IntrCooll

Cool large buildings at 80% lower running costs

OXYCOM
natural air conditioning

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

IntrCooll turns large 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 in industrial 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.

OXYCOM
natural air conditioning

Natural air conditioning is here to stay

Powered by nature

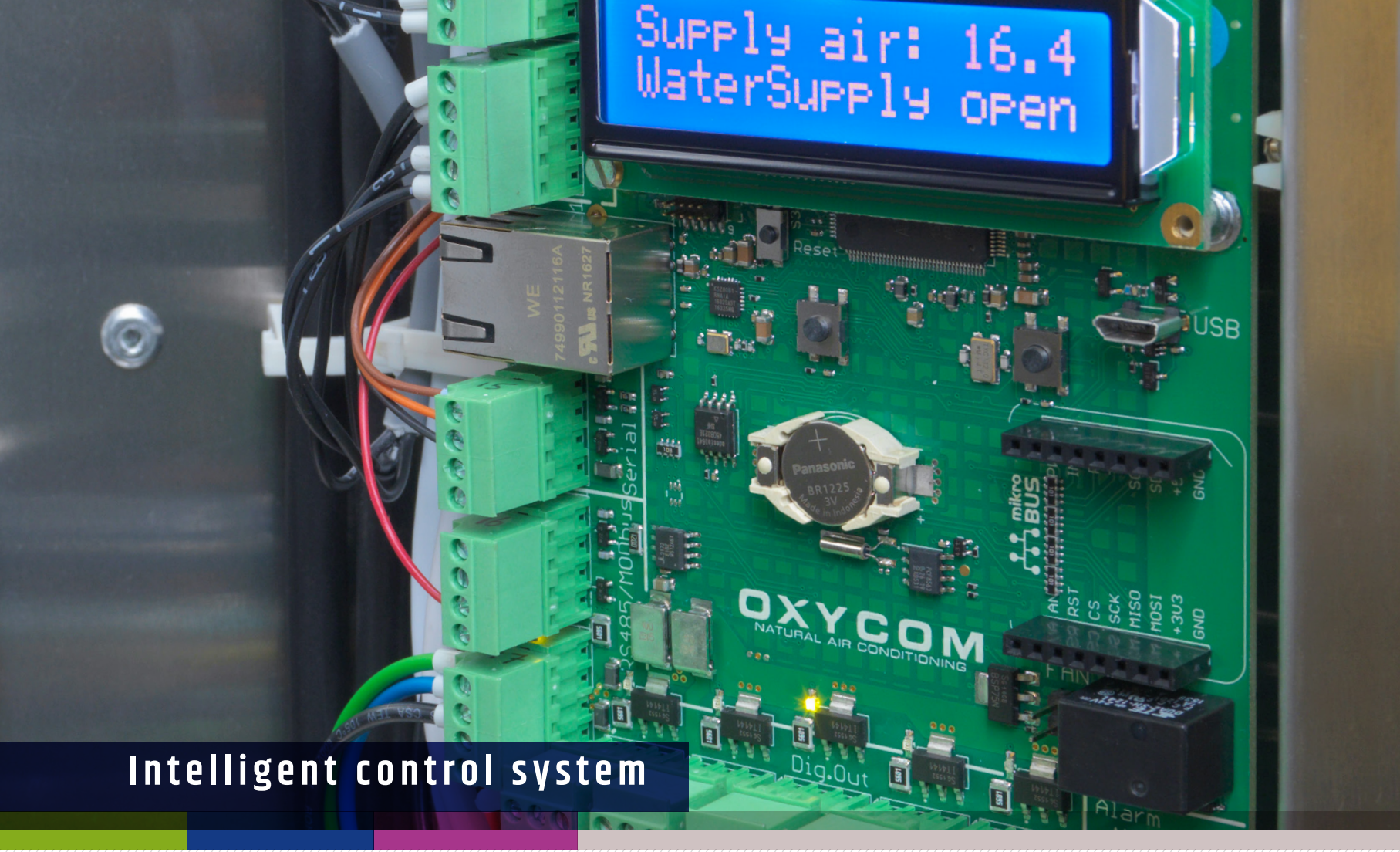
DIFFERENT Although it relies on the extremely powerful natural principle of water evaporation, IntrCooll is no ordinary evaporative cooler. While it clearly makes sense to copy Mother Nature, it is far from easy to make it work in large buildings and a wide range of climate conditions.

