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## DUCTLESS VENTILATION WITH HEAT RECOVERY

*OXeN ductless ventilation unit*





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# OXeN – DUCTLESS VENTILATION UNIT

## Simple ventilation solution

### OXeN ventilation unit is:

- the easiest way to create mechanical ventilation system with heat recovery
- a ductless ventilation system, which allows significant reduction of investment costs
- a highly-efficient heat recovery system, which reduces operational costs



## Awarded solutions

OXeN heat recovery unit has been recognized as a model for complex designing by the chapters of most prestigious competitions in the world design. Experts praised the project for the quality, selection of materials, innovation, functionality and ergonomics.



reddot award 2014  
winner



product  
design award

2014 ■



# PRODUCT ADVANTAGES

## I COMPACT & DUCTLESS

OXeN is a plug and play ductless unit. It provides direct flow of air into the zone occupied by people. No additional installation is required. All elements ready to go in one casing. OXeN provides clean ventilation without troublesome and dirty ducts.



plug&play



only one hole  
in the wall is required

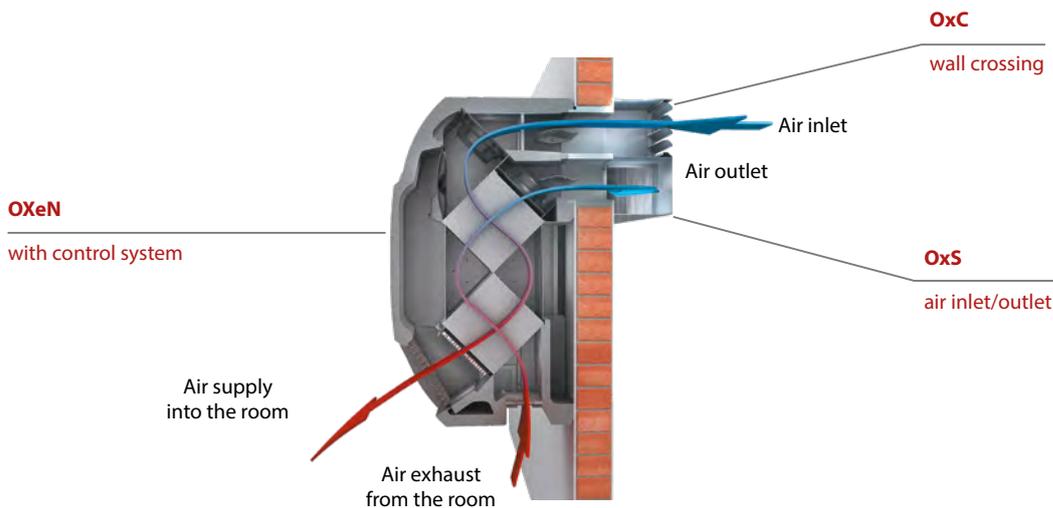


installation  
holders in standard



low weight

## I ONLY 3 ELEMENTS



## I SAVINGS

80,9% efficiency  
of heat recovery



OXeN ventilation units meet all of the requirements of the directive no. 2009/125/WE, which establishes a framework of ecodesign requirements for energy-related products.

easy cleaning  
and maintenance



The unit's design provides easy access to the heat recovery exchanger and filter replacement.

cheaper boiler



Lower power demand of boiler and pumps mean reduced energy and installation costs.

cheaper transport  
and storage



1 palette = 1 OXeN with all accessories and complete and connected control system.

# VENTILATION UNIT OXeN

Efficiency of heat recovery [%]  
**80,9**

Weight [kg]  
**75,1–82,5**

Casing  
**EPP**  
Expanded polypropylene

Air flow [m<sup>3</sup>/h]  
**150–1200**

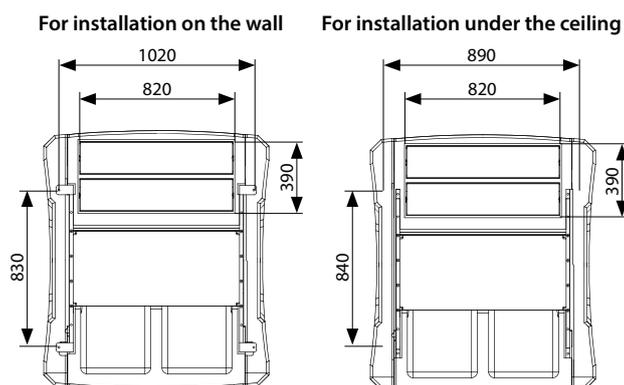
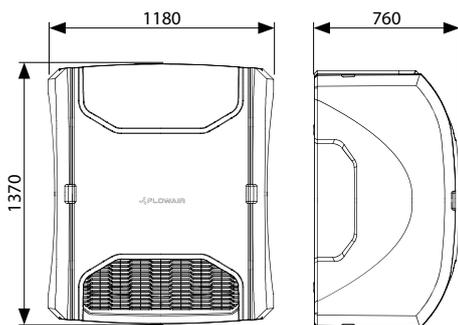
Colour  
**Gray**



