



Tecumseh **UNIT COOLERS**

Designed by  **LU-VE**

TECHNICAL GUIDE

Low-Profile Unit Cooler 3,000 to 60,000 BTU/h

Small to Medium Capacity
for Walk-ins, Coolers & Freezers



Tecumseh

Tecumseh UNIT COOLERS

Designed by  LU-VE



Our industry leading unit cooler is developed in partnership with LU-VE to bring unprecedented airflow to the walk-in market. Our unit cooler maintains product freshness while lowering energy consumption. The Tecumseh designed by LU-VE unit coolers are engineered to meet any demand.

General Features

- ▶ 3 fan diameter sizes – one through four fan motors in each size
- ▶ Capacity range from 3,000-60,000 BTU/h airflow from 560-6062 CFM
- ▶ Powder coated epoxy-polyester finish with corrosion-resistant galvanized steel casing



Expert Craftsmanship

- ▶ Three different evaporator sizes
- ▶ Capacity range from 3,000 to 60,000 BTU/h
- ▶ Airflow from 550 to 6100 CFM
- ▶ High airflow performance enabled by patented fan design
- ▶ Pan design eliminates condensation drip



Superior Coil

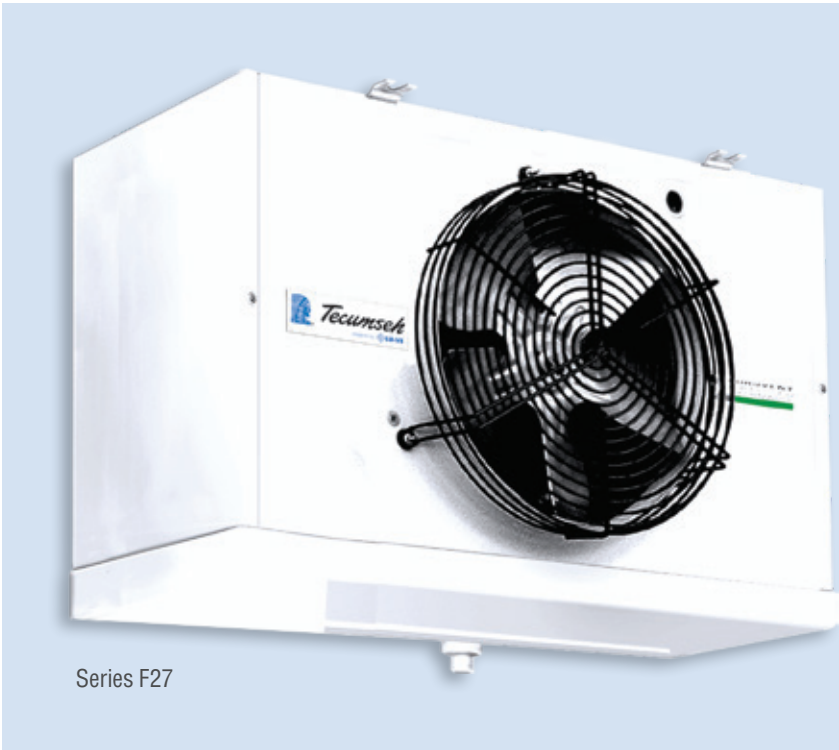
- ▶ Industry leading heat exchanger technology
- ▶ State-of-the-art coil and airflow design
- ▶ Six or four fins per inch
- ▶ Heater positioning results in high-efficiency defrost



High-Efficiency

- ▶ High-efficiency EC motors for 115 volt or 208-240 volt
- ▶ Air defrost models designed for use in coolers 35° and warmer
- ▶ Heater safety thermostat installed to prevent overheating





Series F27

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Model Nomenclature (Example: F31HC216E6-EC-UL)

F31H	C	216	E	6	-EC	-UL	Add On Options
F = Future 27 = 10.8" Blade 31 = 12.4" Blade 35 = 13.8" Blade	C = Low Profile	Model	E = Electric Defrost N = Air Defrost	4 = 6 FPI 6 = 4 FPI	Motor Type EC = EC Fan Motor		

Add on Options:

Voltage	Loose Metering Device with Solenoid	Mounted Metering Device with Solenoid	Electronic Expansion Valve (replaces metering device and solenoid)
1 = 115V 2 = 230V D = 115/230V dual voltage	TXSA = R404A TXSB = R448/9A TXSC = R452A	TXSMA = R404A TXSMB = R448/9A TXSMC = R452A	EVD = PLUG&SAVE Electronic Expansion Valve

Note: Not all configuration combinations may be available.

