
OXYGEN8
TERRA
Air Handling Unit | Fan Coil Unit | Make-Up Air Unit
With R32 Refrigeration

Who We Are

Oxygen8 is reinventing how buildings provide healthy and comfortable air in an energy efficient way. We work to enhance living and working environments with fresh, filtered air using smart technology for maximum comfort and value.

[ox·y·gen·ate]

Nothing is more refreshing and essential to the human body than oxygen, which happens to be the eighth element in the periodic table. We oxygenate businesses, classrooms, senior care facilities and other buildings with fresh air so people can work, live, and breathe in a safe and comfortable environment.

Why We Do What We Do

To Create Healthy Indoor Environments

People are getting sick while working in offices, learning in classrooms, and recovering in senior care facilities. Poor indoor air quality often stems from HVAC systems that recirculate air without adequate filtration, ventilation, or humidity control. To reduce the transmission of bacteria and viruses, modern HVAC design must balance outdoor air with controlled recirculation, incorporate high-efficiency filtration, use smaller zoned systems, and actively manage humidity levels.

To Move Toward Building Electrification

To reduce greenhouse gases, many North American cities are moving toward net-zero energy buildings over the next decade, which will drive demand for all-electric HVAC systems and low energy technologies. We are here to meet that demand with our all-electric heating and cooling solutions.

For Better Building Design

Super-insulated buildings significantly reduce heating requirements, while climate change and developers' desires for large amounts of glazing will increase cooling needs. The integration of VRV helps to reduce energy consumption and meet ventilation requirements.

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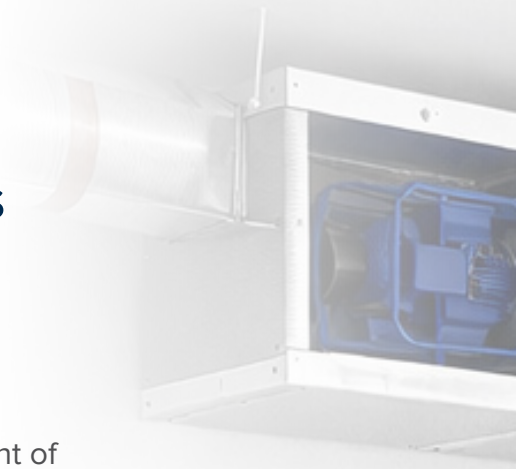
Terra H&V with Coil Integration

100% Outside Air or Mixed Air Options

*Without Energy Recovery



All Electric Solution

This all-electric ventilation solution helps to reduce the carbon footprint of buildings, while bringing outside air into the space. Terra integrates with hydronic coils or Daikin VRV technology for accurate temperature or temperature and humidity control all year round. The Terra unit, Daikin controller(s), and optional electric pre-heater can all be powered from a single-circuit power connection.

Fresh Air That Fits

Terra H units have a 18 – 30” depth and 450 – 4,800 cfm range, while all Terra V models are designed to fit through a 36” door and have airflows up to 10,000 cfm.

Accurate Temperature & Humidity Control

Through the use of hydronic coils or integration with Daikin VRV heat recovery systems, both leaving air temperature and humidity can be controlled accurately.

Easy to Select and Install

With Oxygen8’s intuitive Configur8 Selection Software and variety of coils, (matching Daikin’s selection parameters and specifications), Terra selections are quick and easy.

Integrated Controls

Factory-mounted controls integrate seamlessly with BMS or operate independently, with built-in control functions including discharge air temperature and humidity control, weekly schedules, and dirty filter alarms.

