

CLIMAPROCESSOR

rooftop monoblock HVAC unit

FLAT ROOFTOP (F-RT)



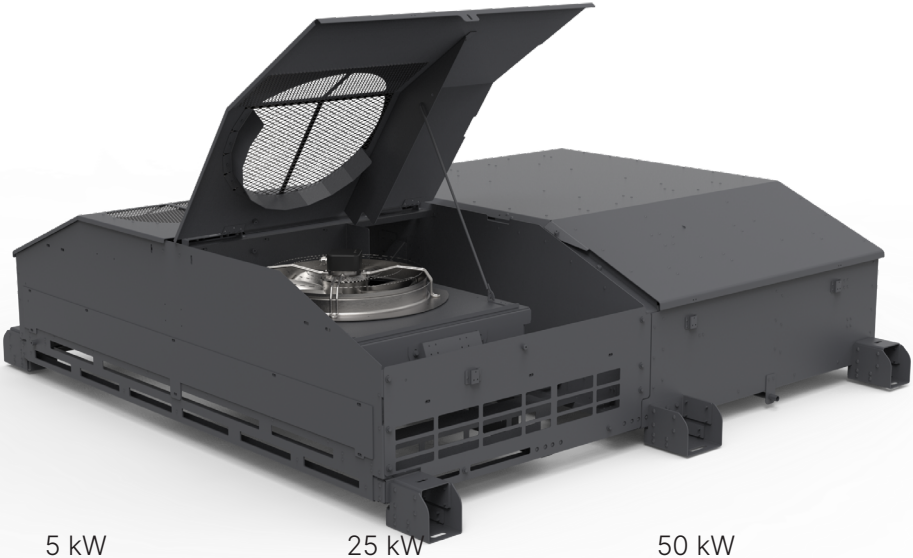
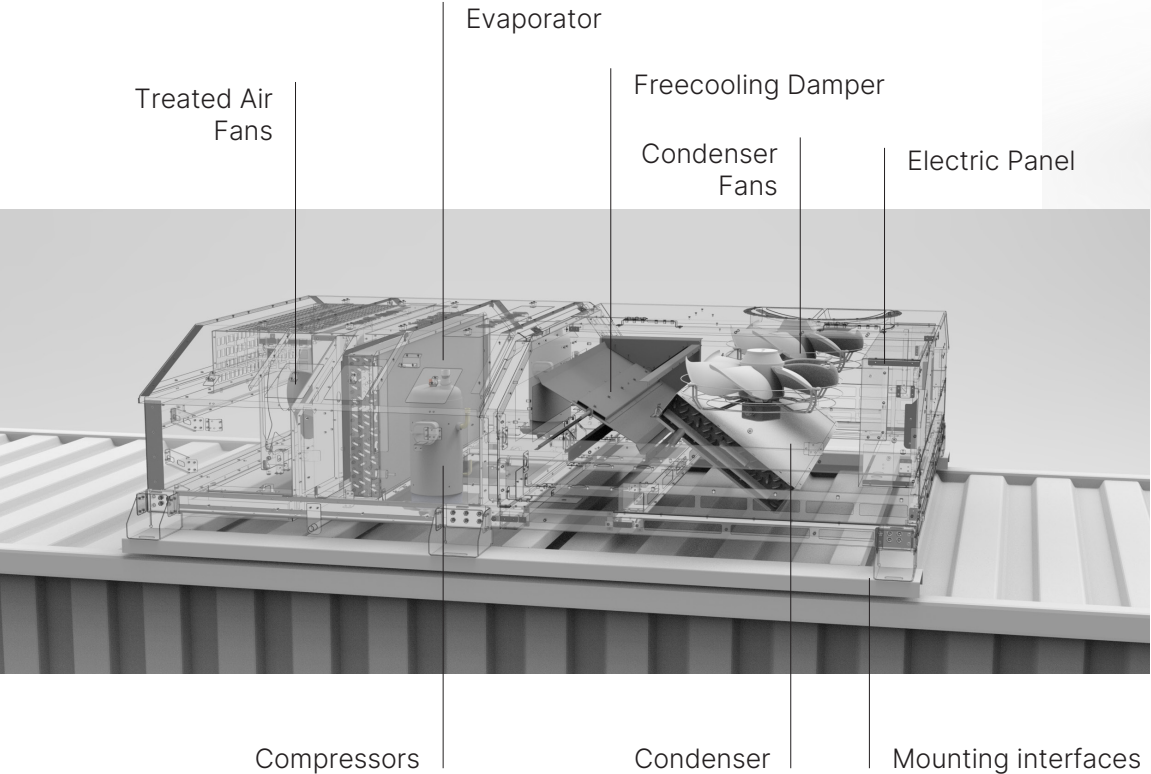
F-RT UNIT