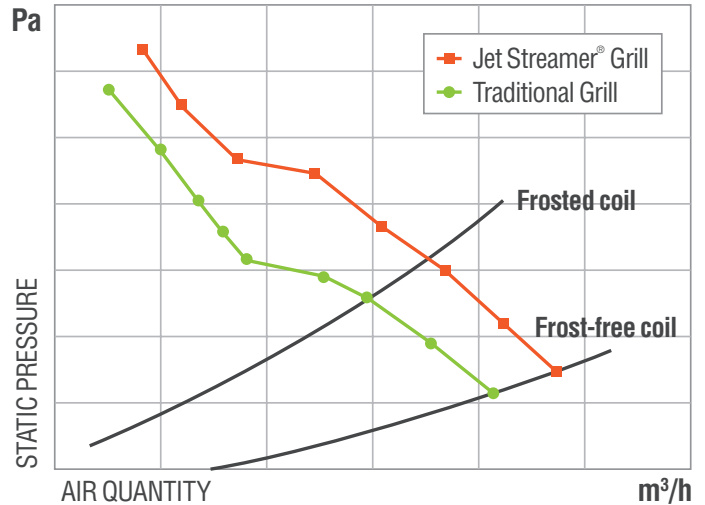
JET STREAMER®



The JET STREAMER® directional grill developed and patented in LU-VE laboratories is standard on the F31HC and F35HC units. The innovative design of its profile provides special advantages:

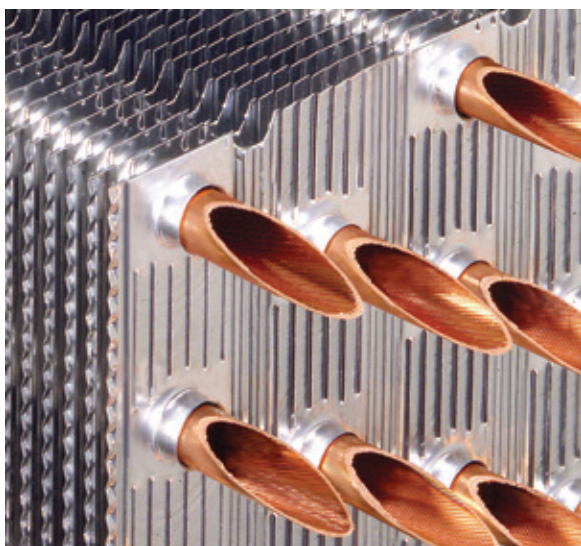
- ▶ Uniform distribution of airflow through the heat exchanger
- ▶ A significant increase in air quantity with both frost-free coil (from +4% to +9%) and, above all, also with frost on the coil fins (from +7% to +15%).

The design process centered on research into new operating efficiency limits, using in-depth study of fluid dynamics. Lengthy experimentation in the wind tunnel of the LU-VE



laboratory enabled the development and patenting of the JET STREAMER directional grill.

The improvement in air quantity during the frosting stage has a special significance; it guarantees notably superior capacity and a 25% longer air throw.



Heat Exchangers TURBOCOIL®

The very high-efficiency TURBOCOIL heat exchangers have the best power/cost ratio obtainable and are constructed with:

- ▶ High-efficiency TURBOFIN® aluminum fins with special configuration of the louvre profile to reduce dehumidification and frost formation
- ▶ High-efficiency small-diameter copper tubes with internal helical grooving, designed for maximum efficiency.

Models are available in 4.0 or 6.0 fins per inch. End plates have safety collars to avoid tube cutting.

PLUG&SAVE®

Equipped with MODBUS Serial Communication Protocol

This is the integrated solution which combines substantial energy savings and respect for the environment. Now the direct expansion unit coolers are also available in the PLUG&SAVE version which includes the electronic valve and electronic control unit already fitted and wired up.



The direct expansion unit coolers are available with electronic valve and electronic control unit already fitted and wired up.

Display for setting working parameters.

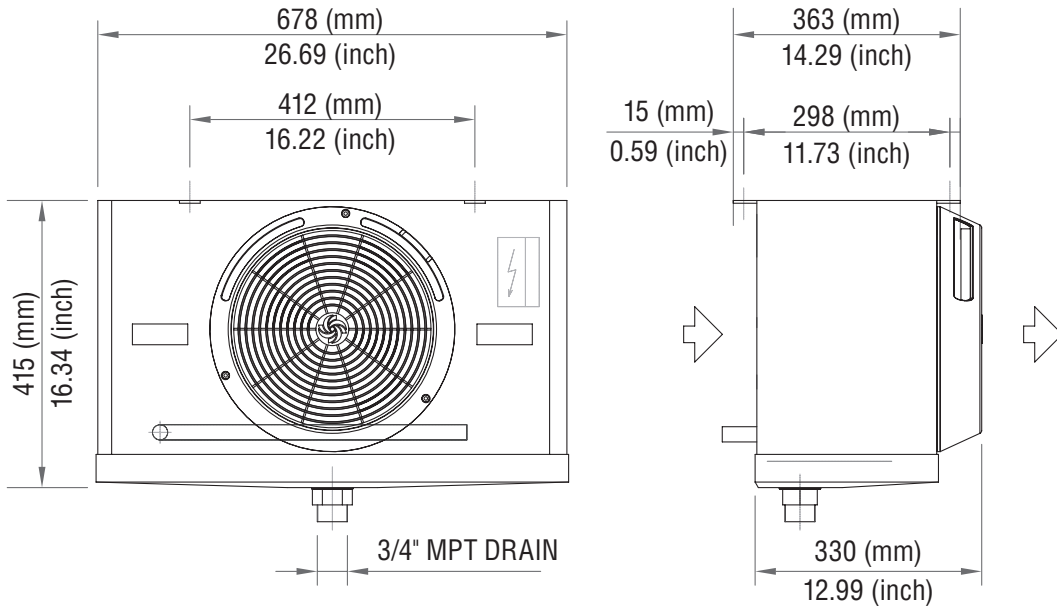
Electronic direct expansion valve and electronic control unit.