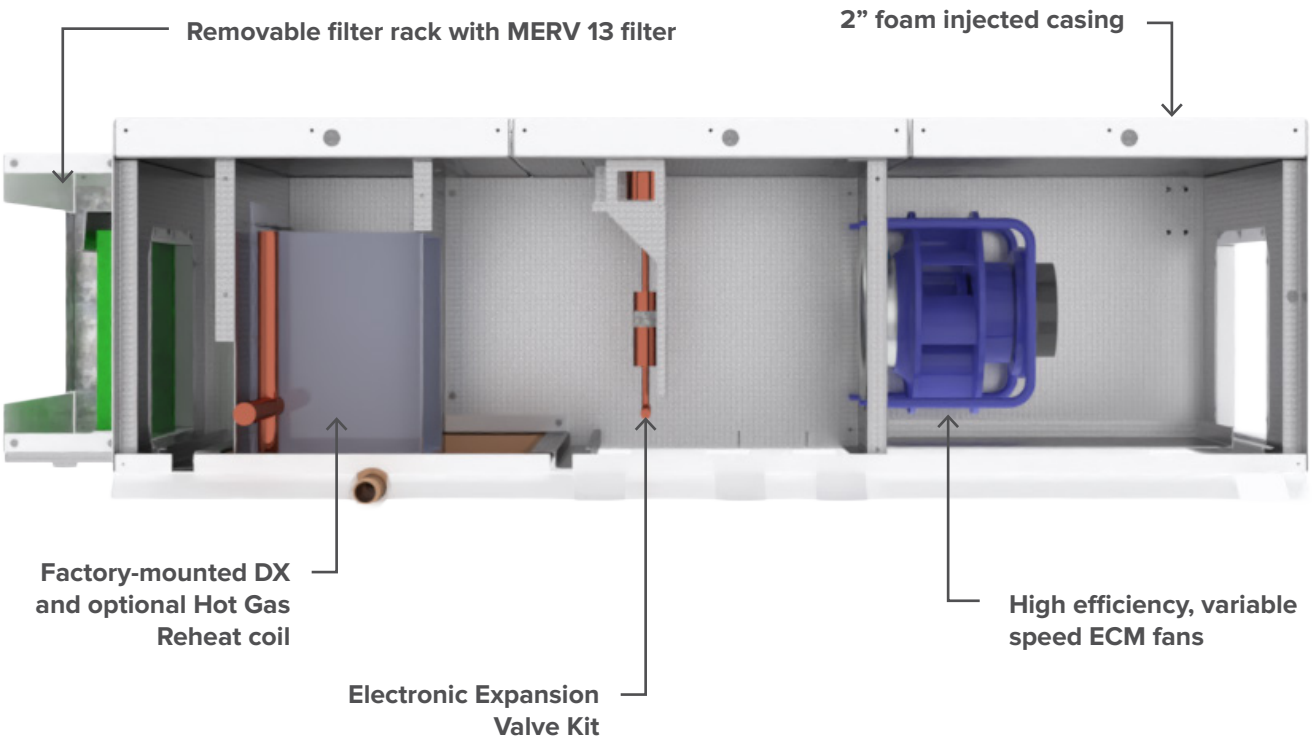
Mixed Air Ventilation with Enthalpy Economizer

With an optional mixing box and modulating return and outdoor air dampers, mixed air ventilation with optional enthalpy economizer and night setback mode allows for space conditioning and ventilation at even greater energy efficiency.

