

FHD

CENTER MOUNT LOW VELOCITY EVAPORATORS



Refrigerants















BENEFITS

- High efficiency
- Section Low noise
- Second Second
- Wide refrigerant compatibility
- Flexible model range
- Seinforced Safeshell casing



Highlights



Wide refrigerant compatibility

The FHD range is certified for use with multiple refrigerants, including HFCs, HFOs, CO₂, and brine, making it a versatile solution for modern refrigeration requirements. Specifically designed to meet the demands of CO₂ systems, the FHD family is available with a maximum design pressure of 60 bar, with an option for 85 bar/1,232 psi, ensuring compatibility with both standard and high-pressure applications.

Reinforced Safeshell casing

The FHD evaporator features a casing made of reinforced Safeshell, a highly resistant synthetic material known for its durability and ease of maintenance. Its smooth, non-porous surface makes it easy to clean and sanitize, ensuring optimal hygiene and compliance with industry standards. This makes the FHD particularly suitable for applications where cleanliness and long-term reliability are paramount.

High efficiency, low noise, and gentle air distribution The FHD Center Mount Low Velocity Evaporator is equipped with advanced 2-speed EC fan motors, available in both 115V and 230V single-phase power options. This ensures superior energy efficiency, low noise levels, and optimized airflow design, making it ideal for environments where quiet operation and gentle air distribution are essential.

Customization and control options

The FHD evaporator can be configured to meet specific operational requirements with features such as electronic expansion valves (EEVs), solenoid valves, and the option to include the KE2 Therm OEM control board for enhanced system monitoring and control.

Flexible model range

Available in configurations ranging from single-fan to four-fan models, the FHD range caters to a variety of cooling capacities. Its design ensures ease of installation and maintenance.

Versatility and compliance

Designed for a broad range of applications, the FHD series is UL listed, NSF compliant, and AWEF certified, meeting the highest standards for safety, sanitation, and energy efficiency in North America. It is available in air defrost and electric defrost models, offering flexibility to suit various operational needs.

AWEF Rating (DOE)

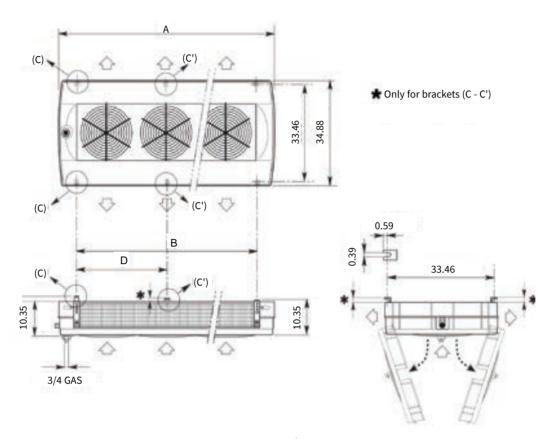
LU-VE evaporators meet and surpass the stringent AWEF (Annual Walk-In Energy Factor) standards set by the Department of Energy.

Medium temperature	FPI	R404A	R-448A/R449A
FHD 711 N 3	8	9	9
FHD 712 N 3	8	9	9
FHD 721 N 3	8	9	9
FHD 722 N 3	8	9	9
FHD 732 N 3	8	9	9
FHD 742 N 3	8	9	9
FHD 811 N 4	6	9	9
FHD 812 N 4	6	9	9
FHD 821 N 4	6	9	9
FHD 822 N 4	6	9	9
FHD 832 N 4	6	9	9
FHD 842 N 4	6	9	9
FHD 911 N 7	3	9	9
FHD 912 N 7	3	9	9
FHD 921 N 7	3	9	9
FHD 922 N 7	3	9	9
FHD 932 N 7	3	9	9
FHD 942 N 7	3	9	9

Low temperature	FPI	R404A	R-448A/R449A
FHD 811 E 4	6	4.15	4.15
FHD 812 E 4	6	4.15	4.15
FHD 821 E 4	6	4.15	4.15
FHD 822 E 4	6	4.15	4.15
FHD 832 E 4	6	4.15	4.15
FHD 842 E 4	6	4.15	4.15
FHD 911 E 7	3	4.15	4.15
FHD 912 E 7	3	4.15	4.15
FHD 921 E 7	3	4.15	4.15
FHD 922 E 7	3	4.15	4.15
FHD 932 E 7	3	4.15	4.15
FHD 942 E 7	3	4.15	4.15







