

IntrCool

Cool industrial and commercial buildings at 80% lower running costs



OXYCOM
natural air conditioning



Count on 80% cost reduction and 100% cool and fresh air

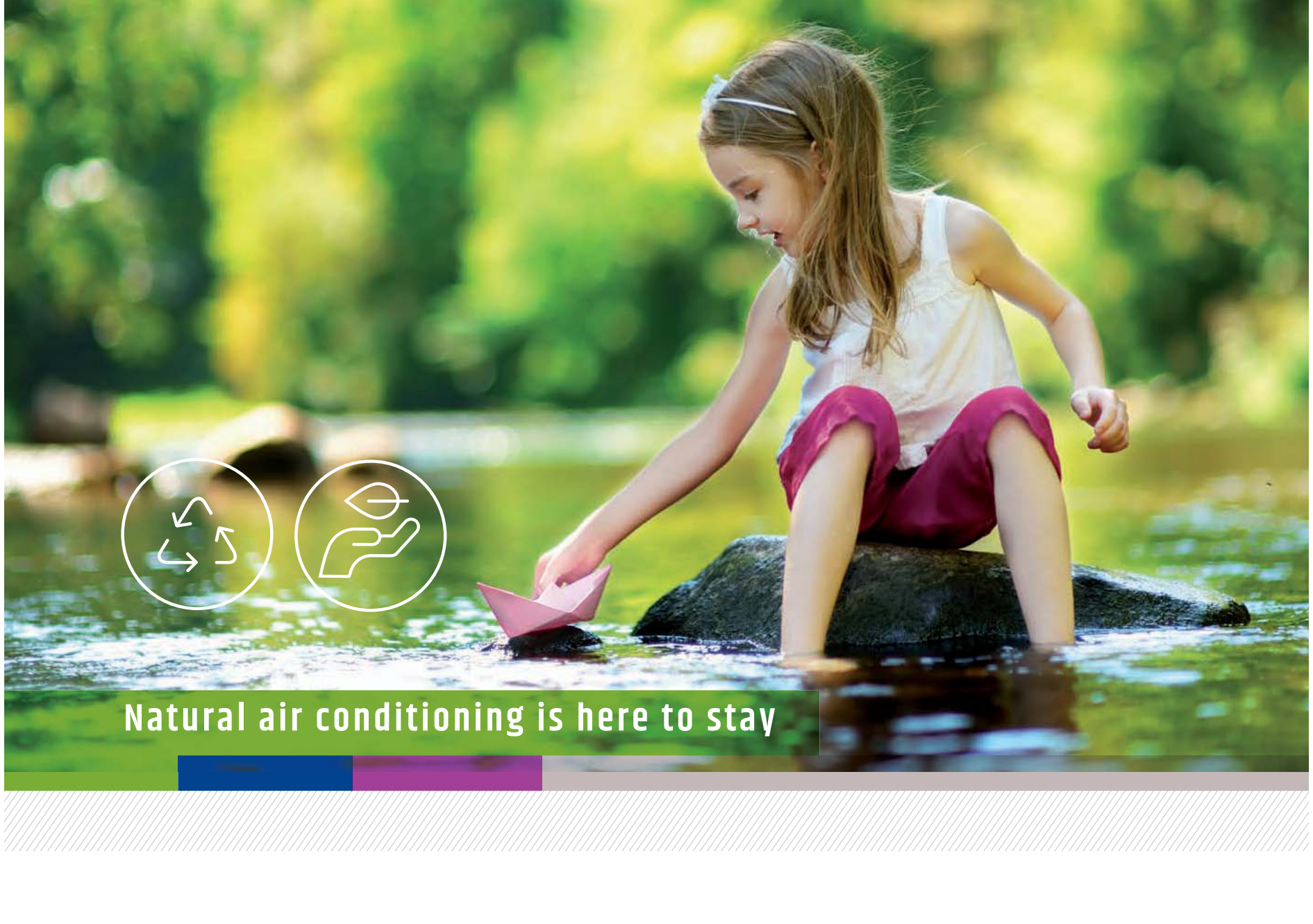
IntrCooll turns industrial and commercial buildings into energy-efficient, productive and healthy spaces

NO COMPROMISES Until recently, there was no affordable way to comfortably cool and ventilate large spaces and commercial buildings. Warm and humid days would easily lead to general discomfort, low productivity, and failure to comply with labor regulations. Now IntrCooll changes everything.