Image for Illustration Purposes Only

Terra H System Overview | Frameless Design

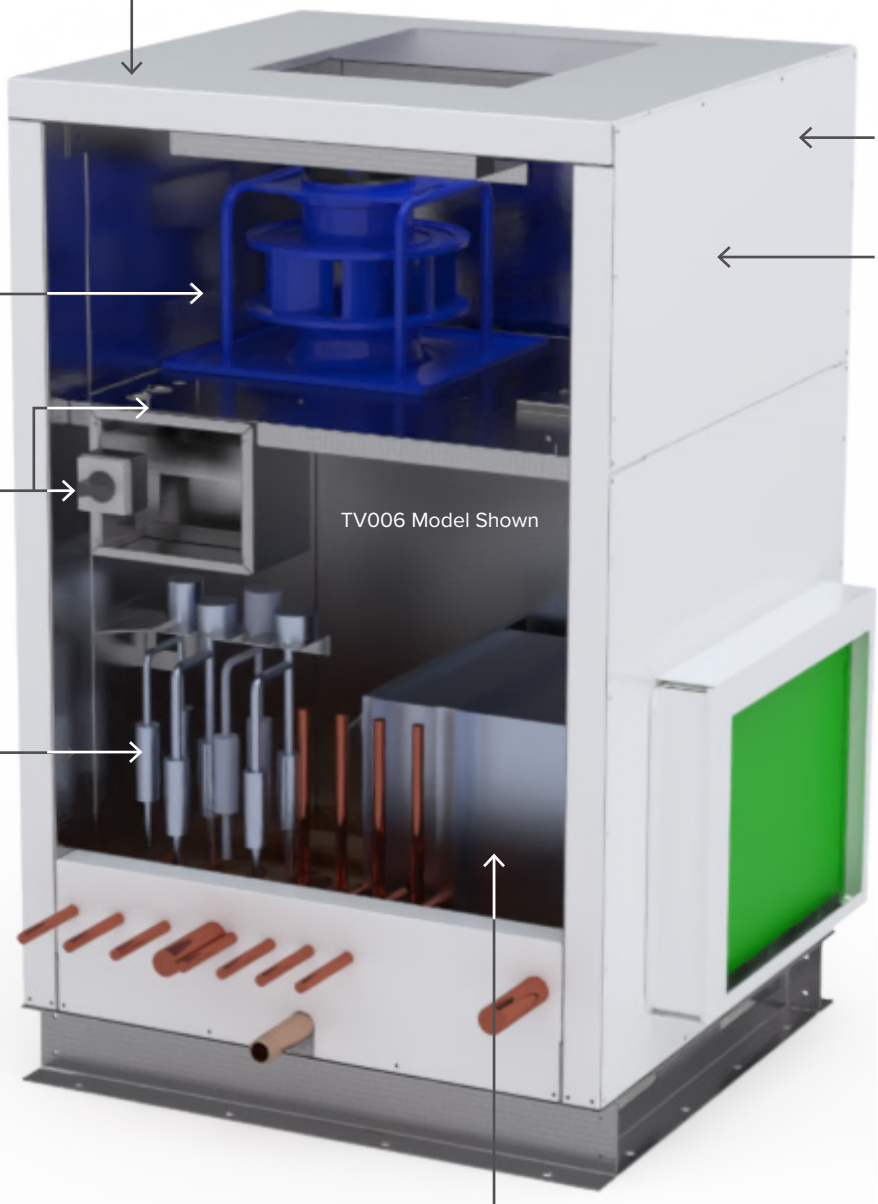
For Indoor Applications*



*The optional electric pre-heater, hydronic coil and mixing box is not shown.

Terra V System Overview

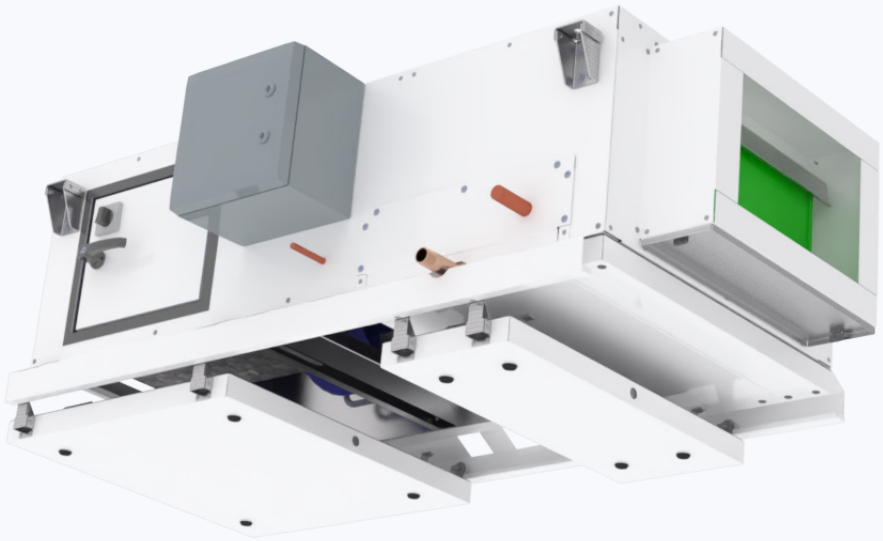
For Indoor Applications*



*The optional electric pre-heater, hydronic coil and mixing box is not shown.