## APPLICATION

Medium cubature buildings, where fresh air supply is demanded and where air duct installation is unfounded, e.g. gas stations, stores, workshops, warehouses, sports halls etc.

## DIMENSIONS



## AVAILABLE MODELS

### INSTALLATION ON THE WALL

- (N)** X2-N-1.2-V – unit without additional air heating wall mounted
- (+)** X2-W-1.2-V – unit with air heating by water heater wall mounted
- (⚡)** X2-E-1.2-V – unit with air heating by electric heater wall mounted

### INSTALLATION UNDER THE CEILING

- (N)** X2-N-1.2-H – unit without additional air heating mounted under the ceiling
- (+)** X2-W-1.2-H – unit with air heating by water heater mounted under the ceiling

**CAD drawings, Revit files and documentation** for all available versions of OXeN visit [www.flowair.com](http://www.flowair.com)



# TECHNICAL DATA

Ventilation units <b>OXeN</b>	<b>X2-W-1.2-V</b>	<b>X2-N-1.2-V</b>	<b>X2-W-1.2-H</b>	<b>X2-N-1.2-H</b>	<b>X2-E-1.2-V</b>
Max. air flow stream inlet/outlet <sup>(1)</sup> [m <sup>3</sup> /h]	1200	1200	1200	1200	1200
Air stream range [m]	15 <sup>(2)</sup>	15 <sup>(2)</sup>	4,5 <sup>(3)</sup>	4,5 <sup>(3)</sup>	15 <sup>(2)</sup>
Air flow regulation inlet/outlet [m <sup>3</sup> /h]	stepless, 150–1200	stepless, 150–1200	stepless, 150–1200	stepless, 150–1200	none
Acoustic pressure level <sup>(4)</sup> [dB(A)]	49	49	49	49	49
Power supply [V/Hz]	230/50	230/50	230/50	230/50	3x400/50
Max. current consumption [A]	1,9	1,9	1,9	1,9	14,0
Max. power consumption [kW]	0,42	0,42	0,42	0,42	8,5
Weight of unit [kg]	77,5	75,1	80,5	78,1	82,5
Weight of unit filled with water [kg]	78,3	–	81,3	–	–
Place of installation	indoors	indoors	indoors	indoors	indoors
Max. air contamination [g/m <sup>3</sup> ]	0,3	0,3	0,3	0,3	0,3
Operating temperature [°C]	5–45	5–45	5–45	5–45	5–45
Installation position	on the wall	on the wall	under the ceiling	under the ceiling	on the wall
IP	42	42	42	42	42
Filter class	EU4	EU4	EU4	EU4	EU4
Type of heat recovery exchanger	two-step heat recovery in cross heat exchangers	two-step heat recovery in cross heat exchangers	two-step heat recovery in cross heat exchangers	two-step heat recovery in cross heat exchangers	two-step heat recovery in cross heat exchangers
Thermal efficiency dry / wet <sup>(5)</sup> [%]	74,7/80,9	74,7/80,9	74,7/80,9	74,7/80,9	74,7/80,9
Type of additional heater	water heater	–	water heater	–	electric heater
Nominal heating capacity <sup>(6)</sup> [kW]	10	–	10	–	8,5
Connection ["]	½	–	½	–	–
Max. water pressure [MPa]	1,6	–	1,6	–	–
Max. water temperature [°C]	95	–	95	–	–
Control system	controller with touch screen	controller with touch screen	controller with touch screen	controller with touch screen	controller with touch screen
Antifreeze protection of heat recovery exchanger	reduction of fan revs	reduction of fan revs	reduction of fan revs	reduction of fan revs	reduction of fan revs
Antifreeze protection of water heat exchanger	temperature measurement of supplied air and water by PT-1000 sensor	–	temperature measurement of supplied air and water by PT-1000 sensor	–	–