BOOST INDOOR AIR QUALITY IntrCooll delivers the indoor environment that boosts engagement and productivity. Cool and fresh air is vital to our well-being. Ensuring a steady supply is an ethical and legal duty for building owners and operators. Now IntrCooll also makes it highly economical.

AFFORDABLE AND PROFITABLE Smaller investments and 80 percent lower operational costs compared to conventional AC result in significant savings. Moreover, IntrCooll is the first and only environmentally responsible way to create and maintain a healthy and comfortable climate inside large buildings.

COOL AIR. EVERY DAY. EVERY CLIMATE In warm climates, other technologies often struggle to deliver tangible cooling in an efficient manner. IntrCooll breaks through the barriers and provides cool air streams effortlessly, with as little as 10 percent of the energy usage of conventional AC.



Natural air conditioning is here to stay

Powered by nature

DIFFERENT Although it relies on the extremely powerful natural principle of water evaporation, IntrCoolll is no ordinary evaporative cooler. While it clearly makes sense to copy Mother Nature, it is far from easy to make it work in large buildings and a wide range of climate conditions.

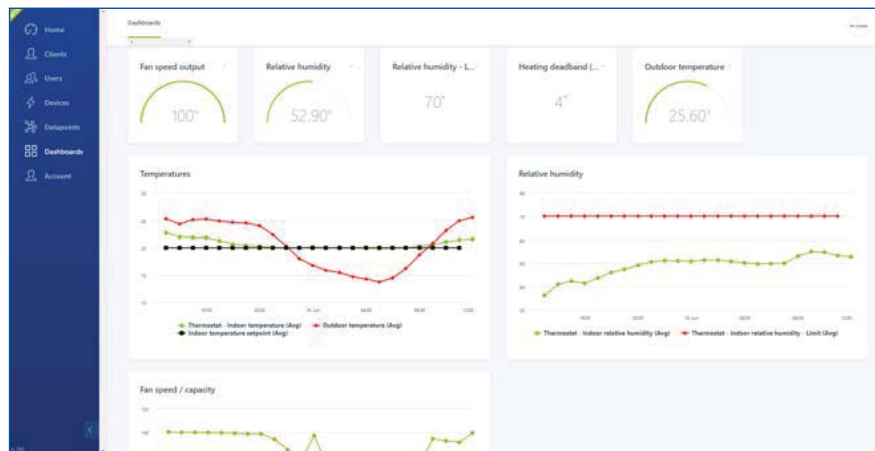
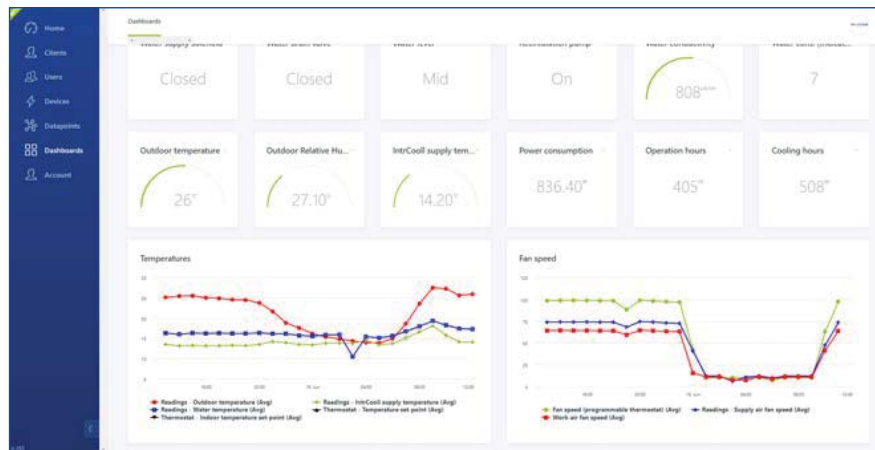
REDEFINES STANDARDS Oxycom takes evaporative cooling technology to a whole new level with dual-stage adiabatic cooling. A self-sustaining chilled water stream supercharges the overall cooling efficiency. With up to 7 °C (13 °F) lower temperatures and 50 percent less moisture increase, IntrCoolll leaves competitors behind in the heat.