Mounting & Access

Terra H



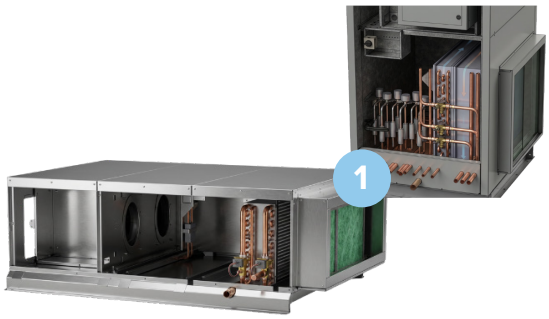
Terra H now features drop down doors in place of the swing doors on previous models. Doors drop down and slide on a rail system for access to the unit. This eliminates the need for extra clearance.

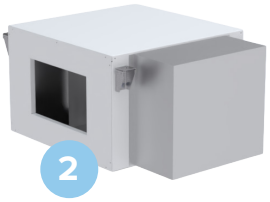
Terra is ceiling mounted as standard. Floor mounting is available upon request, contact Applications for details.

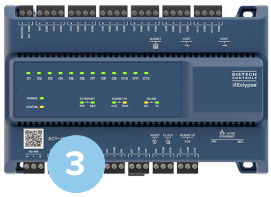
Terra V

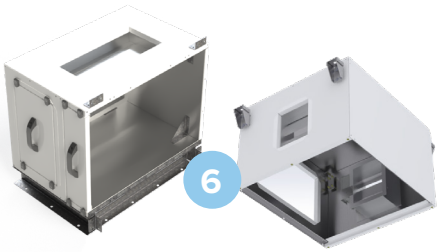
Terra V is only available floor mounted.

Terra Accessories & Integrations









Terra V

Terra H

Matched Pair

Terra is certified to be paired with Daikin R32 Emerion units to provide significant advantages in design freedom using built-in safety measures and refrigerant leak mitigation. Terra can be paired with other Daikin and 3rd Party A2L ODUs if UL 60335-2-40 safety requirements are met.

Standard Integrations

Terra is available with either a Daikin-approved DX coil, with or without an optional hot gas reheat (HGRH) coil with factory-mounted integration kits and factory-brazed EKEXVA expansion valves or hydronic integration. Available in R32 (standard) and R410a (special).

1. **DX with VRV Heat Pump Integration**
   DX-only Terra units use factory-mounted DX Controller(s) and EKEXV(s) paired with Daikin's outdoor heat pump unit.

   DX + HGRH with VRV Heat Recovery Integration
   Terra units with VRV heat recovery coils use factory-mounted DX and DOAS Controller(s) and EKEXVA(s) paired with Daikin's outdoor heat recovery unit for up to 32-ton cooling capacity and 16-ton HGRH capacity.

   Chilled and Hot Water Hydronic Coils
   Terra can be configured with chilled, hot or a combination chilled water/ hot water coil. The hydronic valves and actuators are provided by the factory.

2. **Electric Pre- and Post-Heater**
   SCR controlled electric coils are available for pre-heating entering air when outdoor temperatures are below 17°F. Option for single-circuit power supply to the unit from the pre-heater. Pre-heat and optional post-heat can be used for backup heating purposes.

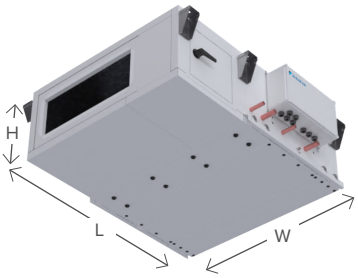
3. **Standard Factory-Mounted Controls**
   Terra units come standard with factory-mounted DDC (Distech) controls with pre-programmed algorithms.

4. **Temperature and Humidity Control Options**
   Discharge air temperature control and dewpoint control, room temperature and humidity control.

5. **Airflow Control Options**
   Constant volume, constant duct pressure control, outdoor air modulation via CO_2 sensor and optimal start.

