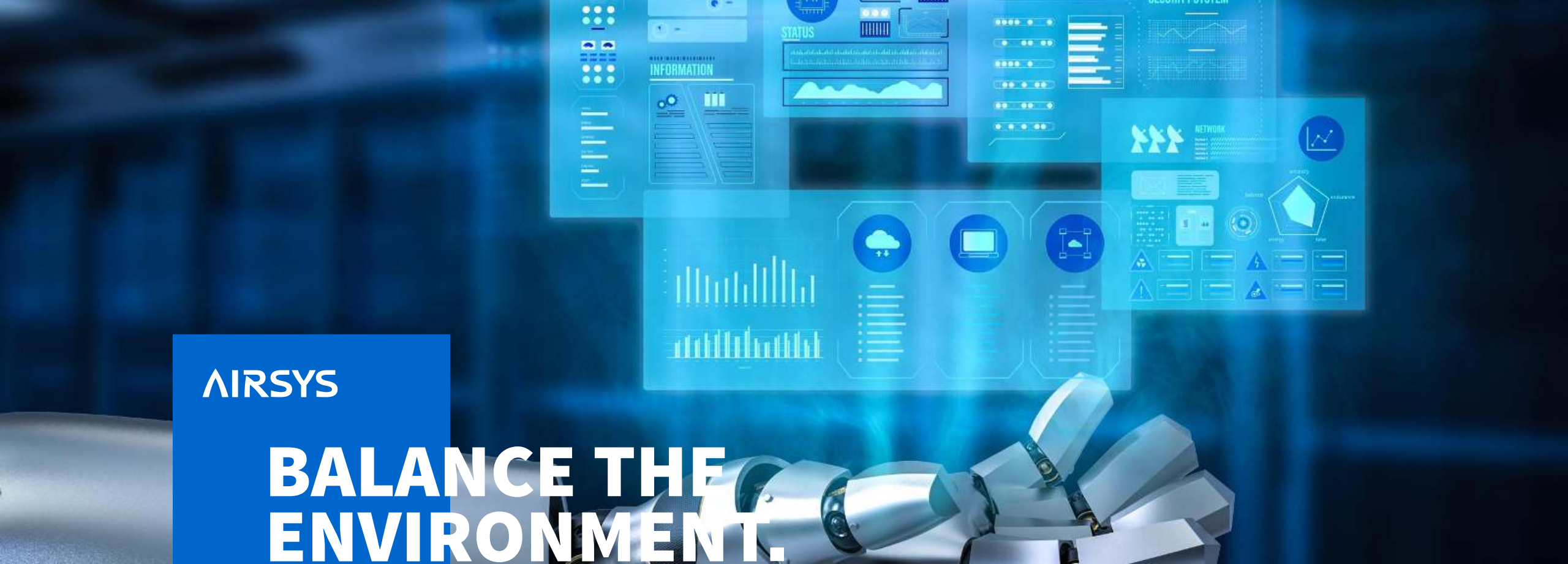




AIRSYS

**BALANCE THE
ENVIRONMENT.**

OPTIMA2 – Modular CRAC

Dave Zhao

2025-12-11

Contents



Product Knowledge



System Control



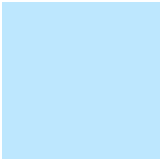
Product Control & Software



Sales Enablement



Installation & Support



Compliance & Certification

Product Knowledge

Product Overview

Key features and benefits



- Optima2 computer room air conditioning (CRAC) solution was started designed for special designed for the US market.
- High efficiency with DFC Function
- In order to make the unit like real modular type customer can deployed the unit according to project phase rapidly.
- Extremely compact size for it's easy for transportation storage and move into the building for follow up installation.
- Smallest footprint with full front maintenance design.
- Special designed OP2MUC for easy management
- 10" touch screen with extraordinary UI design
- MBTF 100,000 hrs.

Application: Data Center/Colocation/Hosting, Education, Government, Healthcare, Retail and Wholesale, Telecom



Modular Design



Modular design, basic model is 40kW

Conspicuous lead time, easy supply chain and inventory management, shorter the delivery time



Scalability reduce initial investment
Rapid deployment
Up to 640kW



Remote T&H sensor for Optimized the hot spot

Product Overview

Product status

OPTIMA2 R410A

OPTIMA2 R454B (GWP 466)

R454B offers a significantly lower GWP while maintaining comparable cooling performance and improved energy efficiency. This makes it a future-proof solution that aligns with global efforts to reduce greenhouse gas emissions and meet regulatory requirements.

- 460V/3P/60Hz(Compactable with 480V/3P/50Hz)
- 208-230V/3P/60Hz
- 575V/3P/60Hz -Ready for order in June 2026
- 380V/3P/50Hz -Ready for order in June 2026

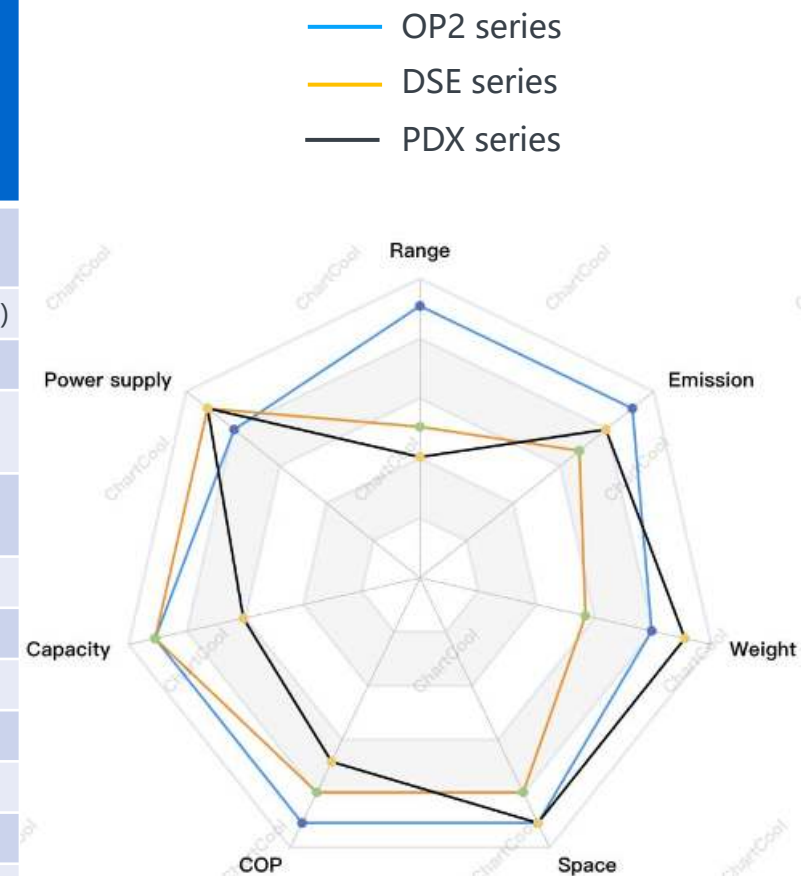
Same VMEG60S Outdoor unit suitable for both R410A& R454B Version.



Technical Specifications

Main performance

	PDX compact series	DSE series	AIRSYS
			
Cooling Range	11-18-23-29	Downflow: 50/80-85/125-150-165 Upflow:80-85	40-80-120 160-200-240
Type	Traditional type	Traditional multi-size, with RP	Modular, RP(in development)
Model number	PX029DA1*D****	DA050DA1*****	OP2A*040V1D1AC-***
OD model number <i>Downflow</i>	MCL110E*	MCM080E* /MCL110E* /MCL165E*	VMEG*60*
Power supply	208,230,380,460,575/3P/60Hz	208,230,380,415,460,575/3P/60Hz	208,230, 460-480V/3P/50-60Hz
Airflow volume	N/A	N/A	≥10000m³/h
Noise level	N/A	N/A	74dBA
Capacity	N/A	N/A	43 see note
*Nsen Capacity	34.2	48.8 /50.2 /50.8	40
*Nsen COP	2.52	2.76 /2.66 /2.76	2.84
Dimension	876*874*1970mm	1956*889*1930mm	1090*990*1975mm
Weight	317kg	720kg	405kg
Charging volume	8.3kg	22.5 kg	13.5kg for 10m

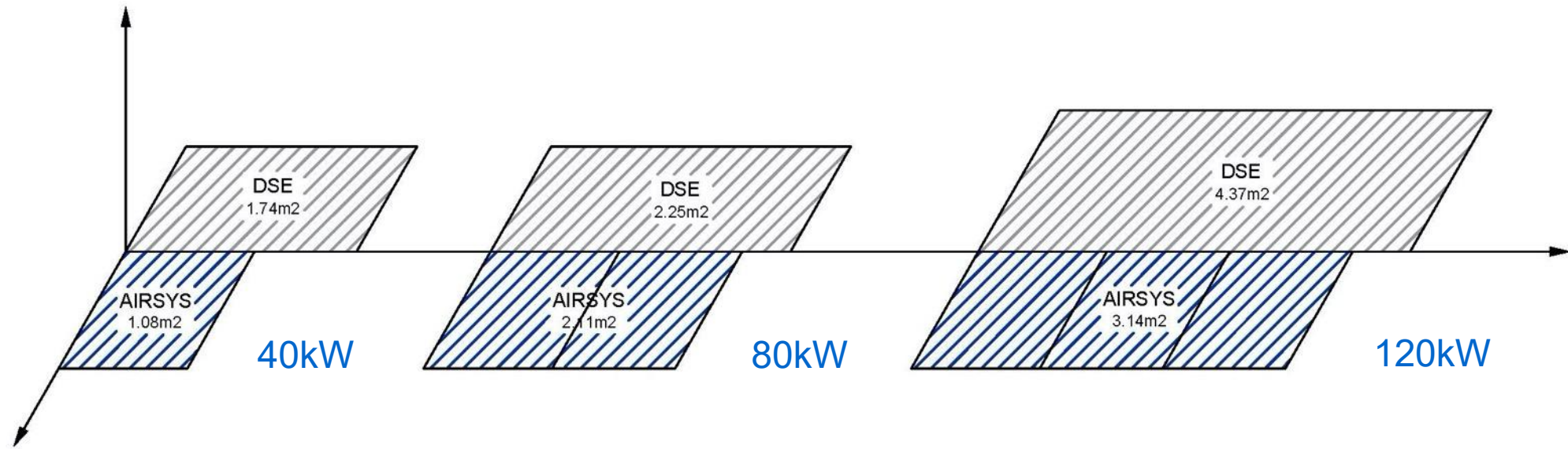


Note: RAT: 29.4°C 50%RH Tamb:35°C

Comparison

Option name	PX029DA1*D****	DA050DA1*****	OP2 R410A	OP2 R454B	Remark
Airflow Organization	Downflow Downflow to front Downflow to side Upflow Upflow with front return	Downflow	Downflow Upflow with front return Upflow with rear return Fan cap Optional	Downflow Upflow with front return Upflow with rear return Fan cap Optional	OK
El. heating	Standard	Optional	S.S. 6/9kW	PTC 9/12kw	OK
Humidifier steam type	Electrode Humidifier	Electrode Humidifier	3kg/h or 8kg/h	3kg/h or 8kg/h	OK
Infrared & Ultrasonic Humidifier	Optional, Infrared	Optional, Infrared	4kg/h Infrared	1kg/h Ultrasonic	OK
DFC box & motorized damper	N/A	Optional	√	√	Better
Motorized Damper (Exhaust Damper) fan included for DFC	N/A	Optional	√	√	Better
Supply Air Temperature Sensor	Optional (Adjustable, Monitored)	Optional (Adjustable, Monitored)	Monitoring only	Monitoring only	OK
Remote T&H Sensor	Optional, up to 10 units	Optional, up to 10 units	√ up to 20 units	Up to 20 units	Better
Condensate Water Pump	Optional	Optional	Typical version High-Temp. version	Typical version High-Temp. version	Better
Water Leakage Alarm	Optional	Optional	√	√	OK
Smoke detection system for OP2	Optional	Optional	√	√	Better
OP2MUC (central control box)	N/A	N/A	√	√	Better
Air Filter & filter alarm	Merv8/Merv11/Merv13	Merv8/Merv11/Merv13	Merv8 & G4 /Merv13	Merv8 & G4 /Merv13	OK
Fire Alarm & Remote ON/OFF	Optional	Optional	N/A	√	OK
Adjustable stand	Optional	Optional	4 different size 18in 20in 24in 30in	4 different size 18in 20in 24in 30in	Better
Backdraft motorized damper	Optional	Optional	√ 7s operation time	√	OK
Long distance kit	Optional	Optional	√	√	OK
Low ambient kit -20C -40C	Optional	Optional	√	√	OK
Communication Protocol	Optional	Optional	Modbus TCP/IP & SNMP -STD BACnet optional	Modbus TCP/IP & SNMP -STD BACnet optional	OK
Costal coating (Blygold) S.S. housing for OD unit	Optional	Optional	√	√	OK

Small Footprint with High Cooling Density



	Cooling Capacity (kW)	Size L*W*H (in)	Foot Print (ft²)	Cooling density(kW/ft²)
AIRSYS	40	43*39*78	11.6	3.45
DSE	50	77*35*76	18.7	2.67
AIRSYS	80	84*39*78	22.7	3.52
DSE	80	100*35*76	24.2	3.31
AIRSYS	120	125*39*78	33.8	3.55
DSE	125	144*47*76	47.0	2.66