- ▶ **Important Energy Savings:** Tests carried out in supermarkets in standard conditions have registered energy consumption reductions of up to 25% on the entire refrigeration system.
- ▶ **Absolute Protection:** The unit cooler is fitted with an electric control unit (sealed into a special resin overmoulding) to regulate the valve. This is a construction technique developed for the automotive industry which guarantees performance even in the demanding operating conditions of low temperatures and high moisture conditions.
- ▶ **Saving Installation Time:** The solution proposed by LU-VE drastically reduces the installation time of the electronics units, which in traditional systems have to be positioned outside the cold room with a consequent increase of labor time.

- ▶ **Compatible with all Systems and Easy to Program:** The PLUG&SAVE version of the unit cooler is compatible with any and all other electronic systems commonly used for the management of refrigeration plant. It can be used with 24 different refrigerants, including CO2 and the special working pressures required.
- ▶ **Pre-defined Working Parameters and MODBUS Connection:** All working parameters are pre-defined and are simple to select on an easy-to-read display. The only remaining setting actions required at the moment of installation for:
 - Refrigerant
 - Superheating
 - Function mode, choosing between high and low temperature)

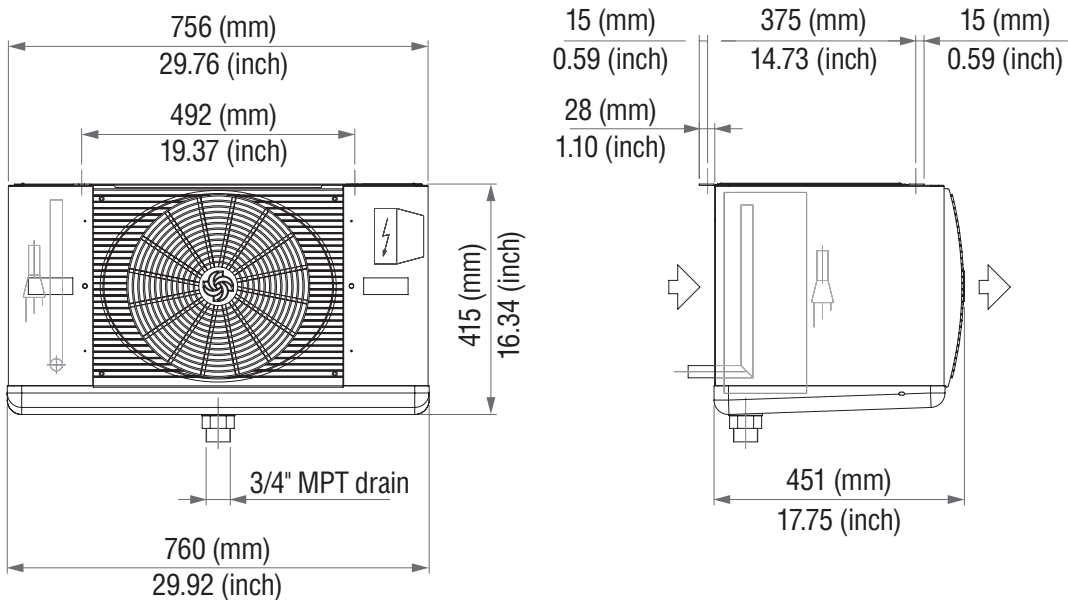
F27HC Series Unit Coolers

Low Profile – 4 & 6 FPI Coils



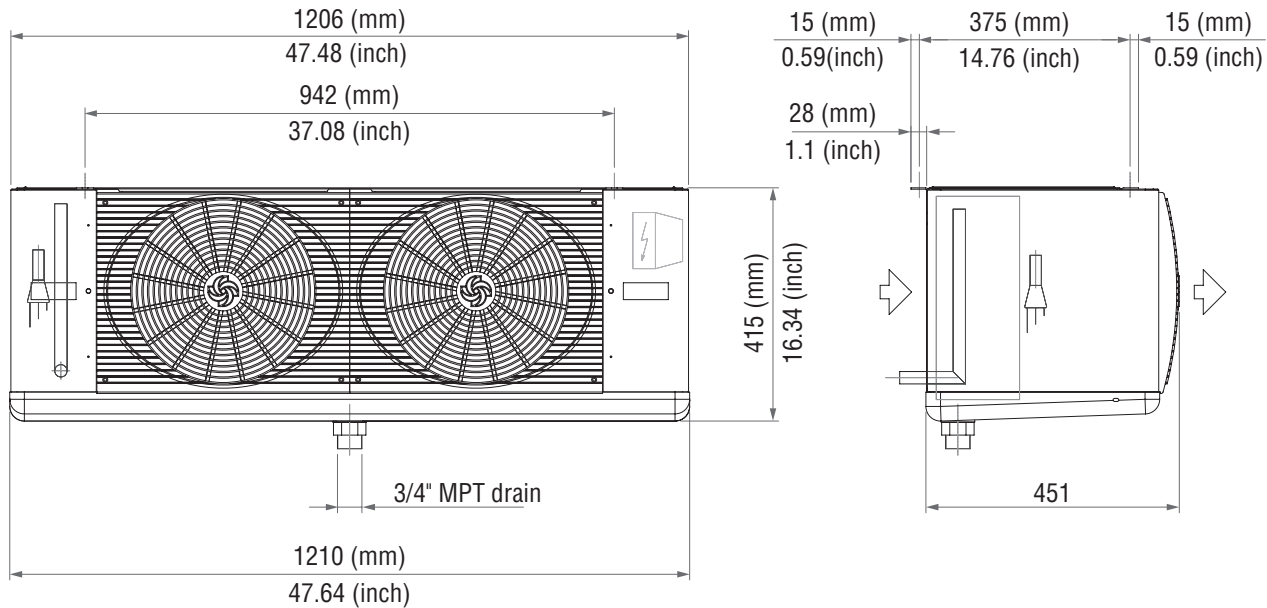
F31HC Series Unit Coolers

Low Profile – 4 & 6 FPI Coils



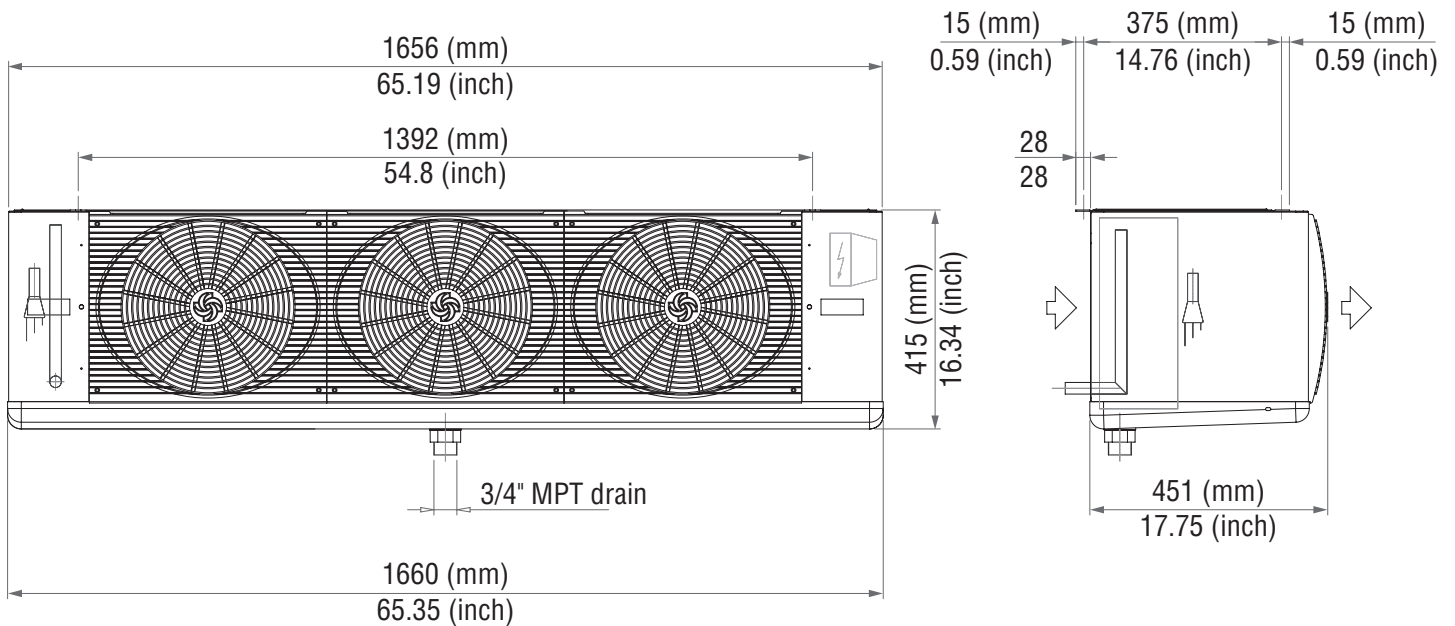
F31HC Series Unit Coolers

Low Profile – 4 & 6 FPI Coils



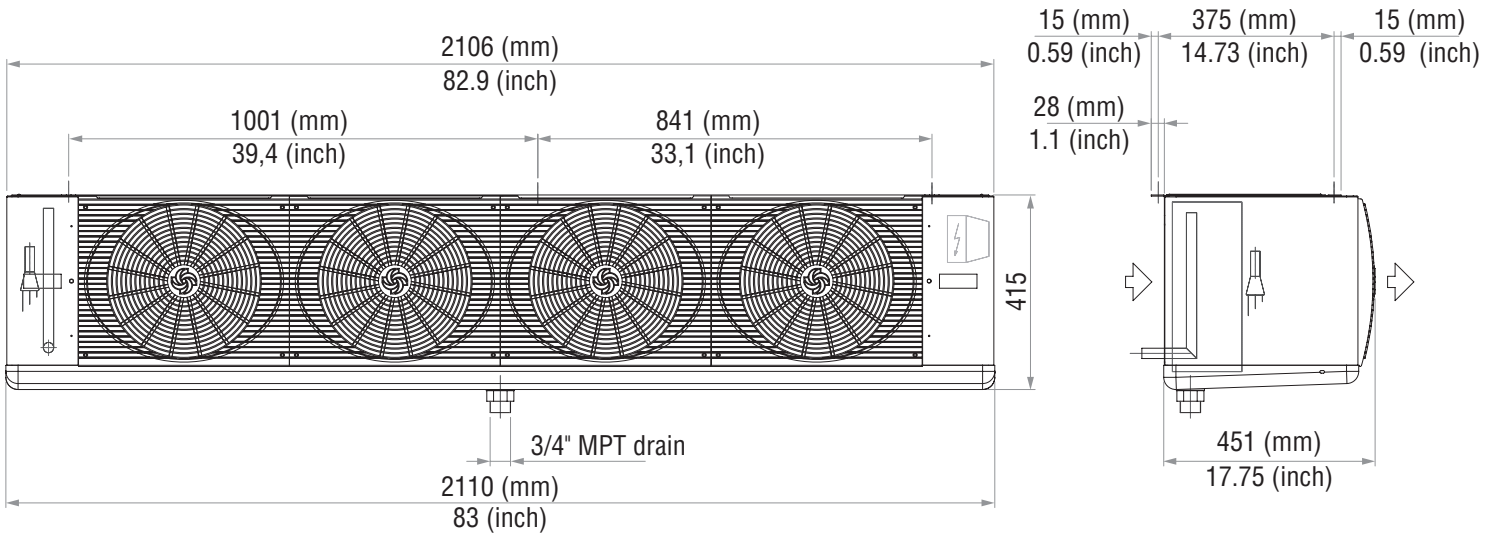
F31HC Series Unit Coolers

Low Profile – 4 & 6 FPI Coils



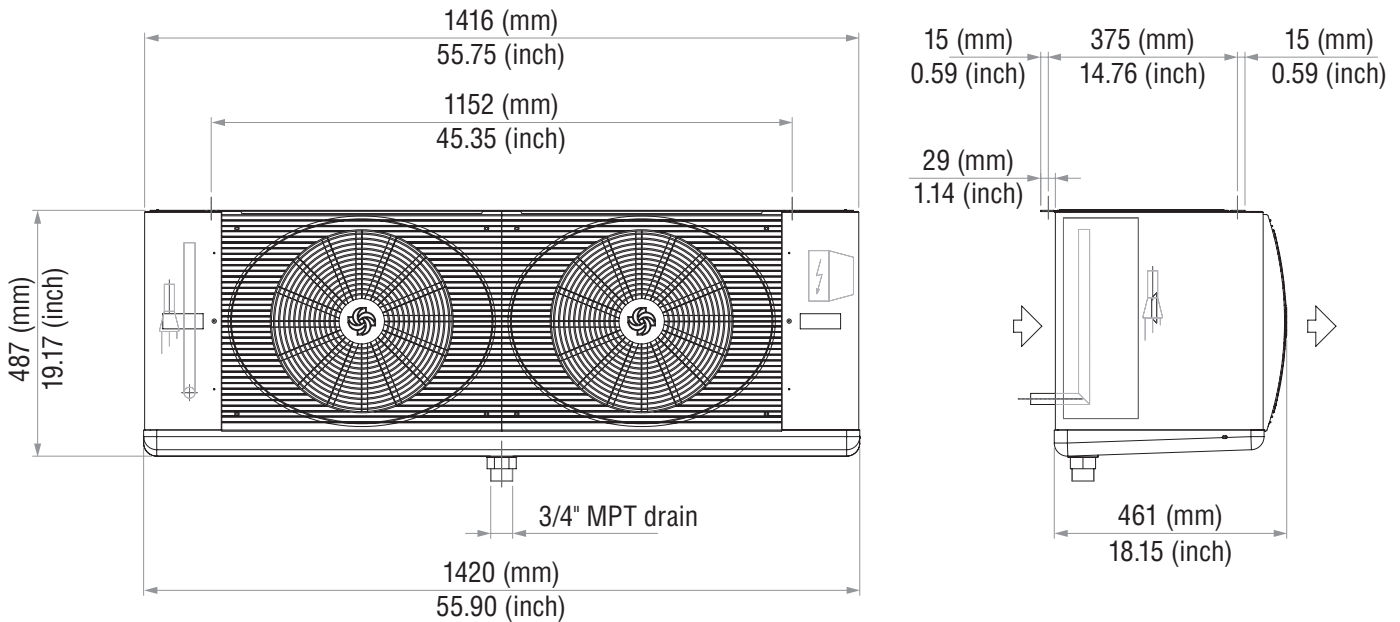
F31HC Series Unit Coolers

Low Profile – 4 & 6 FPI Coils



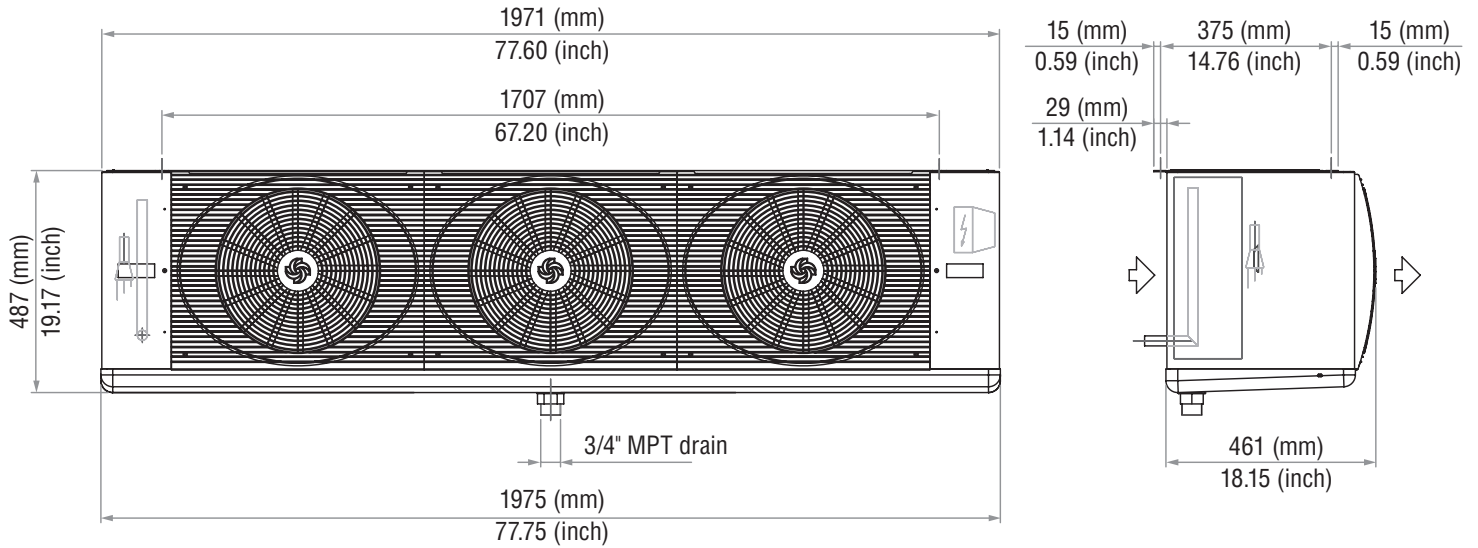
F35HC Series Unit Coolers

