process of air movement and control.
- Removes the reliance on manual control by ensuring positions are open and closed in response to actual demand.
- Suitable for installing within existing systems as well as new systems.

Energy and Environment

- Designed to cut energy costs associated with the operation of supply and extraction fans, motors and air handling units by in excess of 40%.
- Designed to increase the efficiency of existing equipment and optimize the efficiency of new equipment.
- Designed to reduce the Carbon Footprint and Environmental Impact of air movement systems.



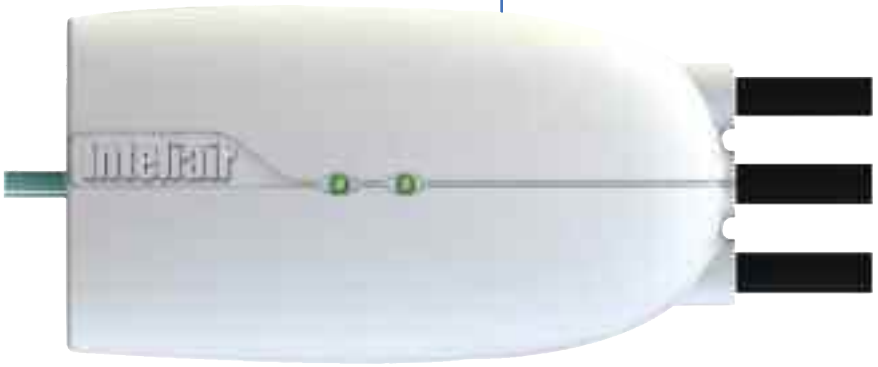
The Inteliair Range

Inteliair Control Unit

The 'brains' behind the system. Each control unit can control up to sixty automatic dampers or valves, twenty fans or motors and a dust filtration unit.

Inteliair Damper Control Unit

Specifically designed to operate with the Inteliair Control Unit. The Damper Control Unit capable of connecting either via RS485 or wirelessly to the Inteliair Control Unit and capable of operating both Inteliair Dampers and 3rd Party actuator operated dampers.



Inteliair Current Sensing Switch

A 24v switch designed to sense current flow through a cable serving a machine thus sensing demand.

Data

- System provides an RSS Feed allowing users and/or BMS systems to subscribe to system messages.
- Operating data presented in graph format to visually indicate operating performance and energy cost over hour, day, week, month and year timelines.
- A user friendly software interface allows for continuous monitoring and changes to system configuration.

Control

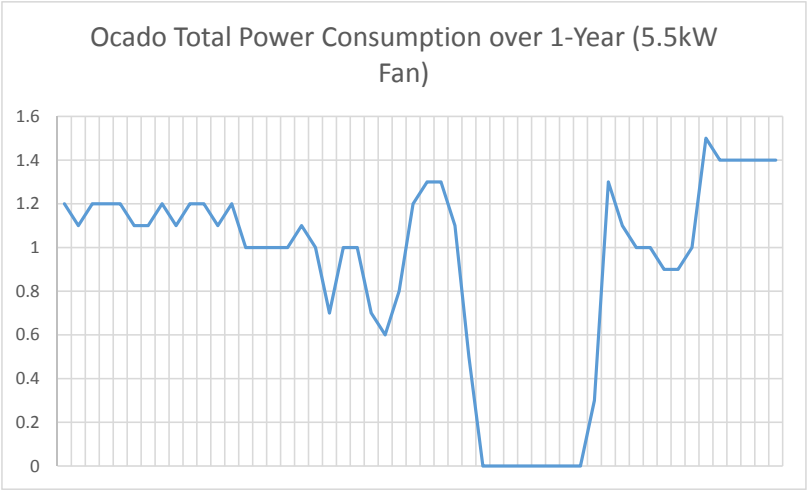
- System software application accessible wirelessly, via LAN or remotely via the Internet or VPN.
- Configuration allows for the connection of up to 60 dampers/valves, 20 fans and a dust filtration unit.
- System allows cleaning cycles to be scheduled.
- System allows for the positions to be allocated into Zones to allow for different areas to be separately configured.
- Dampers and valves can be assigned as 'boosters' to allow for the system to maintain minimum air velocities within each Zone.
- Damper control unit can be used to operate 3rd party 24v power open/spring close actuator controlled dampers therefore the system can be integrated with existing equipment.
- The system is designed to not only operate using the Inteliair current sensing switch but most available 24v switches including; PIR sensors, thermostats, air quality sensors, manual rocker switches etc.
- Dampers and valves can be configured to communicate wirelessly with the main control unit thereby increasing flexibility and adaptability.

Case Study

Ocado

Company Profile: Ocado is the world's largest dedicated online grocery retailer providing and delivering quality groceries and household products, toys, books, and magazines directly to customers' homes.

Inteliair Installation: Battery charging facility for forklift batteries in a distribution centre. Due to the generation of hydrogen gas during the battery charging process it is necessary to keep this area well ventilated however it is rare that all eleven charging positions are in use at once. Without the Inteliair system it would have been necessary for the 5.5kW extraction fan to operate 24-hours a day, 7-days a week. The Inteliair system was installed with automatic control dampers at each of the eleven charging positions linked to current sensing switches which in turn were connected to the supply cables on the battery charging units. When batteries are being charged the switch detects the current draw and indicates a 'demand' for ventilation that causes the automatic damper to open and the main extraction fan to start or change speed to serve the demand. The system has been in operation for 5-months and data downloaded from the control system indicates an energy saving of 88% when compared to the alternative requirement for the fan to run continuously.