<sup>(1)</sup> Max. air flow during operation with EU4 filter and Oxs air inlet

<sup>(2)</sup> Range of horizontal isothermal air stream, at 0,2 m/s velocity limit

<sup>(3)</sup> Range of vertical nonisothermal air stream at T= Δ5 °C, at 0,2 m/s velocity limit

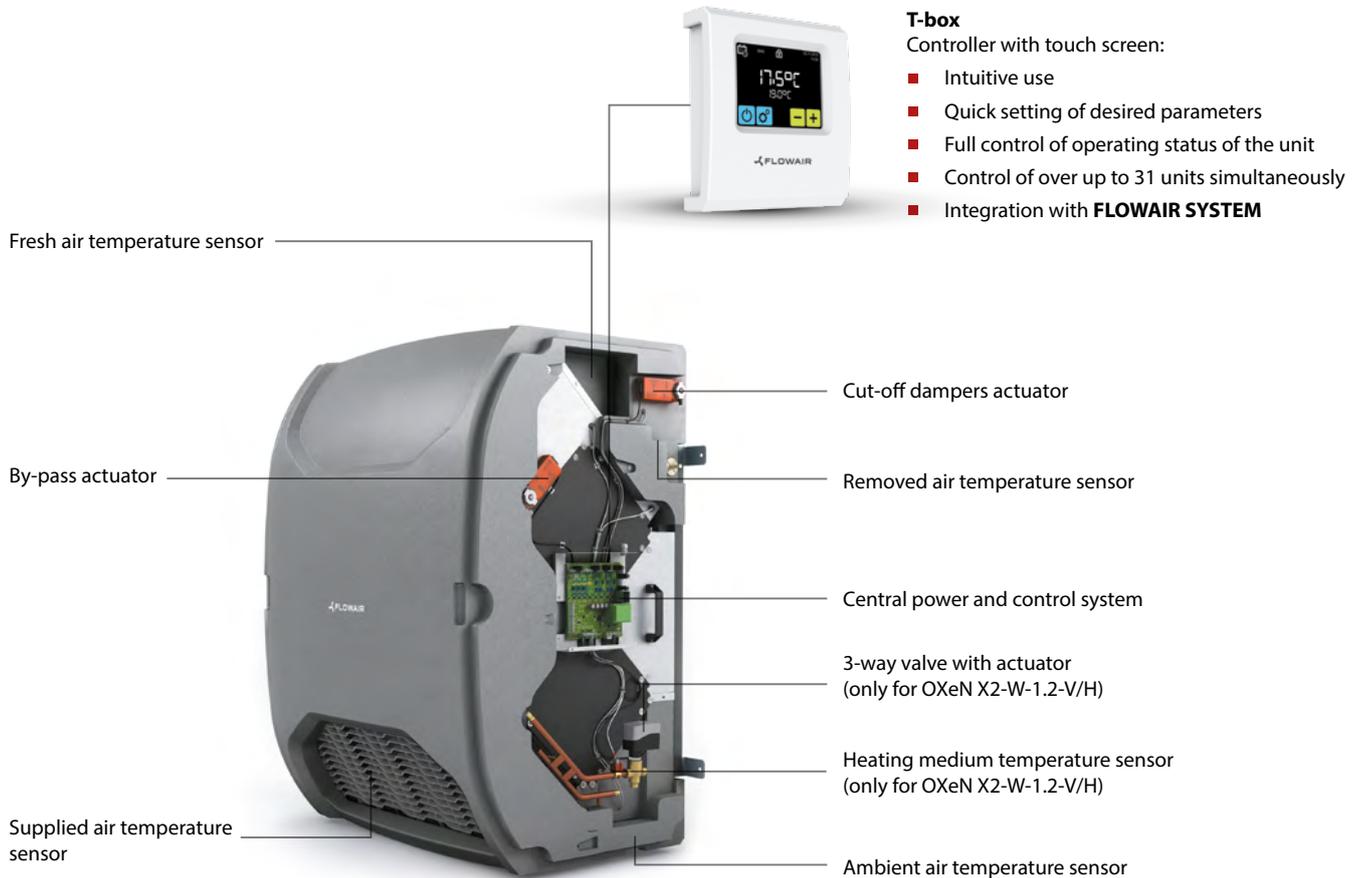
<sup>(4)</sup> Acoustic pressure level at the distance of 5 m from the unit, in the room of medium capability of sound absorption and 500 m<sup>3</sup> of cubature

<sup>(5)</sup> According to directive (UE) NR 1253/2014 measured with balanced mass flow, an indoor-outdoor air temperature difference of 20 K and the airflow 1200m<sup>3</sup>/h

<sup>(6)</sup> At water temperature 80/60°C, inlet air temperature 5°C and 1200 m<sup>3</sup>/h of air flow

# CONTROL SYSTEM

OXeN heat recovery unit is equipped with a complete control system.