Dimensions

Model	711-3	712-3	721-3	722-3	732-3	742-3
Model	811-4	812-4	821-4	822-4	832-4	842-4
No. fans	1	1	2	2	3	4
A [in]	34.87	34.87	56.80	56.80	78.67	100.50
B [in]	23.50	23.50	45.33	45.33	67.17	89.00
D [in]	-	-	-	-	-	44.50
(C) [in]	0.50	0.50	1.00	1.00	1.42	1.42
(C') [in]	-	-	-	-	-	0.71
IN [Ø in]	1/2	1/2	1/2	5/8	5/8	5/8
OUT [Ø in]	7/8	1 1/4	1 1/4	1 ½	1 ½	1 ½

Standard configuration

- Hinged drain tray. Removable casing for cleaning.
- High-efficiency small-diameter copper tubes with internal helical grooving.
- High-efficiency louvered aluminum fins.
- Standard fin spacing FPI 8, 6, 3.
- 1 to 4 fans fitted with dual speed EC fan motors.
 Fan diameter Ø 13 %. 1100/870 rpm.
- Each heat exchanger is leak tested with dry air and finally supplied with a dry air pre-charge.

Design pressure

Refrigerant	Max working pressure
HFC*	24 bar / 348 psi
co ₂	85 bar / 1,232 psi
Brine	10 bar / 145 psi

^{*} Fluid group 2 according to EN 378

Options

- Coil protection: pre-coated aluminium fins (AP)
- · Electric defrost in coil
- Electric defrost in drain tray (unwired)
- · Threaded connections for brine units
- Mounted EEV, TXV and solenoid valve
- KE2 evaporator control

Electrical heaters

Model	Coil Heaters	240V - 1	Ph - 60Hz
Model	[W]	MCA defrost	MOPD defrost
FHD 811 E 4	1,800	1.00	15
FHD 812 E 4	1,800	1.00	15
FHD 821 E 4	3,200	1.70	15
FHD 822 E 4	3,200	1.70	15
FHD 832 E 4	4,700	2.40	15
FHD 842 E 4	5,800	3.20	15



Selection tables



Cooling capacities

Cooling capacities as given in tables are nominal capacities for wet conditions in compliance with the EN328:2014 regulation.

					Operating	conditions		
Refrigerant	Application	Temperature	Relative Humidity	Room Temperature	Saturated suction temperature	Superheating	Liquid temperature	DT1
			%	°F	°F	°F	°F	°F
50	Direct	Medium	85	35	25	6.5	70	10
co ₂	expansion DX	Low	95	-10	-20	6.5	40	10

					Operating	conditions		
Refrigerant	Application	Temperature	Relative Humidity	Room Temperature	Saturated suction temperature	Superheating	Liquid temperature	DT1
			%	°F	°F	°F	°F	°F
Freon	Direct	Medium	85	35	25	6.5	90	10
(R404A, R448A)	expansion DX	Low	95	-10	-20	6.5	50	10

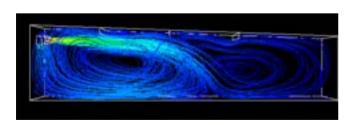
Air throw

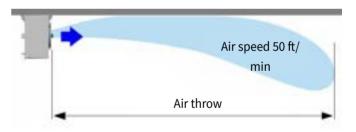
The values given in the tables are for ceiling mounted coolers at t=70 °F, an unrestrained air flow in the cold room and a minimal air speed of 50 ft/min at the given air throw distance. The height and air circulation of the room may influence the air throw.

Sound pressure dB(A)

Sound pressure are sound pressure levels in dB(A) in free field conditions at 33 ft distance.

Values may deviate depending on situations at site.





Code description

FHD	*	711	N	4	*	*
1	2	3	4	5	6	7

- 1 Center mount evaporators
- 2 Refrigerant system (blank=HFC, W=brine, in case of CO₂ see pos. 6)
- 3 Model type
- 4 Defrost system (N=air defrost, E=electric defrost)
- 5 Fin spacing (3=FPI 8, 4=FPI 6, 7=FPI 3)
- 6 Application (DX CO₂=direct expansion for CO₂)
- 7 Circuits code only for brine units