(monoblock direct expansion unit, with integrated *freecooling*):

The F-RT is an air treatment unit (cooling and/or heating) of monoblock type (with an integrated condenser) featuring *freecooling* functionality for energy savings. Designed for rooftop installation, the unit is specifically engineered to be mounted on standard-sized containers.

The units can be configured with a single or dual circuit to ensure system redundancy, with power capacities ranging from 5 kW to over 50 kW.

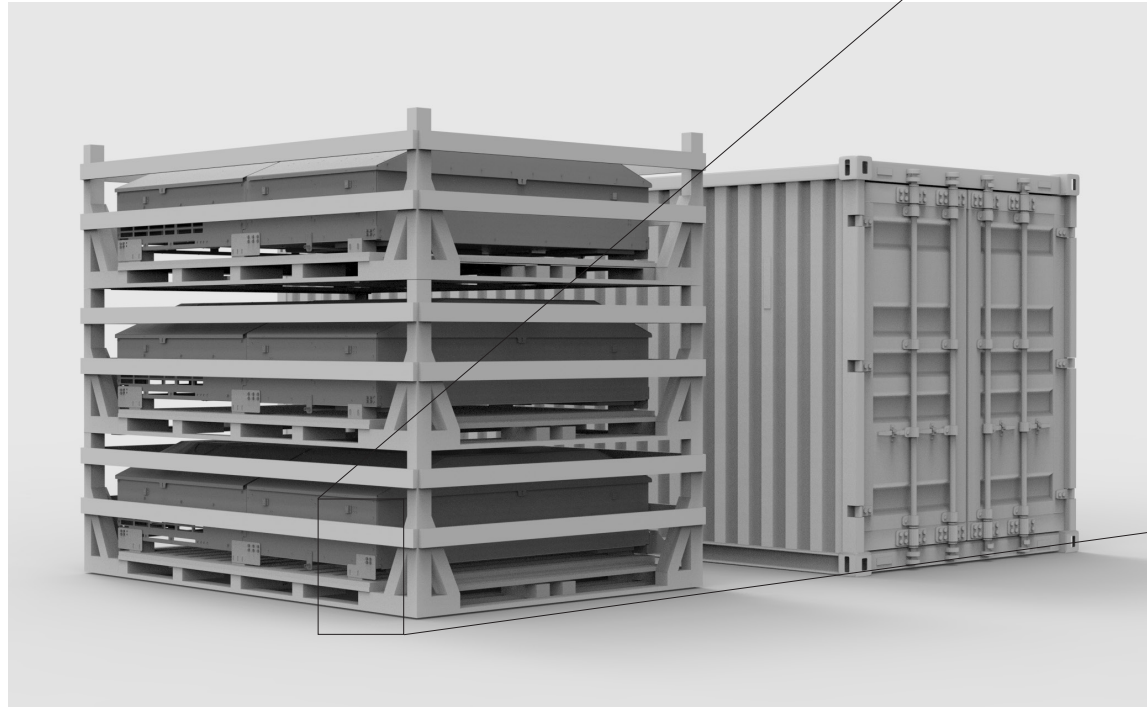
This is the perfect solution for modular datacenter and energy storage and converters.



5 kW	25 kW	50 kW
F-RT M	F-RT L	F-RT special
Dimensions: 2300 × 2100 × 660(H)	Dimensions: 2600 × 2100 × 660(H)	Dimensions: <i>special</i>

SHIPPING LAYOUT:

Clima Processor **F-RT** (*Flat Rooftop Unit*) units can be stacked in their shipping crates for efficient transportation. When stacked, three units occupy the volume of a standard shipping container. Once the shipping plates (which temporarily secure the units during crane handling) are removed, the installation feet can be fixed. With the feet in place, the unit can then be lifted using the four designated lifting points.



HOW TO LIFT:

The installation can be easily performed using a *bridge crane* or a *crane truck* (the approximate weight of the unit is 700 kg). If the first option is not feasible, the installation can be carried out with a standard *forklift*. For this option, ensure that the forklift can reach the required final elevation for setup, which is approximately +270 cm.