6. **Optional: Mixing Box**
   Modulating return and fresh air dampers for mixed air ventilation modes and/or 100% recirculation and enthalpy economizer.

Terra H Sizing and Ratings



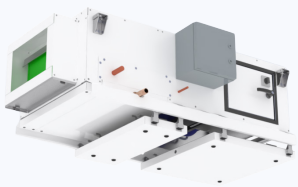
Unit Dimensions

Model	Dimensions			Airflow		Voltage - Phase
	Length* in.	**Width** in.	**Height** in.	**Min** CFM	**Max** CFM	
T006	60	30	20	450	600	208-1
T009	60	36	20	600	900	208-1
T012	60	44	20	900	1200	208-1
T015	60	50	20	1200	1500	208-1
T018	66	50	21	1500	1800	208-1/208-3/460-3
T024	66	62	21	1800	2400	208-1-208-3/460-3
T032	66	54	30	2400	3200	208-3/460-3
T040	66	62	30	3200	4000	208-3/460-3
T048	66	72	30	4000	4800	208-3/460-3

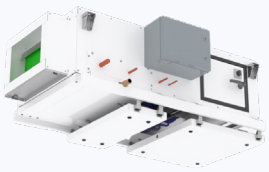
*Length varies depending on coil capacity and number of coils.

Terra systems can be paired with a Daikin heat pump outdoor unit using a DX coil only for 1:1 systems or a Daikin heat recovery outdoor unit and branch selector box(es) in 1:X systems with multiple Terra units connected to one heat recovery ODU – with or without the optional HGRH coil.

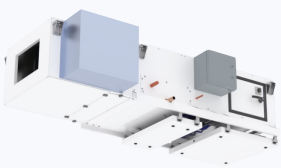
Configurations



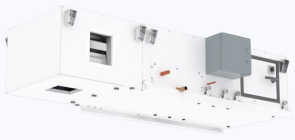
Terra with Factory-Brazed DX Coil



Terra with Factory-Brazed DX and HGRH Coil



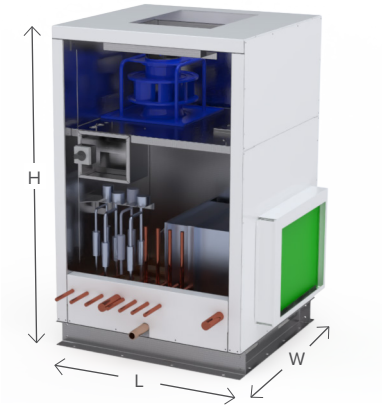
Terra with Electric Pre-Heat
Shown with DX only.



Terra with Mixing Box
Available with DX-only and DX+HGRH applications.

Terra is also available with hydronic coil integration (not shown).

Terra V Sizing and Ratings



Unit Dimensions

Model	Dimensions			Airflow		Voltage - Phase
	Length* in.	**Width** in.	**Height** in.	**Min** CFM	**Max** CFM	
TV006	32	30	51	450	600	208-1
TV009	32	30	51	600	900	208-1
TV012	32	30	51	900	1200	208-1
TV015	33	44	62	1200	1500	208-1/208-3/460-3
TV018	33	44	62	1500	1800	208-1/208-3/460-3
TV024	33	44	62	1800	2400	208-1/208-3/460-3
TV032	36	48	78	2400	3200	208-3/460-3
TV040	36	48	78	3200	4000	208-3/460-3
TV048	36	48	78	4000	4800	208-3/460-3
TV060	36	69	78	4800	6000	208-3/460-3
TV072	36	69	78	6000	7200	208-3/460-3
TV084	36	69	78	7200	8400	208-3/460-3
TV100	36	77	80	8400	10000	208-3/460-3

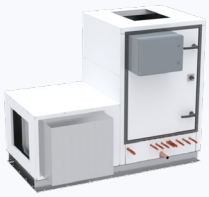
*Length does not include 3” external filter rack.

Terra systems can be paired with a Daikin heat pump outdoor unit using a DX coil only for 1:1 systems or a Daikin heat recovery outdoor unit and branch selector box(es) in 1:X systems with multiple Terra units connected to one heat recovery ODU – with or without the optional HGRH coil.