Low Profile – 4 & 6 FPI Coils



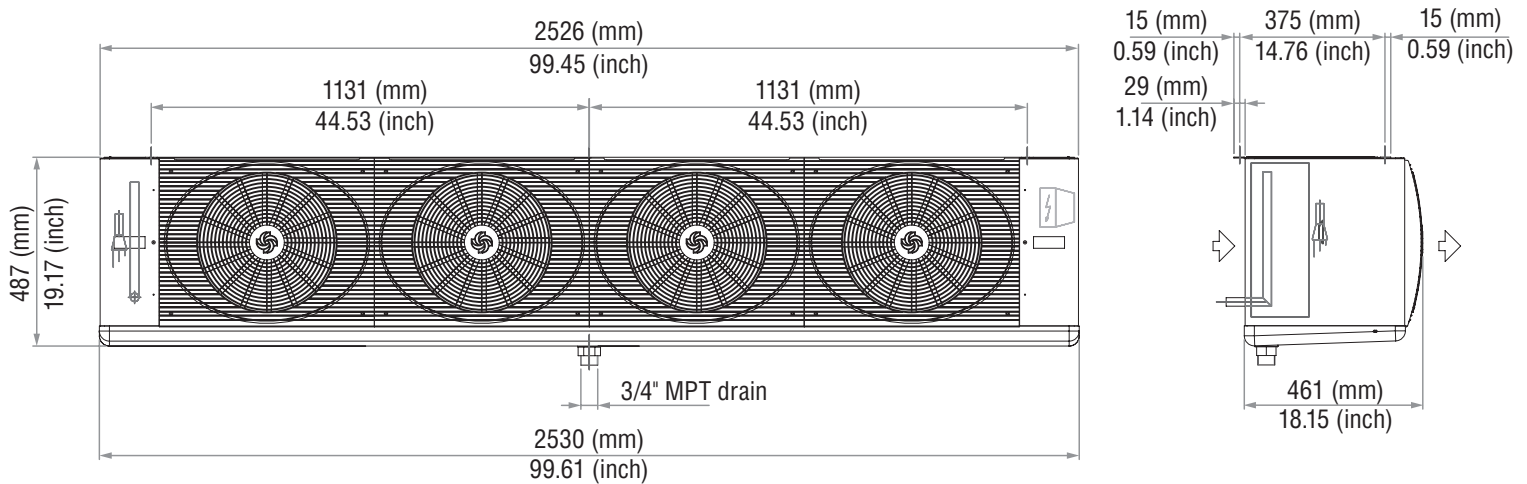
F35HC Series Unit Coolers

Low Profile – 4 & 6 FPI Coils



F35HC Series Unit Coolers

Low Profile – 4 & 6 FPI Coils



Technical Data

Air Defrost Models – 6 FPI

PERFORMANCE DATA				FAN DATA				ELECTRICAL DATA EC FAN MOTORS					
CAPACITY @ +25 SST / 10 TD / BTUH				QTY	DIAM	CFM	Air Throw	115V/60Hz/1			208-230V/60Hz/1		
UNIT MODEL NUMBER	REFRIGERANT TYPE							AMPS	MCA	MOPD	AMPS	MCA	MOPD
	R404A	R407C	R448 / 449A										
F27HC25N4-EC-UL	3,650	4,500	4,500	1	10.83"	530	27'	0.29	0.40	15	0.16	0.20	15
F27HC36N4-EC-UL	4,600	5,700	5,750	1	10.83"	530	27'	0.29	0.40	15	0.16	0.20	15

