

Copeland F-series hermetic condensing units - 50Hz

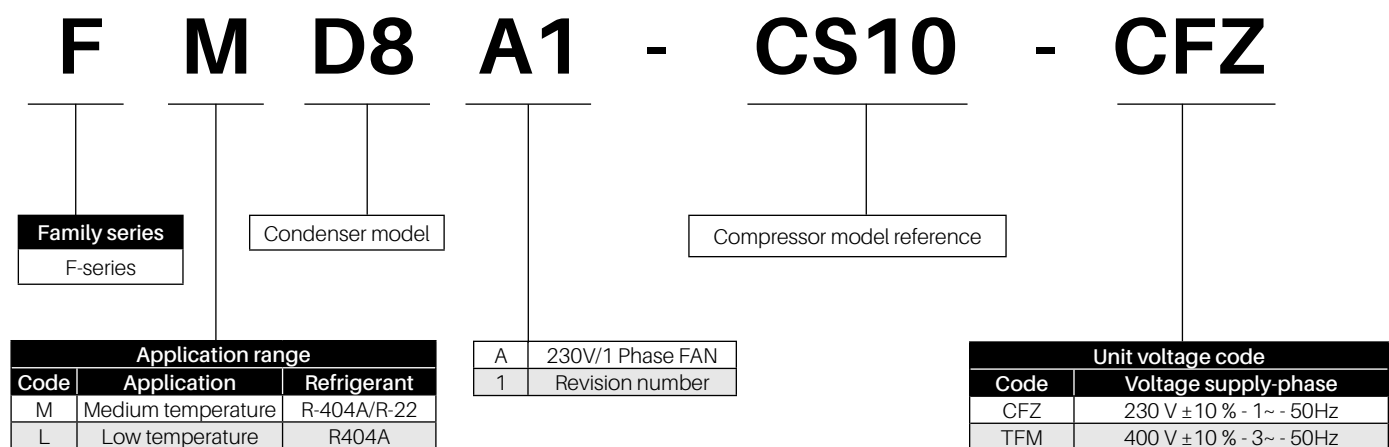
For medium and low temperature applications



Key features

- Compact design
- High efficiency Copeland compressors
- Energy efficient silent fans
- Condenser coils designed for high ambient
- Liquid receiver, HP/LP switch, Crankcase heater as standard feature
- Optimal layout of components for easy serviceability

Nomenclature



Medium temperature

Condensing unit model	Ambient (°C)	Capacity (kW)						Total power input (kW)					
		Evaporating temperature (°C)											
Number of fans		-15	-10	-5	0	5	7	-15	-10	-5	0	5	7
FMD8A1-CS10-CFZ 1	32	2.19	2.76	3.36	3.98	4.59	4.84	1.33	1.48	1.64	1.79	1.94	2.01
	38	1.81	2.33	2.89	3.46	4.04	4.27	1.32	1.49	1.66	1.83	2.01	2.08
	43	1.51	1.99	2.51	3.05	3.59	3.80	1.30	1.48	1.67	1.86	2.06	2.14
	46	1.34	1.80	2.29	2.80			1.28	1.48	1.67	1.87		
FMH7A1-CS13-CFZ 1	32	3.04	3.78	4.55	5.36	6.19	6.53	1.73	1.90	2.09	2.29	2.52	2.62
	38	2.60	3.26	3.97	4.71	5.46	5.77	1.79	1.98	2.16	2.37	2.60	2.70
	43	2.24	2.84	3.49	4.16	4.86	5.14	1.83	2.02	2.22	2.43	2.66	2.76
	46	2.04	2.60	3.20	3.84			1.85	2.05	2.24	2.46		
FMH8A1-CS17-CFZ 1	32	3.70	4.62	5.59	6.59	7.58	7.97	2.18	2.39	2.61	2.84	3.10	3.21
	38	3.14	3.97	4.85	5.75	6.64	6.99	2.23	2.45	2.68	2.93	3.20	3.31
	43	2.68	3.43	4.23	5.04	5.85	6.17	2.26	2.49	2.73	2.99	3.27	3.39
	46	2.42	3.11	3.86	4.62			2.27	2.51	2.76	3.02		
FMH8A1-CS17-TFM 1	32	3.75	4.69	5.67	6.66	7.64	8.02	2.11	2.32	2.53	2.75	2.97	3.07
	38	3.19	4.03	4.91	5.80	6.68	7.02	2.16	2.38	2.59	2.82	3.05	3.15
	43	2.73	3.48	4.28	5.08	5.87	6.18	2.19	2.41	2.64	2.86	3.10	3.20
	46	2.46	3.16	3.90	4.65			2.21	2.43	2.66	2.89		
FMM8A1-CS20-TFM 1	32	4.34	5.44	6.59	7.76	8.89	9.33	2.34	2.58	2.82	3.10	3.41	3.55
	38	3.65	4.65	5.70	6.77	7.81	8.21	2.41	2.65	2.92	3.21	3.55	3.70
	43	3.09	4.01	4.98	5.97	6.93	7.30	2.45	2.71	2.99	3.30	3.66	3.81
	46	2.78	3.64	4.56	5.50	6.42	6.76	2.48	2.74	3.03	3.35	3.71	3.87
FMR6A1-CS27-TFM 2	32	5.79	7.17	8.63	10.15	11.70	12.30	3.19	3.49	3.78	4.11	4.48	4.64
	38	5.00	6.24	7.56	8.93	10.30	10.85	3.27	3.59	3.90	4.24	4.64	4.81
	43	4.35	5.48	6.68	7.91	9.16	9.66	3.34	3.66	3.99	4.34	4.75	4.93
	46	3.97	5.03	6.15	7.31	8.48		3.37	3.69	4.03	4.39	4.81	
FMR7A1-CS33-TFM 2	32	7.09	8.69	10.45	12.35	14.35	15.20	3.82	4.29	4.77	5.23	5.66	5.82
	38	6.28	7.69	9.24	10.90	12.75	13.50	3.91	4.41	4.91	5.40	5.87	6.05
	43	5.60	6.85	8.22	9.72	11.35	12.00	3.96	4.48	5.01	5.53	6.02	6.21
	46	5.18	6.33	7.60	8.99	10.50		3.98	4.52	5.06	5.59	6.10	

