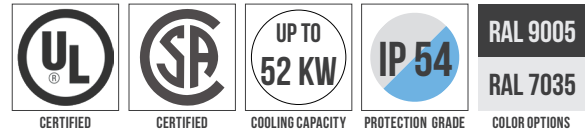


MINI DATA CENTER

IT RACK WITH INTEGRATED SIDE COOLER (DX OR CW BASED)



Frog Engineering's Mini Data Center is a modular server rack that allow organizations to meet their networking needs while controlling both capital and operational expenditures. As standalone units, they are suitable for hospital clinics, disaster recovery operations, field or branch offices, or any other site that needs cutting-edge data center solutions but may not have on-site IT personnel.

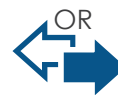
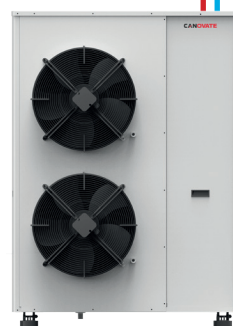
Mini Data Centers can also be scaled up to hundreds of racks. This scalability makes them the perfect solution for established organizations that have seen a period of growth and need to expand, as well as start-ups that need to control their expenditures now, but also need the flexibility to grow rapidly later.

Our Mini Data Centers can be deployed in 4-6 weeks from the design stage to the go-live date. They are fully turn-key telecommunications solutions; as much of their infrastructure as possible – including cooling, power management and protection, and security and monitoring – is built into the design.

	Side Cooler			
Cooling Capacity	10 kW	16 kW	32 kW	52 kW
Rack Height	42U/47U			
Rack Depth (mm)	1000/1200			
Rack Width (mm)	300		600	

Highlights:

- Integrated monitoring system
- Install Data Center where you want and need it
- Rapid deployment in 4-6 weeks from plan to start-up
- Low total cost of ownership
- Up to 50% less space required
- No raised floor required
- Full turnkey Data Center including cooling, structured cabling, monitoring, power management and protection
- Standalone Data Center
- Individual rack cooling up to 52 kW
- High level security within rack fire protection and monitoring systems
- Advanced power management with IP PDU and UPS with VLRA battery pack (default) or Lithium (optional)
- Internal redundancy achieved by using 3x fan.
- External redundancy achieved by using N+1 side coolers
- Structured cabling solutions with overhead cable channels
- Access Control options with either keypad, RFID card reader or fingerprint reader to open the cabinet doors
- Li-ion Tamer GEN 3 Lithium Ion Battery Off-Gas Detection System
- Fire Detection/Extinguisher System Aerosol HAFEX



Applications:

- High density servers exceeding 10 kW Mobile Containers/Shelters
- Branch Offices
- Disaster recovery operations
- Small clinics/hospitals
- Warehouses
- Remote installations
- Temporary installation
- Mobile applications



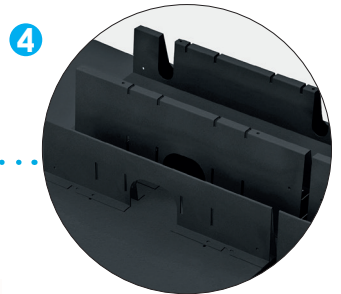
COMPONENTS OF MINI DATA CENTER



Key Display
(Default)



7" Color
Touch Screen (Option)



Structured Cabling
& Power Cable
Partitions



1U EMS
(Environmental
Monitoring System)



Rack UPS
(Uninterruptible
Power Supply)



Aerosol Fire Extinguisher
System with HAFEX

"Frog Engineering Mini DC can have any Data Center component that you can need for a modern IT environment from power management to HVAC"



MINI DATA CENTER

AIR CIRCULATION

While Frog Engineering Mini DC meets effective air-conditioning need for medium-sized integrated data centers in the market, cooling performance has also been one of the most important design criteria.

The side cooling unit has to include air deflectors so that air-circulation should be effectively carried out. In addition, the cabinet has air way gap on the front and rear of the side panels.

On the other hand, all unused U spaces are closed by blank panels, and vertical blanking panels cover the gap between 19" mounting rail and side panel. As a result, while the cold air directly goes to the active devices, the hot air is gathered straightly and goes to the suction area of the cooler.



Product Features

- | | | | | | | | | |
|------------------|----------------|------------------|-----------------|-------------------|-------------------------------|--------------------------|-------------------------------|-------------------|
| | | | | | | | | |
| High Performance | Compact Design | Easy Maintenance | High Efficiency | Modular Structure | Intelligent Control Mechanism | Environmentally Friendly | Precision Temperature Control | EC Fan Technology |

Optional Accessories

- | | | | | | |
|-----------------------|------------|--------------|---------------|-----------------|--------|
| | | | | | |
| 7" Color Touch Screen | Humidifier | Dehumidifier | Remote Access | Energy Analyser | Drying |

BEST-SELLER MINI DC CONFIGURATIONS

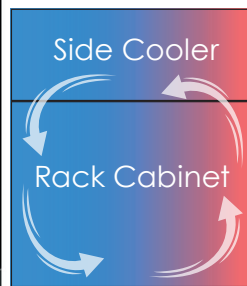
Here are some of the best-selling Mini DC (Data Center) configurations with various cabinet and air conditioning combinations.

