


SPORTS FACILITIES

# CO<sub>2</sub> CHILLER

*Efficiency, quality and reliability  
built-in all our ecofriendly products*



**CARNOT**  
REFRIGERATION



“THANKS TO THE TECHNOLOGY BY CARNOT  
REFRIGERATION. THE BOILERS USED TO HEAT  
OUR POOLS WERE NEVER USED.”

ERICK LALIBERTÉ *City of Dollard-des-Ormeaux, Québec*

CMP-1

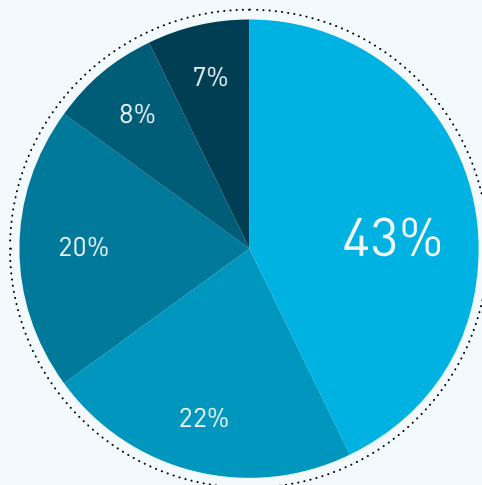
CMP-2

CMP-5

# CO<sub>2</sub> SOLUTION BY CARNOT: A SMART, ECOFRIENDLY AND PROFITABLE CHOICE

Made by the most experienced company in CO<sub>2</sub> transcritical solutions in North America, the CO<sub>2</sub> cooling system by Carnot is the smart choice.

ENERGY CONSUMPTION PROFILE  
OF AN AVERAGE ARENA



REFRIGERATION  
HEATING  
OTHER  
HOT WATER  
LIGHTING

Source: Natural Resources Canada

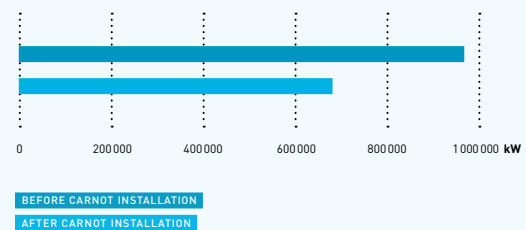
## PROVEN EFFICIENCY FOR MAJOR SAVINGS

Superior quality, performance and energy stability;

Flawless redesign to replace existing R-22 solutions;

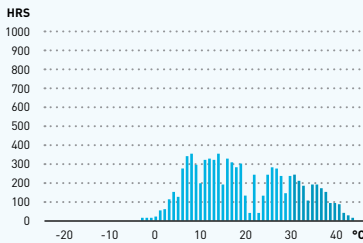
Financial savings of up to 30% year after year due to the reduction of energy costs, maintenance and service costs and the elimination of refrigerant fees.

ANNUAL ENERGY CONSUMPTION  
SAVINGS IN OUR ARENAS

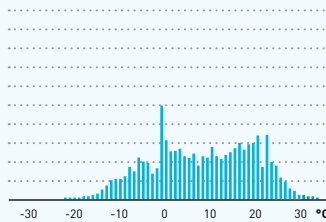


CARNOT CHILLER IR-80  
87 TR (305 kW)  
MODEL

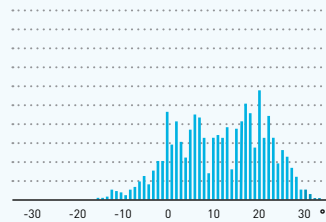
COOLING CAPACITY		FLUID TEMPERATURE		OUTDOOR TEMPERATURE									
TR	kW	°F	°C	(°C)	-5	0	5	10	15	20	25	30	35
87	305	18	-8	kWref	305	305	305	305	305	305	305	305	305
				THR	351	351	353	360	374	384	404	433	466
				kW	46	46	48	55	69	79	99	128	161
				COPr	6.6	6.6	6.4	5.6	4.4	3.9	3.1	2.4	1.9
				COPc	14.3	14.3	13.7	12.1	9.9	8.7	7.2	5.7	4.8
78	275	10	-12	kWref	275	275	275	275	275	275	275	275	
				THR	320	320	322	334	347	356	375	405	435
				kW	45	45	47	59	72	81	100	130	160
				COPr	6.1	6.1	5.8	4.7	3.8	3.4	2.8	2.1	1.7
				COPc	13.1	13.1	12.6	10.4	8.6	7.8	6.5	5.2	4.4



LAS VEGAS



MONTRÉAL

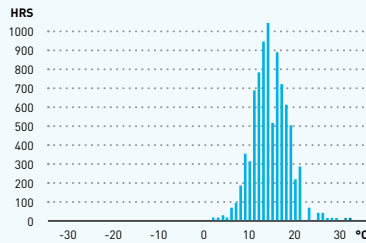


NEW YORK

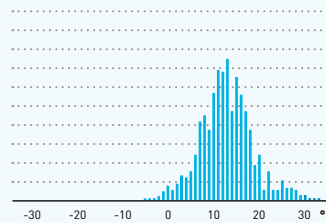
SUBCRITICAL OPERATION  
TRANSCRITICAL OPERATION

kWref [kW] REFRIGERATION CAPACITY  
THR [kW] REJECTED CAPACITY  
kW [kW] ENERGY CONSUMPTION  
COPr REFRIGERATION COEFFICIENT OF PERFORMANCE  
COPc COMBINED COEFFICIENT OF PERFORMANCE INCLUDING HEATING OR RAIN CYCLE FREE COOLING

Note: Data for Carnot Chiller IR-80 87 TR (305 kW) model shown above based on fluid temperature at 14°F (10°C) and an outside air temperature at 95°F (35°C). Data for models Carnot Chiller IR-150, Carnot Chiller IR-120, Carnot Chiller IR-100 and Carnot Chiller IR-40 also available upon request.



SAN FRANCISCO



SEATTLE

# CO<sub>2</sub> TECHNOLOGY BY CARNOT: A POWERFUL COOLING SYSTEM

## POWERFUL TECHNOLOGY, QUITE SIMPLY

- Modular solution designed by a highly qualified engineering team;
- Process optimization for increased efficiency;
- Simplified quick-plug installation;
- On-site assistance for equipment start-up;
- Complete training for technical staff;
- Fully automated system.



## A SMART, SUSTAINABLE BUSINESS DECISION

- Harmless refrigerant reduces or eliminates risk of facing environmental or health and safety restrictions in the future;
- Equipment outlasts conventional installations;
- Substantial financial savings are generated throughout equipment life;
- Significant reduction in greenhouse gases (GHG);
- Solution is eligible for current LEED programs.

“CARNOT NOT ONLY HELPED US REDUCE OUR USE OF R-22 AND NH<sub>3</sub>, OUR ENERGY CONSUMPTION AND OUR WATER USE, BUT ALSO THE NEED TO DEPEND ON A CHEMICAL CONDITIONING PROCESS. IT’S A WIN-WIN SITUATION.”

“EXCELLENT SERVICE, QUICK RESPONSE AND VERY COMPETENT STAFF.”

### OPTIMIZED TECHNOLOGY, SUPERIOR RELIABILITY AND SAFETY

Elimination of ignition and toxicological hazards that occur with other refrigerants;

Designed in compliance with the highest quality standards in the industry;

Strict quality control in a controlled environment;

Highly reliable processes tried and tested in the most extreme conditions;

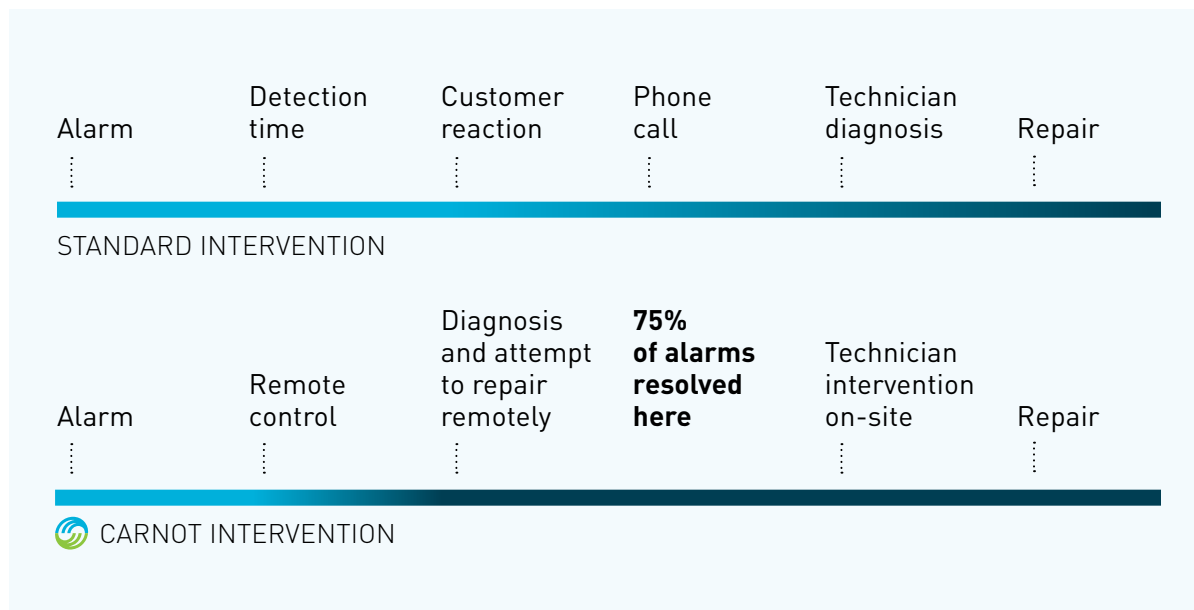
### REAL-TIME REMOTE ASSISTANCE

Remote controlled equipment and alarm system;

Real-time monitoring and performance reports by a highly qualified team;

24/7 technical support, quick and efficient interventions.

### 35% FASTER INTERVENTION



# CO<sub>2</sub> TECHNOLOGY BY CARNOT: CUSTOMIZE YOUR SYSTEM

## □ HEAT RECOVERY /RCINTELLIGENT

Reuse the energy created by your process using a custom heat recovery strategy for major financial savings year after year.

## □ GAS COOLER /CONDENSER

Different options available for optimal performance and durability.

## □ STAINLESS STEEL

Stainless steel covering and piping.

## □ ENCLOSURE FOR OUTSIDE INSTALLATION

Weatherproof construction.

## □ ENERGY METER WITH DISPLAY

Real-time display of your refrigeration consumption.

## □ INTERNET MODULE

To closely monitor your process using your smartphone or computer.

## □ TURNKEY INSTALLATION

For peace of mind, done by professionals to meet your needs, from design to start-up.

# CARNOT: A PIONEER IN TRANSCRITICAL CO<sub>2</sub> REFRIGERATION AND COOLING SYSTEMS

Carnot Refrigeration has proven itself regarding the performance of its CO<sub>2</sub> transcritical refrigeration system. With the longest-lasting legacy of high quality demonstrations across North American and Europe since 2008, CO<sub>2</sub> refrigeration technology by Carnot Refrigeration has set standards with its efficiency, profitability, sustained performance in the most extreme conditions, simplicity and operational reliability.

## NOTEWORTHY FACTS

Installations performed throughout North-America and Europe;

Daily savings for our clients;

Highly qualified engineers who are constantly trying to set higher standards for CO<sub>2</sub> refrigeration technology;

Standards and certifications including CSA, UL and CE;

Awards and recognition from recognized organizations such as ASHRAE and EPA;

Competent customer service team focused on customer satisfaction.





“CO<sub>2</sub> IS NOURISHMENT FOR TREES: SYNTHETIC  
MOLECULES ARE NOT.”

MARC-ANDRÉ LESMERISES *CEO of Carnot, United Nations conference*

SPORTS FACILITIES

# QUESTIONS INFORMATION

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