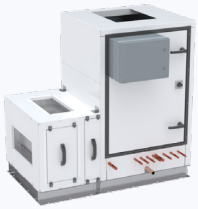
Configurations

Terra with Pre+Post Electric Heater and Mixing Box

Terra with Electric Post-Heater and Mixing Box



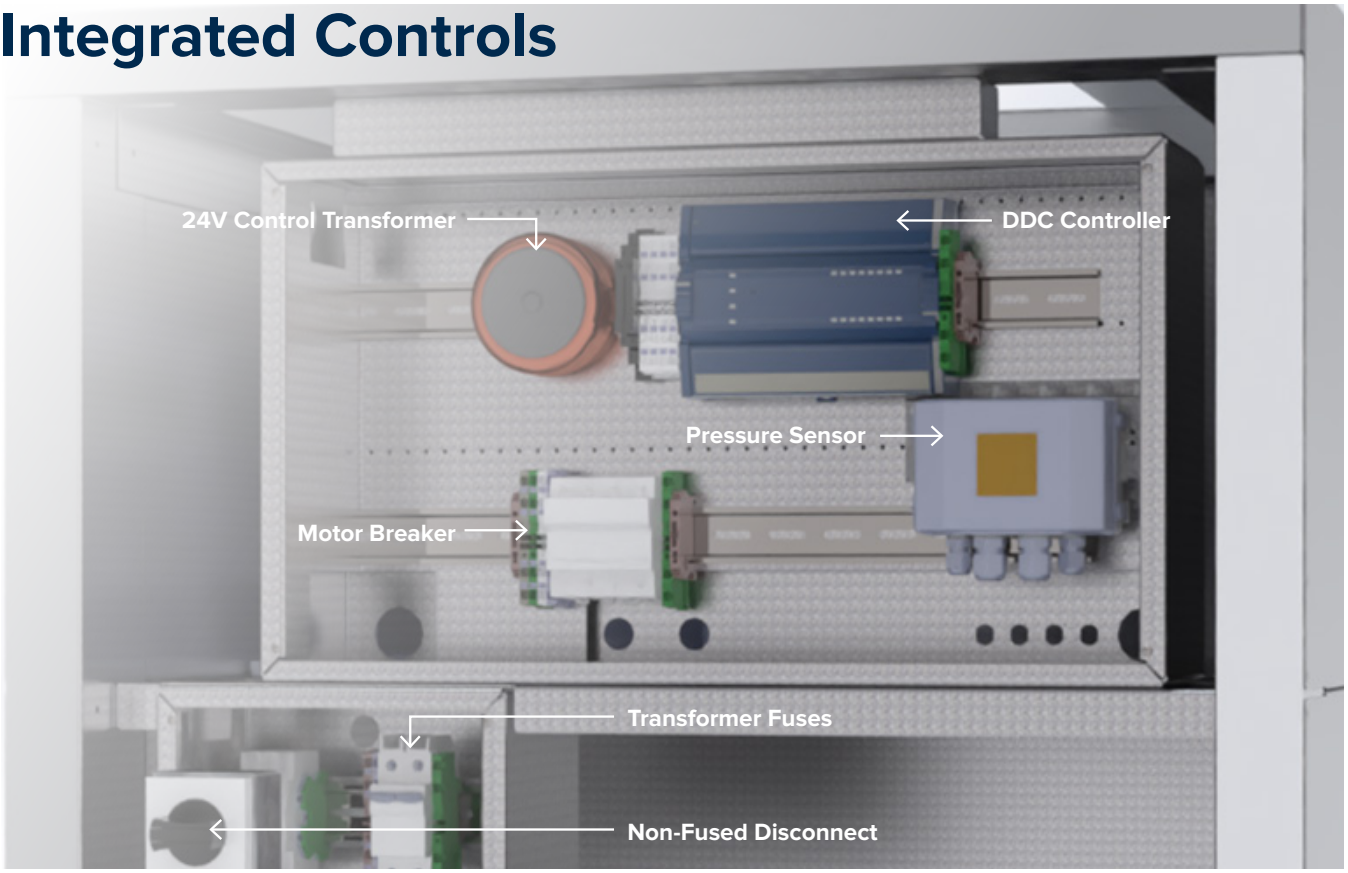
Terra with Electric Pre-Heat



Terra with Mixing Box

Accessory configurations are available for all hydronic, DX-only, and DX+HGRH applications.