Operating Conditions: 20 °C Suction Gas Return Temperature and 0K Sub Cooling

1. At 3K Subcooling, capacity increases by approximately 5%

2. Stated power values are inclusive of fan power

Low temperature

Condensing unit model	Ambient (°C)	Capacity (kW)						Total power input (kW)					
		Evaporating temperature (°C)											
Number of fans		-35	-30	-25	-20	-15	-10	-35	-30	-25	-20	-15	-10
FLD8A1-CM475-CFZ 1	32	1.08	1.38	1.77	2.27	2.89	3.63	0.89	0.96	1.05	1.19	1.43	1.81
	38	0.92	1.24	1.64	2.13	2.73	3.42	0.99	1.07	1.17	1.32	1.57	1.94
	43	0.79	1.12	1.52	2.00	2.56	3.18	1.08	1.17	1.27	1.42	1.66	2.02
	46	0.68	1.03	1.42	1.89	2.42		1.14	1.23	1.33	1.48	1.71	
FLH7A1-CM512-TFM 1	32	1.42	2.12	2.89	3.71	4.59	5.52	1.40	1.65	2.04	2.51	3.00	3.47
	38	1.28	1.87	2.55	3.30	4.14	5.06	1.51	1.73	2.11	2.58	3.09	3.58
	43	0.97	1.54	2.19	2.94	3.78	4.72	1.62	1.81	2.17	2.64	3.16	3.67
	46	0.75	1.31	1.97	2.73	3.59		1.70	1.87	2.22	2.68	3.20	
FLH7A1-CM515-TFM 1	32	1.55	2.31	3.11	3.97	4.86	5.80	1.61	2.00	2.37	2.73	3.12	3.57
	38	1.34	1.97	2.69	3.49	4.36	5.30	1.66	2.04	2.40	2.77	3.19	3.68
	43	1.03	1.62	2.32	3.12	4.01		1.70	2.06	2.42	2.81	3.25	
	46	0.84	1.42	2.12	2.94			1.74	2.09	2.45	2.84		
FLH8A1-CM517-TFM 1	32	1.97	2.81	3.65	4.55	5.57	6.72	2.13	2.58	3.02	3.46	3.92	4.42
	38	1.74	2.47	3.22	4.05	4.99	6.09	2.12	2.58	3.03	3.50	3.99	4.53
	43	1.43	2.12	2.85	3.65	4.59		2.13	2.59	3.06	3.55	4.07	
	46	1.25	1.94	2.66	3.47			2.15	2.61	3.09	3.60		
FLH8A1-CM520-TFM 1	32	2.09	2.96	3.88	4.87	5.94	7.10	2.18	2.62	3.19	3.82	4.45	4.98
	38	1.93	2.72	3.57	4.48	5.46	6.54	2.25	2.76	3.39	4.06	4.70	5.24
	43	1.67	2.44	3.24	4.11	5.05		2.34	2.88	3.53	4.22	4.85	
	46	1.48	2.23	3.02	3.87			2.37	2.93	3.59	4.27		