Case Study

Dunlop

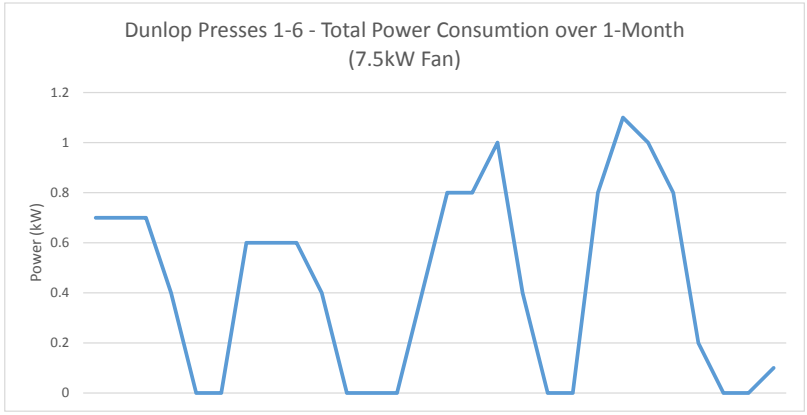
Company profile: Dunlop Systems and Components designs and manufactures advanced electronic control systems and air suspension components for the automotive and ancillary industries.

Inteliair Installation: Installation of new fume extraction systems to serve Dunlop's rubber presses when they relocated from their historical factory in Coventry to a brand new purpose built factory. We knew they could benefit significantly from the Inteliair control system. There was a very strong emphasis from the project team at Dunlop that they wanted state of the art extraction systems to match their new state of the art facility.

A particular focus for this was on efficiency and energy conservation with an insistence that the extraction systems should be able to react to demand and provide extraction where it is required, when it is required with the fan operating speed and thus energy consumption automatically reacting in accordance to this demand. This is exactly what the Inteliair system was designed to achieve and now the move is completed the project team at Dunlop is delighted with the results.

The Inteliair system is linked directly to a switched output from the PLC Controller on each Press, this indicates when during the process extraction is required from the Press and an on/off signal given to the Inteliair system. The Control Unit interprets this signal to open/close each extraction position as required and regulate the speed of the main extraction fan in accordance with the number of positions requiring extraction.

The incorporation of the Inteliair control system has saved Dunlop the capital expense of installing extraction systems capable of extracting from 100% of the positions despite knowing only 60% of the positions would ever require extraction at any given time. It also continues to save Dunlop money on a daily basis as early operating data indicates a 72% reduction in the operating energy cost of the extraction systems operating under Inteliair control.

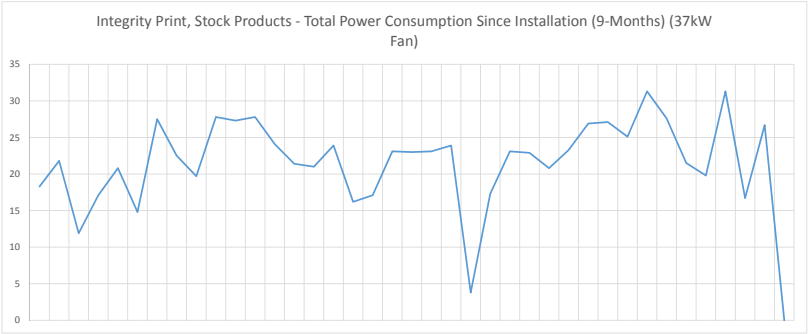


Case Study

Integrity Print

Company Profile: Integrity Print is the United Kingdom's leading provider of operational business print requirements, encompassing the production of base stationery, integrated cards and labels, security print, digital colour, and transactional mailing services.

Inteliair Installation: Printing and paper trimming facility. The management of this company have been seeking to reduce their annual energy costs which have reached in excess of £1,000,000 per year and as such have undertaken a detailed audit of their entire production facility. As a specialist in dust control systems we were asked to look at their paper trim systems and recommend a way for reducing the energy consumed by these systems. We recommended the installation of the Inteliair control system on one of their extraction systems as a trial prior to proceeding and installing it on all of their air movement systems. The system chosen for the trial is fitted with a 37kW main extract fan which extracts from 10 paper trim positions and feeds an externally situated separator and compactor. We installed 10 automatic control dampers each connected to either current sensing or manually operated rocker style switches depending on the requirement at each position. In addition the main control unit was configured to start the main compactor system whenever the fan is in operation and also run a 2.5 minute clean cycle (fan running at full speed and all positions open) every ½ hour in order to avoid the risk of any paper collection within the ductwork due to the distance between the fan outlet and the separator unit. The performance of this system has been independently monitored via a logging device connected directly to the power feed to the main fan and in the 3-months this system has been operational even with the regular cleaning cycle the Inteliair system has reduced the energy consumption of this extraction system by 62%. Suffice to say we are now in the process of installing the Inteliair system throughout their factory.



Industry list

Agriculture/Food production

Metals

Airports and Fire stations

Minerals

Automotive

Museums

Brick works

Oil production

Carpentry shops

Pharmaceutical

Carpet factories

Plastic and Rubber

Catering

Printers

Chemical/Laboratories

Quarries

School/ Colleges/ Universities

Smelters

Electronics

Waste and Recycling

Food

Welding

Foundries

Woodworking/ Furniture

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