

## REGULATORY UPDATE - HFC / ENERGY REGULATIONS SUMMARY



### AMERICAN INNOVATION and MANUFACTURING (AIM ACT)

DATE	CAPS: CONSUMPTION & PRODUCTION
2022 - 2023	90%
2024 - 2028	60%
2029 - 2033	30%
2034 - 2035	20%
2036 & After	15%

- The AIM Act provides new authority for the EPA to address HFC's in three ways: (1) phasing down production and consumption, (2) maximizing reclamation and minimizing releases from equipment, and (3) facilitating the transition to next generation technologies through sector-based restrictions
- Beginning January 1, 2024, the cap on consumption and production of HFC refrigerants will decrease from 90 to 60% of baseline
- On October 5, 2023, the final rule for the technology transit was issued. For more information on subsector, GWP limit, and compliance date, visit Hussmann's regulations page ([or click here](#))

### PHASE II

- New Facilities / Installations (*effective January 1, 2022*):
  - New systems requiring charges > 50 lbs. must use an approved refrigerant <150 GWP
  - New systems requiring charges < 50 lbs. must use an approved refrigerant <2,200 GWP
    - In 2026, the AIM Act will supersede California's regulation and require any new remote system requiring <200 pounds (including CARB's <50) of charge to have a GWP of 300 or less
  - Applies to: Retail, Cold Storage Warehouses, Industrial Process Refrigeration (*excluding Chillers*), Ice Rinks (*Jan. 1, 2024*), and other non-residential refrigeration
- Option 1 - Existing Facilities (*Compliance Criteria*):
  - Reduce total Greenhouse Gas Potential (GHGp) of refrigerants used 55% below 2019 baseline by 2030 (per company not per system / store)
- Option 2 - Existing Facilities (*Compliance Criteria*):
  - Reduce weighted average of GWP refrigerants used to < 1,400 by 2030 (per company not per system / store)
  - Servicing existing stores is allowed, however, certain replacements may be considered as new equipment



### ENVIRONMENT and CLIMATE CHANGE CANADA (ECCC)

- ECCC regulates refrigerants at the national level in Canada
- Current Global Warming Potential (GWP) refrigerant limit of 2,200 for commercial refrigeration systems
- Further GWP reductions expected in 2024, 2029, and 2034 to achieve an 85% reduction in HFC consumption by 2036

### QUEBEC (REGULATION REGARDING HALOCARBONS)

- New systems with power ratings equal to or > 50 kW restricted to refrigerants with < 150 GWP rating
- New systems with power ratings < 50 kW restricted to no more than 1,500 GWP rating



### CALIFORNIA ENERGY COMMISSION ENERGY EFFICIENCY STANDARDS - 2022

- California Energy Code Title 24 includes mandatory efficiency requirements for refrigeration systems (*Refrigerated Warehouses / Retail Spaces with Walk-In Coolers, Freezers, Refrigerated Display cases*)
- Warehouse Scope Includes:
  - Single room < 3,000 square feet (DOE units meet requirements)
  - Single room equal to or > 3,000 square feet
  - Refrigerated spaces that add up to 3,000 square feet or more served by the same refrigeration system
- Retail Scope Includes:
  - Retail food stores with 8,000 square feet or more of conditioned floor area, and utilizes either refrigerated display cases or walk-in coolers or freezers



### DEPARTMENT OF ECOLOGY STATE OF WASHINGTON: DEPARTMENT OF ECOLOGY

On Nov. 30, 2023, the state of Washington adopted HFC rule amendments to its Emissions Reduction Law. This includes maximum GWP thresholds for new refrigeration equipment (<150 GWP for systems > 50 lbs charge effective Jan 1. 2025), establishment of a refrigerant management program that requires monthly leak inspections for systems sizes 1,500+ lbs effective Jan. 1, 2024 (not required if systems have automatic leak detection systems like StoreConnect), and product labeling, disclosure, and record keeping requirements.



