

versatile

Heating · Cooling · Ventilation



jaga

Could you be smarter?

Numerous experiments have shown a clear correlation between poor indoor air quality and impaired pupil performance. When rooms get stuffy and concentration levels drop, so do overall levels of achievement. It's a problem experienced by schools of all sizes – and **OXYGEN** is the answer.

Destined to be top of the class

Fully scalable, future proof and specified in a way that suits your particular scenario and budgetary requirements, Jaga **OXYGEN** outperforms regulations for recommended classroom ventilation every time – while also achieving significant energy and cost savings.

Perfect for positive learning

Purposely designed to optimise indoor air quality in an energy-efficient way, this pioneering solution can help to boost concentration, enhance learning outcomes and increase overall levels of achievement in classes of all sizes, school-wide. By directly admitting healthy filtered air into each classroom, Jaga **OXYGEN** is an intelligent and innovative solution that creates the perfect atmosphere for a positive learning environment.

Simply smarter on three levels

Jaga's next-generation **OXYGEN** Dynamic solution works by combining unique displacement ventilation with an integrated heating system and complete controllability for optimal performance and energy efficiency. All of which makes it simply smarter than other options – available on three levels:

1



Optimal ventilation

Unique displacement ventilation ensures optimal indoor air quality

2



Integrated heating (and night time cooling)

In-built heating & free cooling solution ensures optimal temperature

3



Complete controllability

Smart system ensures optimal performance and energy efficiency

OXYGEN

Simply smarter

Intelligent ventilation for an optimal learning environment



Introducing OXYGEN: A solution that's simply smarter for everyone



Introducing an intelligent and fully controllable heating and ventilation solution that optimises indoor air quality in an energy-efficient way.

A pioneering approach

Ideal for schools of all sizes, Jaga Oxygen helps create learning environments that are conducive to higher levels of achievement – at the same time as boosting your building's green credentials.

Studies have shown that poor indoor air quality adversely affects pupils' attention levels and impairs their performance. Jaga OXYGEN automatically monitors the air quality in a classroom, actively controlling CO2 levels to ensure adequate fresh air and create an optimal learning environment that helps improve concentration and alertness to enable an enhanced learning experience that's better for everyone.

Another innovation from Jaga

A respected market leader founded in 1962, Jaga is well known for its wide range of commercial and domestic heating solutions with a reputation for delivering different solutions to traditional problems. We are now applying this expertise to the issue of indoor air quality and introducing our pioneering OXYGEN solution to schools and specifiers across Ireland through Versatile Heating, Cooling & Ventilation.

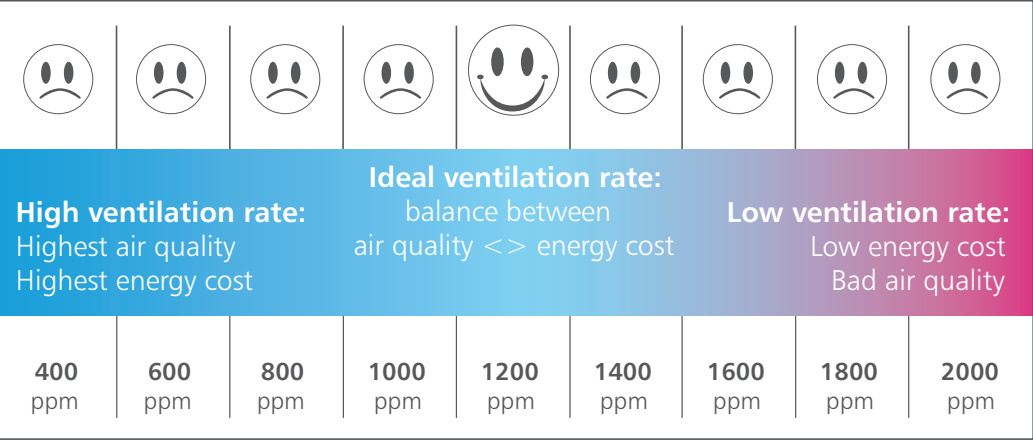
Clear benefits of controlled ventilation

Tests conducted in the Netherlands – and carried out in the middle of the school day, when concentrations of CO2 tend to be elevated – demonstrated that schoolchildren performed language and maths tasks better in controlled ventilation conditions than when only basic ventilation was provided.

Irish schools should be thinking smarter too

In recent years, schools of all sizes across Europe have made significant efforts to improve indoor air quality – to enhance not only students' health but achievement levels too. Meanwhile, in the USA, an increasing number of lawsuits are being filed as a result of poor IAQ. There is a risk that schools with recognised IAQ problems may be subject to litigation by parents who feel the academic potential of their children is threatened. So it's time for us to catch up with the wider international trend and to switch on to the ongoing benefits of smarter ventilation in its schools.