## OPERATING MODES



weekly programmer



automatic regulation of supplied air temperature



change of operating parameters by one click



filter status measured by differential pressure sensor



antifreeze protection



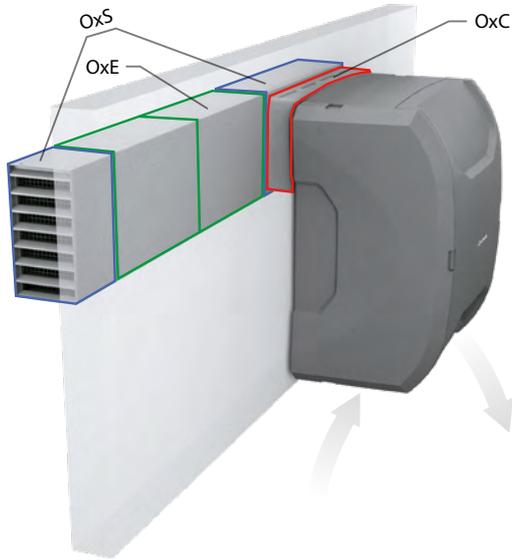
compatibility with BMS MODBUS RTU system



operation with or without heat recovery

# INSTALLATION

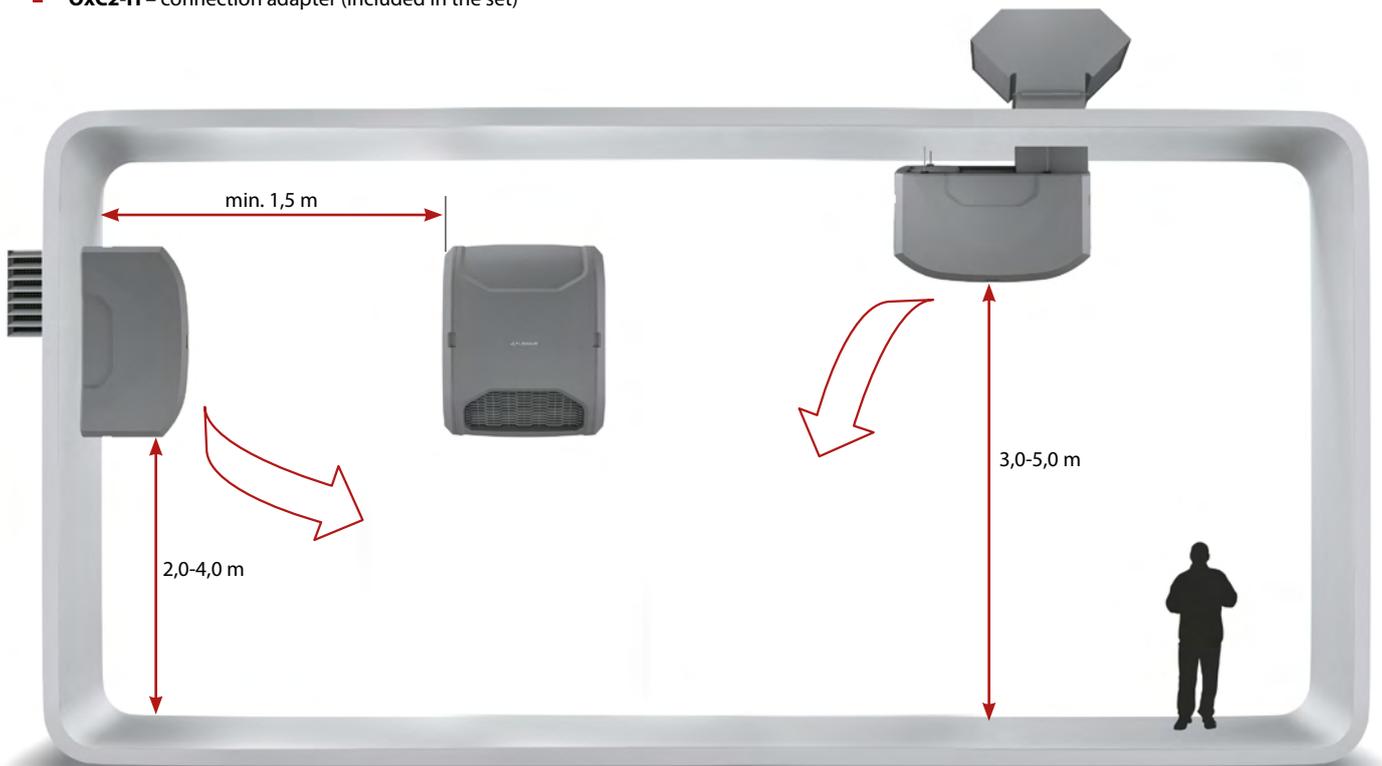
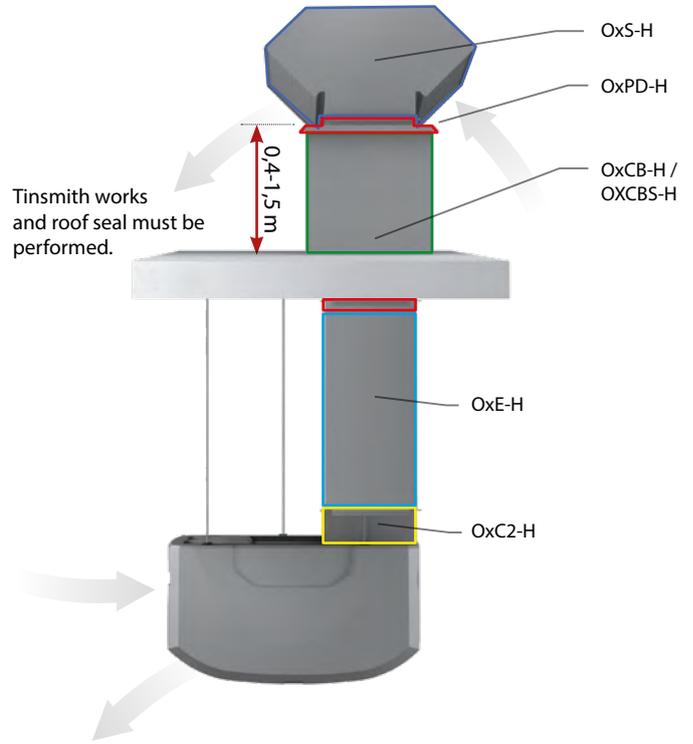
## I INSTALLATION ON THE WALL



Possibility to install the OxS air inlet/outlet on both sides.