### U.S. DEPARTMENT OF ENERGY

ENERGY EFFICIENCY & RENEWABLE ENERGY

- U.S. DOE Energy Regulations for refrigeration systems (*Walk-in Coolers and Freezers - WICFs*): <3,000 square feet:
  - Unit coolers
  - Dedicated condensing units with (1) or more compressors, (1) refrigeration circuit; and serves (1) refrigerated load
  - Use DOE certified equipment



### CANADA NRCan

- Canada Energy Regulations similar to U.S. DOE in scope and effective dates



OFFICIAL MEXICAN STANDARDS

### MEXICO NOM-012-ENER-2019

- Mexican Energy Efficiency Standards: (*Condensing and Low Profile Evaporator units*):

SCOPE	BTU/H RANGE	EFFECTIVE DATES	
		APRIL 2021 (BTU/H)	DEC. 2021 (BTU/H)
Condensing Units - MT	2,547 - 88,716	2,547 - 40,982	40,982 - 88,716
Condensing Units - LT	2,548 - 32,415	2,547 - 15,355	15,355 - 32,415
Low Profile: Evaporators - MT (KR)	1,024 - 136,486	In Scope	N/A
Low Profile: Evaporators - LT (KR)	1,024 - 44,397	In Scope	N/A



### US CLIMATE ALLIANCE: EPA SNAP RULES 20 and 21

- 24 U.S. States/ Puerto Rico committed to phase down of HFC refrigerants
- R-404A, R-507A, and R-410A prohibited for new cold storage warehouse applications beginning January 2, 2023
- Reduce 2005 CO<sub>2</sub> emission levels to 26 - 28% by 2025 and 50 - 52% by 2030
- Prohibits HFCs including R-404A and R-507A for new and retrofit applications

## REGULATORY UPDATE - PRODUCT SOLUTIONS



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reference current information on

### HUSSMANN SYSTEMS

[www.hussmann.com/products/refrigeration-systems.com](http://www.hussmann.com/products/refrigeration-systems.com)

PRODUCTS	DOE 2020 / NRCAN		EPA SNAP RULES 20 & 21 (R-404A & R507A Prohibited)		CANADA ECCC (<2,200 GWP)		CARB (R-404A & R507A Prohibited)		NOM-12		CALIFORNIA TITLE 24		AIM ACT (EPA)		QUEBEC (New Systems - Compressor Systems ONLY)	
							NEW FACILITIES WITH SYSTEM CHARGE								POWER RATINGS EQUAL or LESS THAN 50 KW WITH	
	LOW TEMP	MED TEMP	LOW TEMP	MED TEMP	LOW TEMP	MED TEMP	< 50 LBS GWP < 2,200	> 50 LBS GWP < 150	LOW TEMP	MED TEMP	LOW TEMP	MED TEMP	LOW TEMP	MED TEMP	< 1,500 GWP	< 150 GWP
<b>RACKS</b>																
Proto-Aire	✗ [5]	✗ [5]	✓	✓	✓	✓	✗	✗	NA		✓	✓	✓	✓	✓	✗
Proto-Aire EZ	✗ [5]	✗ [5]	✓	✓	✓	✓	✗	✗			✓ [2]	✓ [2]	✓	✓	✓	✗
Protocol HE	✗ [5]	✗ [5]	✓	✓	✓	✓	✓ [1]	✗			✓ [4]	✓ [4]	✓	✓	✓	✗
Protocol SPI / SPO	✗ [5]	✗ [5]	✓	✓	✓	✓	✓ [1]	✗			✓ [4]	✓ [4]	✓	✓	✓	✗
Outdoor Low Profile Protocol (OLP)	✗ [5]	✗ [5]	✓	✓	✓	✓	✗	✗			✓ [4]	✓ [4]	✓	✓	✓	✗
CDRH	✗ [5]	✗ [5]	✓	✓	✓	✓	✗	✗			✓	✓	✓	✓	✓	✗
Hussmann CO <sub>2</sub>	NA		✓	✓	✓	✓	✗	✓			✓ [6]	✓ [6]	✓	✓	✓	✓
CO <sub>2</sub> Cascade			✓	✓	✓	✓	✗	✗			✓	✓	✓	✓	✓	✗
Parallel Rack			✓	✓	✓	✓	✗	✗			✓	✓	✓	✓	✓	✗
Port-A-Pak			✓	✓	✓	✓	✗	✗			✓	✓	✓	✓	✓	✗
Port-A-Rack			✓	✓	✓	✓	✗	✗			✓	✓	✓	✓	✓	✗
Pump Station			✓	✓	✓		✓ [3]	✓ [3]			NA		✓	✓	✓	✓ [3]