THE POWER OF WATER It takes 1 m³ of water and large amounts of fossil fuel to produce 50 kWh of electricity, while evaporating 1 m³ of water delivers a stunning 695 kWh of cooling power. Any life-cycle analysis will show IntrCoolll to use less water than conventional air conditioning, while reducing the CO₂ emission with 90 percent.

SURPRISED? The laws of nature never fail to inspire. And yet, the world is still full of AC systems that contain harmful refrigerants, recirculate the same air over and over again, contribute to global warming, and take a heavy toll on power grids.



OxyConnect: Cloud-based monitoring and control system



Easily the most efficient and intelligent indoor climate control system ever

CLEVER OPERATION MODES The OxyLogic controller measures indoor and outdoor conditions in order to select the most comfortable and efficient cooling mode. When equipped with a Heat Reclaim module, ventilation is constantly maximized, using internal waste heat to ensure pleasant supply temperatures.

BEYOND NATURAL LIMITS Consuming as little water and electricity as possible, IntrCooll continuously matches the airflow and cooling capacity to the building's needs. The dual-stage mode uses indirect pre-cooling to go beyond the original natural limit posed by the ambient air, towards a wet-bulb efficiency of 114 percent.

CONNECTED Intuitive control from behind your desk or anywhere in the world. The OxyConnect makes a breeze of installation, operation and real-time performance monitoring. It allows for substantial cost reductions through remote assistance, timely service and predictive maintenance.

CONVENIENCE Seamless integration into common BMS systems is possible. IntrCooll is standard equipped with Modbus RTU and TCP/IP ports. The extensive interface allows you to monitor and operate IntrCooll and align it with your operations or devices.



CONNECTED



REAL-TIME MONITORING



CLIMATE ADAPTIVE

IntrCooll at a glance

- Best-in-class performance

- Extremely energy-efficient

- Low water consumption

- Always fresh and cool air

- Lowest operating costs

- Superior quality and durability

- Whisper quiet operation

- Excellent hygiene control

- Low maintenance



Operation Modes



Free cooling mode

Free cooling uses low external air temperatures to cool the building. Especially in autumn and spring, sun radiation can be significant while ambient temperatures are still low. Whereas recirculating air conditioners need mechanical systems to cool the building, IntrCooll introduces free, cool and fresh outdoor air.



Dual-stage cooling mode

The first and indirect stage uses cold recirculation water to pre-cool the ambient air. As no humidity is added, the air leaving the heat exchanger has a lower dry bulb and wet bulb temperature than the outside air. In the second and direct cooling stage, the air can be further cooled down by the evaporative cooling media.