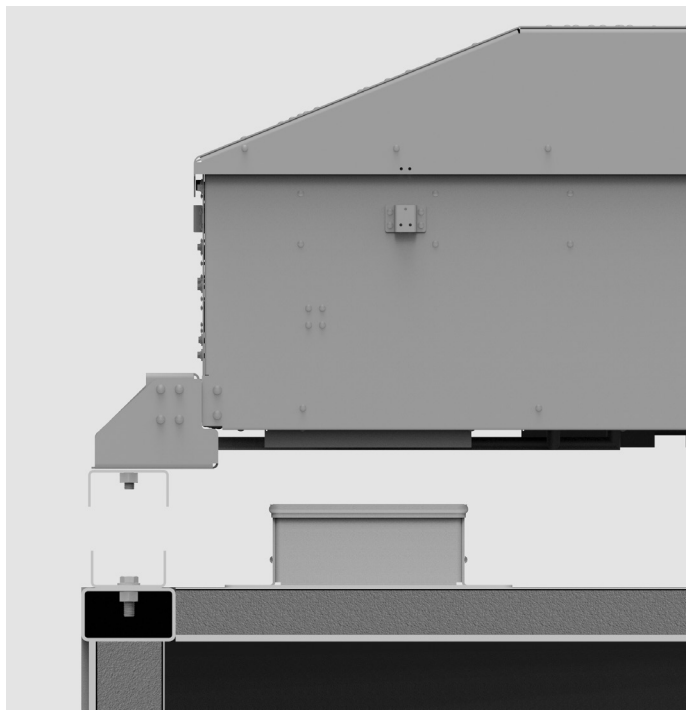


option 1:
Bridge Crane or Crane Truck



option 2:
Forklift

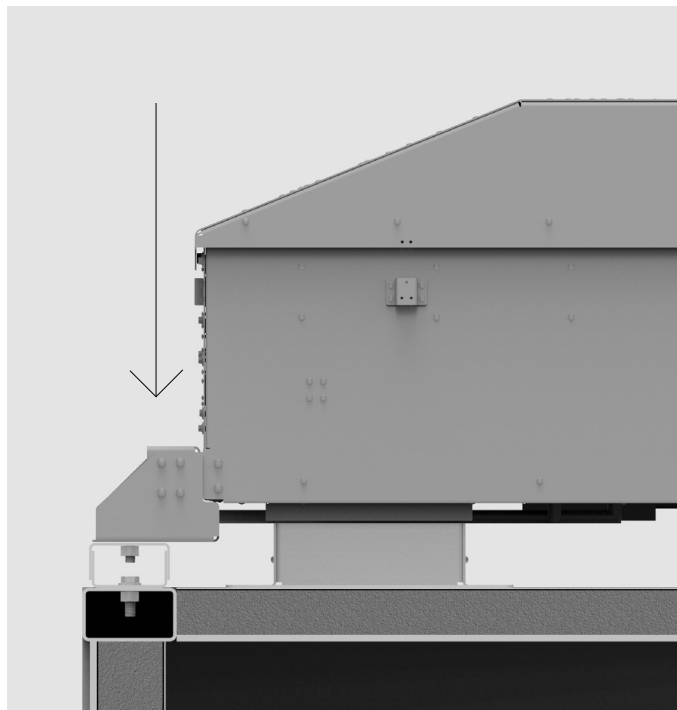
HOW TO INSTALL:



step 1:

Alignment

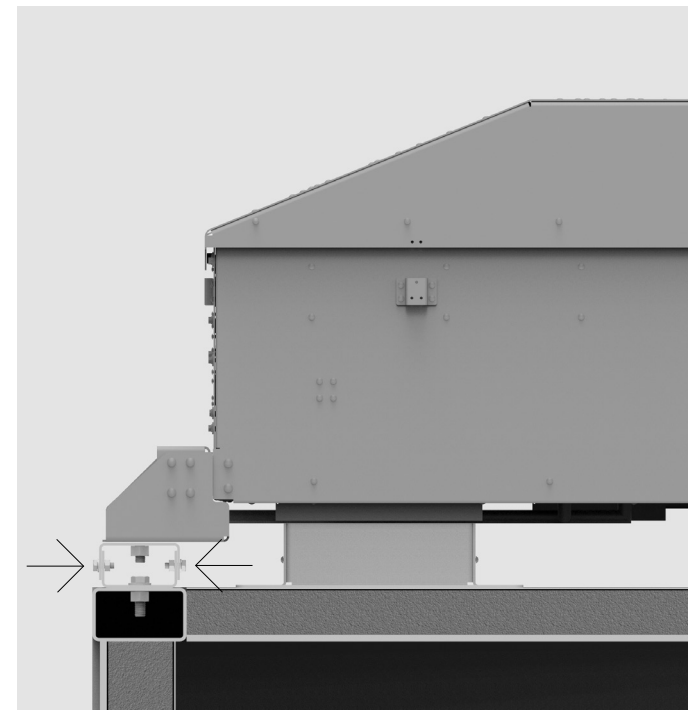
The machine is lifted into position, ensuring that the installation rails are properly aligned. It is necessary to prepare the mounting housings (metal C-profiles that we can provide), which must be fixed by the customer along the structural beams of the container.



step 2:

Positioning

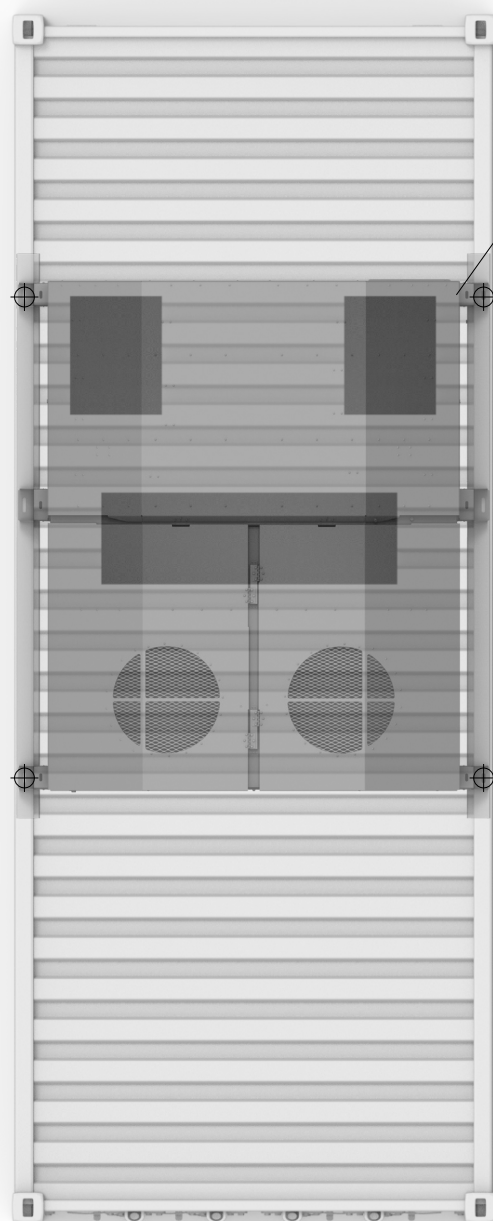
The unit is lowered into place. When the fixing holes are aligned, the pre-installed air passage interfaces on the container roof (provided by Clima Processor) will also be automatically centered.