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, IntrCooll leaves competitors behind in the heat.

EVAPORATION MAKES SENSE It takes 1 m^3 of water and large amounts of fossil fuel to produce 250 kWh of electricity, while evaporating 1 m^3 of water delivers a stunning 695 kWh of cooling power. Any life-cycle analysis will show IntrCooll to use less water than conventional air conditioning, while reducing the CO_2 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.

OXYCOM
natural air conditioning



Intelligent control system

Easily the most efficient and intelligent indoor climate control system ever

CLEVER OPERATION MODES Whereas conventional systems have a single cooling mode, IntrCooll has three. The EcoSmart dynamic control system measures indoor and outdoor conditions in order to select the most comfortable and efficient cooling mode.

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 pre-cooling to go beyond the original natural limit posed by the ambient air, towards a wet-bulb efficiency of 116 percent.

CONNECTED Oxycom continuously improves products and services with data collection and automatic firmware updates. Real-time performance monitoring allows for further substantial cost reductions through timely service and predictive maintenance.

CONVENIENCE Besides using common protocols such as MODbus, IntrCooll can communicate wirelessly with other units, sensors, and interfaces. This makes a breeze of installation, operation and monitoring, with intuitive control from behind your desk or anywhere in the world.

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
- Peak power reduction

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.

Single-stage cooling mode

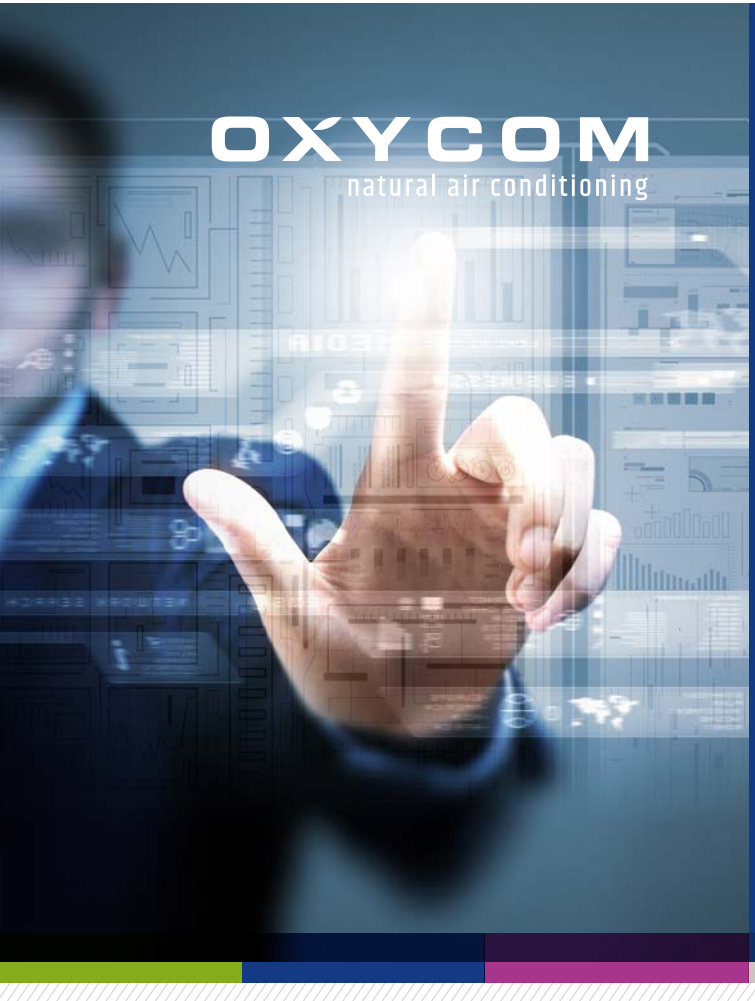
Single-stage cooling can be referred to as direct evaporative cooling. During the drier days with medium temperatures, this cooling mode can efficiently cool your building and introduce the right humidity for a comfortable indoor climate.