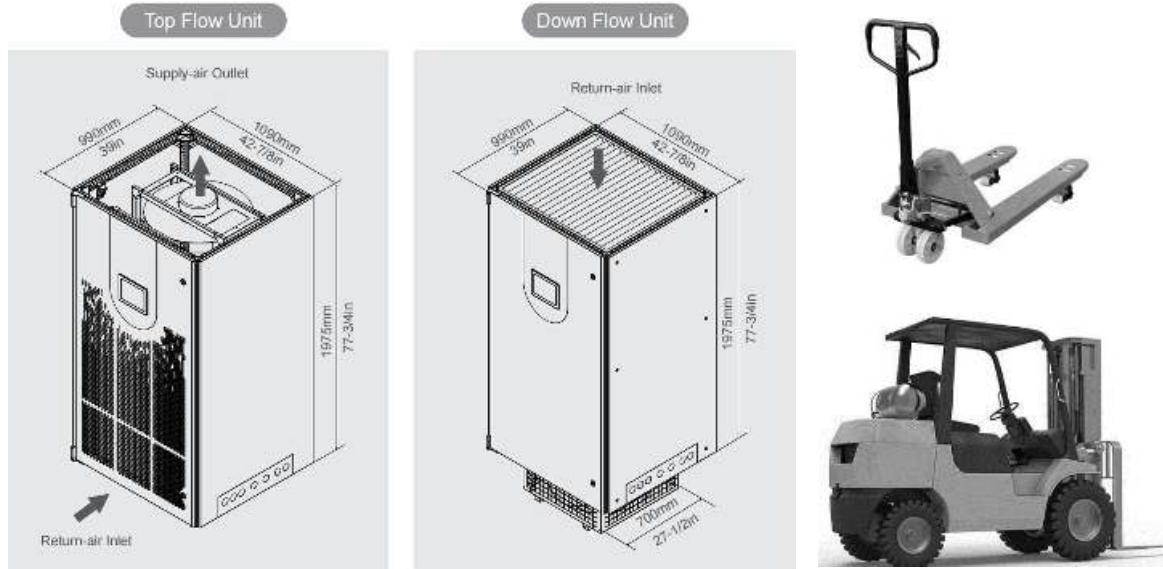
Comparison with current product

OP2 VS OPT VS CYB

	OPTIMA2	OPTIMA 40V1A3	CYB 40V1X1
Width (mm)	1090	1750	1455
Depth (mm)	990	890	965
Height (mm)	1975	1960	1975
Weight (kg)	405	540	500

	OPTIMA2	OPTIMA 80V2A4	CYB 80V2X3
Width (mm)	2180	2490	2370
Depth (mm)	990	890	965
Height (mm)	1975	1960	1975
Weight (kg)	810	910	785

Easy to Move & Quick to Install



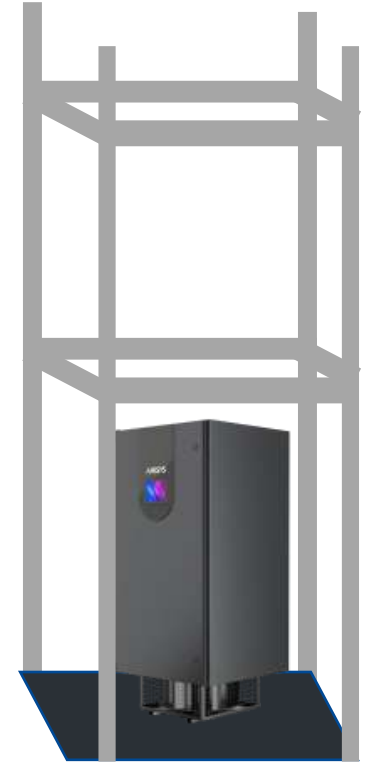
- Single module can be moved by pallet truck or forklift
- 2 or more units are assembled on site
- Pipeline can be various direction (STD: Right, Bottom Option: Rear without DFC)

Minimum width and height of DC door are 60in(1.52m) and 78in(1.98m)

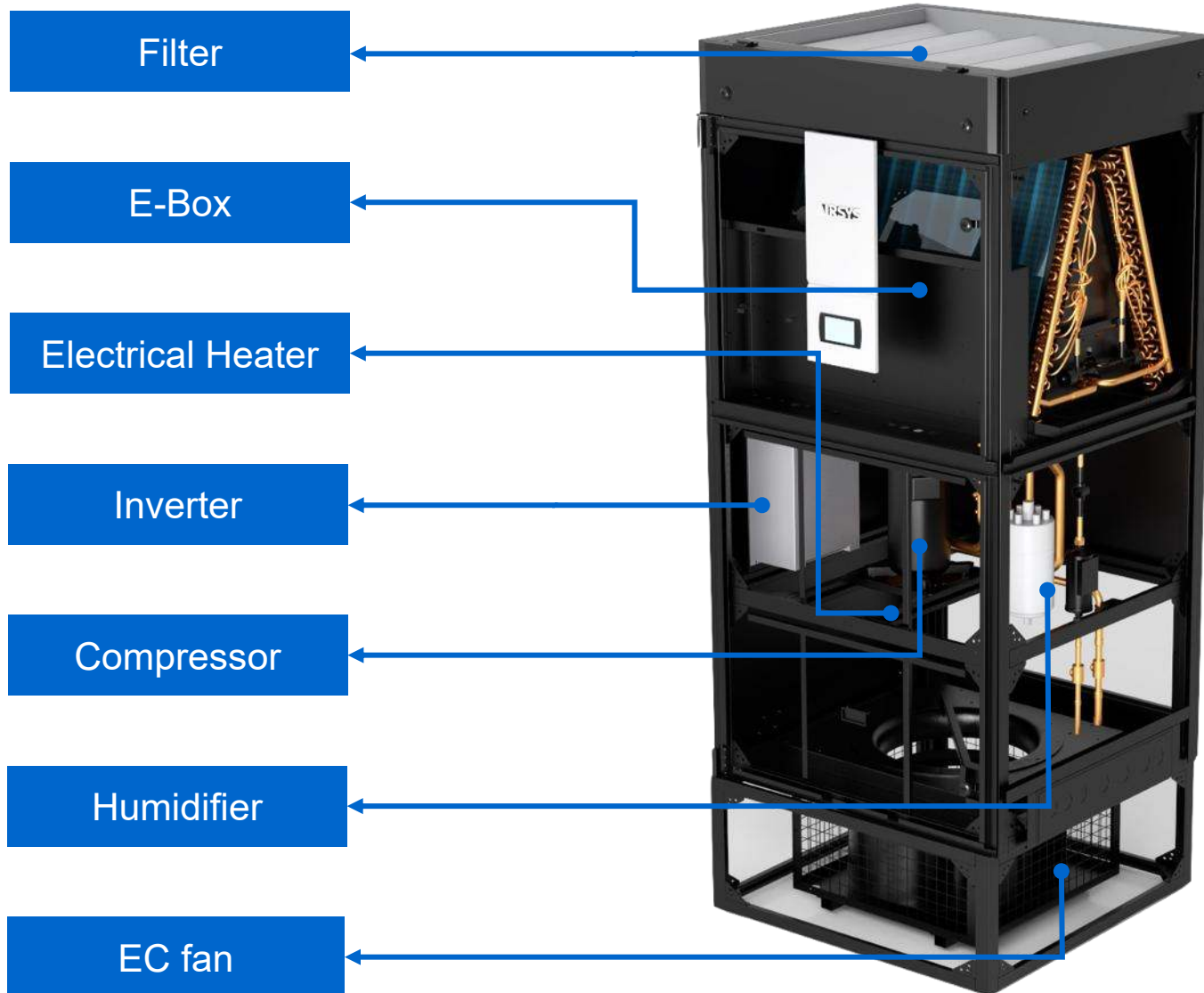


- Compact size, the unit can go through the narrow stairs, corridor, and elevator

AIRSYS
Balance the Environment

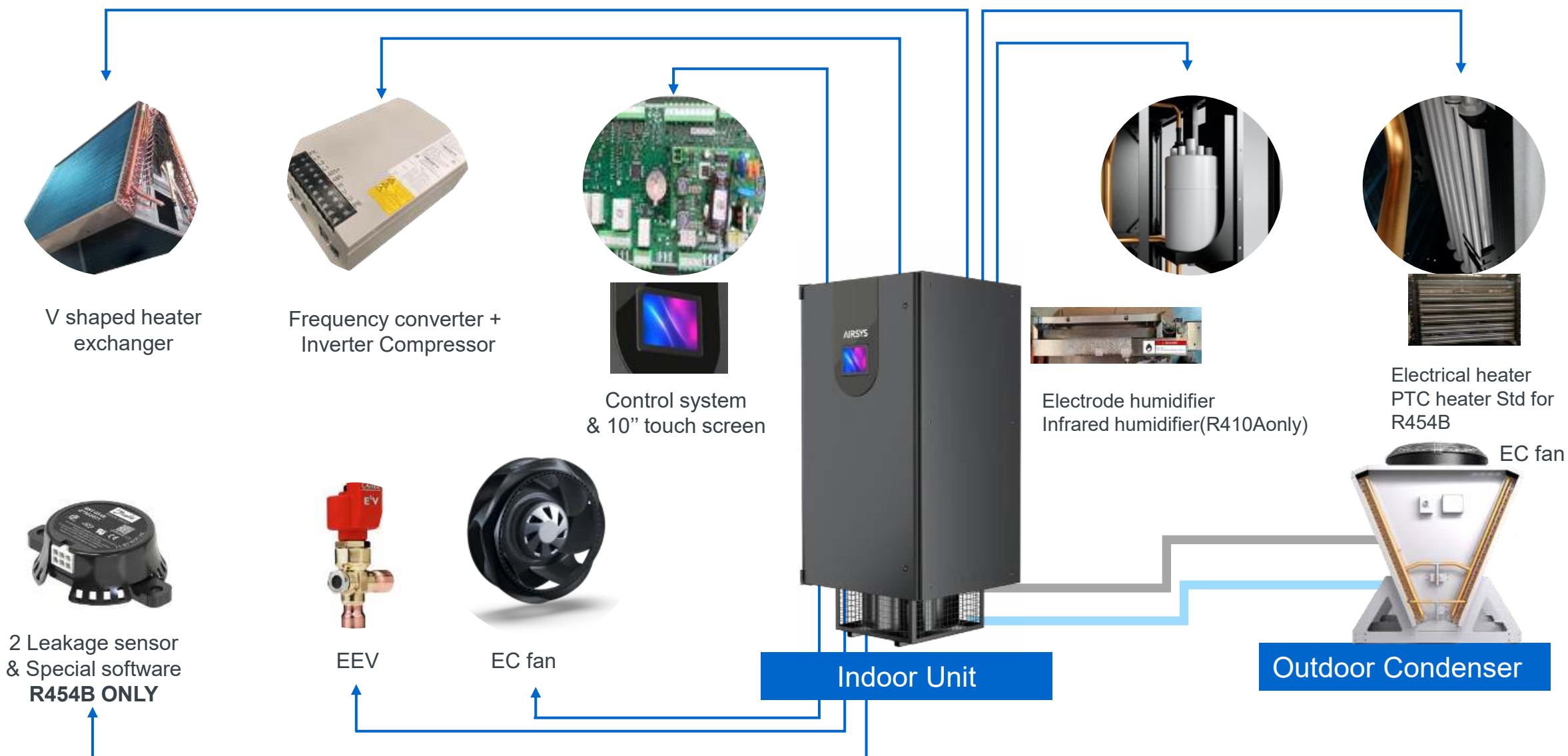


Easy Maintenance



1	Variable frequency scroll compressor, COPELAND
2	Pressure Sensor, SENSATA
3	Pressure Sensor, SENSATA
4	Inverter, ACRC, EU
5	Air filter G4
6	Centrifugal fan, R3G630, EBM
7	AC contactor
8	Transformer
9	Upc3 Controller, CAREL
10	Temperature sensor NTC060WH01, CAREL
11	Temperature sensor NTC030HT41, CAREL
12	EEV, CAREL
13	Sight glass, 5/8"*
14	Dry filter

System Configuration



System Operation Range

OPERATION RANGE



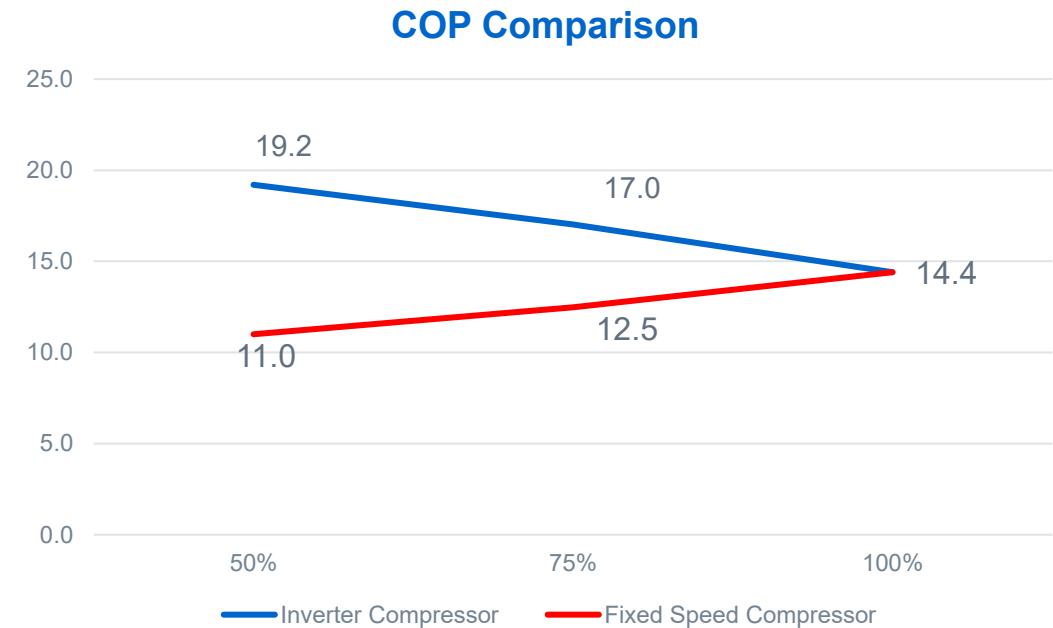
- Compressor speed range: 40%-100%(20kW-43kW)
- EC fan speed range: 50%-100%
- Maximum ambient temperature 55°C (131°F) with 50% of cooling capacity: Not for long time running and OK for 1hour running.
- Maximum low ambient temperature -40°C(-40°F): For low ambient kit, clarify the application ambient temperature in the order
- Altitude $\leq$ 1000 m(3280ft): For plateau application contact with BU)
- Length $\leq$ 70m(230ft) one way: When $>$ 40m(131ft) need a long-distance kit
- Height difference +20m(65ft) (vertical rise) $\sim$ -10m (32ft) (vertical drop)

Energy Saving Measures

INVERTER COMPRESSOR VS FIX SPEED COMPRESSOR

The inverter compressor of OPTIMA2 can achieve COP >14 with nominal cooling capacity @ AHRI360. When it is working at part-load, it can even achieve COP up to **19, 75%** higher than that of the fixed speed compressor.