				FF				Total Fan motor AMPS Single phase 50/60Hz				
		Сар	pacity @25	°F S.T. [BTU			FAN DAT	A	200-240 V / 60Hz Dual Speed* EC FAN MOTOR			
Model	CO ₂ R404A R448A R449A				No.	CFM (m³/h)	CFM (m³/h)	[A]	MCA	MOPD		
	10 °F TD	15 °F TD	10 °F TD	15 °F TD	10 °F TD	15 °F TD	fans	High Speed	Low Speed			
FHD 711 N 3	7,550	11,300	7,150	10,750	8,900	13,350	1	1,060 (1,800)	830 (1,400)	0.73	1.00	15
FHD 712 N 3	10,550	15,850	10,050	15,100	12,500	18,750	1	1,060 (1,800)	830 (1,400)	0.73	1.00	15
FHD 721 N 3	15,100	22,650	14,350	21,550	17,900	26,850	2	2,120 (3,600)	1,650 (2,800)	1.46	1.70	15
FHD 722 N 3	21,200	31,800	20,200	30,300	25,100	37,650	2	2,120 (3,600)	1,650 (2,800)	1.46	1.70	15
FHD 732 N 3	31,350	47,000	29,850	44,800	37,150 55,750		3	3,180 (5,400)	2,480 (4,200)	2.19	2.40	15
FHD 742 N 3	39,000	58,500	37,150	55,750	46,250	69,400	4	4,240 (7,200)	3,240 (5,500)	2.92	3.20	15

		Ca _l	pacity @25	FF °F S.T. [BTU		FAN DAT	A	Total Fan motor AMPS Single phase 50/60Hz 200-240 V / 60Hz Dual Speed* EC FAN MOTOR				
Model	CO ₂ R404A R448A R449A					No.	CFM (m³/h) High Speed	CFM (m³/h) Low Speed	[A]	MCA	MOPD	
	10 °F TD	15 °F TD	10 °F TD	15 °F TD	10 °F TD	15 °F TD	Ialis	Tilgii Speed	Low Speed			
FHD 811 N 4	6,150	9,250	5,850	8,800	7,250	10,900	1	1,120 (1,900)	890 (1,500)	0.73	1.00	15
FHD 812 N 4	9,000	13,500	8,550	12,850	10,650	16,000	1	1,120 (1,900)	890 (1,500)	0.73	1.00	15
FHD 821 N 4	12,250	18,400	11,650	17,500	14,500	21,750	2	2,240 (3,800)	1,710 (2,900)	1.46	1.70	15
FHD 822 N 4	17,950	26,950	17,100	25,650	21,250	31,900	2	2,240 (3,800)	1,710 (2,900)	1.46	1.70	15
FHD 832 N 4	27,100	40,600	25,800	38,700	32,100 48,150		3	3,360 (5,700)	2,590 (4,400)	2.19	2.40	15
FHD 842 N 4	34,800	52,200	33,150	49,750	41,200	61,800	4	4,480 (7,600)	3,480 (5,900)	2.92	3.20	15

				FF					Total Fan motor AMPS Single phase 50/60Hz			
		Сар	pacity @25	°F S.T. [BTU		FAN DAT	A		0-240 V / 60 ed* EC FAI			
Model	CO ₂ R404A R448A R449A						No.	CFM (m³/h) High Speed	CFM (m³/h)	[A]	MCA	MOPD
	10 °F TD	15 °F TD	10 °F TD	15 °F TD	10 °F TD	15 °F TD	Idiis	nigii Speed	Low Speed			
FHD 911 N 7	4,400	6,600	4,150	6,250	5,150	7,750	1	1,170 (1,980)	890 (1,500)	0.73	1.00	15
FHD 912 N 7	6,850	10,250	6,500	9,750	8,100	12,150	1	1,170 (1,980)	890 (1,500)	0.73	1.00	15
FHD 921 N 7	8,750	13,100	8,300	12,450	10,300	15,450	2	2,340 (3,970)	1,710 (2,900)	1.46	1.70	15
FHD 922 N 7	13,500	20,250	12,850	19,300	16,000	24,000	2	2,340 (3,970)	1,710 (2,900)	1.46	1.70	15
FHD 932 N 7	20,800	31,200	19,800	29,700	24,650	37,000	3	3,510 (5,960)	2,590 (4,400)	2.19	2.40	15
FHD 942 N 7	27,400	41,100	26,100	39,150	32,450	48,700	4	4,680 (7,950)	3,480 (5,900)	2.92	3.20	15