In addition to these configurations, it is possible to deploy Mini DC setups with redundant air conditioning units and power infrastructure. For instance, a 6-to-8 rack Mini DC can incorporate multiple air conditioning units for cooling redundancy, ensuring uninterrupted operation in case of a failure. Similarly, redundant power infrastructure, such as dual power feeds and backup generators, can be implemented to enhance reliability and minimize downtime.

Best-Seller Mini Data Center Configurations					
	Configurations	1*C+1*AC	2*C+1*AC	3*C+2*AC	4*C+2*AC
Rack Cabinet System	"Dimensions W*D*H (mm)"	1100*1200*2040	1700*1200*2040	2600*1200*2040	3200*4876*2896
	Environmental Protection	IP54 (dust protected, splashing liquid protection) as default			
	Material	Aluminum chassis, steel components			
	"IT Rack Sizes W*D*H (mm)"	600*1200*2040 (Server Rack) + 800*1200*2040 (Network Rack)			
	Quantity of Racks	1	2	3	4
	Total IT Load (kW)	9	15	15	30
Air Conditioning System	Cooling Type	DX Based Inrow Cooling Units			
	Inrow Cooling Unit Quantity	1	1	2	2
	Redundancy Level	N		N+1	



TOP VIEW



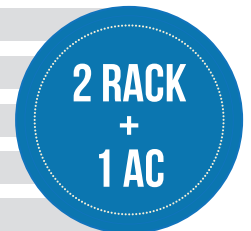
15kW IT Load Limit

Power Redundancy: 2N

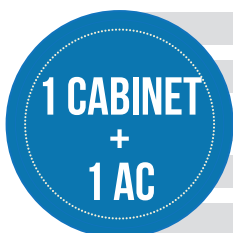
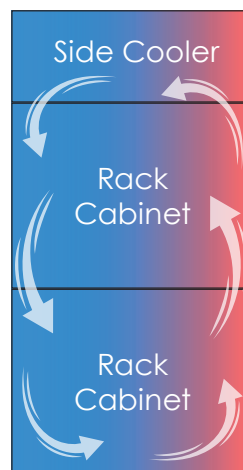
AC Redundancy Level: N

16kW DX Side Cooler (1 pcs)

42U Rack Cabinet (2 pcs)



TOP VIEW



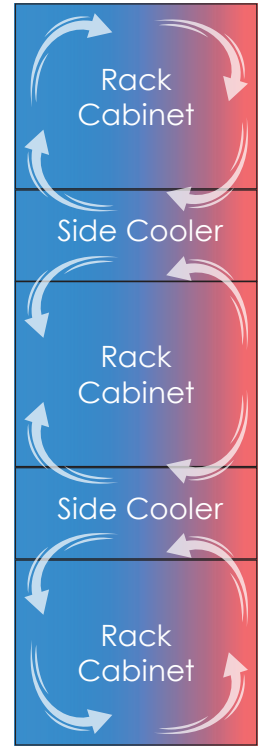
42U Rack Cabinet (1 pcs)

10kW DX Side Cooler (1 pcs)

AC Redundancy Level: N

Power Redundancy: 2N

9kW IT Load Limit



TOP VIEW

**3 CABINET
+
2 AC**

15kW IT Load Limit

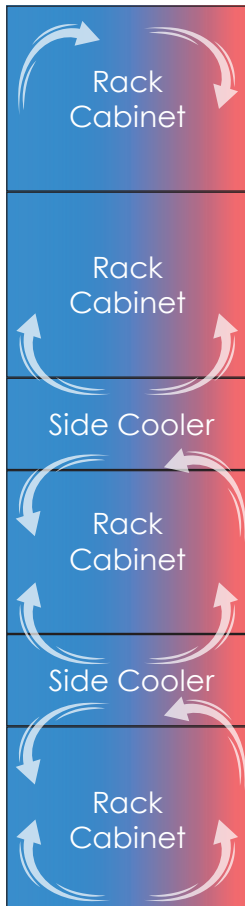
Power Redundancy: 2N

AC Redundancy Level: N+1

16kW DX Side Cooler (2 pcs)

42U Rack Cabinet (3 pcs)

TOP VIEW



42U Rack Cabinet (4 pcs)

32kW DX Side Cooler (2 pcs)