Integrated Controls



Terra features an integral control box, all control components come factory-installed. Terra V model shown.

Standard Control Algorithms

1. Airflow Control

Constant Flow | Constant Pressure | Outside Air Compensation based on Temperature | Demand Control Ventilation based on CO2/VOC

2. Temperature and Humidity Control

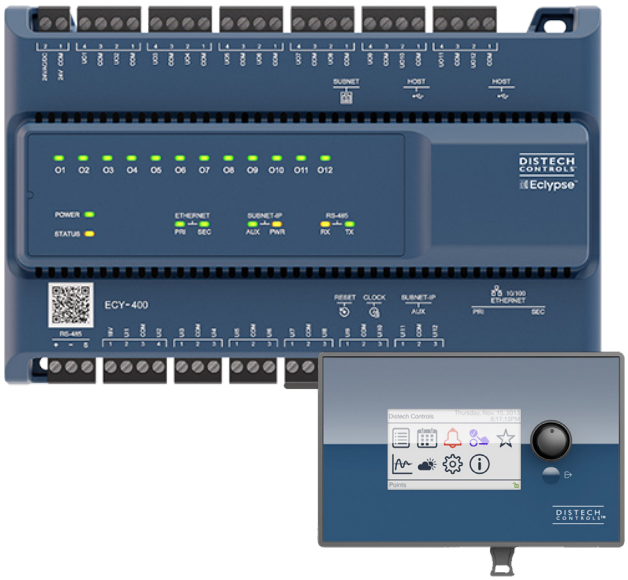
Discharge Air Temperature or Dewpoint

3. Pre-Heat/Back Up Heat Control

Electric Heat Controls

5. Remote Access

Internet Connection | BACnet IP



Mixed Air Control Algorithms

Mixed Air Ventilation | Night Setback with Optimal Start | VRV Defrost Recirculation | Enthalpy Economizer

Terra H Fan Data

Model	Voltage (V)	Phase	Fan Qty.	Fan FLA	MCA (A)	MOP (A)	SCCR (kA)
T006	208	1	1	2.5	3.13	15	5
T009	208	1	1	3.9	4.88	15	5
T012	208	1	1	3.9	4.88	15	5
T015	208	1	2	3.9	8.78	15	5
	208	3	1	6	7.50	15	5
	460	3	1	4	5.00	15	5
T018	208	1	2	3.9	8.78	15	5
	208	3	1	6	7.50	15	5
	460	3	1	4	5.00	15	5
T024	208	1	2	3.9	10.22	15	5
	208	3	1	6	9.17	15	5
	460	3	1	4	5.00	15	5
T032	208	3	1	8.6	12.42	15	5
	460	3	1	5.8	7.25	15	5
T040	208	3	1	9	12.92	20	5
	460	3	1	5.4	6.75	15	5
T048	208	3	2	6	15.17	20	5
	460	3	2	4	9.00	15	5

Terra V Fan Data

Model	Voltage (V)	Phase	Fan Qty.	Fan FLA	MCA (A)	MOP (A)	SCCR (kA)
T006	208	1	1	2.5	3.13	15	5
T009	208	1	1	3.9	4.88	15	5
T012	208	1	1	3.9	4.88	15	5
T015	208	1	2	3.9	8.78	15	5
	208	3	1	6	7.50	15	5
	460	3	1	4	5.00	15	5
T018	208	1	2	3.9	8.78	15	5
	208	3	1	6	7.50	15	5
	460	3	1	4	5.00	15	5
T024	208	1	2	3.9	10.22	15	5
	208	3	1	6	9.17	15	5
	460	3	1	4	5.00	15	5
T032	208	3	1	8.6	12.42	15	5
	460	3	1	5.8	7.25	15	5
T040	208	3	1	9	12.92	20	5
	460	3	1	5.4	6.75	15	5
T048	208	3	2	6	15.17	20	5
	460	3	2	4	9.00	15	5
TV060	208	3	2	8.6	21.02	25	5
	460	3	2	5.8	13.05	15	5
TV072	208	3	2	9	21.92	30	5
	460	3	2	5.4	12.15	15	5
TV084	208	3	2	13.3	31.59	40	5
	460	3	2	8.4	18.90	25	5
TV100	208	3	3	9	30.92	35	5
	460	3	3	5.4	17.55	20	5