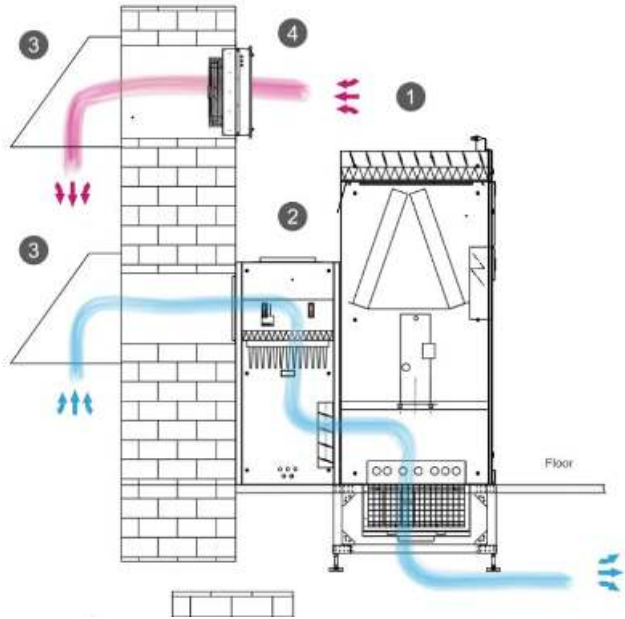
For a data center with constant 40kW IT load, the annual energy consumption of the unit with inverter compressor will be about **20%** lower than that of the unit with fixed compressor.



@ 95 °F (35°C) outdoor and 85F(29.4°C) return air

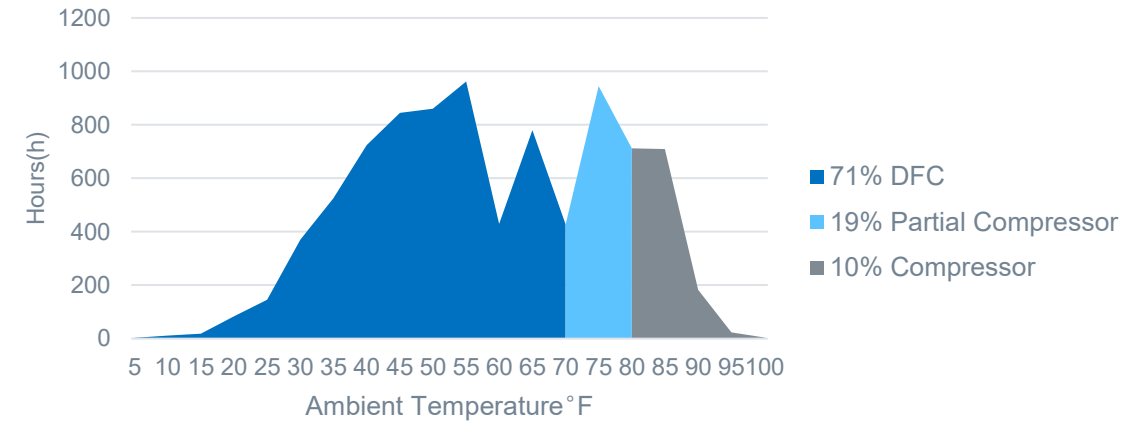
Energy Saving Measures

DIRECT FREE COOLING

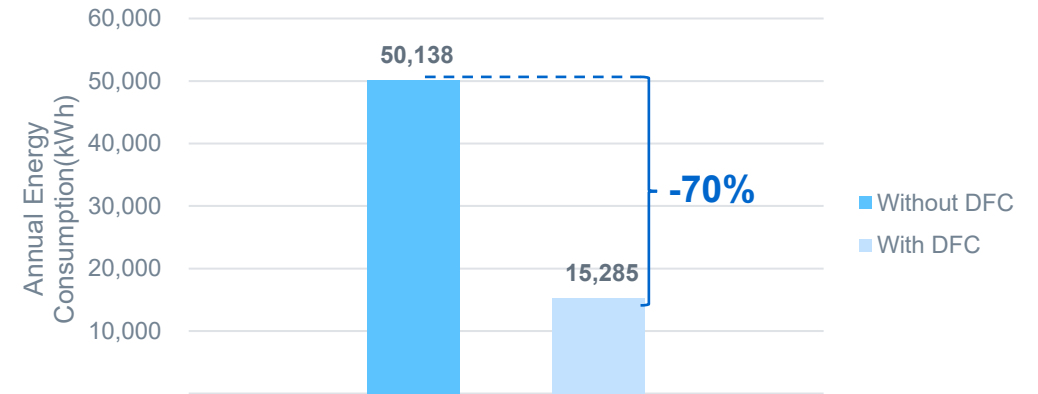


- 3 modes: Free cooling, compressor mode and hybrid mode
- Save energy through minimizing DX system run hours
- When Delta T reaches 10°C, the free cooling can reach 100% DX cooling capacity
- DFC starts when indoor and outdoor temperatures is larger than a predefined minimum (default 5° C/9° F), and the outdoor humidity is below the limit (default 70%)

Economization Hours in New York



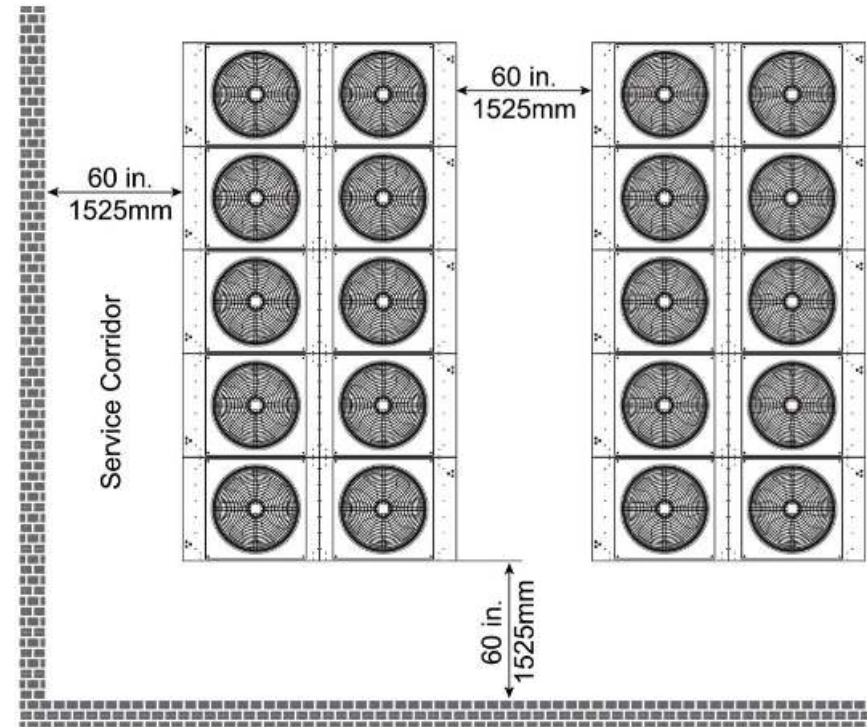
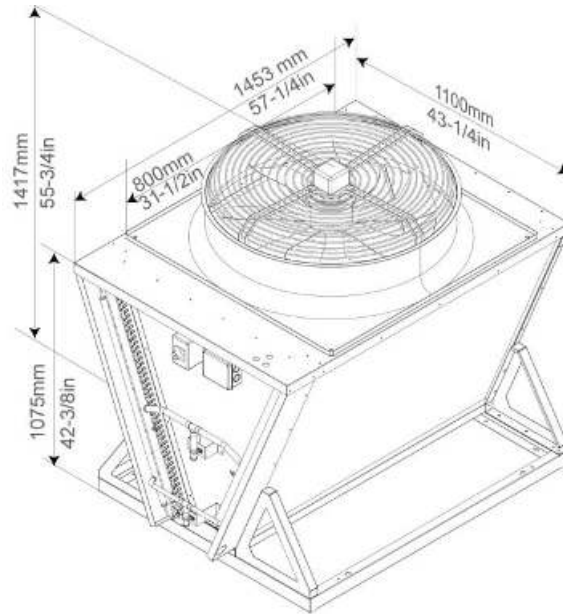
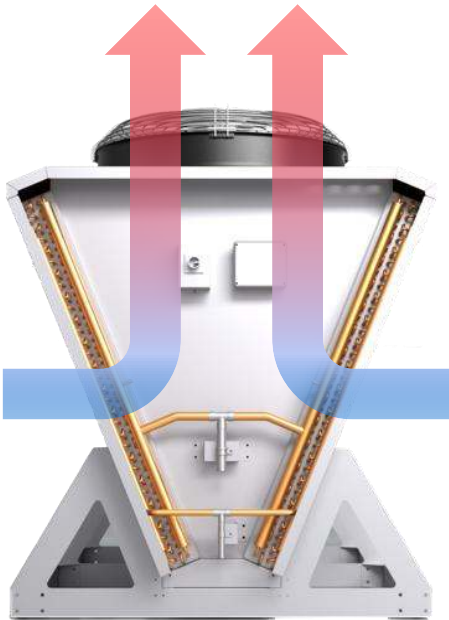
Annual Energy Consumption in New York



* Calculation based on a 40kW unit in New York.

System Configuration

OUTDOOR CONDENSER



- Triangle structural more robust
- Less cleaning interval
- Special designed maintenance hole on the side
- Small footprint
- single fan with airflow reached to 25000m³/h

- Shoulder to shoulder installation, minimal footprint.
- **50%** more condensers can be installed than horizontal discharge condensers

Product Identification

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
	OP2		A	X		040		V	1	D	1	A	C	-	S	T	X

Table 2-1 Unit Identification

01-03	OP2	Model Series: OP2 – Optima2 Precision Air Conditioner
04	A	Cooling Method: A – Air Cooled
05	X	Free Cooling Options X – Standard D – Direct Free Cooling
06-08	040	Capacity: 040 – 40kW
09	V	Compressor: V – Inverter Compressor
10	1	Compressor Qty: 1
11	D	Airflow pattern T – Topflow D – Downflow
12	1	Cabinets Qty: 1
13	B	Refrigerant: B – R454B
14	C	Power Source B – 208~230V/3P/60Hz C – 460V/3P/60Hz
15	–	Separator
16	S	Heater Option in Each Cabinet X – Standard N – 9KW PTC heater W -12KW PTC heater
17	T	Humidifier Option in Each Cabinet X – Standard T – 7lbs/hr. Electrode Humidifier V – 11-18lbs/hr. Electrode Humidifier U – 2.2lbs Ultrasonic Humidifier
18	X	Custom Option X – Standard R – Rear Return Assy. (Topflow only)

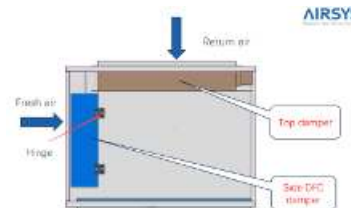
Airflow Arrangement

DOWNFLOW & UPFLOW

Mode Configuration	Mechanical Cooling	Free (Option)	Cooling	Hybrid Cooling	Mode Configuration	Mechanical Cooling	Free (Option)	Cooling	Hybrid Cooling
Downflow+DF C					Topflow+DFC				
Downflow+DF C+duct configured					Topflow+DFC+duct configured				



Top DFC box available for the downflow unit



Product Video

General product introduction

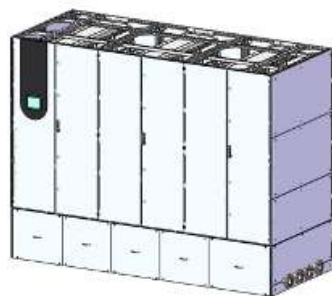


All in global SharePoint:

[https://airsysglobal.sharepoint.com/sites/MarketingPortalInternal/SitePages/OPTIMA-2\(1\).aspx](https://airsysglobal.sharepoint.com/sites/MarketingPortalInternal/SitePages/OPTIMA-2(1).aspx)

OP2 CW unit

Key features and benefits



To meet the demand for CW units in the North American market, the OP2 product series has been expanded to include chilled water products. Simultaneously, our research on competitor products revealed that their CW units have achieved cooling capacities of up to 1MW to meet high-demand applications in large data centers.

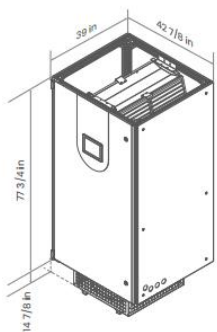
- The OPTIMA2.CW product with extreme high efficiency with special designed heat exchangers to enlarge the heat transfer area in limited cabinet space
- Modular Design & Rapid Deployment
- Easy Maintenance: Front-Access Design enables quick-swap for dual-array fans.
- HD version: 400-600-800kW units
- Standard equipped with EPIV valve:
 - ❑ Characterized control valve with sensor-operated flow control
 - ❑ Self-adjusting to compensate for pipeline pressure fluctuations.
 - ❑ The specially configured control parameters in conjunction with the precise flow rate sensor ensure a stable control quality.



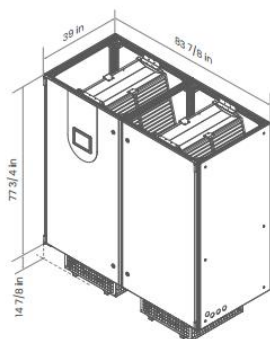
OP2 CW unit

Key features and benefits

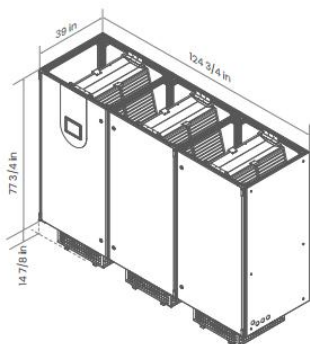
60kW module type



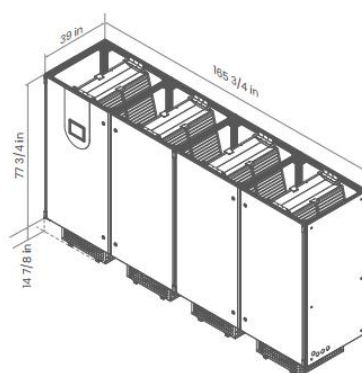
OP2CX060D1C



OP2CX120D2C

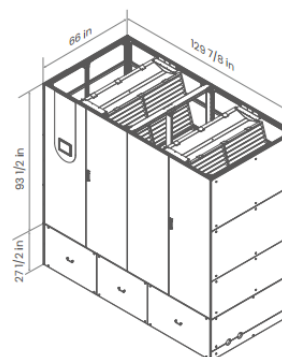


OP2CX180D3C



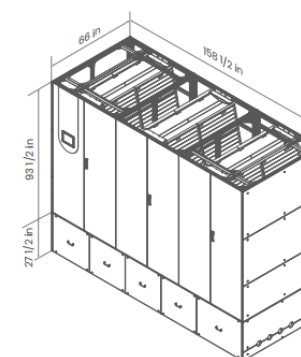
OP2CX240D4C

HD (High density) module type



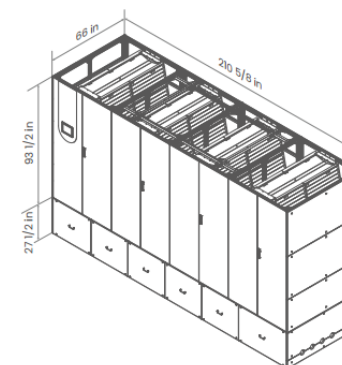
OP2HX400DBC

Single CW system



OP2HX600DBC

Twin CW system



OP2HX800DBC

Twin CW system

OP2 CW unit

Key features and benefits



ASHRAE guideline	Water Side	ASHRAE guideline	Air Side
/	10 EWT 16.2 LWT	A1(15-32)	32 RAT 16.9 SAT
W17	17 EWT 23.7 LWT	A2(10-35)	35 RAT 22.9 SAT
W27	27 EWT 33.7 LWT	A3(5-40)	40 RAT 31.9 SAT
W32	32 EWT 38.7 LWT	A4(5-45)	45 RAT 36.9 SAT