AC Redundancy Level: N+1

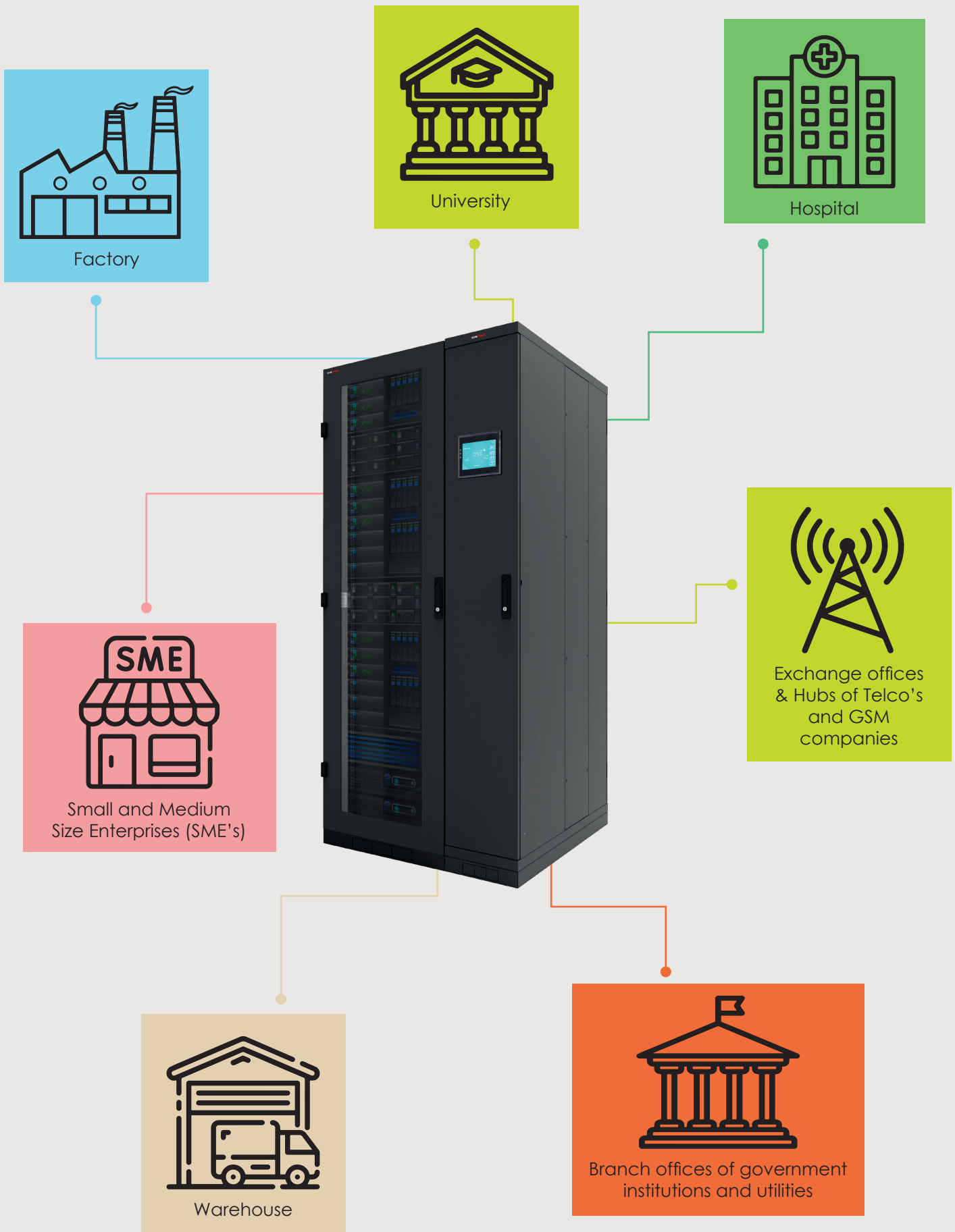
Power Redundancy: 2N

30kW IT Load Limit

**4 CABINET
+
2 AC**



MINI DATA CENTER APPLICATION AREAS



MINI DATA CENTER APPLICATION AREAS



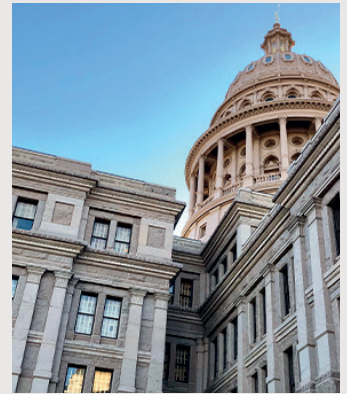
Small and Medium Size Enterprises (SME's)



Branch offices of financial institutions (Banks, Insurance companies)



Instant data center



Branch offices of government institutions and utilities (Police, Army, Schools, Electricity, Water companies etc)



Companies who wants to connect the cloud instead of investing in a big data center



Exchange offices & Hubs of Telco's and GSM companies



Remote locations where there is no available dedicated IT personnel



Manufacturing companies for automation control and IT services



Disaster recovery