Operating Conditions: 20 °C Suction Gas Return Temperature and 0K Sub Cooling

1. At 3K Subcooling, capacity increases by approximately 5%

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Medium temperature

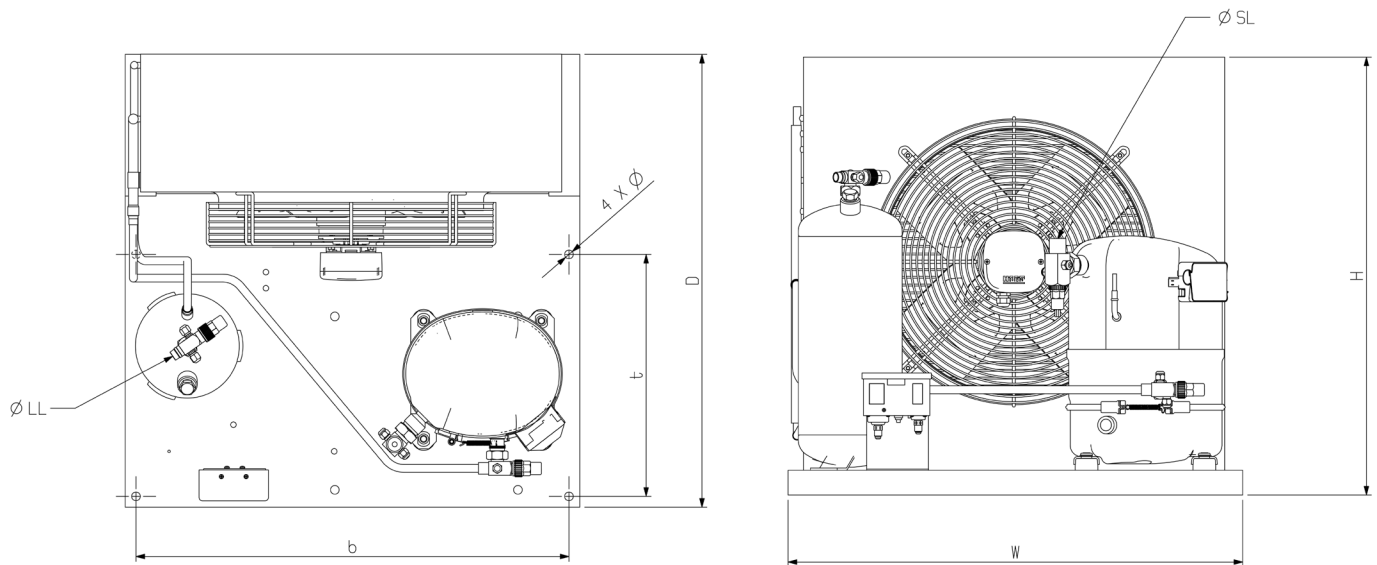
Condensing unit model	Ambient (°C)	Capacity (kW)						Total power input (kW)					
		Evaporating temperature (°C)											
Number of fans		-15	-10	-5	0	5	7	-15	-10	-5	0	5	7
FMD8A1-CS10-CFZ 1	32	2.19	2.79	3.52	4.39	5.43	5.90	1.21	1.32	1.45	1.60	1.78	1.87
	38	1.83	2.40	3.11	3.98	5.04	5.52	1.25	1.38	1.52	1.70	1.90	2.00
	43			2.82	3.70	4.79				1.60	1.78	2.02	
	46				3.56						1.84		
FMH7A1-CS13-CFZ 1	32	2.99	3.75	4.68	5.80	7.19	7.83	1.58	1.74	1.92	2.12	2.37	2.49
	38	2.58	3.31	4.22	5.36	6.78	7.45	1.65	1.83	2.03	2.25	2.54	2.67
	43			3.89	5.05					2.12	2.37		
	46				4.90						2.45		
FMH8A1-CS17-CFZ 1	32	3.63	4.61	5.80	7.27	9.09	9.94	2.02	2.21	2.42	2.66	2.98	3.13
	38	3.11	4.04	5.23	6.72	8.61	9.50	2.09	2.31	2.54	2.82	3.18	3.36
	43			4.81	6.34					2.66	2.97		
	46												
FMH8A1-CS17-TFM 1	32	3.57	4.53	5.70	7.14	8.90	9.72	1.90	2.08	2.27	2.50	2.78	2.92
	38	3.06	3.98	5.14	6.60	8.43	9.29	1.97	2.17	2.39	2.65	2.97	3.13
	43			4.74	6.24					2.49	2.78		
	46				6.06						2.87		
FMM8A1-CS20-TFM 1	32	4.24	5.41	6.87	8.71	11.00	12.05	2.17	2.38	2.60	2.85	3.15	3.29
	38	3.61	4.72	6.16	7.99	10.30	11.40	2.27	2.49	2.74	3.01	3.33	3.48
	43		4.22	5.65	7.51	9.92			2.59	2.85	3.14	3.49	
	46			5.40	7.30					2.92	3.22		
FMR6A1-CS27-TFM 2	32	5.75	7.13	8.74	10.60	12.80	13.80	2.93	3.19	3.46	3.75	4.11	4.28
	38	4.96	6.27	7.83	9.69	11.90	12.90	3.03	3.31	3.60	3.93	4.32	4.50
	43			7.15	9.02	11.25	12.30			3.72	4.07	4.48	4.68
	46			6.79	8.68					3.78	4.14		
FMR7A1-CS33-TFM 2	32	7.10	8.75	10.70	13.05	15.85	17.10	3.66	3.96	4.27	4.62	5.04	5.25
	38	6.21	7.77	9.66	11.95	14.70	16.00	3.78	4.11	4.44	4.83	5.29	5.51
	43			8.86	11.15	13.95	15.25			4.58	4.99	5.48	5.71
	46				10.75						5.08		