- Front Access Design, Even for two array fan maintains Quick-Swap on the Twin fan bank.
- EPIV inside the unit and external optional (2way or 3-way control valve(Ball valve) optional)
- ATS inside the unit. (60kW exclude)
- Filter front excess
- For 60kw module, CW connection can be all direction (STD: Right, Rear, Bottom Option: Left)
- For HD module, CW connection (STD: Right, Bottom Non-STD: Rear, Review base on the project)
- Water side pressure drop average 80KPA depends on the water flow
- ESP. For 60kw module can reach to 200pa
- ESP. For HD module can reach to 120pa
- Standard Flange connection for unit $\geq 180\text{KW}$ (Flange connection for 60&120kw optional, 60-120kw standard equipped with NPT connection)

Critical Components Overview

Surface Cooler
Optimized Coil Design
Hydrophilic Fin Coating



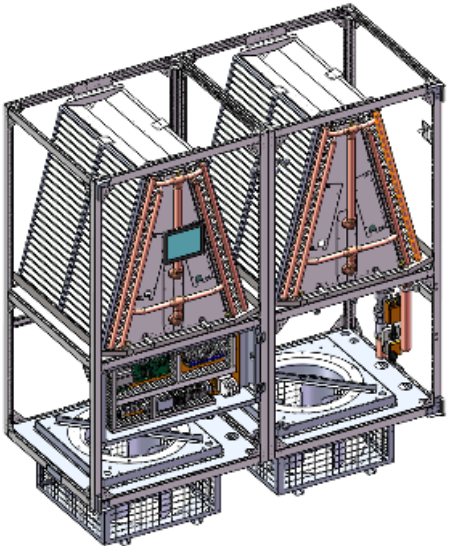
Touch screen
10" Touchscreen +
Adaptive Software
Flexible Connectivity



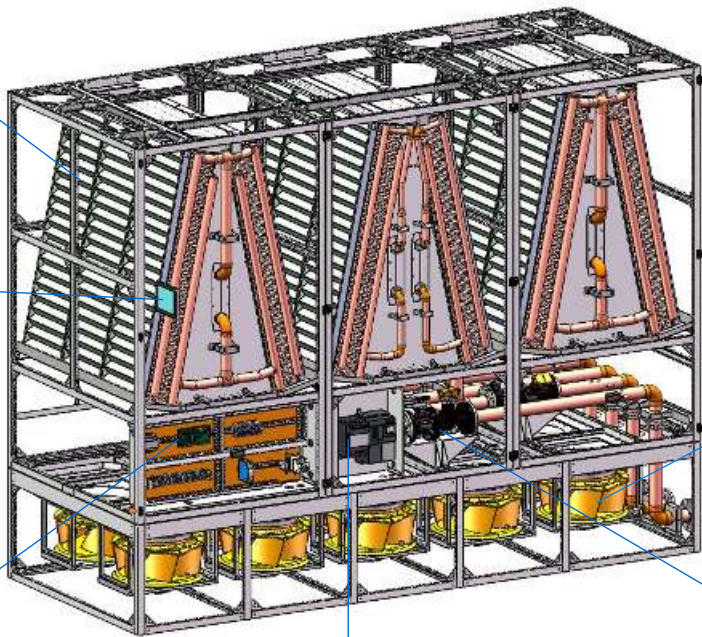
UPC3 controller
Electronic
programmable
controller



LCD Rack-Mount T&H sensor
EMI resistance, magnetic
adsorption installation, RS485
communication.



EC Fan
IE5 EC Motor
High Static Pressure
Stepless Modulation



ATS
Millisecond-level rapid
switching effectively ensures
power supply continuity.



EPIV
Characterized control
valve with sensor
operated flow control

OP2 CW unit

Nomenclature & Options

01-03	04	05	06-08	09	10	11	12	13	14	15	16
OP2	C	X	060	D	1	C	X	X	X	X	X

01-03	OP2	Model Name OP2: Optima2
04	C	Cooling Method A: Air Cooled C: Chilled Water H: HD High Density
05	X	Cooling Option X: Standard
06-08	060	Cooling Capacity C: 60/120/180/240 kW HD: 400/600/800 kW
09	D	Airflow Configuration D: Downflow T: Topflow
10	1	Cabinet Size 1 Module/2 Module/3 Module/4 Module A: 400kW Module B: 600kW Module C: 800kW Module
11	C	Power Supply C: 460V/3P/60Hz B: 208-230V/3P/60Hz D: 380-400V/3P/50Hz
12	X	Heater Option X: Standard Q: 12kW M: 24kW Q: 36kW R: 48kW
13	X	Humidifier Option X: Standard V: 18lbs/hr Electrode(8kg/h) F: 9lbs/hr Infrared(4kg/h) W: 33lbs/hr Electrode(15kg/h) 120kw and above
14	X	Filter X: G4/MERV8 omit for default T: MERV13
15	X	Power X: Standard D: Dual Power A: ATS
16	X	Packing X: Standard-carboard W: Wooden Crate

Standard Configuration	OPTIMA2.CW	OPTIMA2.CW-HD
EPIV Chilled Water Valve	●	●
EWT/LWT Water Temperature Sensor	●	●
Lockable Disconnect	●	●
Wooden Pallet+Carboard Package	●	○
Supply Air Temperature Sensor	●	●
Return Air Temperature Sensor	●	●
Filter Clogged Alarm	●	●
Floor Water Alarm	●	●
Fire/Smoke alarm input & Remote ON/OFF	●	●
OP2MUC Modbus	●	●
OP2MUC SNMP Protocol	●	●
Option	OPTIMA2.CW	OPTIMA2.CW-HD
Wooden Crate	○	●
Electrical Heater	○	—
Electrode Humidifier	○	○
Additional Floor Water Detector	○	○
Smoke Sensor(UL Certified)	○	○
Supply Air Pressure Control	○	○
OPTIMA2 Multi-Unit Control Box(OP2MUC.AC.CW)	○	○
Additional Remote T&H Sensor	○	○
Condensate Pump	○	○
High-Temp Condensate Pump	○	○
Built-in ATS (For 60kw External)	○	○
Dual Power Input Option	○	○
c.pCO license for BACnet	○	○
Air Filter MERV13	○	○
Supply Air Plenum	○	○
Free Discharge Plenum	○	○
Adjustable Stand 18/21/24/30 inch	○	○

Note: "●" standard configuration, "—" no option available. "○" optional configuration.

Key Specifications

Model		OP2-CW-060	OP2-CW-120	OP2-CW-180	OP2-CW-240
Nominal Cooling Capacity		60KW	120KW	180KW	240KW
Nominal Power		2.9KW	5.8KW	8.7KW	11.6KW
Max Power		3.3KW	6.6KW	9.9KW	13.2KW
Air Side	Return Air Temp. (DB)	29.44°C			
	Return Air Temp. (WB)	18.05°C			
	Air Flow Rate	13500 m³/h	27000 m³/h	40500 m³/h	54000 m³/h
	Static P	50Pa	50Pa	50Pa	50Pa
Water Side	Inlet Water Temp.	10°C			
	Outlet Water Temp.	16.7°C			
	Water Flow Rate	7.8 m³/h	15.5 m³/h	23.3 m³/h	31 m³/h
Medium		Water, 0% Glycol			
Dimensions		1090*990*1975 mm	2130*990*1975 mm	3170*990*1975 mm	4210*990*1975 mm

Key Specifications

Model		OP2-CW-400	OP2-CW-600	OP2-CW-800
Nominal Cooling Capacity		400KW	600KW	800KW
Nominal Power		15.9KW	24.4KW	31.8KW
Max Power		19.8KW	33KW	39.6KW
Air Side	Return Air Temp. (DB)	29.44°C		
	Return Air Temp. (WB)	18.05°C		
	Air Flow Rate	72000 m³/h	108000 m³/h	144000 m³/h
	Static P	50Pa		
Water Side	Inlet Water Temp.	10°C		
	Outlet Water Temp.	16.7°C		
	Water Flow Rate	51.6 m³/h	77.4 m³/h	103.2 m³/h
Medium		Water, 0% Glycol		
Dimensions		3300*1675*2375 (+700) mm	4025*1675*2375 (+700) mm	5350*1675*2375 (+700) mm

Operating Range & Limitations



Ambient Temp Range

-15°C to 45°C

(59°F to 113°F)



Altitude Limitation

≤ 1000 m

(3280 ft)



Water Inlet Temp Range

5°C to 25°C

(41°F to 77°F)



Installation Limitation

Leave maintenance clearance
at the front and rear.



Water Inlet Press. Range

3 Bar to 10 Bar

(43.5 PSIG to 145 PSIG)



System Limitation

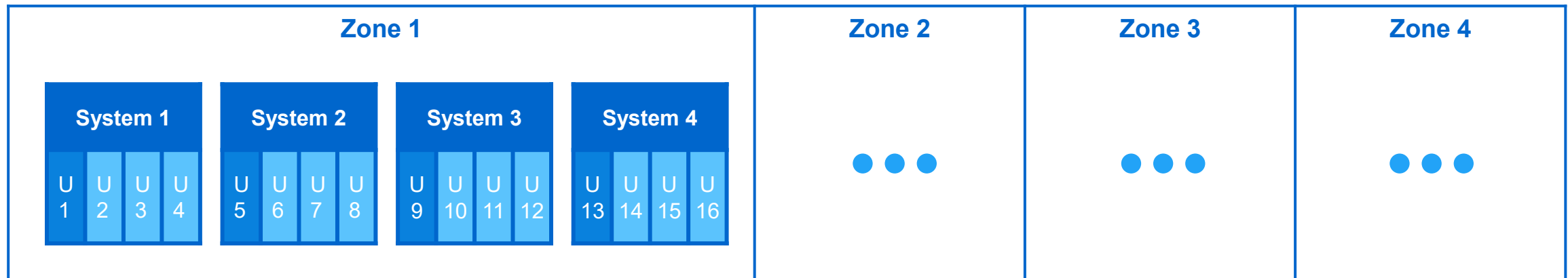
- Power Supply
- Key Component
- Medium

System Control

System Control

OP2MUC for Optima2

- Microprocessor-based multi-unit controller manages up to 16 Optima2 units.
- Remote check all unit status & alarms in the system.
- Remote setting and control all the units.
- System up the unit (Each system manage up to 4 unit).
- Zone up the unit (Each zone manage up to 4 system).



System Control

Software Architecture

Multi-System Control Architecture

Zone Level

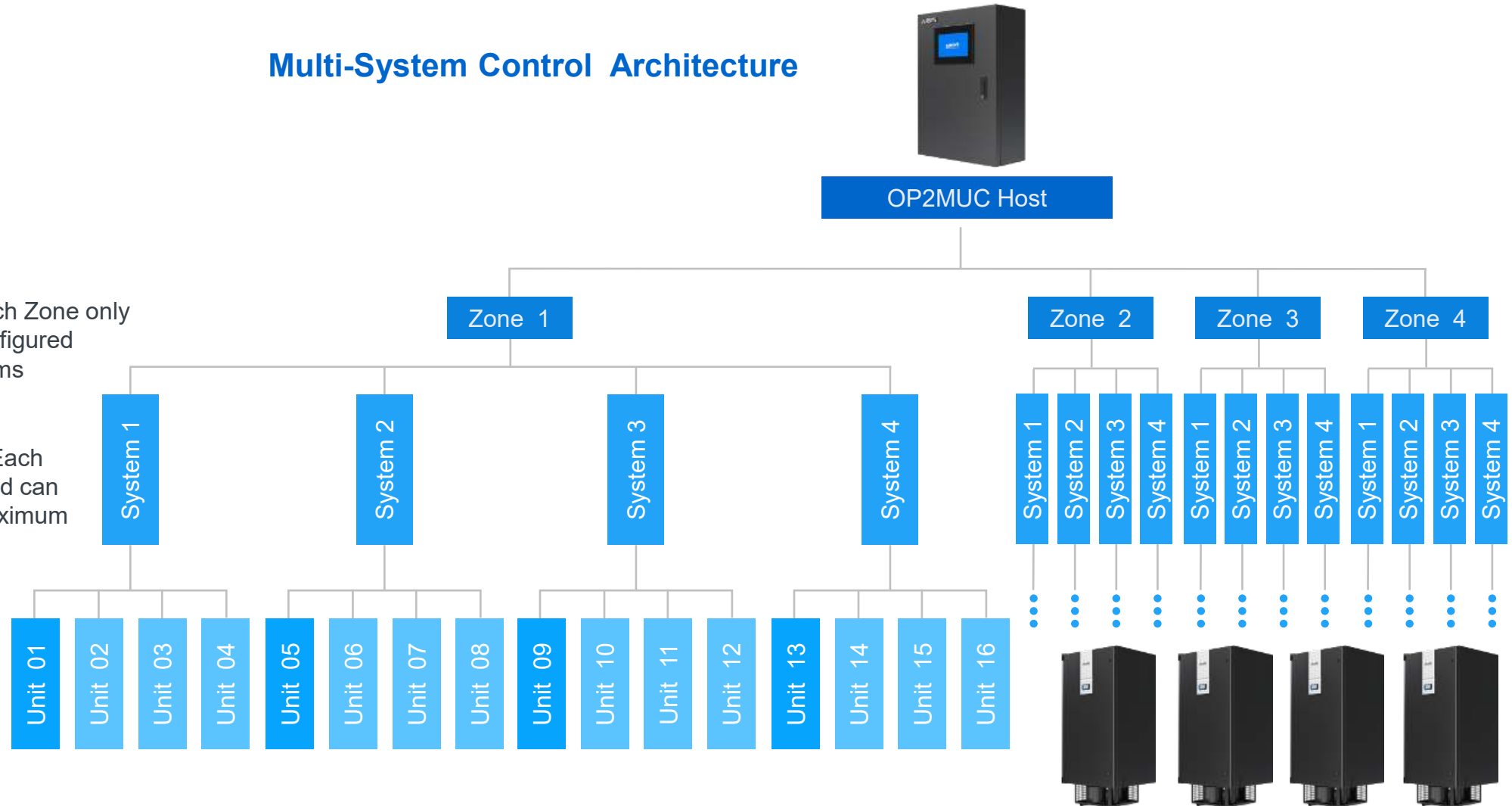
Total 4 Zones, Each Zone only should can be configured maximum 4 systems

System Level

Total 4 Systems, Each System only should can be configured maximum 4 units

Unit Level

Total 16 Units, Each unit should can be configured into a system



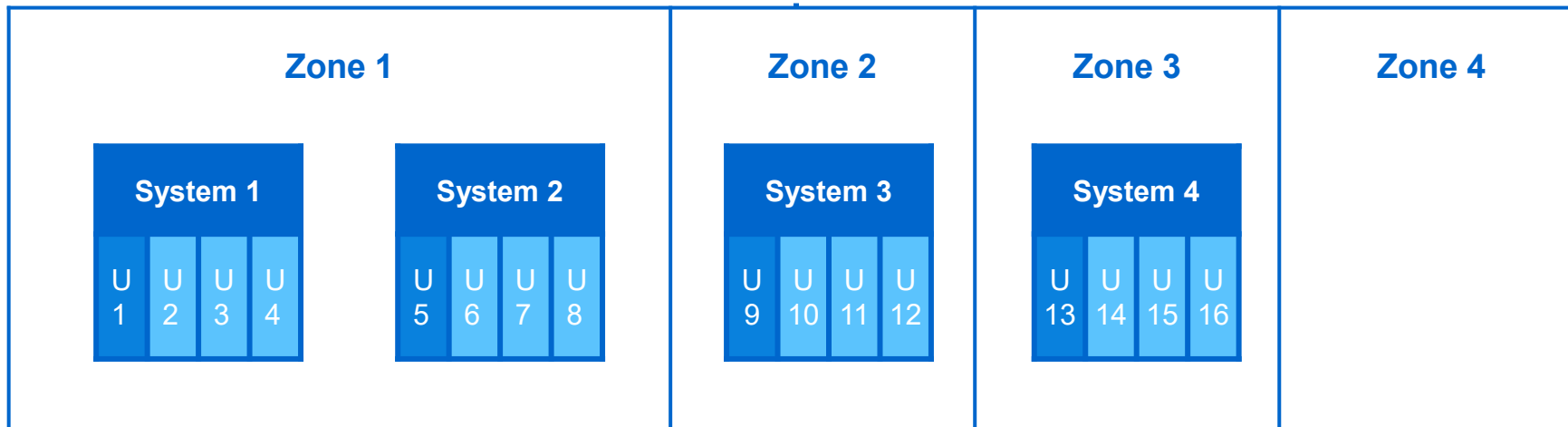
System Control

Software Application



OP2MUC Host

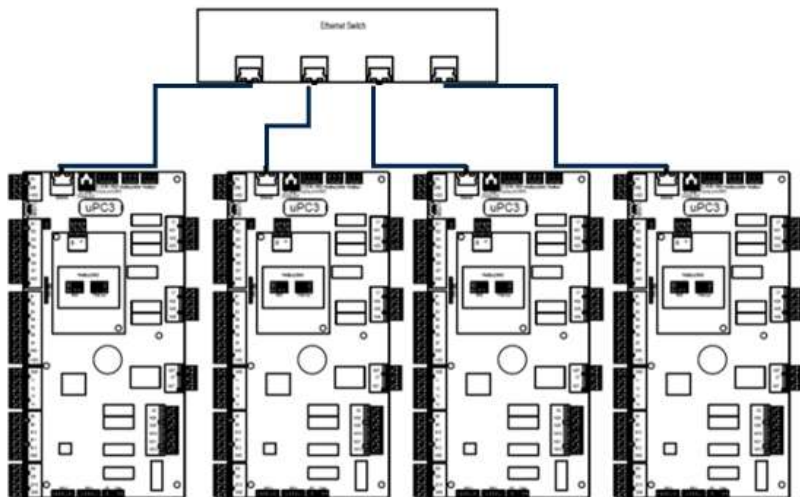
Application Example:



System Control

Multi-unit system

System network configuration



See details for OP2 Sequence of Operation

AIRSYS | May-25-2023 12:00 ● System On Sev

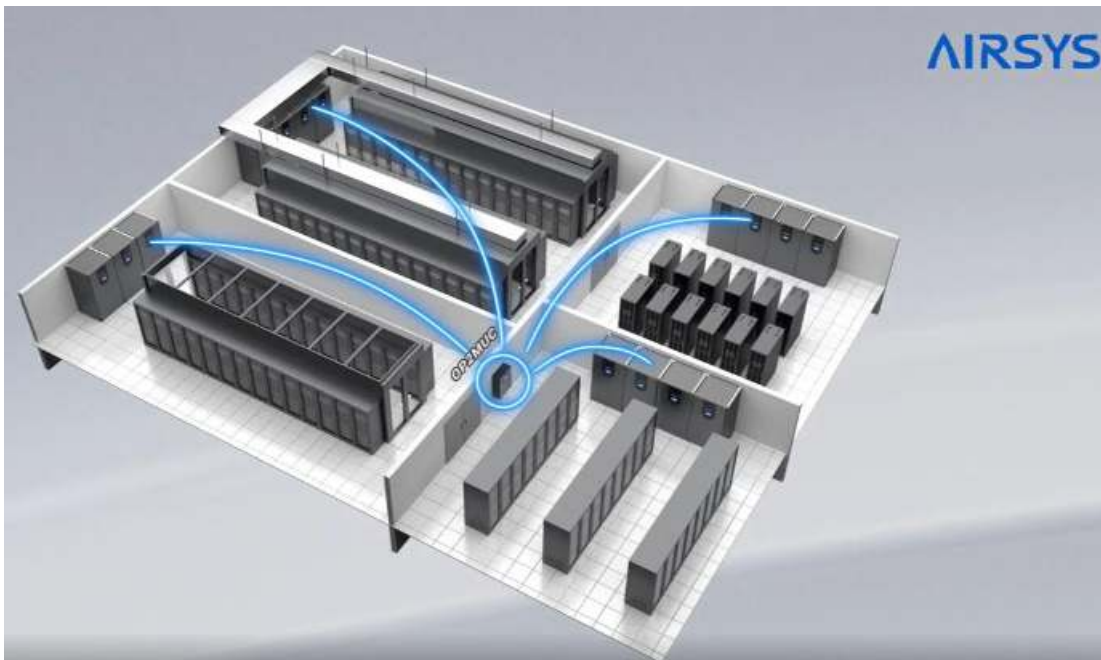
M Control **Net Config 2**

Unit Index	IP Addr	Loc/Auto	Unit-System	Set Status
Unit1:	192 . 168 . 10 . 18		System 1	Rotation
Unit2:	192 . 168 . 10 . 2	Auto	System 1	Rotation
Unit3:	192 . 168 . 10 . 3	Auto	System 1	Rotation
Unit4:	192 . 168 . 10 . 4	Auto	System 1	Rotation
	.	.	.	.
	.	.	.	.

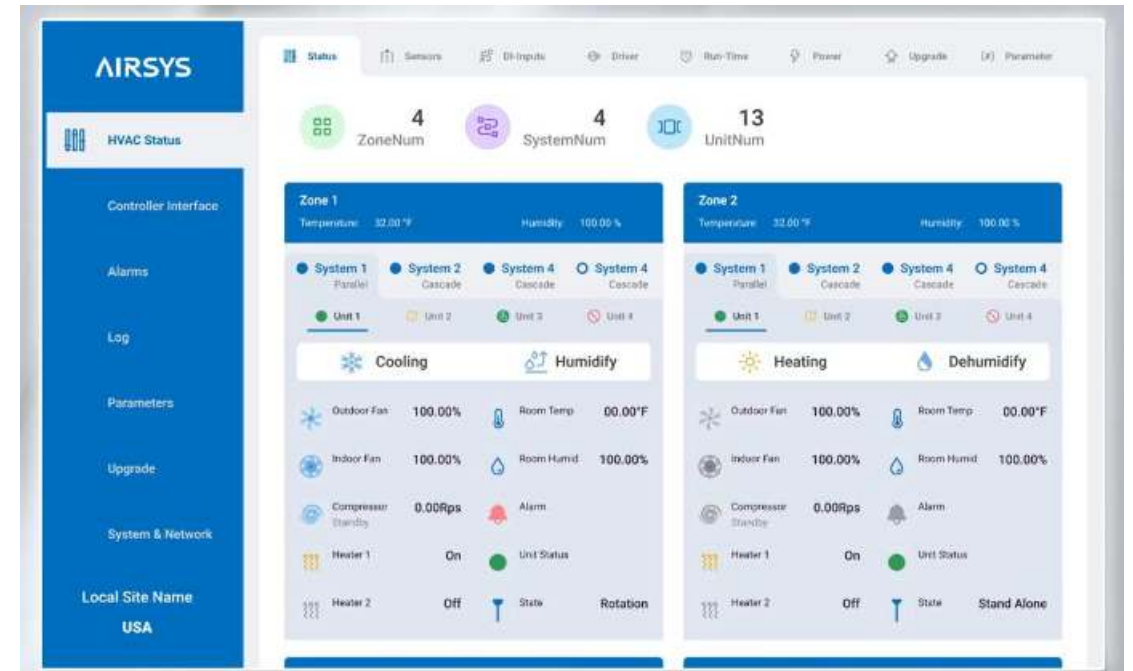
System Control

Multi-unit system

Control system introduction



Access all unit Infor via O2MUC Webpage



All in global SharePoint:

[https://airsysglobal.sharepoint.com/sites/MarketingPortalInternal/SitePages/OPTIMA-2\(1\).aspx](https://airsysglobal.sharepoint.com/sites/MarketingPortalInternal/SitePages/OPTIMA-2(1).aspx)

Product Control& Software

Product Control& Software

Control Icons

Unit Statute Icons

Parts Statute Icons



Cooling



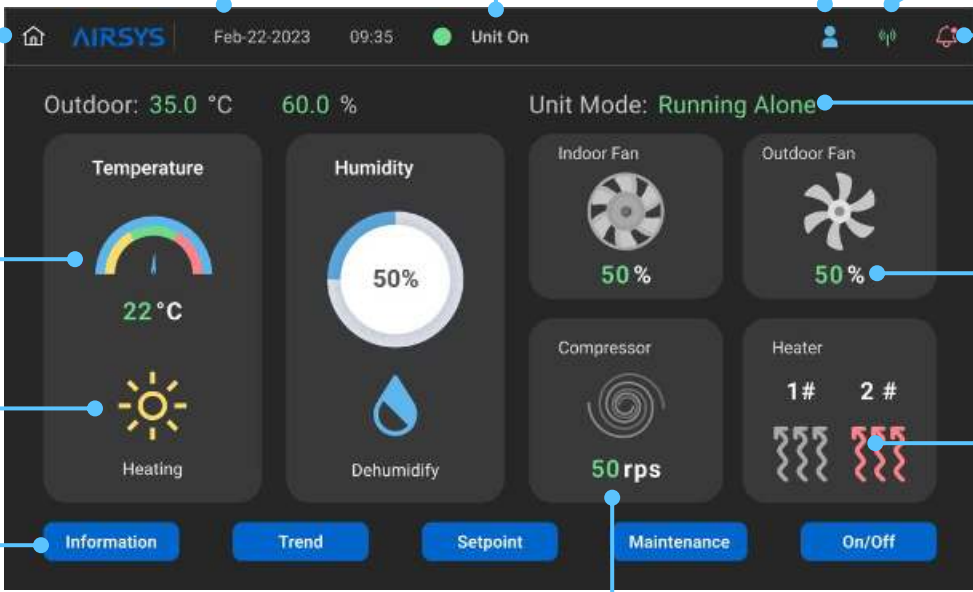
Heating



Humidify



Dehumidify



System Date & Time

Unit State

Limits of Authority

Communication State

Alarm

Network State

Fan Speed

Heater

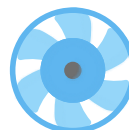
Compressor Speed

Return to Main

Temperature

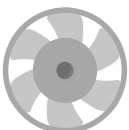
Work Mode

Menu Button



Indoor Fan

On



Off



Outdoor Fan

On



Off



Compressor

On



Off



2 Stage Heater

On



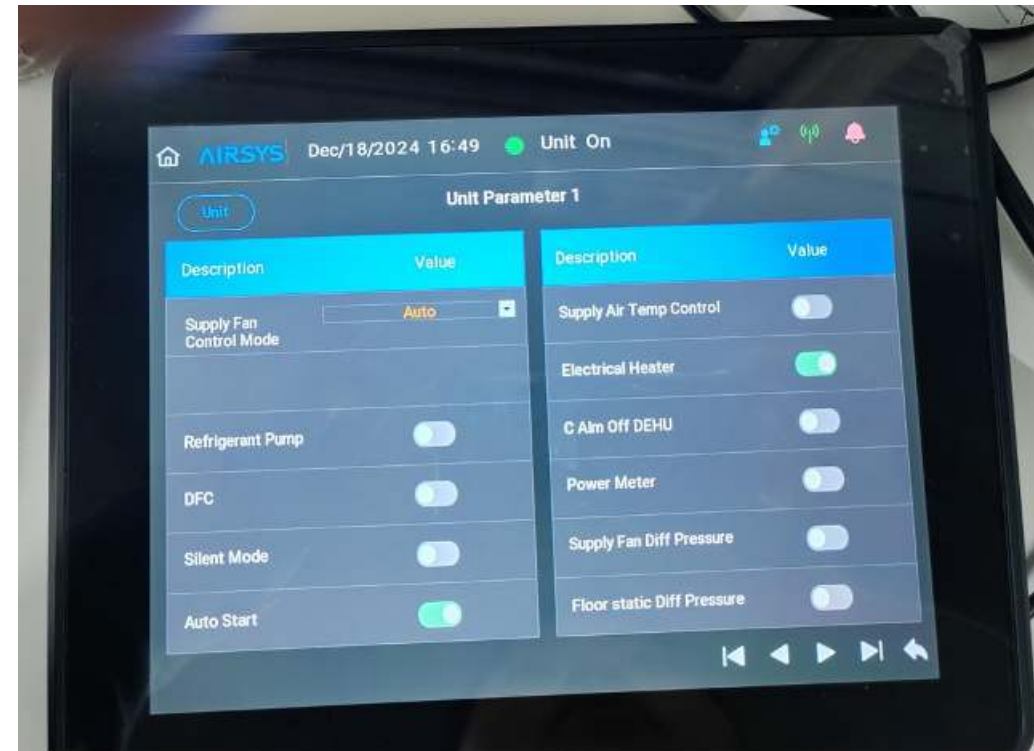
Off

Product Control& Software

Unit graph and Intuitive control switches



One graph for whole system status



Intuitive control button

Product Control& Software

Unit forced test and night mode

🏠 AIRSYS | May-25-2023 11:57 | 🟢 System On | Sev

M Control

Unit Manual 2

Description	Value	Unit
Y1 Condser Fan	0.0	%
Y2 Fresh Valve	Auto	0.0 %
Y3 Return Valve	Auto	0.0 %
Y4 Supply Fan	55.0	%
PC0E-D01 Condser Overflow Alarm	Auto	
PC0E-D02 Exhaust Valve	Auto	

Description	Value	Unit
PC0E-Y1 Exhaust Fan DFC	Auto	0.0 %
EVD1/2	Auto	0 Step
Step by Step		
Code:	0	⬆ ⬇ ⬇ ⬆
Note:	Devices Stop	

⏮ ⏪ ⏩ ⏭ 🔍

Change parts to manual mode and set the percentage of the opening

🏠 AIRSYS | Jan-06-2023 16:25 | 🟡 Off By Keyboard | Mcf

Unit Parameter 4

Description	Value	Unit
NightMode Start Time	22 : 00	
NightMode Stop Time	06 : 00	
NightMode CondFan Max	60.0	%
Comp Req Dehu	60.0	rps
Comp Min Speed	30.0	rps
Comp Max Speed	80.0	rps

Description	Value	Unit
Condser Fan DscgP Set	25.0	barg
Condser Fan Max Speed	100.0	%
Condser Fan Min Speed	15.0	%
Comp Load Cycle	10	S
Comp Unload Cycle	10	S
Exhaust Fan Factor	100.0	%

⏮ ⏪ ⏩ ⏭ 🔍

Night mode for setting the operation time

Product Control& Software

Airflow Management

Fan cap

Rear return assy.

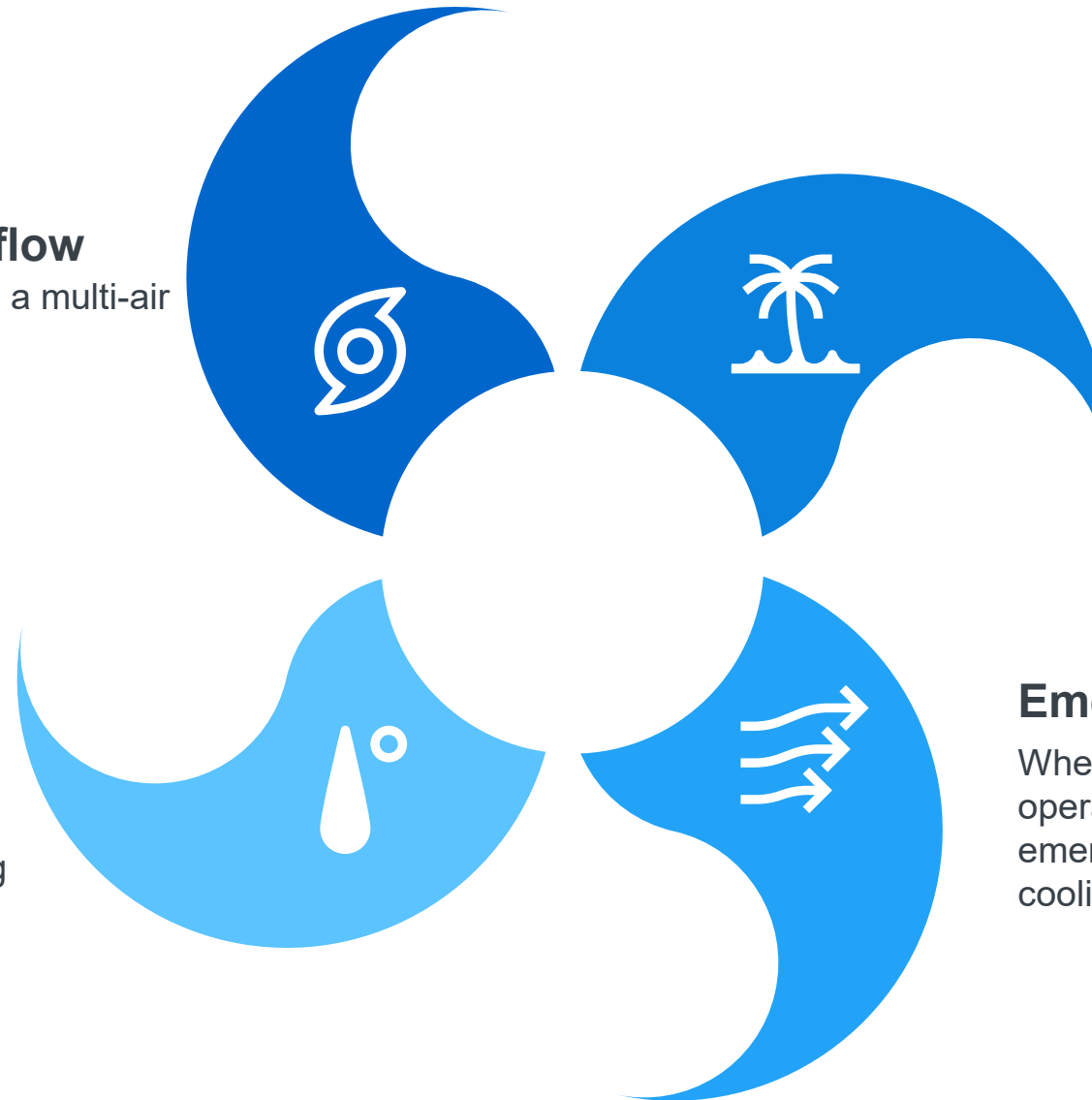
Backdraft damper for Topflow

Manage the airflow arrangement via a multi-air plenum accessory.

Heating & Dehum.

Raising the fan speed when heating activated.

Lower the fan speed when dehumidification activated.



Costal application(DFC)

DFC is not available for the coastal area. It will disable the DFC function.

Emergency ventilation(DFC)

When the unit compressor failure to operate. The unit will operate the emergency ventilation mode for cooling down the datacenter

Product Control& Software

Thermal Management

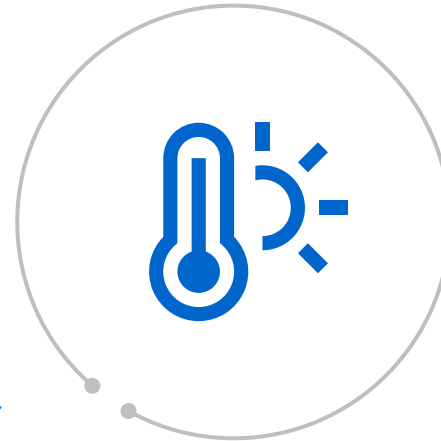
Instant Heat Load

The control system will optimize the compressor's speed to its maximum capacity in order to achieve the highest cooling capacity when there is an immediate heat load to be addressed.



Network for Teamwork Modes

Parallel and cascade mode are available



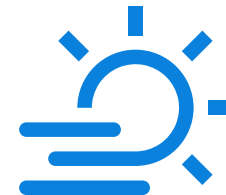
Humidity Control

Humidity control is ensured inside the control room through the use of a humidifier and the dehumidification mode of the unit, maintaining stable humidity levels.



Reheating

The reheating system uses electric heating to adjust the temperature stability inside the control room.



Product Control& Software

Data

Data History & Trend Searching

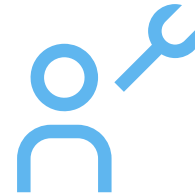


The screenshot shows a date and time selection dialog in the AIRSYS software. It has two sections: 'From' and 'To'. Each section has fields for Month, Day, Year, Hour, and Minute. The 'From' section is set to 'Dec 18 2024 16:58' and the 'To' section is set to 'Dec 18 2024 16:58'. A blue arrow points from the 'Time Plot' section to this dialog. At the bottom, there is a blue 'Search' button.

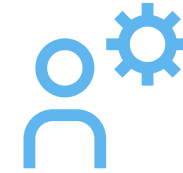
3 Levels for data protection with separated password



User
Level



Service
Level



Manufacturer
Level

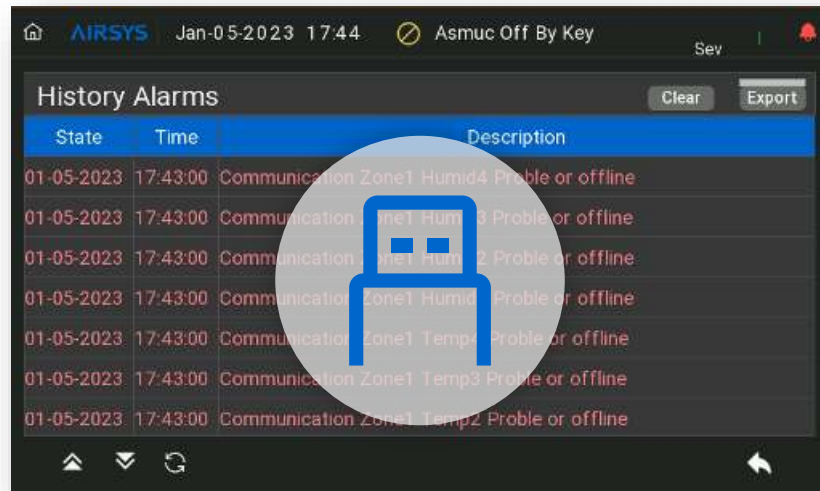
Password can customize for the user

- User level
- Service level
- Manufacturer level

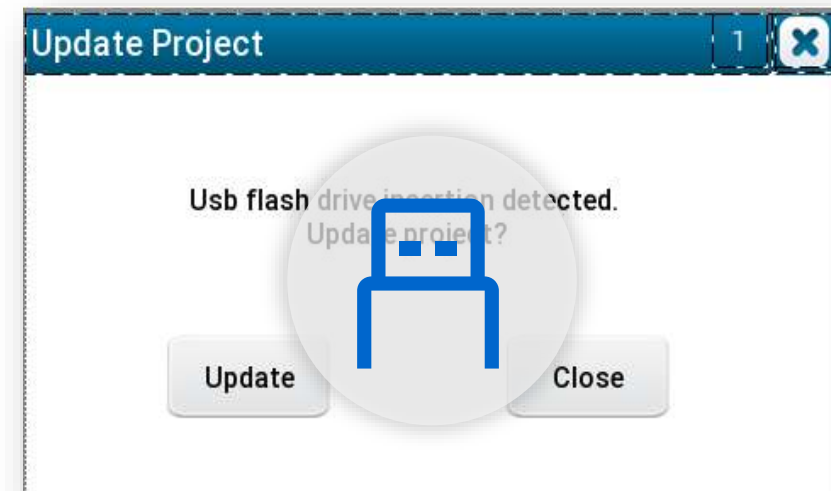
The screenshot shows a 'Change Password' dialog in the AIRSYS software. It has three password fields: 'User Password', 'Service Password', and 'Manufacturer Password'. Each field is represented by a series of asterisks. At the bottom right, there is a blue arrow pointing to the right.

Product Control& Software

Data



Alarm Export



Update Software

Touch display update by the USB driver

Product Control& Software

Easy To update

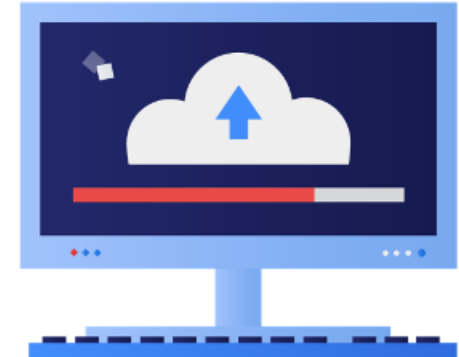
Ethernet Cable



Micro USB Cable



Network Update



OP2 software update process.pdf

Sales Enablement

Product Market positioning

Bigger and Better To Operate

❑ Premium Modular Data Center Cooling Solution

Engineered for demanding data center environments, delivering unprecedented deployment flexibility and system reliability

❑ Rapid & Hassle-Free Deployment & Easy Scale-Up, Expand on Demand

Single unit plug-and-play, multi-unit rapid on-site assembly

Minimize installation time, accelerate project delivery

❑ Ultra-High Cooling Density & Compact Design

High cooling density, saves 50%+ floor space

Single module fits through standard doors (60" × 78")

❑ Mutual Backup, No Single Point of Failure

Intelligent multi-unit parallel operation with automatic rotation backup

Automatic load compensation by remaining units if one fails

❑ Low spare parts management complexity

Modular design ensures component commonality across all units

Significantly reduces spare parts stock requirements and associated costs

Product Market positioning

Bigger and Better To Operate

Sales Support Resources

✓ **Complete Sales Toolkit:** Brochures, spec sheets, AHRI/ETL certificates

Unit available on the APSOM

✓ **Complete Option Drawings:** CAD drawings for all configurations: DFC, stands, sensors, etc.

✓ **Demo Units:** Available demo units(DXA) at ASHU & ASCT factory for customer

✓ **Training Support:** Complete product & sales training programs & Product video

✓ **Service Support:** Full Spare part list & trouble shooting guide

✓ **Real-time Platform Support:** BU portal

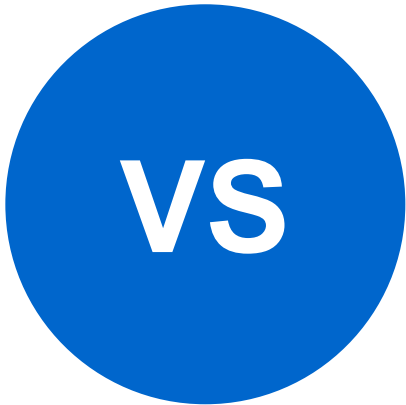
Product Hardware

Bigger and Better To Operate

Touch Display



9.7" 4:3 Resolution 1024x768 Brightness 350cd/m2
204 x 145 x 33.8 mm
CPU: 4core 1.2GHz ARM Cortex-A7 Memory: 256M DDR3+4G EMMC
Direct touch for value change and setting
USB port for data download
Full black without logo & fast booting and respond IP 65



6-key PGD Display

Display
Dimension
Performance
Operate Action
Download
Advantage

FSTN graphic with 132X64 pixel
72 x 36 mm
N/A
Hard to find and value change
N/A
N/A

Product control option

Various sensor for various needs

AFPD sensor for DFC

Test the dust level of outdoor



Water leakage detector

Water leakage detection



T&H sensor for supply air

Supply air temperature and humidity



Filter alarm & airflow monitor



Smoke detector



Power supply protection

Voltage and phase monitor



T&H sensor for rack

Computer rack air T&H sensor



Product Hardware



Various interface for various needs

Interface Card for BMS

SNMP



SNMP license Standard equipped in 2025

pCOWEB card



No need for pCOWeb card
c.PCO License for BACnet
Lower cost and fast apply

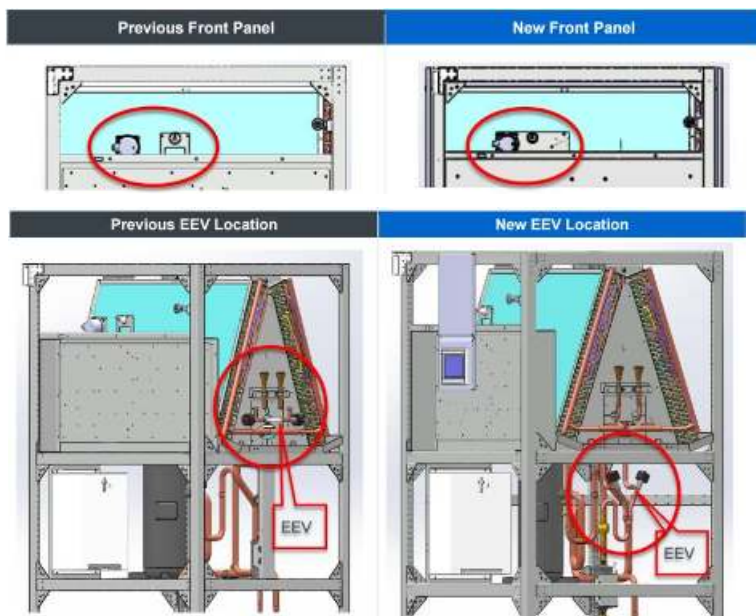
C.pCOe card



Expansion card for more sensor possibility

Product updates

Design change for maintenance



Infrared humidifier



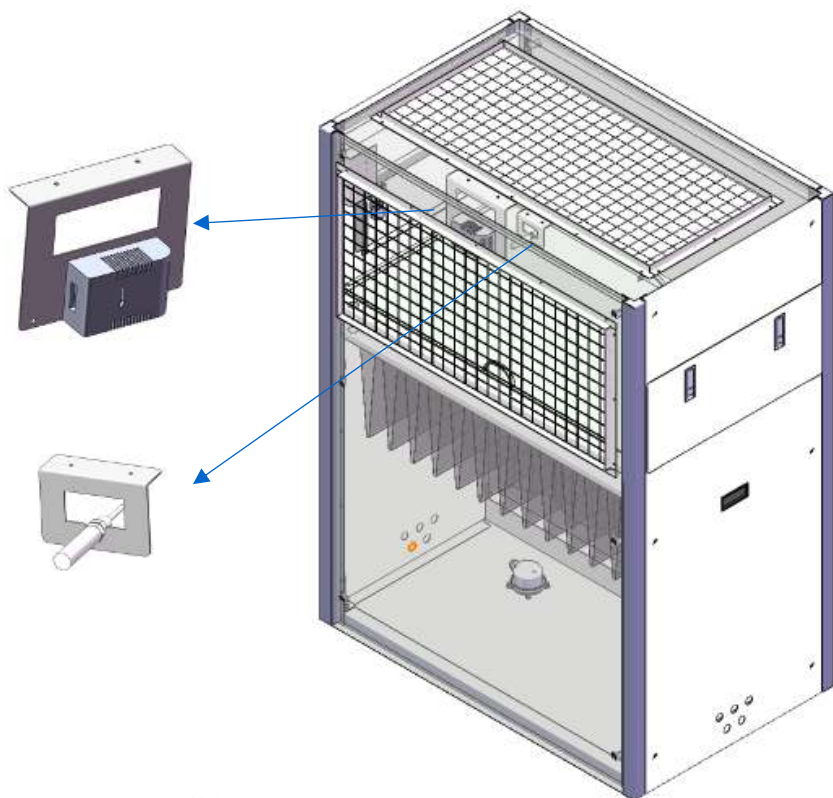
Condenser water pump

Water temp. $<40^{\circ}\text{C}$

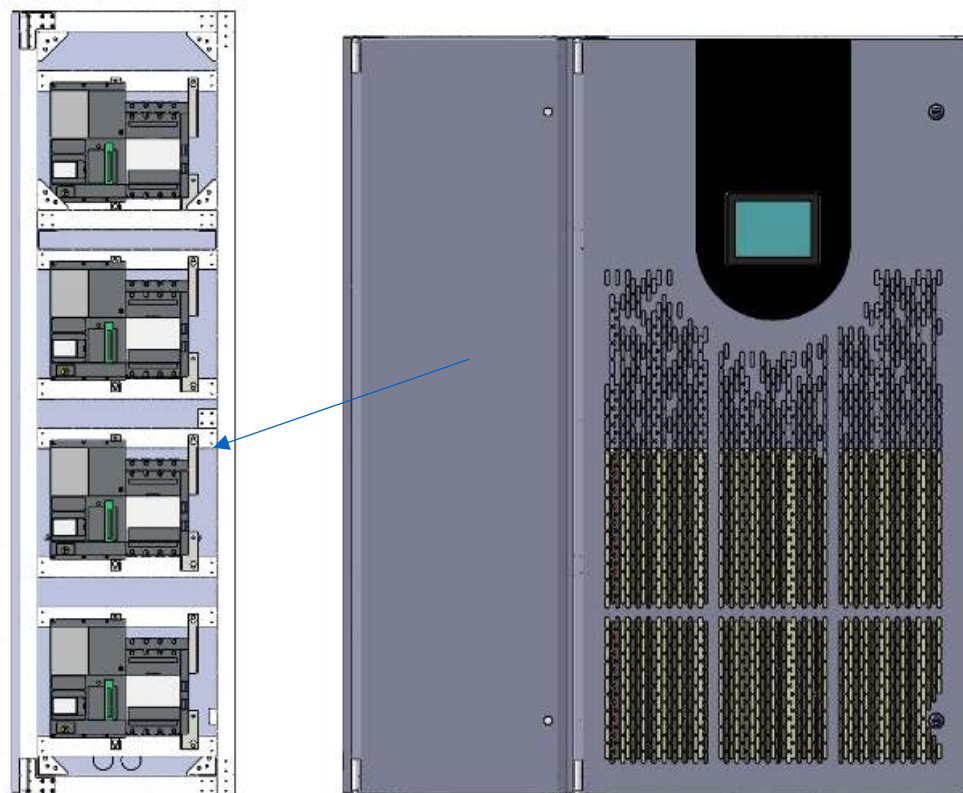


Product updates

Standard equipped with AFPD
& Temperature sensor



ATS Box for 2 or 4 units (DXA only)



Installation & Support

Installation & Support

INSTALLATION VIDEO

Installation introduction

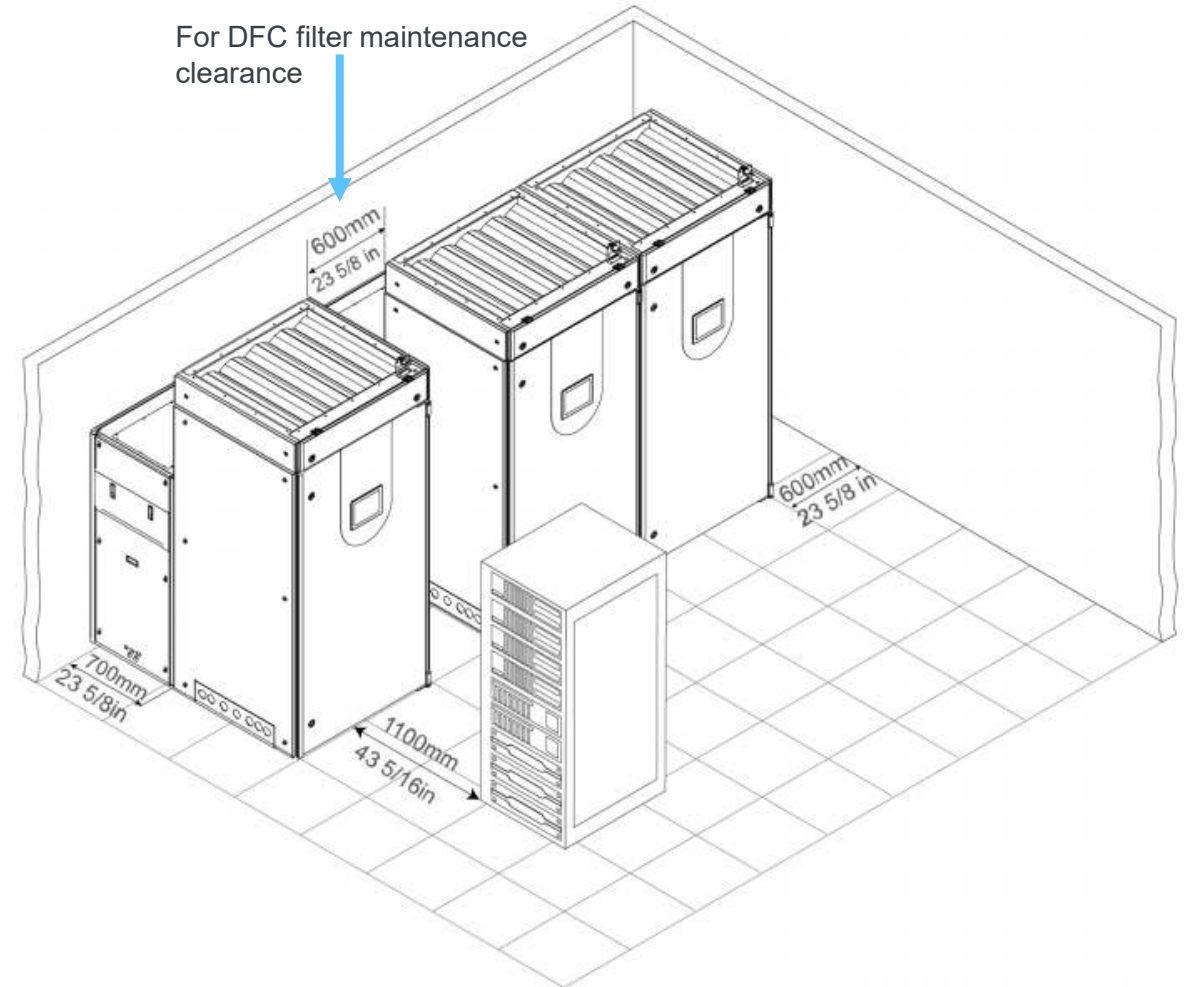
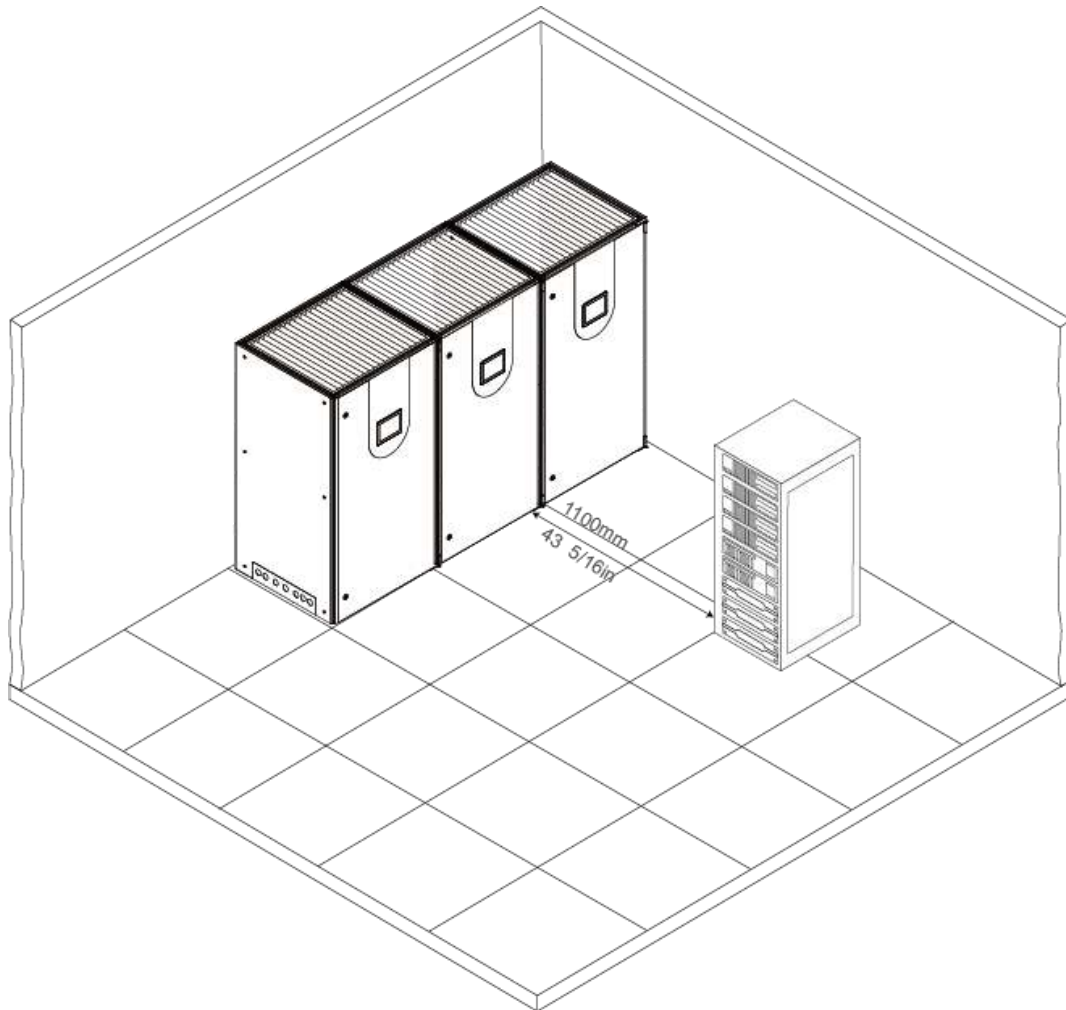


All in global SharePoint:

[https://airsysglobal.sharepoint.com/sites/MarketingPortalInternal/SitePages/OPTIMA-2\(1\).aspx](https://airsysglobal.sharepoint.com/sites/MarketingPortalInternal/SitePages/OPTIMA-2(1).aspx)

Installation & Support

INSTALLATION CLEARANCE



Raised floor > 450mm for downflow sunken fan

Installation & Support

INSTALLATION DETAILS SEE IM

R410A	R454B
 AIRSYS-P-IM-OPTIMA2-E2509V5.1.pdf	 AIRSYS-P-IM-OP2-454B-E2505V1.2.pdf

Also available on the portal

Catalogue for R454B version

-  IM-OP2-R454B-E2505V1.2
-  DS-OP2-R454B-E2505V1.2
-  TC-OP2-R454B-E2505V1.2

AHRI Certificate for R454B version

-  AHRI 460V-Topflow R454B
-  AHRI 460V-Downflow R454B

208-230V - Jan. 2026

ETL Certificate for R454B version

-  ETL-460V

208-230V - Feb. 2026

Brochure for R410A version

-  DS-OP2-R410A-E2506V1.2
-  OM-OPT2-E2502V2.0
-  IM-OP2-E2509V5.1

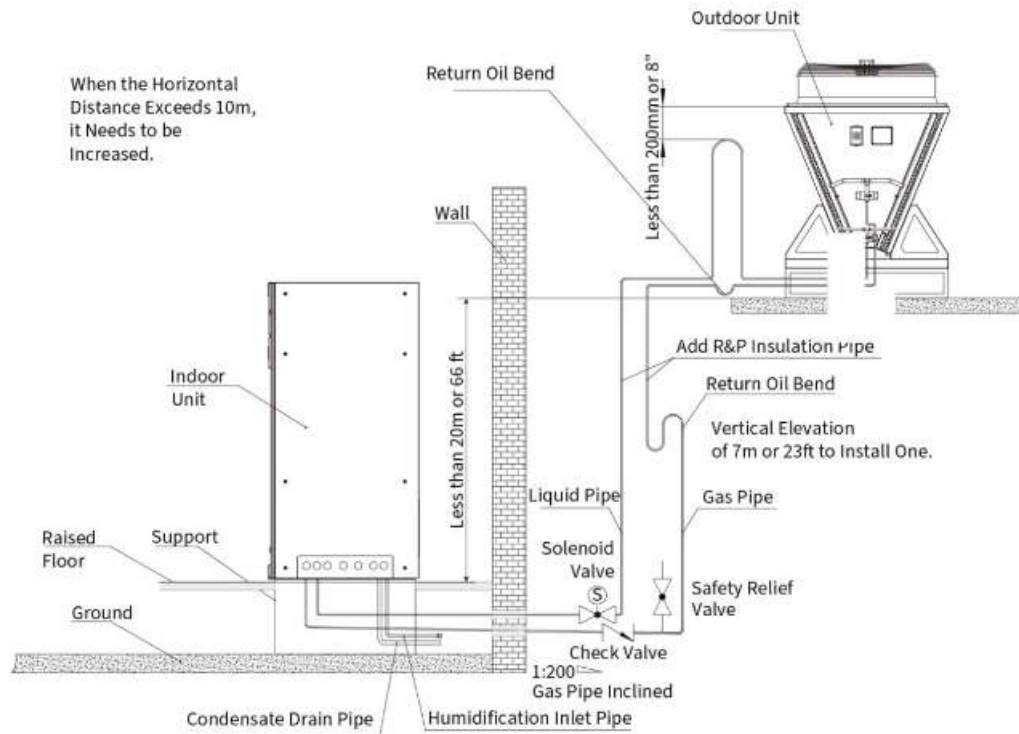
Certificate for R410A version

-  ETL 460V
-  ETL-230V
-  AHRI 460V-Upflow
-  AHRI 208-230-Upflow
-  AHRI 460V-Downflow
-  AHRI 208-230-Downflow

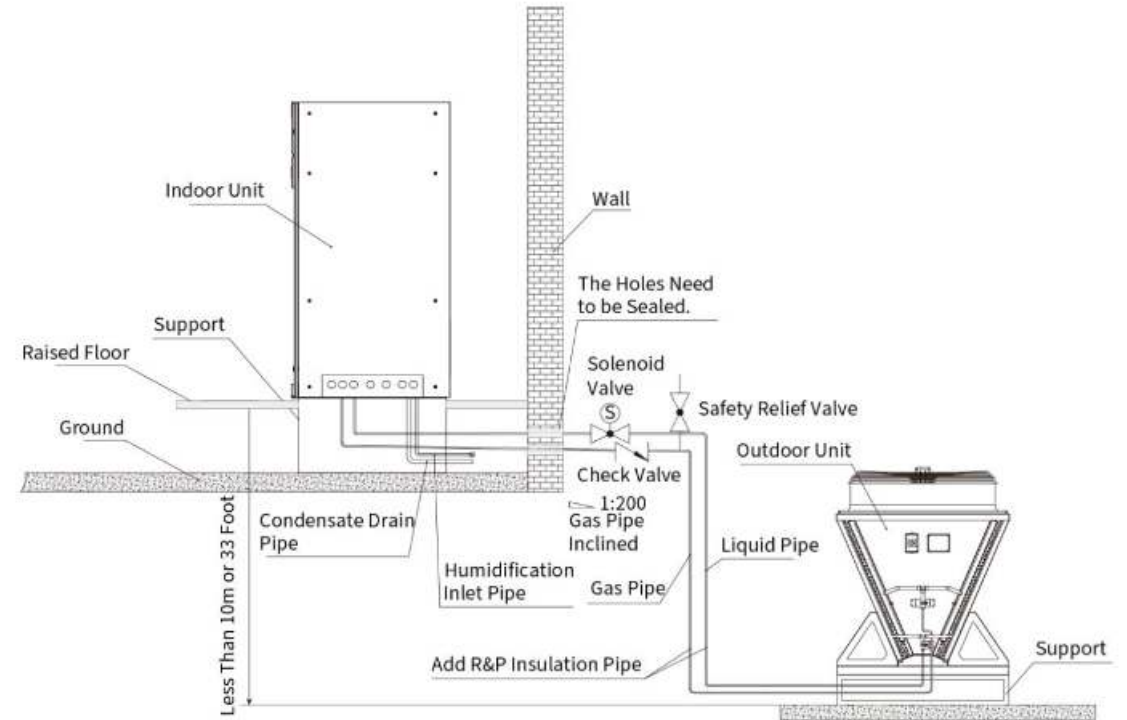
Installation & Support

INDOOR AND OUTDOOR UNIT POSITION

Outdoor Unit is Higher than Indoor Unit $\leq 20\text{m}$

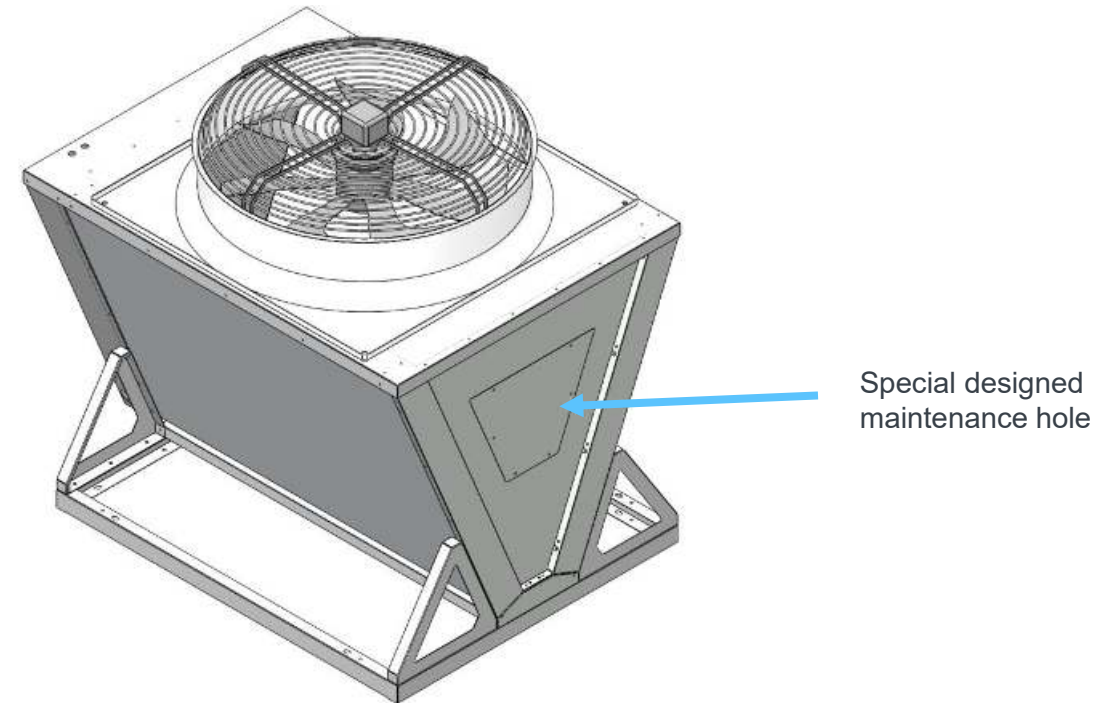
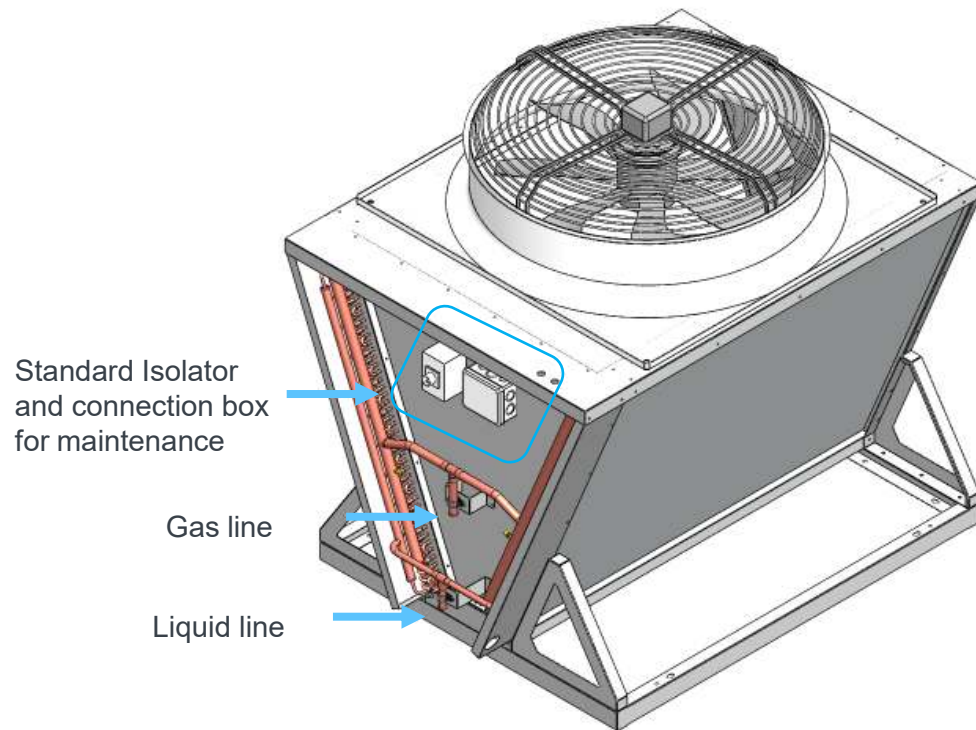


Outdoor Unit is Lower than Indoor Unit $\leq 10\text{m}$



Installation & Support

OUTDOOR UNIT



OD unit maintenance hole

Compliance & Certification

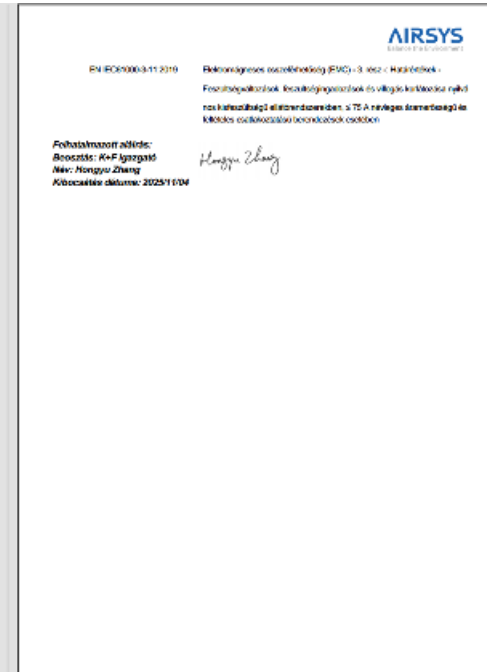
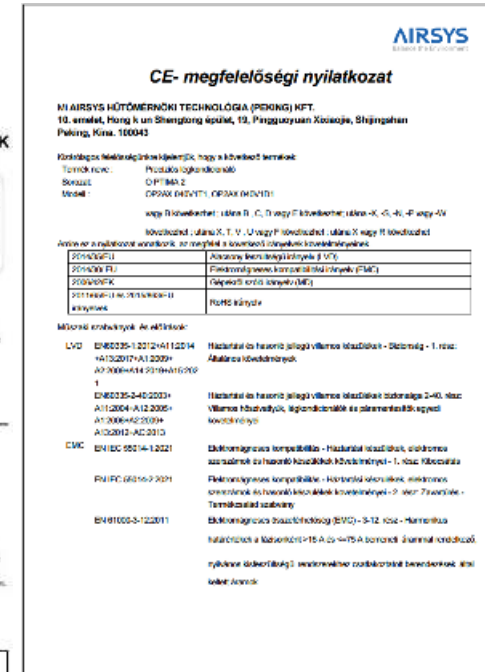
Compliance & Certification



✓ **AHRI 1360**

✓ **ETL**
UL 60335-2-40

✓ **CE**



Validation Test

TEST LIST FOR OP2

Test Name	Test Type	Standard/Criteria	Result
Performance test	Performance	AHRI1360	OK
Heating test	Performance	GB19413	OK
Humidification test	Performance	GB19413	OK
High ambient test	Operation	55°C	OK
Low ambient test	Operation	-20°C	OK
Condensate water drainage test	Operation	GB19413	OK
Filter test	Operation	MERV8&MERV13	OK
Unit copper pipe vibration test	Safety	AIRSYS Standard	OK
Transportation safety test	Safety	ISTA-1B	OK
EOL full unit test(Electrical, leakage, function)	Safety	AIRSYS Standard	OK
Noise test	Operation	GB 19413	OK



AIRSYS

Balance the Environment