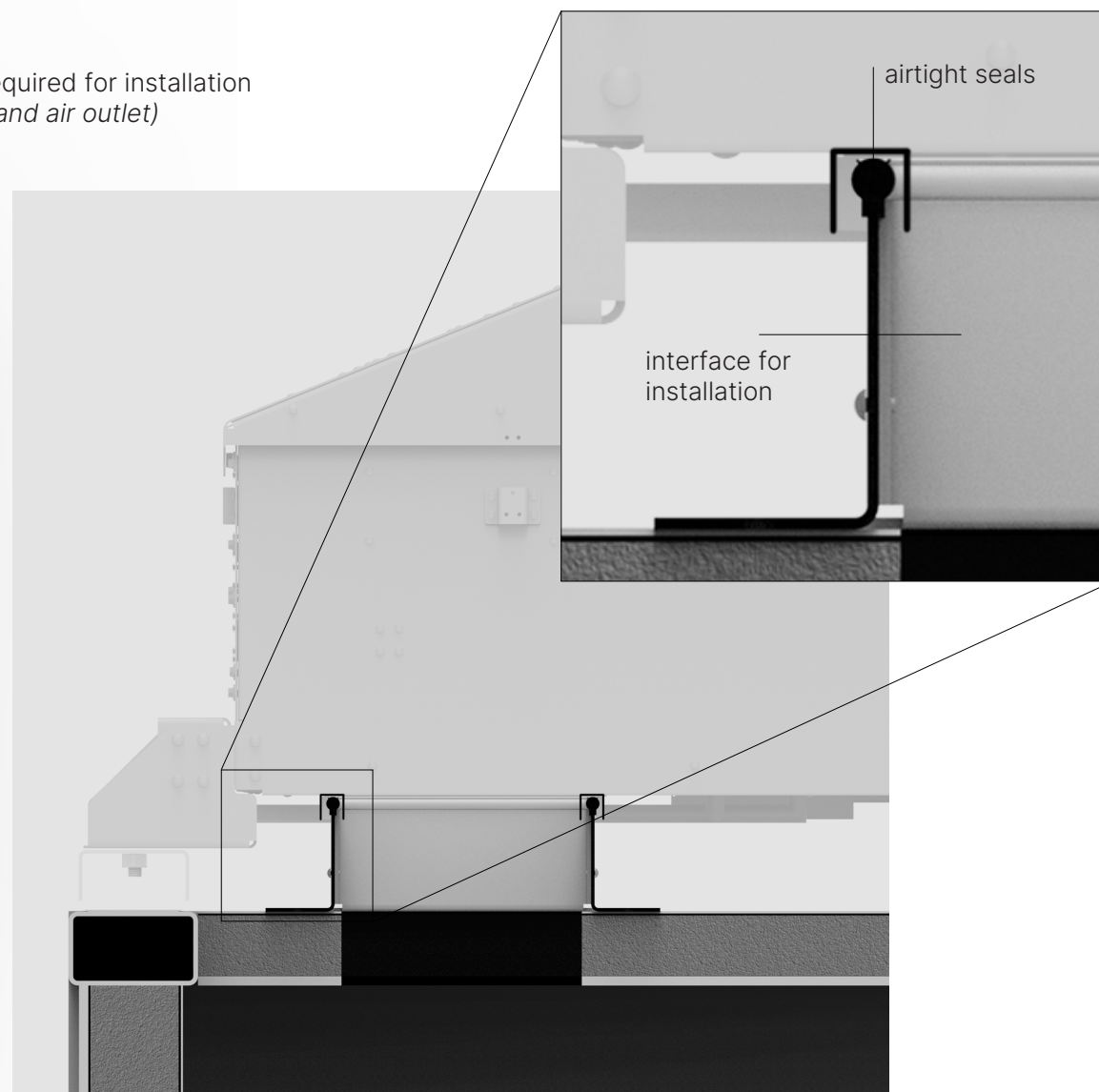
step 3:

Fixing

Once all elements are in position, the unit can be secured to the container roof. At this point, wiring and final finishing touches can be completed.



Interfaces required for installation
(for air inlet and air outlet)

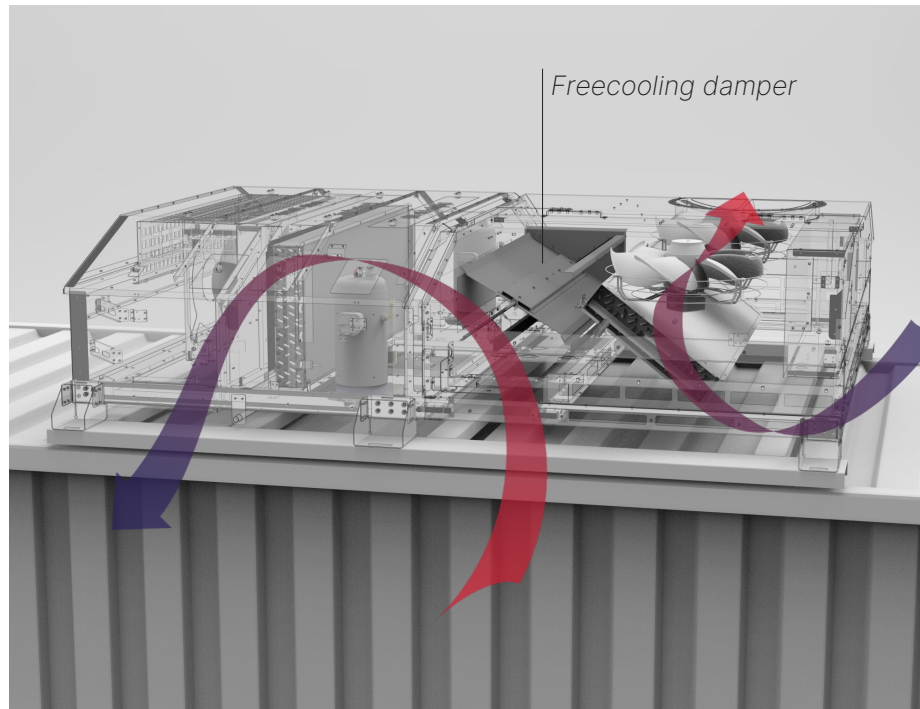


FREECOOLING:

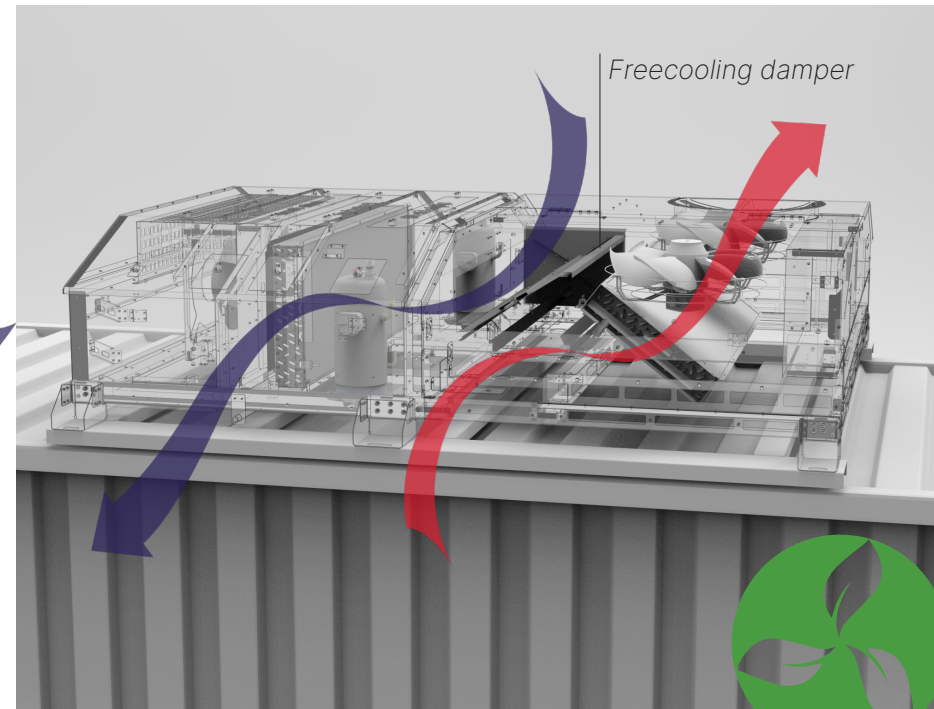
The **F-RT** features a freecooling damper that allows the use of fresh external air to cool the internal environment without activating the refrigerant circuit. In this mode, energy consumption is limited solely to the fan. It is also possible to modulate the external airflow to mix internal air with fresh external air.

When operating in freecooling mode, the external air is made to flow directly inside the container, while the internal hot air is conveyed outside.

	EXTERNAL TEMPERATURE:	FREECOOLING PERCENTAGE	ENERGY CONSUMPTION (compared to standard cooling operation)
Target Temperature: 27°C	< 19 °C	100%	-85%
	19°C < T < 21 °C	75%	-64%
	21°C < T < 23 °C	50%	-44%
	23°C < T < 25 °C	25%	-22%
	> 25 °C	0%	0%

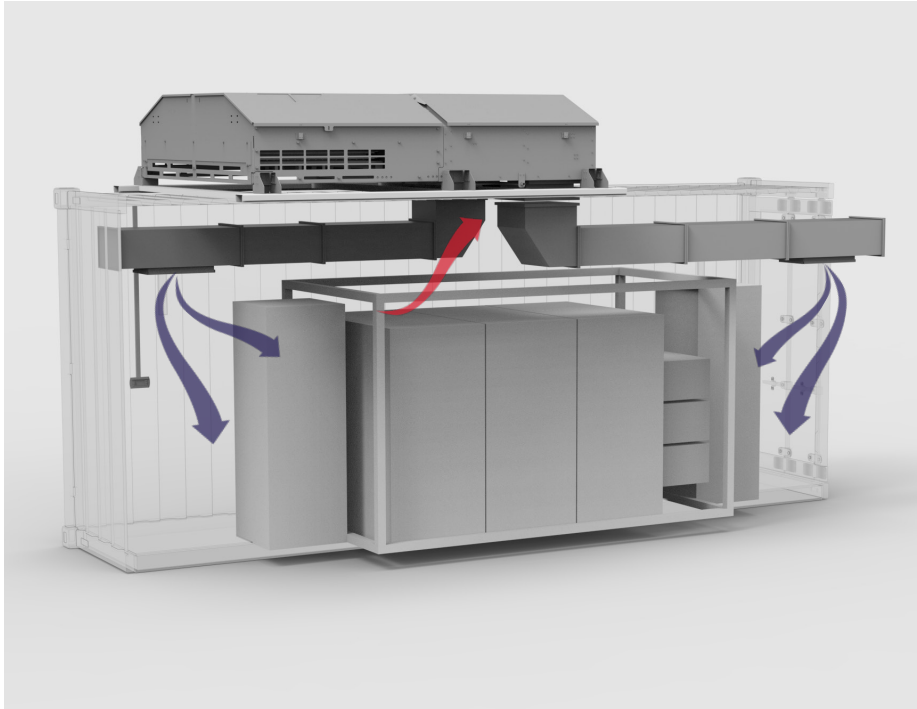


Airflow in normal cooling mode



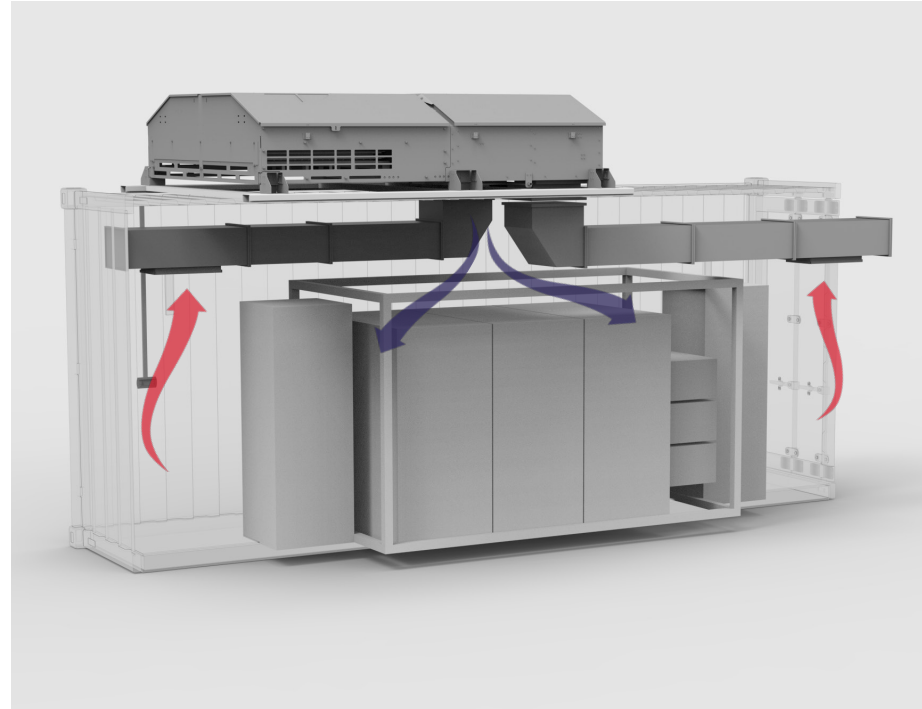
Airflow in freecooling mode

DUCTING SYSTEM:



option 1:

Ducting for air delivery



option 2:

Ducting for air extraction

Based on the requested application and the specific installation requirements inside the container, the **F-RT** unit can be equipped with internal ducting that enhances air circulation within the container for improved cooling. This ducting system can either optimize air delivery (*option 1*) or improve hot air extraction (*option 2*). These ducting are optional; the airflow configuration must be defined during the order definition.

CLIMAPROCESSOR

CLIMA PROCESSOR is a CMC Rail s.r.l. brand.

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