PERFORMANCE DATA				FAN DATA				ELECTRICAL DATA EC FAN MOTORS					
CAPACITY @ +25 SST / 10 TD / BTUH				QTY	DIAM	CFM	Air Throw	115V/60Hz/1			208-230V/60Hz/1		
UNIT MODEL NUMBER	REFRIGERANT TYPE							AMPS	MCA	MOPD	AMPS	MCA	MOPD
	R404A	R407C	R448 / 449A										
F31HC115N4-EC-UL	6,650	8,200	8,250	1	12.40"	942	45'	0.85	0.94	15	0.7	0.90	15
F31HC116N4-EC-UL	8,200	10,150	10,250	1	12.40"	824	39'	0.85	0.94	15	0.7	0.90	15
F31HC125N4-EC-UL	13,600	16,750	19,600	2	12.40"	1,883	53'	1.70	1.90	15	1.40	1.60	15
F31HC126N4-EC-UL	16,400	20,250	20,400	2	12.40"	1,648	47'	1.70	1.90	15	1.40	1.60	15
F31HC135N4-EC-UL	20,100	24,850	25,000	3	12.40"	2,825	63'	2.55	2.80	15	2.1	2.30	15
F31HC136N4-EC-UL	25,150	31,100	31,350	3	12.40"	2,472	55'	2.55	2.80	15	2.1	2.30	15
F31HC146N4-EC-UL	33,300	41,050	41,400	4	12.40"	3,296	58'	3.4	3.80	15	2.8	3.00	15

PERFORMANCE DATA				FAN DATA				ELECTRICAL DATA EC FAN MOTORS					
CAPACITY @ +25 SST / 10 TD / BTUH				QTY	DIAM	CFM	Air Throw	115V/60Hz/1			208-230V/60Hz/1		
UNIT MODEL NUMBER	REFRIGERANT TYPE							AMPS	MCA	MOPD	AMPS	MCA	MOPD
	R404A	R407C	R448 / 449A										
F35HC272N4-EC-UL	36,500	45,050	45,450	3	13.80	4,385	68'	4.68	5.20	15	3.90	4.20	15
F35HC323N4-EC-UL	39,850	49,100	49,550	3	13.80	4,238	66'	4.68	5.20	15	3.90	4.20	15
F35HC362N4-EC-UL	49,000	60,450	60,950	4	13.80	5,856	78'	6.24	6.90	15	5.20	5.50	15

Air Defrost Models – 4 FPI

PERFORMANCE DATA				FAN DATA				ELECTRICAL DATA EC FAN MOTORS					
CAPACITY @ +25 SST / 10 TD / BTUH				QTY	DIAM	CFM	Air Throw	115V/60Hz/1			208-230V/60Hz/1		
UNIT MODEL NUMBER	REFRIGERANT TYPE							AMPS	MCA	MOPD	AMPS	MCA	MOPD
	R404A	R407C	R448 / 449A										
F27HC19N6-EC-UL	3,150	3,900	3,900	1	10.83"	559	29'	0.29	0.40	15	0.16	0.20	15
F27HC28N6-EC-UL	4,050	4,950	5,000	1	10.83"	559	29'	0.29	0.40	15	0.16	0.20	15

PERFORMANCE DATA				FAN DATA				ELECTRICAL DATA EC FAN MOTORS					
CAPACITY @ +25 SST / 10 TD / BTUH				QTY	DIAM	CFM	Air Throw	115V/60Hz/1			208-230V/60Hz/1		
UNIT MODEL NUMBER	REFRIGERANT TYPE							AMPS	MCA	MOPD	AMPS	MCA	MOPD
	R404A	R407C	R448 / 449A										
F31HC215N6-EC-UL	5,800	7,150	7,200	1	12.40	1,001	50'	0.85	0.94	15	0.7	0.90	15
F31HC216N6-EC-UL	7,450	9,200	9,250	1	12.40	883	42'	0.85	0.94	15	0.7	0.90	15
F31HC225N6-EC-UL	11,700	14,450	14,600	2	12.40	2,001	58'	1.70	1.90	15	1.40	1.60	15
F31HC226N6-EC-UL	14,850	18,300	18,500	2	12.40	1,766	50'	1.70	1.90	15	1.40	1.60	15
F31HC235N6-EC-UL	17,500	21,550	21,750	3	12.40	3,002	66'	2.55	2.80	15	2.1	2.30	15
F31HC236N6-EC-UL	22,450	27,700	27,950	3	12.40	2,649	58'	2.55	2.80	15	2.1	2.30	15
F31HC246N6-EC-UL	30,000	37,000	37,250	4	12.40	3,531	60'	3.4	3.8	15	2.8	3.00	15

Electric Defrost Models – 6 FPI

PERFORMANCE DATA				FAN DATA				ELECTRICAL/HEATER DATA EC MOTORS					
CAPACITY @ -20 SST / 10 TD / BTUH				QTY	DIAM	CFM	Air Throw	208-230V/60Hz/1					
UNIT MODEL NUMBER	REFRIGERANT TYPE							COIL HEATER WATTS	PAN HEATER WATTS	TOTAL HEATER AMPS	FAN MOTOR AMPS	MCA	MOPD
	R404A	R407C	R448 / 449A										
F27HC36E4-EC-UL	3,550	4,750	4,450	1	10.83"	530	27'	1,220	200	6.2	0.16	6.8	15