Trials by the International Centre for Indoor Environment and Energy found that when temperature remains in the range 20-25°C, indoor air quality – and CO2 concentrations in particular – have a more profound effect on cognitive performance than elevated temperatures.



According to EN 13779: IDA3

* Depending local legislation

Constant clever control

Jaga OXYGEN Dynamic uses CO2 sensors to constantly monitor IAQ and manage ventilation needs on a room-by-room basis. Depending on real-time needs, a central controller directs refresh units integrated into Jaga Low-H2O radiators to work in unison with exhaust units to increase or decrease the amount of fresh air being delivered into individual rooms. Teachers are also able to use a smart switch to briefly boost airflow if they feel it is required.

The direct admission of filtered air into each room via external air inlets, rather than through central supply ducts, ensures a clean, healthy, pollutant-free indoor environment at all times – all with improved energy efficiency of up to 28%.

Unique displacement ventilation

Special smoke tests have been carried out to demonstrate the effectiveness of our unique displacement ventilation method. The controlled supply of fresh air at low level and extraction of exhaled stale air at high level on opposite sides of the classroom ensures optimal IAQ for the room's occupants – and an increase in ventilation efficiency of 20% [source: NPR-CRI752].

Innovative Low-H2O technology

Jaga's Low-H2O technology is the result of more than 40 years of continuous research into heating technology by Jaga and our partner universities. This resulted in the design of a super-efficient modern fin tube element, which complies with present and future building codes and energy efficient technologies.

Our Low-H2O radiators are low-mass, low-water content products, which require only a tenth of the water and weight of standard steel panel radiators. A scientific study at the Building Research Establishment in Watford showed that Low-H2O radiators consume around 10% less energy than standard radiators. How are they so much more economical? Because they react much faster when warmth is needed – or when it is no longer required.

Faster response means better comfort and lower fuel bills, plus lower CO2 emissions and greater all-round energy efficiency to help building designers and constructors meet carbon reduction targets. All Jaga Low-H2O heat exchangers also come with a 30-year guarantee.

Four key system components

Four key components work in unison to provide an enhanced learning environment that is conducive to higher levels of achievement:

- OXYGEN Refresh Units**
Silently suck in outside air, filter it and supply it into the classroom.
- CO₂ Sensors**
Constantly monitor IAQ by measuring ambient CO₂ levels in each room.
- Controller**
Continually regulates the balanced intake and exhaust of air in each individual classroom.
- Smart Switch**
Gives teachers the ability to briefly boost the flow of fresh air if they feel it is required.

OXYGEN works seamlessly with your choice of Jaga radiators



nZEB Rad



nZEB Maxi

A solution that's specified to suit you

A truly tailored approach

Every enquiry that we receive about our pioneering **OXYGEN** solution is treated in an individual way, because we know that no two schools are the same and individual requirements invariably differ.

So although **OXYGEN** is a one-stop solution that will always meet all of your integrated heating and ventilation needs, it is not an off-the-shelf solution. That's because we always adopt a truly tailored approach to make sure that the solution we supply is carefully considered and specified to suit you.

Tell us your challenges

Whether it's a small renovation project or a big new-build, we can provide your school, call centre, commercial office – in fact any occupied area - with a simply smarter solution for an optimally controlled indoor climate.

At Jaga, we are committed to supplying the best possible solution for your specific requirements – an intelligent, integrated solution that meets all your needs and your project budget too.

So just tell us your challenges and particular requirements and we'll advise and recommend the best solution and configuration for your situation – a solution that will deliver the best system performance, the best energy efficiency and the best learning outcomes for you and your school.

Whatever works best for you

Only the four key components of the **OXYGEN** Dynamic ventilation system are standardised.

The number of refresh units and CO2 sensors required, the design and positioning of your Jaga Low-H2O radiators, the type of exhaust units installed, the colour of air inlet grilles, even the layout of the BUS system that controls the whole solution, they're all pretty much down to you. Although we're always on hand to offer plenty of guidance, of course.

We'll work closely with you to determine the most practical configuration for your school - one that will deliver the best possible benefits in the months and years ahead. longer required.

Faster response means better comfort and lower fuel bills, plus lower CO2 emissions and greater all-round energy efficiency to help building designers and constructors meet carbon reduction targets. All Jaga Low-H2O heat exchangers also come with a 30-year guarantee.



Six good reasons to opt for OXYGEN

- 1 Improves indoor air quality to create an optimal learning environment every time
- 2 Delivers clean, healthy, fresh air on demand in a highly energy efficient way
- 3 Is an intelligent, integrated solution that meets all your heating and ventilation needs
- 4 Is completely controllable and fully scalable to meet any changing and future needs
- 5 Can help you to reduce the carbon footprint of your school
- 6 Offers significant energy and cost savings for years to come



Find out more

For more information about any aspect of our next generation **OXYGEN** solution, please get in touch:

- Call us: **+353 (0)46 9029 444**
- Email: **sales@versatile.ie**
- Or go online: **www.versatile.ie**

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