Specifications

System Overview

Oxygen8's Terra series is a modular design fan coil unit with optional coil modules for heating, cooling and Daikin VRV integration.

1 Standard Features

- ☐ High Efficiency Variable Speed EC Direct-Drive Motor
- ☐ Backward Inclined Fan(s)
- ☐ Standard Temperature Sensor (SA)
- ☐ Integrated Controls with BACnet IP and BTL-Certification
- ☐ Non-Fused Disconnect Switch
- ☐ 2" Foam Filled Double-Wall Panels
- ☐ Pre-Painted White Exterior Casing
- ☐ 24-Gauge Exterior / 18-Gauge Interior Galvanized Steel Panel
- ☐ Filter Alarms: Signaled by factory mounted pressure sensors to measure filter pressure drop across filter
- ☐ 2" MERV 13 Supply Air Filter
- ☐ Required Sensors

2 Electric Coil Specifications

- ☐ SCR Controlled
- ☐ Non-Fused Disconnect Switch
- ☐ Optional single-circuit power supply from coil to unit

3 Terra H Installation Options

- ☐ Horizontal (Ceiling Mount) – Brackets included
- ☐ Orientation: Right Hand or Left Hand
- ☐ Access Options: Bottom Doors

4 Warranty

- ☐ 24 Months from Shipment

5 VRV Integration

- ☐ Factory Mounted DX Coils and Factory-Brazed Expansion Valve kit to the Coil
- ☐ Factory Mounted Reheat Coils and Factory-Brazed Expansion Valve kit to the Coil
- ☐ Factory Mounted and Wired DX and/or DOAS Controller

6 Options

- ☐ Mixing box powered by unit for recirculation and mixed air ventilation
- ☐ 3- or 5-Year Warranty Add-On
- ☐ Optional Sensors: Humidity, Pressure, CO2

FAQ

What are the ideal applications for Terra?
Terra is best suited for applications where there are space constraints and a high-performance, low-sound indoor split DOAS is required.

When is a pre-heat coil required?
An pre-heat coil is required when entering air temperature conditions to the VRV DX coil are below 17°F.

Do you offer non-fused disconnect?
Yes, it is standard. We use a switch disconnect with internal breakers. Fused protection for the disconnect available at a premium for specific SCCR targets above 5 kAIC.

Is a filter sensor provided with the unit?
Yes. A dirty filter sensor is standard - an alert will be sent when filters need to be changed.

Is your controller standard on all units with native BACnet IP?
Yes, integrated, programmable controls come standard with every unit. They are BTL-Certified for BACnet IP.

How is the Daikin VRV controlled?
Oxygen8's DDC controller (Distech) communicates directly with Daikin VRV integration kits. DX and DOAS controllers have a direct Modbus link to the DDC controller to which Oxygen8 provides temperature and humidity targets.

What sensors come integral to the unit?
There are typically 2 factory-mounted internal temperature sensors. Duct-mounted supply and outdoor air (OA) temperature/humidity (TH) sensors is shipped loose with the unit for dehumidification applications, and one or two additional TH sensors for return and OA, depending on whether one is already included for OA, are included with mixing box applications.

Do you provide mounting brackets?
Yes, all Terra H units come standard with angle brackets for ceiling installation. Terra V units do not require mounting brackets as they are base-mounted.

Does your mixing box use modulating dampers?
Yes, after field-balancing, return air and outdoor air dampers, each with modulating actuators, maintain ventilation air balance.

OXYGEN8