PERFORMANCE DATA				FAN DATA				ELECTRICAL/HEATER DATA EC MOTORS					
CAPACITY @ -20 SST / 10 TD / BTUH				QTY	DIAM	CFM	Air Throw	208-230V/60Hz/1					
UNIT MODEL NUMBER	REFRIGERANT TYPE							COIL HEATER WATTS	PAN HEATER WATTS	TOTAL HEATER AMPS	FAN MOTOR AMPS	MCA	MOPD
	R404A	R407C	R448 / 449A										
F31HC115E4-EC-UL	5,150	6,900	6,450	1	12.40	942	45'	1,700	235	8.4	0.7	9.3	15
F31HC116E4-EC-UL	6,350	8,500	7,950	1	12.40	824	39'	2,550	235	12.1	0.7	13.3	15
F31HC125E4-EC-UL	10,500	14,050	13,150	2	12.40	1,883	53'	3,100	415	15	1.40	17	20
F31HC126E4-EC-UL	12,650	17,000	15,850	2	12.40	1,648	47'	4,450	415	21	1.40	23.1	30
F31HC135E4-EC-UL	15,500	20,800	19,400	3	12.40	2,825	63'	4,050	415	11.7	2.1	11.7	15
F31HC136E4-EC-UL	19,400	26,050	24,300	3	12.40	2,472	55'	6,075	600	16.8	2.1	16.8	25
F31HC146E4-EC-UL	25,700	34,450	32,150	4	12.40	3,296	58'	7,800	775	21.6	2.8	21.6	30

CAPACITY CORRECTION FACTOR FOR ELECTRIC DEFROST MODELS	-30 SST	-20 SST	-10 SST	0 SST	20 SST
	0.92	1.00	1.05	1.10	1.15

Electric Defrost Models – 4 FPI

PERFORMANCE DATA				FAN DATA				ELECTRICAL/HEATER DATA EC MOTORS					
CAPACITY @ -20 SST / 10 TD / BTUH				QTY	DIAM	CFM	Air Throw	208-230V/60Hz/1					
UNIT MODEL NUMBER	REFRIGERANT TYPE							COIL HEATER WATTS	PAN HEATER WATTS	TOTAL HEATER AMPS	FAN MOTOR AMPS	MCA	MOPD
	R404A	R407C	R448 / 449A										
F27HC28E6-EC-UL	3,100	4,150	3,900	1	10.83"	559	29'	1,220	200	6.2	0.16	6.8	15

PERFORMANCE DATA				FAN DATA				ELECTRICAL/HEATER DATA EC MOTORS					
CAPACITY @ -20 SST / 10 TD / BTUH				QTY	DIAM	CFM	Air Throw	208-230V/60Hz/1					
UNIT MODEL NUMBER	REFRIGERANT TYPE							COIL HEATER WATTS	PAN HEATER WATTS	TOTAL HEATER AMPS	FAN MOTOR AMPS	MCA	MOPD
	R404A	R407C	R448 / 449A										
F31HC215E6-EC-UL	4,500	5,950	5,600	1	12.40	1,001	50'	1,700	235	8.4	0.7	9.3	15
F31HC216E6-EC-UL	5,750	7,700	7,200	1	12.40	883	42'	2,550	235	12.1	0.7	13.3	15
F31HC225E6-EC-UL	9,050	12,150	11,350	2	12.40	2,001	58'	3,100	415	15	1.40	17	20
F31HC226E6-EC-UL	11,450	15,400	14,350	2	12.40	1,766	50'	4,450	415	21	1.40	23.1	30
F31HC235E6-EC-UL	13,500	18,100	16,900	3	12.40	3,002	66'	4,050	600	11.7	2.1	11.7	15
F31HC236E6-EC-UL	17,350	23,250	21,700	3	12.40	2,649	58'	6,075	600	16.1	2.1	16.1	25
F31HC246E6-EC-UL	23,100	31,000	28,950	4	12.40	3,531	60'	7,800	775	21.6	2.8	21.6	30

CAPACITY CORRECTION FACTOR FOR ELECTRIC DEFROST MODELS	-30 SST	-20 SST	-10 SST	0 SST	20 SST
	0.92	1.00	1.05	1.10	1.15

Match **Tecumseh designed by LU-VE** unit coolers with **Tecumseh ARGUS** condensing units to maximize efficiency, serviceability and sustainability

Tecumseh ARGUS™

Indoor/Outdoor Condensing Unit – ½ to 6 HP



Sustainability

Optimized around HFO blends.
Exceeds 2020 AWEF regulations.



Flexibility

Variety of feature sets and options
customizeable to any application.



Serviceability

Simple design featuring QR code and
removable panel for easy serviceability.



***Tecumseh ARGUS meets the 2020 DOE standards for AWEF
and is available in both low and medium temperature with ranges from ½ to 6 HP.***

www.tecumseh.com/argus



Tecumseh



Tecumseh

Cooling for a Better Tomorrow™



Tecumseh Compressor Company LLC

Subsidiary of Tecumseh Products Company LLC

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