[1] Some Water-Cooled models

[2] Not for Title 24 applications under 3,000 square feet

[3] Glycol for medium temp load or water for high side propane systems

[4] Require certain options and control strategies that need to be included

[5] These systems can be used for WICF's under 3,000 square feet as long as the WICF is part of multiple loads

[6] Air-Cooled gas coolers are prohibited in California climate zones 9 thru 15 for permit applications on or after January 1, 2023



Use your QR reader to  
reference current information on  
[www.krack.com/products](http://www.krack.com/products)

### KRACK SYSTEMS

PRODUCTS	DOE 2020 / NRCan		EPA SNAP RULES 20 & 21 <i>(R-404A &amp; R507A Prohibited)</i>		CANADA ECCC <i>(&lt;2,200 GWP)</i>		CARB <i>(R-404A &amp; R507A Prohibited)</i>		NOM-12		CALIFORNIA TITLE 24		AIM ACT (EPA)		QUEBEC <i>(New Systems - Compressor Systems ONLY)</i>	
							NEW FACILITIES WITH SYSTEM CHARGE								POWER RATINGS EQUAL or LESS THAN 50 KW WITH	
	LOW TEMP	MED TEMP	LOW TEMP	MED TEMP	LOW TEMP	MED TEMP	< 50 LBS GWP < 2,200	> 50 LBS GWP < 150	LOW TEMP	MED TEMP	LOW TEMP	MED TEMP	LOW TEMP	MED TEMP	< 1,500 GWP	< 150 GWP
CONDENSING UNITS																
HE H-Series	✓	✓	✓	✓	✓	✓	✓ [7]	✗	✓	✓	✓	✓ [9]	✓	✓	✓	✗
Large Air-Cooled C-Series	✓	✓	✓	✓	✓	✓	✗	✗	NA		✓	✓	✓	✓	✓	✗
COILS for WALK-IN COOLERS and FREEZERS																
GH / GL	NA	✓	NA	✓	NA	✓	✓	✓	NA		✗	✓	✗	✓	NA	
LH	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓		
KR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
MK	✓	✓	✓	✓	✓	✓	✓	✓	NA		✓	✓	✓	✓		
MV	✗	✗	✓	✓	✓	✓	✓	✗			✓ [10]	✓ [10]	✓	✓		
MS	✓	✓	✓	✓	✓	✓	✓ [8][9]	✗ [8][9]				✓	✓	✓		
SM / SV	✓	✓	✓	✓	✓	✓	✓ [8][9]	✗ [8][9]			✓	✓	✓			
MONOBLOCK for WALK-IN COOLERS and FREEZERS																
Krack microDS/ microSC	NA		✓	✓	✓	✓	✓	NA	NA		✓	✓	✓	✓	✓	NA
CONDENSERS																
Levitor	NA		✓	✓	✓	✓	✗	✗	NA		✓	✓	✓	✓	NA	
Microchannel			✓	✓	✓	✓	✗	✗			✓	✓	✓	✓		

[7] Some Air and Water-Cooled models

[8] CO<sub>2</sub> required

[9] Certain models

[10] Available with 208V / 230V for WICF > 3,000 square feet