90% WB EFFECTIVENESS

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.

116% WB EFFECTIVENESS

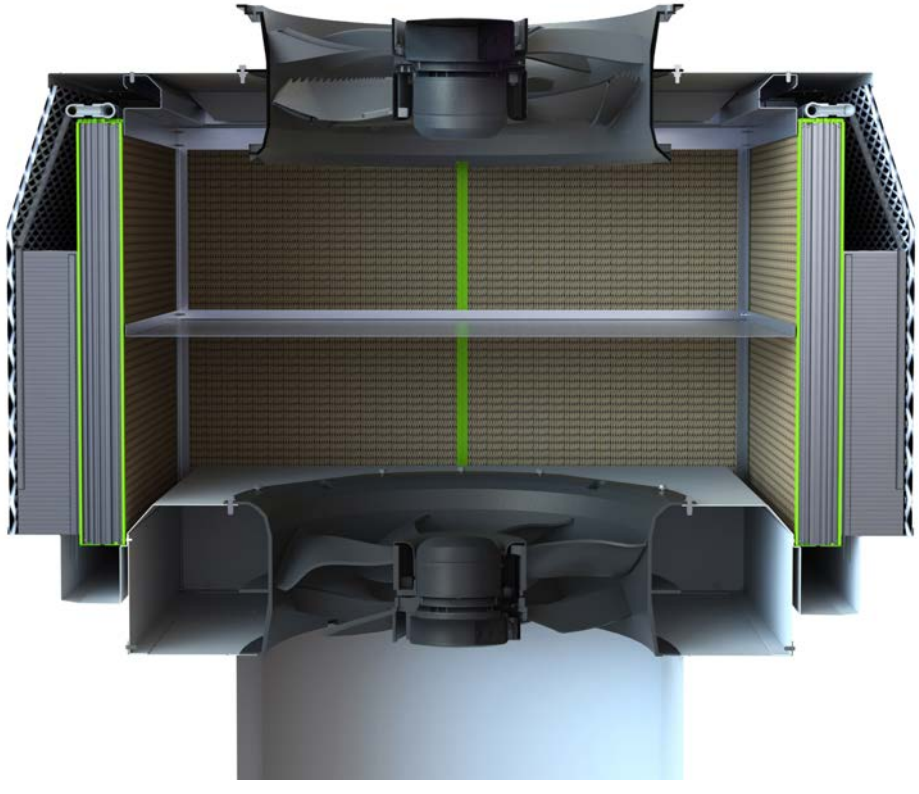


IntrCooll compared to conventional AC

- 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



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 sterilizer
Ozone generator eliminates almost all waterborne bacteria and viruses

Pump
Selected to withstand even the the harshest of 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


OXYCOM

Key Specifications

	INTRCOOLL STANDARD	INTRCOOLL PLUS
RATED POWER	1360 watt	3070 watt
EFFICIENCY	116%	116%
NOMINAL AIRFLOW	6500 m^3/h @ 80 Pa ESP (3826 CFM @ 0.32 inAq ESP)	15 000 m^3/h @ 80 Pa ESP (8829 CFM @ 0.32 inAq ESP)
EER	Up to 40 (Up to 136 BTU/(W·h))	Up to 40 (Up to 136 BTU/(W·h))
DIMENSIONS	1338 mm x 1338 mm x 1005 mm (52.68 in x 52.68 in x 39.57 in)	1899 mm x 1899 mm x 1431 mm (74.76 in x 74.76 in x 56.34 in)
WEIGHT (DRY/OPERATION)	185 kg / 250 kg (408 lb / 551 lb)	305 kg / 395 kg (672 lb / 871 lb)

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