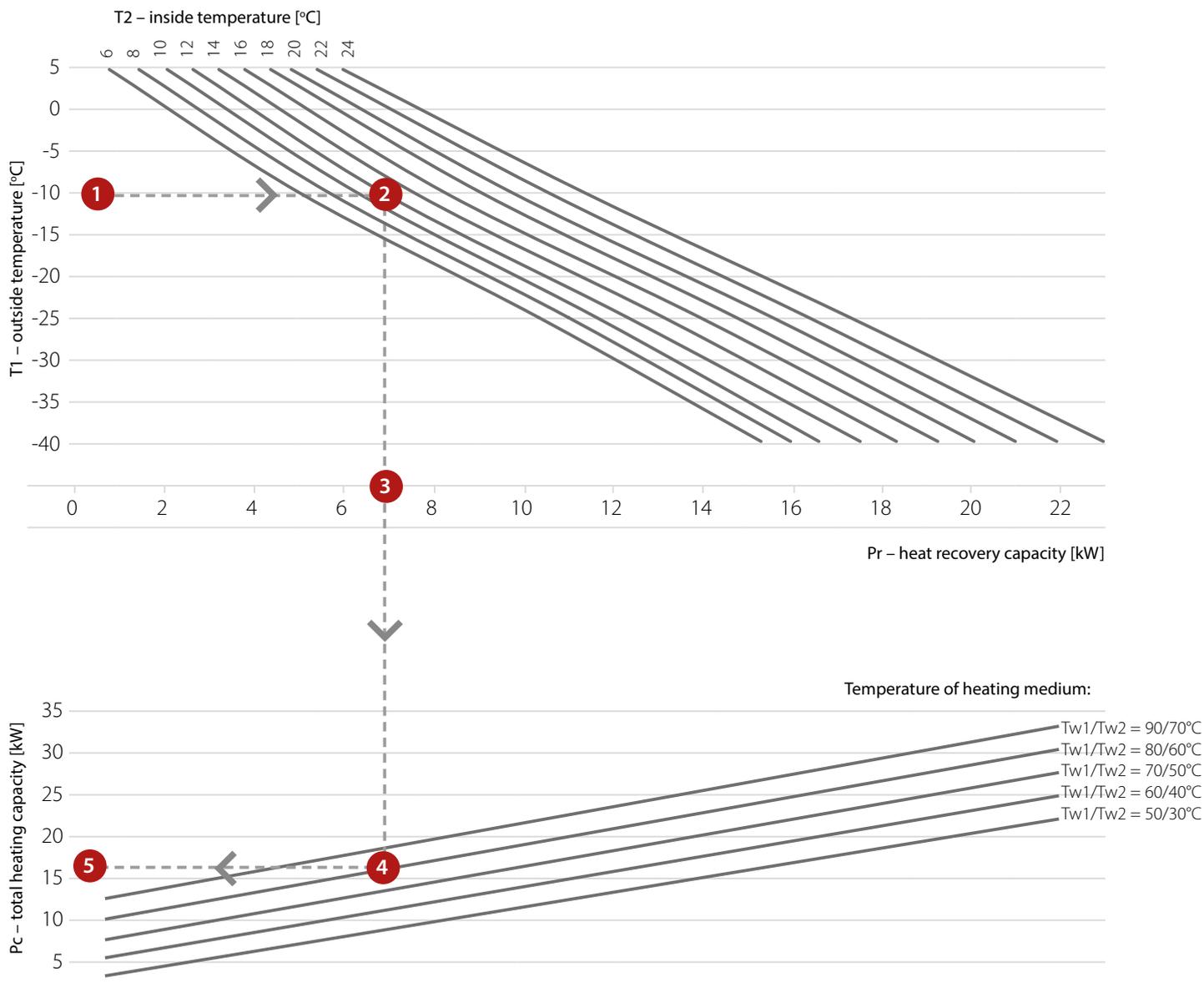
- **OxS** – wall-mounted air inlet/outlet
- **OxE** – extension duct
- **OxC** – wall crossing (one piece as standard with OXeN)
- **OxS-H** – roof-mounted air inlet/outlet
- **OxPD-H** – roof base
- **OxCB-H** – insulated roof curb for straight roofs
- **OxCBs-H** – insulated roof curb for pitched roofs
- **OxE-H** – extension duct
- **OxC2-H** – connection adapter (included in the set)

## I INSTALLATION UNDER THE CEILING



# NOMOGRAM OF HEATING CAPACITY

FOR MAX. AIR FLOW 1200 M<sup>3</sup>/H

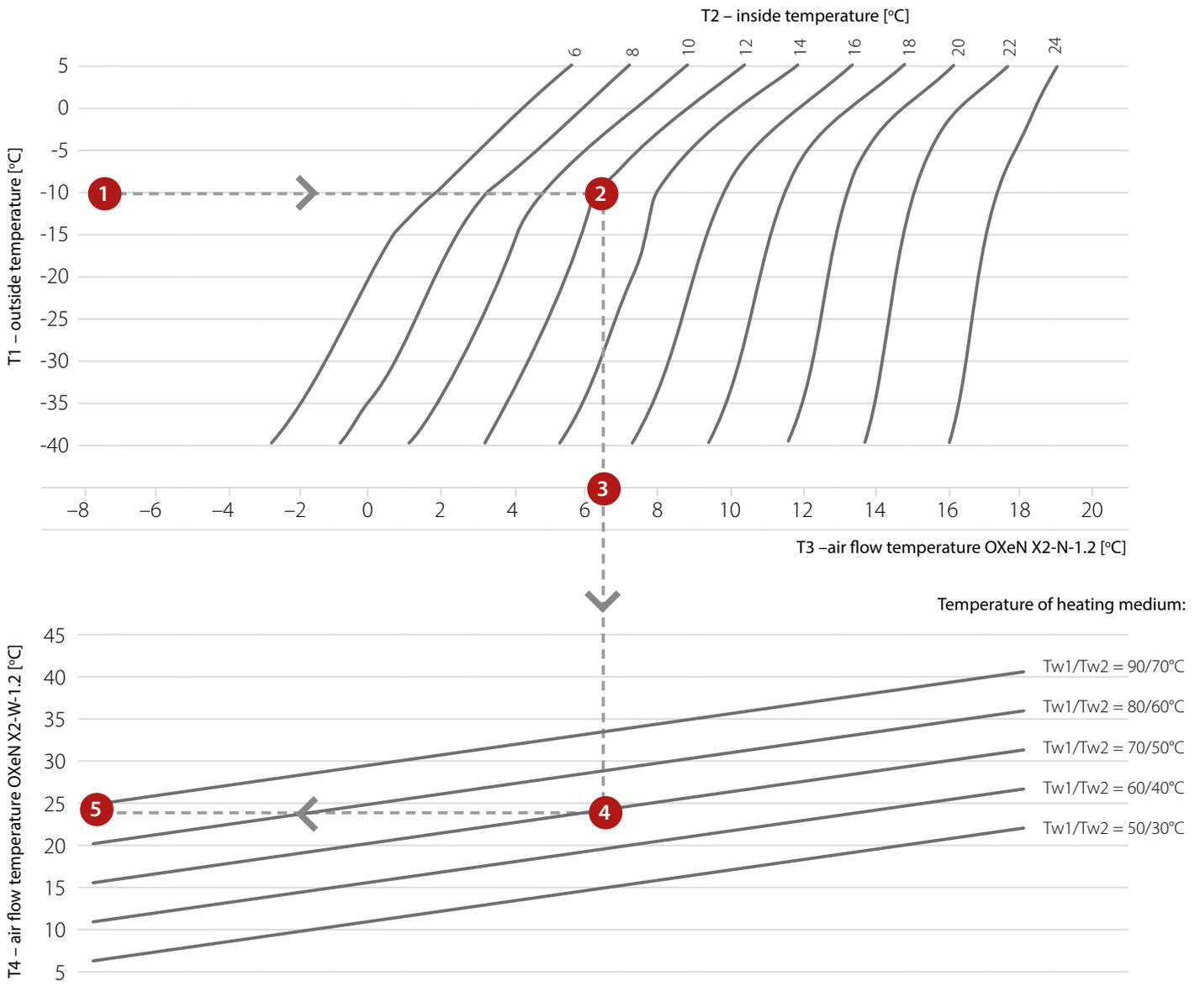


1. Specify outside temperature
2. Specify inside temperature
3. Read the capacity of heat recovery Pr (total heating capacity of OXeN without water heat exchanger X2-N-1.2)
4. Specify heating medium temperature
5. Read the total heating capacity Pc (for OXeN with water heat exchanger X2-W-1.2)

Air parameters: supplied air RH 90%, removed air RH 30%, air flow 1200 m<sup>3</sup>/h

# NOMOGRAM OF AIR FLOW TEMPERATURE

FOR MAX. AIR FLOW 1200 M<sup>3</sup>/H



1. Specify outside temperature
2. Specify inside temperature
3. Read the air flow temperature for OXeN without water heat exchanger
4. Specify heating medium temperature
5. Read the air flow temperature for OXeN with water heat exchanger

Air parameters: supplied air RH 90%, removed air RH 30%, air flow 1200 m<sup>3</sup>/h

# FLOWAIR SYSTEM

mini BMS at your fingertips

**T-box**  
intelligent controller  
with touch screen



**LEO BMS**  
Fan heaters



**LEO KM**  
Mixing chambers

## INTEGRATION OF DEVICES

FLOWAIR SYSTEM is an intelligent solution which makes it possible to integrate the devices into the system with only one controller. T-box offers many necessary functions for effective management of a heating-ventilating system. These functions were previously reserved for an extensive Building Management System (BMS).



Control of devices with  
one T-box



Local regulation  
of devices



Advanced control  
of ventilating  
and heating  
devices



Control the devices  
according to your time  
schedule and individual  
needs



Antifreeze – protects  
the devices against  
low temperatures



**LEO D BMS**  
Destratifiers



**ELiS**  
Air curtains



**OXeN**  
Ventilation with heat recovery



## **DEVICE SYNERGY**

FLOWAIR SYSTEM offers increased comfort and energy savings. Thanks to cooperation of OXeN ventilation units with fan heaters and destratifiers it is possible to assure full ventilation and heating comfort in the entire facility.





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