^{*}Dual Speed EC FAN Motor: 1,100 / 870 rpm





	FPI 6												an moto phase 50	
Capacity @ -10 °F S.T. [BTU/h]										FAN DAT	A	230-240 V / 60Hz EC FAN MOTOR		
Model	Model CO ₂ R404A R407C R448A R449A						No.	CFM (m³/h)	CFM (m³/h)	[A]	MCA (fan/	MOPD (fan/		
	10 °F TD	15 °F TD	10 °F TD	15 °F TD	10 °F TD	15 °F TD	10 °F TD	15 °F TD	fans	High Speed	Low Speed		defrost)	defrost)
FHD 811 E 4	5,000	7,550	4,750	7,150	6,200	9,300	6,050	9,100	1	1,060 (1,800)	830 (1,400)	0.73	1.00	15
FHD 812 E 4	7,300	11,000	6,950	10,450	9,100	13,650	8,900	13,350	1	1,060 (1,800)	830 (1,400)	0.73	1.00	15
FHD 821 E 4	10,000	14,950	9,500	14,250	12,350	18,550	12,100	18,150	2	2,120 (3,600)	1,650 (2,800)	1.46	1.70	15
FHD 822 E 4	14,600	21,900	13,900	20,850	18,150	27,250	17,750	26,650	2	2,120 (3,600)	1,650 (2,800)	1.46	1.70	15
FHD 832 E 4	22,050	33,050	21,000	31,500	27,400	41,100	26,800	40,200	3	3,180 (5,400)	2,480 (4,200)	2.19	2.40	15
FHD 842 E 4	28,300	42,450	26,950	40,450	35,150	52,750	34,400	51,600	4	4,240 (7,200)	3,240 (5,500)	2.92	3.20	15

FPI 3									Total Fan motor AMPS Single phase 50/60Hz					
	Capacity @ -10 °F S.T. [BTU/h]									FAN DAT	230-240 V / 60Hz EC FAN MOTOR			
Model	co ₂		R404A		R407C		R448A R449A		No.	CFM (m³/h)	CFM (m³/h)	[A]	MCA (fan/	MOPD (fan/
	10 °F TD	15 °F TD	10 °F TD	15 °F TD	10 °F TD	15 °F TD	10 °F TD	15 °F TD	fans	High Speed	Low Speed		defrost)	defrost)
FHD 911 E 7	3,600	5,350	3,400	5,100	4,400	6,600	4,300	6,450	1	1,060 (1,800)	830 (1,400)	0.73	1.00	15
FHD 912 E 7	5,600	8,350	5,300	7,950	6,900	10,350	6,750	10,150	1	1,060 (1,800)	830 (1,400)	0.73	1.00	15
FHD 921 E 7	7,100	10,650	6,750	10,150	8,800	13,200	8,600	12,900	2	2,120 (3,600)	1,650 (2,800)	1.46	1.70	15
FHD 922 E 7	11,000	16,500	10,450	15,700	13,650	20,500	13,400	20,100	2	2,120 (3,600)	1,650 (2,800)	1.46	1.70	15
FHD 932 E 7	16,900	25,350	16,100	24,150	21,000	31,500	20,600	30,900	3	3,180 (5,400)	2,480 (4,200)	2.19	2.40	15
FHD 942 E 7	22,250	33,400	21,200	31,800	27,700	41,550	27,100	40,650	4	4,240 (7,200)	3,240 (5,500)	2.92	3.20	15







A comprehensive spare parts list is available to ensure seamless maintenance and prolonged operational efficiency of our commercial evaporators.

Code
32009133
31041075
31041052
31013005
31041053
31041054
CF
CF
CF
CF
31097930
30168389
30168388
31022207
31022206

CF = Contact Factory

LU-VE reserves the right to make changes and / or modifications to our equipment in order to improve the performance or appearance of our products at any time without notice and without any obligation to previous production units. All technical characteristics are stated in the current, published product catalog.





LU-VE Group in brief

LU-VE Group is an international company consisting of 20 manufacturing facilities in 9 different countries (Italy, China, Finland, India, Poland, Czech Republic, Sweden, Russia and the USA) with a network of more than 30 sales offices in Europe, Asia, the Middle East and the USA.

LU-VE Group is one of the three major manufacturers in the world and second largest in Europe in the air heat exchanger segment.

Since 1986 LU-VE has been designing and manufacturing its products based on cutting-edge technologies in the field of industrial and commercial refrigeration and industrial air conditioning.

The LU-VE American dream!

With a focus on energy efficiency, advanced technology, and reliable performance, LU-VE unit coolers deliver outstanding value for commercial refrigeration applications in the North American market.

In 2018, LU-VE Group entered the North American market by purchasing the local manufacturer Zyklus Heat transfer Inc. Jacksonville, TX.

In 2020, a new state-of-the-art facility was built in the same area and has been operational since 2021.

LU-VE Group has recently started a major factory expansion in Jacksonville, TX with the objective to start producing air heat exchangers for the local market in the first quarter of 2026.

LU-VE Group large product portfolio is suitable for most of the refrigeration applications in North America.

ScanMe!



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