114% WB
EFFECTIVENESS



OXYCOM
natural air conditioning

IntrCooll compared to **conventional AC**

- Energy savings of up to 90%
- Lower investment costs
- Extremely low running costs
- 100% fresh air (no recirculation)
- Natural indoor humidity regulation
- No uncomfortable cold spots or drafts
- Suitable for spaces with open doors or windows



IntrCooll compared to direct evaporative cooling

- Up to 7 °C (13 °F) lower supply temperatures
- Up to 50% less moisture increase in supply air
- Keeps indoor climate well within ASHRAE standards
- Lower water consumption
- Significant energy savings
- Lower indoor humidity, higher comfort
- Applicable in humid climates and tropical conditions
- Reduced airflow allows for smaller ducts

Standard Features

- Electronically Commutated (EC) fans
- Intelligent control system with display
- Water management system
- Water consumption meter
- Filter pressure sensor
- BMS interface (Modbus RTU & TCP/IP)
- Analog outputs for accessories control
- Utility and control cable feedthroughs



Modbus TRU & TCP/IP ready



ERP EcoDesign 1253/2014
compliant



Evaporative media with VDI6022
Hygiene certification



CE compliant



Paris Proof DGBC

Key Components

● Embedded controls

Smart adaptation to ambient and indoor conditions

● Filter media

Different filter media classes to comply with local regulations

● Heat exchanger

Fueled with cold water for supercharged cooling

● Evaporative media

Super-efficient Oxyvap with anti-bacterial coating

● Chilled water section

Integrated section creates a self-sustained cold water supply

● Water disinfection (optional)

- UV-C disinfection
- Chlorine Dioxide disinfection

● Pump

Selected to withstand even the the harshest climates

● Fans

Electronically commutated (EC) and 100% variable speed

● Water quality sensor

Monitors water quality and ensures not a drop is wasted

● Housing

Marine-grade aluminum with UV and weather-resistant coating



Plastic industry, The Netherlands



Metal industry, The Netherlands



Textile industry, Dubai



Packaging industry, Italy



Automotive industry, Dubai



Food industry, Germany



Shopping Mall, Saudi Arabia



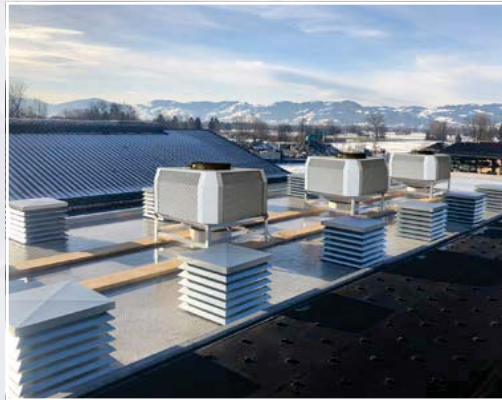
Waste treatment plant, Italy



Industrial bakery, Germany



Metal industry, Poland



Bitcoin mining, Germany



Machining industry, The Netherlands

Key Specifications

	IntrCooll Std.	IntrCooll Plus
Airflow	6000 m ³ /h	14 000 m ³ /h
Wet-bulb efficiency	Up to 114%	Up to 114%
Cooling capacity @ 46 °Cdb / 24 °Cwb	50 kW (EER: 30)	118 kW (EER: 29)
Cooling capacity @ 38 °Cdb / 21 °Cwb	39 kW (EER: 23)	91 kW (EER: 22)
Cooling capacity @ 28 °Cdb / 19 °Cwb	21 kW (EER: 12)	48 kW (EER: 12)
Electrical supply	3P+N+E 380-400 V, 50 Hz/60 Hz	3P+N+E 380-400 V, 50 Hz/60 Hz
Nominal power (normal version)	1.7 kW	4.1 kW
Nominal power (w/o supply fan)	0.7 kW	1.5 kW
Sound pressure level @ 10m, free field (external)	51 dB(A)	55 dB(A)
Sound pressure level @ 4m, (internal)	62 dB(A)	66 dB(A)
Length	1394 mm	1961 mm
Width	1394 mm	1961 mm
Height	1074 mm	1460 mm
Dry weight (normal version)	225 kg	425 kg
Dry weight (w/o supply fan)	212 kg	384 kg
Wet weight	+ 100 kg	+ 125 kg

Options



UV-C disinfection

Continuous recirculation water.
Disinfection industrial grade.