Operating Conditions: 20 °C Suction Gas Return Temperature and 0K Sub Cooling

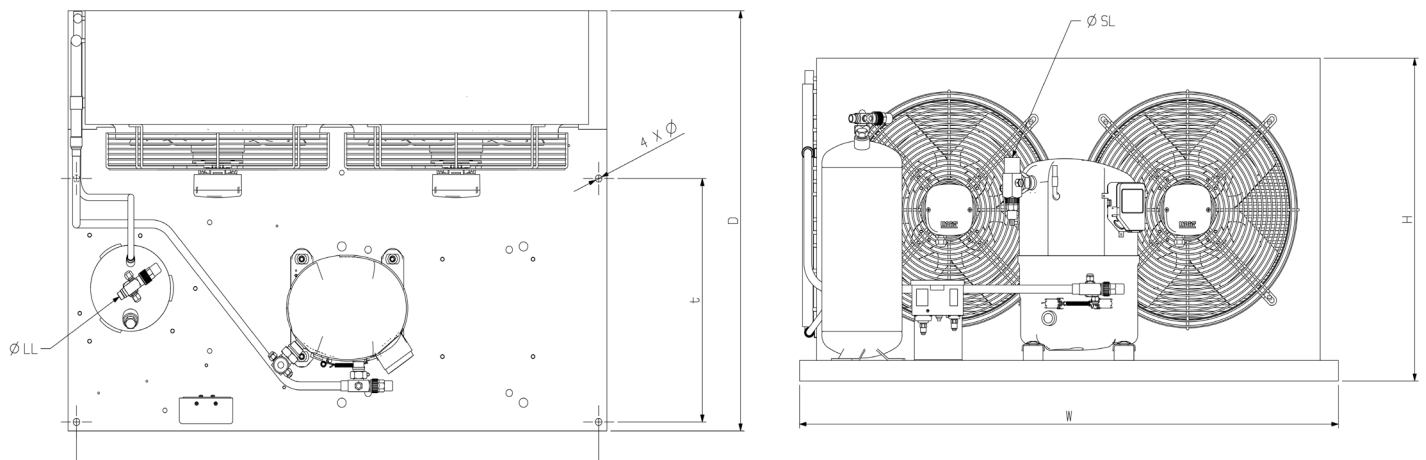
1. At 3K Subcooling, capacity increases by approximately 5%

2. Stated power values are inclusive of fan power

Condenser C8, D8, H7, H8, M8



Condenser R6, R7



MECHANICAL DATA

Condensing unit model	Compressor model	Receiver capacity (l)	Air flow (m³/s)	Depth/Width [D / W] (mm)	Height [H] (mm)	Base mounting Ø [b / t] (mm)	Suction Ø [SL] (")	Liquid Ø [LL] (")	Net weight (kg)	Gross weight (kg)
FMD8A1-CS10-CFZ	CS10K7ME-PFZ-137	4	0.44	620/560	444	530 x 380 (11)	5/8	3/8	53	63
FMH7A1-CS13-CFZ	CS13K7ME-PFZ-137	4	0.61	680/735	532	700 x 370 (14)	3/4	3/8	72	87
FMH8A1-CS17-CFZ	CS17K7ME-PFZ-137	8	1.00	680/735	532	700 x 370 (14)	3/4	1/2	75	90
FMH8A1-CS17-TFM	CS17K7ME-TFM-13A	8	1.00	680/735	532	700 x 370 (14)	3/4	1/2	75	90
FMM8A1-CS20-TFM	CS20K7ME-TFM-13A	8	0.92	730/735	706	700 x 390 (14)	7/8	1/2	80	97
FMR6A1-CS27-TFM	CS27K7ME-TFM-23A	8	1.29	820/1130	630	1095 x 475 (14)	7/8	1/2	102	142
FMR7A1-CS33-TFM	CS33K7ME-TFM-23A	8	1.97	820/1130	630	1095 x 475 (14)	1 1/8	1/2	102	142
FLD8A1-CM475-CFZ	KCM475LAL-C312H	4	0.44	620/560	444	530 x 380 (11)	5/8	3/8	56	66
FLH7A1-CM512-TFM	KCM512LAL-E512H	4	0.61	680/735	532	700 x 370 (14)	3/4	3/8	72	87
FLH7A1-CM515-TFM	KCM515LAL-E512H	4	0.61	680/735	532	700 x 370 (14)	3/4	3/8	72	87
FLH8A1-CM517-TFM	KCM517LAL-E514H	8	1.00	680/735	532	700 x 370 (14)	7/8	1/2	75	90
FLH8A1-CM520-TFM	KCM520LAL-E514H	8	1.00	680/735	532	700 x 370 (14)	7/8	1/2	75	90

ELECTRICAL DATA

Condensing unit model	Compressor model	Compressor maximum operating current (A)	Compressor locked rotor current (A)	Condenser fan (Qty x model)	Condenser fan current 230V/1/50Hz (A)
FMD8A1-CS10-CFZ	CS10K7ME-PFZ-137	10.8	54	1 X 121	0.45
FMH7A1-CS13-CFZ	CS13K7ME-PFZ-137	14.2	72	1 X 121	0.45
FMH8A1-CS17-CFZ	CS17K7ME-PFZ-137	17.0	85	1 X 271	1.15
FMH8A1-CS17-TFM	CS17K7ME-TFM-13A	7.0	41	1 X 271	1.15
FMM8A1-CS20-TFM	CS20K7ME-TFM-13A	7.8	45	1 X 271	1.15
FMR6A1-CS27-TFM	CS27K7ME-TFM-23A	11.0	61	2 X 121	0.45
FMR7A1-CS33-TFM	CS33K7ME-TFM-23A	12.8	55	2 X 271	1.15
FLD8A1-CM475-CFZ	KCM475LAL-C312H	9.6	72	1 x 121	0.45
FLH7A1-CM512-TFM	KCM512LAL-E512H	6.2	45	1 x 121	0.45
FLH7A1-CM515-TFM	KCM515LAL-E512H	7.3	45	1 x 121	0.45
FLH8A1-CM517-TFM	KCM517LAL-E514H	8.4	61	1 x 271	1.15
FLH8A1-CM520-TFM	KCM520LAL-E514H	9.1	55	1 x 271	1.15

A photograph of a modern interior space. On the left, a wall is covered in vertical wooden slats. The word "COPELAND" is mounted on this wall in large, bold, black, sans-serif capital letters. To the right, a blue wall features the text "ENGINEERED FOR SUSTAINABILITY" in a gold, serif font. The floor is made of light-colored square tiles with a dark rectangular section in the foreground.

COPELAND

ENGINEERED FOR
SUSTAINABILITY

About Copeland

Copeland is a global leader in sustainable heating, cooling, cold chain and industrial solutions. We help commercial, industrial, refrigeration and residential customers reduce their carbon emissions and improve energy efficiency. We address issues like climate change, growing populations, electricity demands and complex global supply chains with innovations that advance the energy transition, accelerate the adoption of climate friendly low GWP (Global Warming Potential) and natural refrigerants, and safeguard the world's most critical goods through an efficient and sustainable cold chain. We have over 18,000 employees, with feet on the ground in more than 40 countries - a global presence that makes it possible to serve customers wherever they are in the world and meet challenges with scale and speed. Our industry-leading brands and diversified portfolio deliver innovation and technology proven in over 200 million installations worldwide. Together, we create sustainable solutions that improve lives and protect the planet today and for future generations.

To learn more, visit copeland.com

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