



# ColdVault<sup>TM</sup>

## Thermal Energy Storage

Uninterrupted & Affordable

Thermal Energy Storage

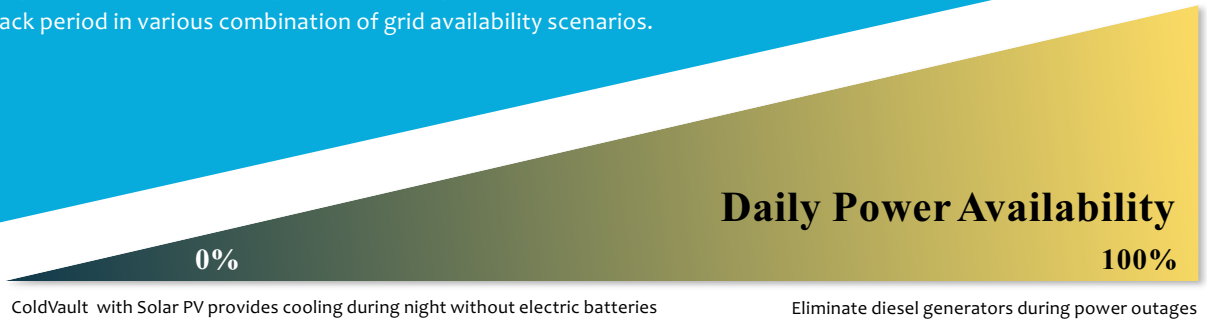
for Cooling

**Inficold**  
California, USA | Uttar Pradesh, India

# Cooling when required most



Due to power outages, all critical refrigeration systems use diesel generators, which are expensive to operate. Inficold's ColdVault (CV) solutions provide most affordable and retrofittable cooling back-up for milk cooling and cold storage. This patented product has fast payback period in various combination of grid availability scenarios.



## How it works?



### Charging Mode

When electricity is available and cooling is not required, refrigeration system uses electricity to generate cooling and CV stores it in a phase change material to provide cooling for later use



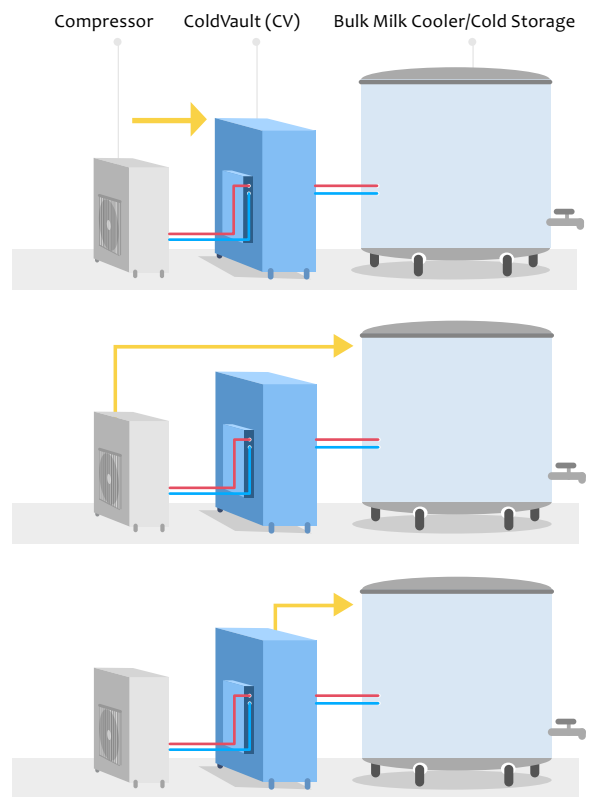
### Direct Mode

When electricity is available and cooling is required, refrigeration system uses electricity to generate cooling (bypasses ColdVault) for immediate usage



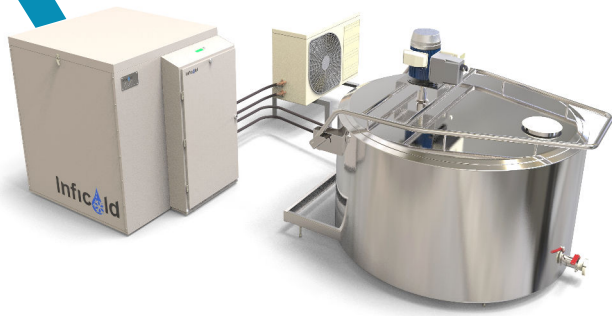
### Discharging

When electricity is not available and cooling is required, ColdVault provides cooling from the storage

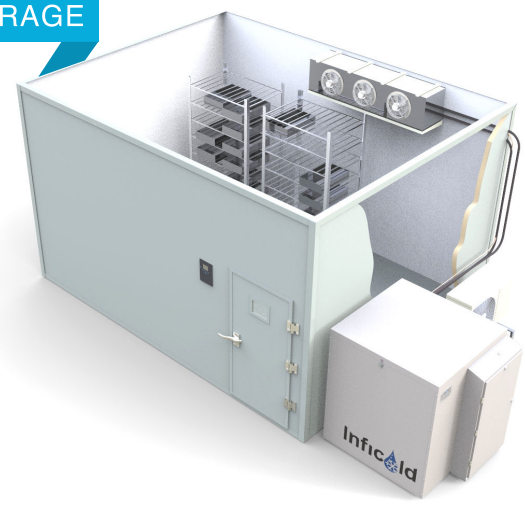


## Our Markets

**BULK MILK COOLER**



**COLD STORAGE**



# Why ColdVault ?



## UNINTERRUPTED

24-hours of backup with only 8-hours of electricity



## RETROFITTABLE

Retrofit to existing refrigeration system  
Lower capital cost



## LOW OPEX

Cheaper than DG sets  
3x longer life than batteries



## VERSATILE

Allow direct cooling  
Partial charge / discharge



## AUTOMATIC

No user intervention / training  
Display charge level

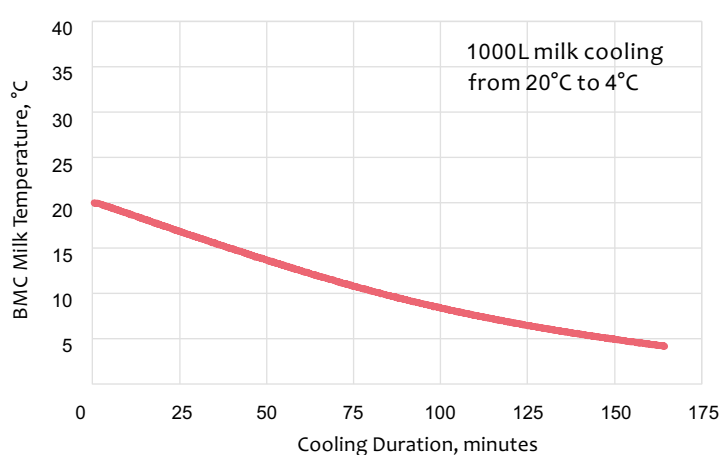
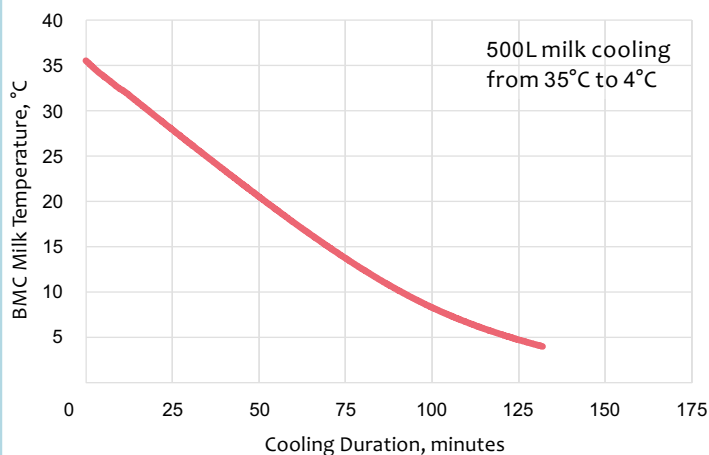


## TURBO COOLING

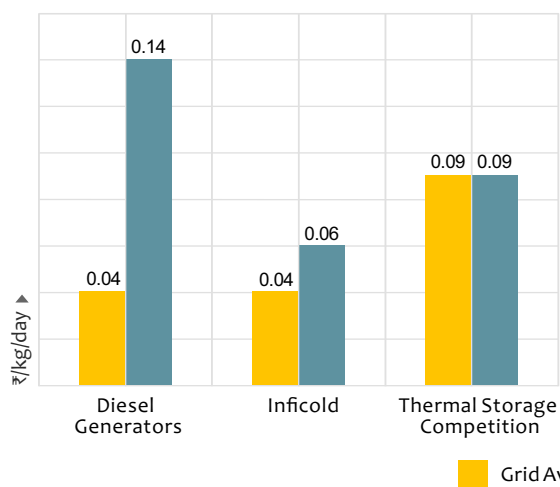
Provides 30% faster cooling than traditional systems

## Performance

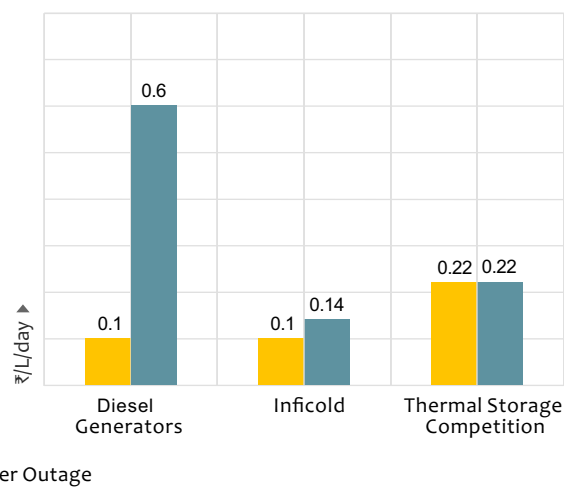
Cooling Performance—30% faster than ISO 5708, Class 2AII (milk cooling standards) \*



Opex / Savings for 10 MT F&V Cold Storages<sup>#,\*</sup>



Opex /Savings for 1000L BMC \*



### NOTES

# 10MT cold storage operating for 24 hours and consuming 54 kWh electricity to maintain temperature at 4°C. In both cold storage and BMC opex estimate, 50% power outages is assumed

\* Under standard operating conditions

# Product Specifications<sup>1</sup>

Specifications	Fruits & Vegetables		Milk	
Product	CVC-500	CVC-1000	CVM-500	CVM-1000
Capacity	4-8 MT	8-16 MT	500 L	1000 L
Temperature Range, °C	4 to 10	4 to 10	4	4
Dimensions, cu.-ft.	1.8' x 4.2' x 4.2'	3.3' x 4.2' x 4.2'	1.8' x 4.2' x 4.2'	3.3' x 4.2' x 4.2'
Dry Weight, kg	100	200	100	200
Charging Duration, hrs <sup>2</sup>	5-7	6-8	5-7	6-8
Cooling Storage Capacity, kcal	15,000	30,000	15,000	30,000
Compatibility	Existing or new cooling systems with R22 or R404A refrigerant		Existing or new cooling systems with R22 or R404A refrigerant	
Remote Monitoring <sup>3</sup>	Yes		Yes	
Solar Integration <sup>3</sup>	Yes (in collaboration with National Institute of Solar Energy, MNRE)		Yes (in collaboration with National Institute of Solar Energy, MNRE)	
Expected Life, years	15		15	
Warranty, year	1		1	

## NOTES

- Specifications are subject to change without any prior notice
- Charging time depends on the compressor and the ambient conditions
- Optional features

## Team



**Dr Himanshu Pokharna, CEO**

MBA, Wharton  
Ph.D, Purdue University  
B.Tech, IIT Bombay



**Dr Nitin Goel, COO**

Ph.D, University of Florida  
B.Tech, IIT Bombay



**Nitin Kumar, VP BD**

MBA, Chicago Booth  
MS, Virginia Tech  
B.Tech, IIT Delhi

## Awards



Top 5 Indian social enterprises (among 300+ companies) at Action for India, 2017



Platinum Awardee (among 800+ contestants) at NEW ENERGY global cleantech startup fest - 2016, Kazakhstan



Best social impact oriented early stage venture at Wharton SF Social Impact Conf., 2016