Features

- Submerged ultra-violet sterilizer installed in the evaporative water tank
- Reduces microbial growth in the water after it has been exposed to contaminants in the airstream
- Life-span (lamp): 12 000 hours
- Set includes mounting plate and ballast



ChlorineDioxide disinfection

Continuous recirculation water disinfection.
Extremely effective biocide.

Features

- Continuous dosing of low concentrations ClO_2 in the water tank to prevent microbial growth
- Residual ClO_2 cleans disinfects tank and pipes
- Life-span (electrode): 8 000 hours
Includes mounting material, cabling and hoses



Energy meter

Monitors energy consumption.
Quick & easy installation.

Features

- Voltage, amps, consumption and total consumption



Filtration

Keeps local air pollution outside.
Quick & easy access.

Features

- Pre-filter screens
- Filter class up to: ePM1 (F7)

Accessoires



Air Optimizer diffusers

Perfect air distribution.
Maximum comfort.

Features

- 360° air distribution
- Multiple throw lengths for perfect distribution
- Nozzles create slight velocity
- Light weight
- Washable
- Standard colors:
 - Blue
 - Green
 - Charcoal grey



Flashing kit

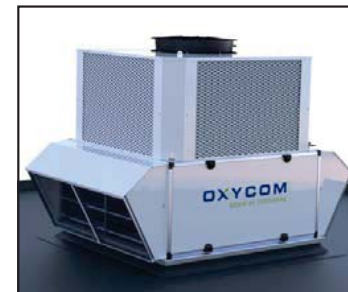
Effortless installation.
Reduces installation costs.

Features

- Unit support frame
- Flashing
- Cable feedthroughs
- Water supply feedthrough
- Water supply flex hoses
- Water maintenance tap
- Water shut-off valve
- Damper slot
- Gaskets

Optional:

- Outdoor air damper & motor
- Extra efficiency (XE) panels



Natural Ventilator module

Integrated natural exhaust dampers. No need for separate exhaust vents.

Features

- Exhaust dampers
- Unit support frame
- Flashing
- Cable feedthroughs
- Water supply feedthrough
- Water supply flex hoses
- Water maintenance tap
- Water shut-off valve
- Damper slot
- Duct 1000 mm
- Gaskets

Optional:

- Outdoor air damper & motor



Heat Reclaim module

Comfortable ventilation
during winter.
Reduces heating costs.

Features

- Modulating heat reclaim dampers
- Modulating outdoor air damper
- Main switch
- Electronically Commutated (EC) fan
- SS support cables

Use in combination with:

IntrCooll w/o supply fan Flashing kit
or Natural Ventilator module

Optional:

- Recirculation filter F7 (ePM1 70%)



OxyConnect gateway

Cloud monitoring & control.
Multiple units and
thermostats.

Features

- Modbus RTU network with multiple thermostats and IntrCooll-units
- Easy installation and configuration
- Online monitoring and control from anywhere with tablet, smartphone or computer (no VPN connection required)

Requires:

- Ethernet connection

OXYCOM

natural air conditioning



Applications

- Plastic Industry
- Metal Industry
- Food Industry
- Automotive
- Graphic Industry
- Textile Industry
- Packaging Industry
- Data Centers/Cryptomining

About Oxycom

Oxycom understands the need for fresh and cool air. In this age of growing environmental concern, our goal is to deliver a healthy indoor climate that makes people feel and perform better in every season. Inspired by nature, we develop and produce today's most practical and energy-efficient solutions that point to the future of climate control.

Oxycom Fresh Air BV

Kaagstraat 31 - NL-8102 GZ Raalte
P.O. Box 212 - NL-8100 AE Raalte
T +31 (0)572 349 400 E info@oxy-com.com
I www.oxy-com.com

OXYCOM
natural air conditioning

Our Awards:

