

# R.A.S.E.R. DX

## Site Checklist



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## R.A.S.E.R. DX Site Checklist

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## **II Data Center Planning Considerations**

### **R.A.S.E.R. DX Site Checklist**

The R.A.S.E.R. DX offers an incremental data center cooling solution, capable of cooling 12kW of heat per cabinet.

There are three basic ways to deploy the EMS R.A.S.E.R. DX:

1. As a standalone unit
2. In a row, placed adjacent to other R.A.S.E.R. DX, or;
3. The R.A.S.E.R. DX can be placed adjacent to an existing row of other EMS MMDC units or third party cabinets.

The facility's approach to make up air supply and design should take into consideration short- and long-term needs for cooling. Immediate supply needs should meet the specifications and target cooling requirements based on the parameters defined in this site guide.

In anticipation of future heat loads, dedicated fans/louvers intake and exhaust pathways should be designed and installed based on specific heat load increments, such as 12kW or the specific number of R.A.S.E.R. DX per row or loop, or other site build out planning parameters.

## **III Pre-Installation Checklist**

### **R.A.S.E.R. DX Site Checklist**

- a. Customer Information**
- b. Site Preparation Checklist**
- c. Facility Information and Options**
  - i. R.A.S.E.R. DX Sample Layout
  - ii. R.A.S.E.R. DX Sample Ducting Options
  - iii. R.A.S.E.R. DX footprint and minimum clearances (without Mission Critical Venting Installed)
  - iv. R.A.S.E.R. DX Specifications

**a. Customer Information**

<b>Customer Information</b>	
Name:	Phone Number:
Street Address:	City or Town:
State or Province:	Country
Zip or postal code:	
Primary customer contact:	Phone Number:
Secondary customer contact:	Phone Number:
Traffic coordinator:	Phone Number:
<b>EMS information</b>	
Sales representative	Order Number:
Representative making survey	Date:
Scheduled delivery date	

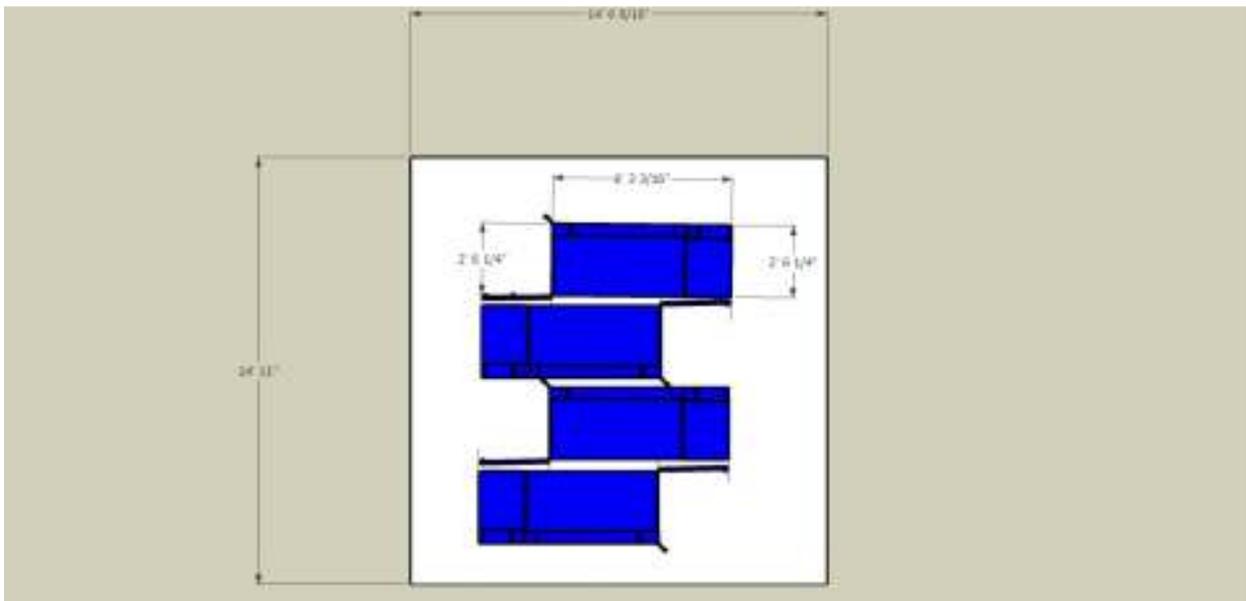
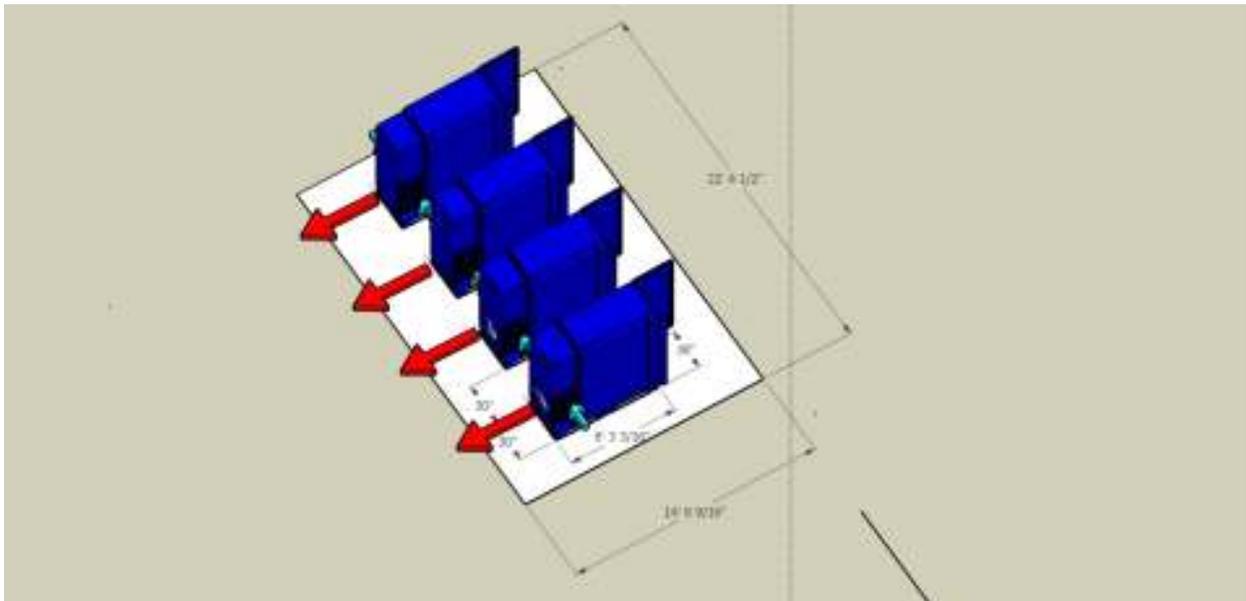
## b. Site Preparation Checklist

Please check either Yes or No. If No, include comment number or date				Comment or Date
Computer Room				
Number	Area or Condition	Yes	No	
1	Is there a completed floor plan, including a detailed location of the R.A.S.E.R. DX relative to the floor tile breaks and supports?			
2	Is there adequate space for maintenance needs?  The dimensions of the R.A.S.E.R. DX are: 83”H x 30” W x 75” D If Mission Critical Venting is installed, the dimensions are: 89”H x 30” W x 77” D  In order to properly access and maintain the R.A.S.E.R. DX, it is recommended that 36” of clearance in the front and rear are available.			
3	Based on the dimensions above, are there any restrictions associated with physically installing the R.A.S.E.R. DX in the its proper location (delivery dock, elevator, stairs, door size, etc)? The dimensions of the R.A.S.E.R. DX IN ITS CRATE is: 93”H x 38” W x 83” D			
4	Is access to the site or computer room restricted?			
5	If there is a raised floor system, is it able to adequately support the fully loaded rack and R.A.S.E.R. DX? The R.A.S.E.R. DX weighs 1,400 lbs without equipment and can safely accept 1,500 lbs of IT equipment.			
6	Are there channels or cutouts or pathways for cable routing?			
7	Are customer supplied peripheral cables and LAN cables available and of the proper type? The R.A.S.E.R. DX has 6 3” round grommets in either the bottom (standard) or top (optional) for network and power access.			
8	Is the room set up to allow for proper air flow (removing heat and supplying make-up air)? The R.A.S.E.R. DX should be used in an open room. If no ducting is used, a minimum room size of 1600 cubic feet is required. Additional air exchange to a large space (for example, via an open door) is recommended whenever possible.  The R.A.S.E.R. DX produces 2200 CFM of airflow with up to 48,000 BTU of heat load and an air temperature increase of up to 25°F. This heat must be removed by the building system serving			

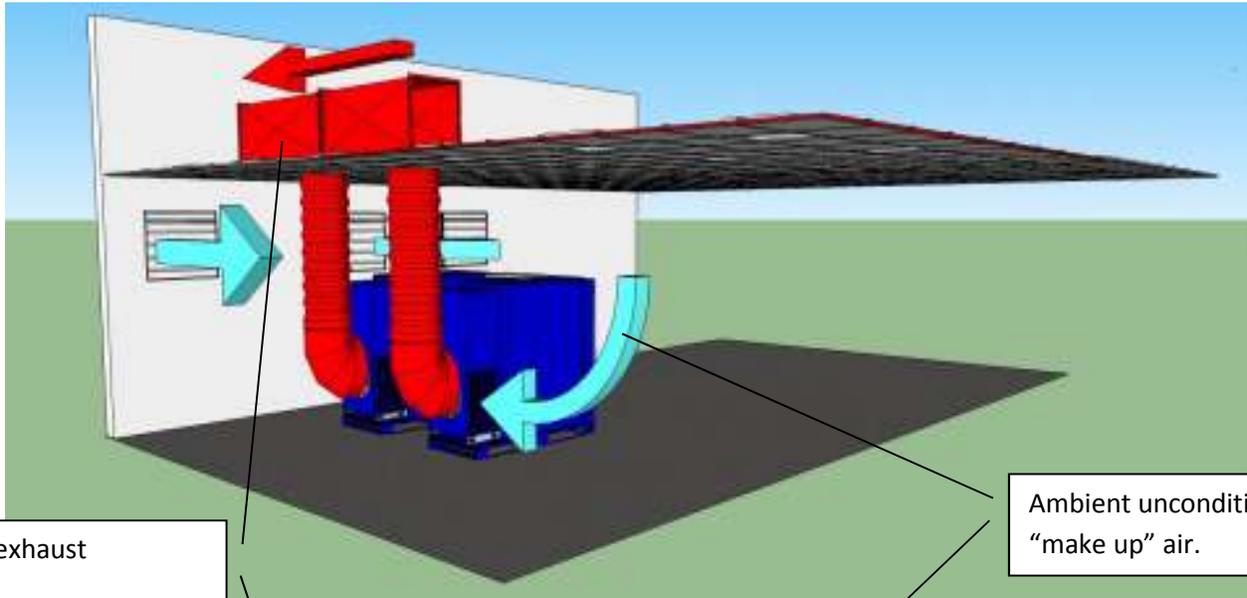
	the room in which the RASER is installed.			
<b>Power and Lighting</b>				
Number	Area or Condition	Yes	No	
9	Are there AC outlets that match the correct plug type? The R.A.S.E.R. DX uses 208-240 VAC 50/60HZ single phase power. A 35 amp breaker and 50amp California standard (Hubbell CS8264C) plug is required for the AC unit.			
10	Does the input voltage and frequency correspond to equipment specifications?			
11	Is dual source power used? If so, identify types and evaluate grounding.			
12	Is power conditioning equipment installed?			
13	Is there a dedicated 30A branch circuit for the equipment?			
14	Is the dedicated branch circuit less than 75 feet (22.86 meters) away?			
15	Are the input circuit breakers adequate for equipment loads?			
16	Has the amount of rack space (42U) and heat loads (12kw) of the equipment being installed in the R.A.S.E.R. DX been checked against the specifications of the R.A.S.E.R. DX?			
17	Have blanking plates been ordered for any rack space that is not being used? It is critical for the proper operation of the R.A.S.E.R. DX that any open rack space is covered by blanking plates.			
<b>Safety</b>				
18	Is there an emergency power shutoff switch?			
19	Is there a fire protection system in the computer room?			
20	Are there any equipment servicing hazards (loose ground wires, poor lighting, and so on)?			

c. Facility Information and Options

i. R.A.S.E.R. DX Sample Layout



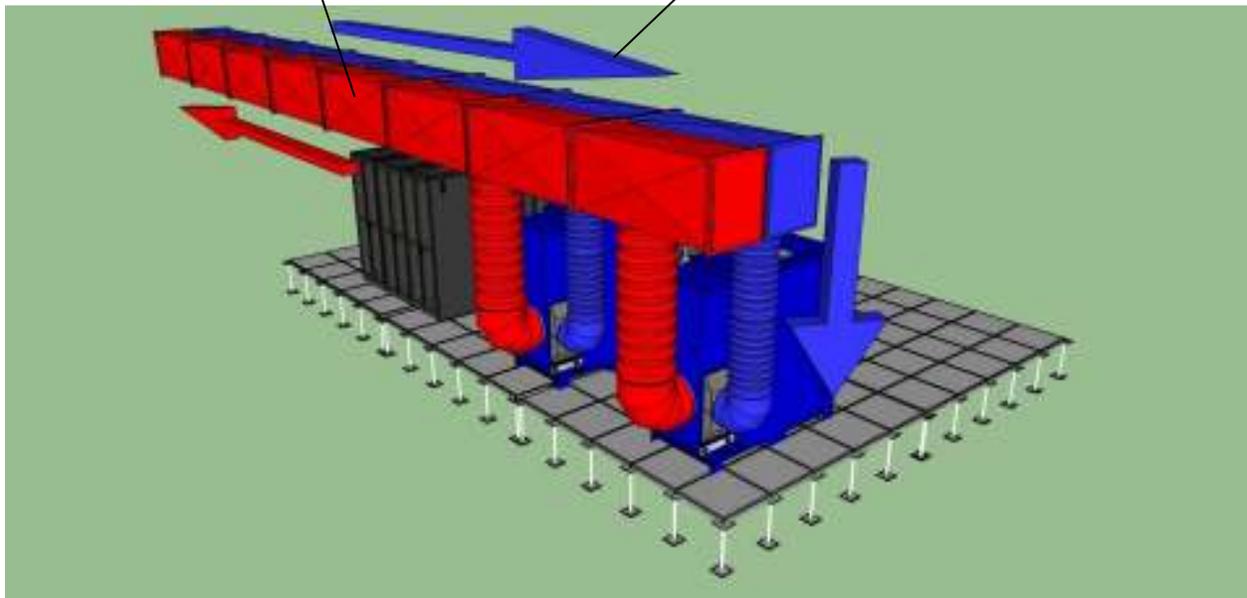
## ii. R.A.S.E.R. DX Sample Ducting Options



Hot air exhaust

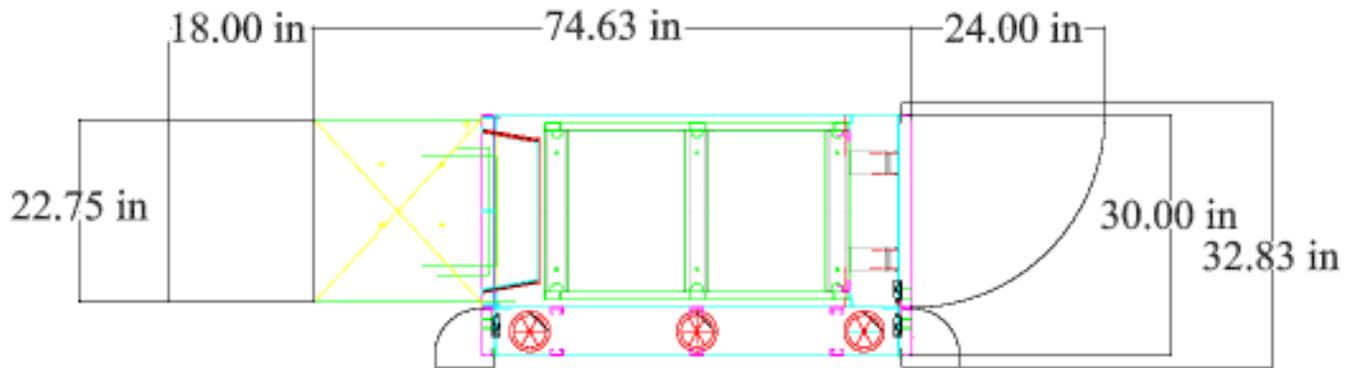
Ambient unconditioned  
"make up" air.

**NOTE:** Possible Booster Fan may be need depending on location of exhaust point

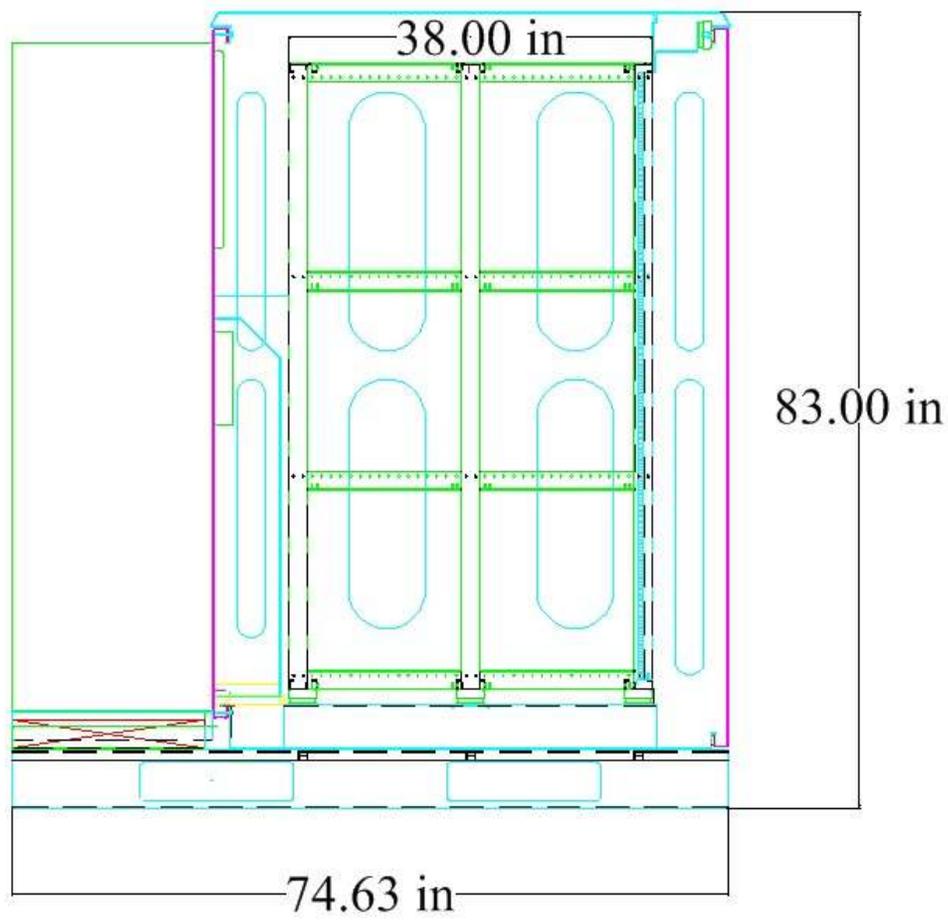


iii. R.A.S.E.R. DX footprint and minimum clearances (without Mission Critical Venting Installed).

Top View



Side View



#### iv. R.A.S.E.R. DX Specifications

##### 1. Dimensions and Weights

Table provides dimensions and weights of the R.A.S.E.R. DX System that is not populated.

	Un-Crated R.A.S.E.R. DX	Crated R.A.S.E.R. DX
Height	83"	93"
Width	30"	38"
Depth	75"	83"
Weight	1,050LBS(a)	1,400LBS(b)

a. This weight represents a fully assembled R.A.S.E.R. DX before any components are installed

b. This weight represents the packaged weight of the R.A.S.E.R. DX, along with all packaging materials such as cartons and skid.

##### 2. Electrical Specifications

Rated Voltage	200/230
Frequency (Hertz)	50/60
Operating Range	+/-10%
Max Power Consumption (Watts 50/60 Hz)	8280
Max Nominal Current (Amps at 50/60 Hz)	36
Starting Current (Amps)	104
Agency Approvals	cUL Listed CE - Others available upon request
Power Input Description	Terminal Block

##### 3. Enclosure Protection

UL Type	Type 12/3R/4 Standard 4X Stainless Steel Optional
International Rating	IP54/55 Standard

##### 4. Controller

Description	Basic Mechanical Thermostat
Thermostat Location	Enclosure Side on All Base Models
Factory Thermostat Setting	80/27

## 5. Sound Level

At 1.5 Meters	66dBA
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## 6. Unit Construction

Material	Galvanized Sheet Metal Standard - Stainless Steel Optional
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**NOTE:** The power requirements outlined above are for the fans and electronics for the R.A.S.E.R. DX only, system components such as servers, storage and network devices, must be considered separately based on their individual power requirements.

## 7. Cooling Performance

Nominal:	
BTUs/Hr	39000/43000
Watts	11430/12602
At 131° F/ 131° F (55° C/ 55° C):	
BTUs/Hr (50/60 Hertz)	38613/42930
Watts (50/60 Hertz)	11316/12570
At 95° F/ 95° F (35° C/ 35° C)	
BTUs/Hr (50/60 Hertz)	31316/12570
Watts (50/60 Hertz)	9192/10,579
Refrigerant	R-407C
Refrigerant Charge (ounces/grams)	128 oz/3629g
Operating Temperature Range:	
Maximum (°F/°C)	131° F/55° C
Minimum (°F/ °C)	-40° F/-40° C
Air Flow at 0 Static Pressure:	
Internal loop 50 Hz (CFM / M3 / Hr)	1085 cfm / 1843 m3/Hr
External loop 50 Hz (CFM / M3 /Hr)	2176 cfm / 3697 m3/Hr
Internal loop 60 Hz (CFM / M3 / Hr)	1171 cfm/ 1989 m3/Hr
External loop 60 Hz (CFM / M3 /Hr)	2347 cfm/ 3987 m3/Hr
Max. Heater Watts (Outdoor Models)	2000W Standard (5000 W Optional)



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