

IZFI condensing unit

For refrigeration applications (7.5-20.0 HP) - Southeast Asia





IZFI condensing units for low temperature refrigeration applications

The IZFI scroll condensing unit platform has been developed specifically for low temperature refrigeration applications. It is designed with Copeland's highly efficient ZFI**KQE* vapor injection scroll compressor, effectively delivering higher efficiencies compared to single-stage condensing units available in the market today. The IZFI scroll condensing units are factory assembled and fully-featured using Copeland branded line components.

The units are equipped with CoreSense technology for protection and communication. CoreSense senses the discharge line temperature and regulates vapor injection to protect the condensing unit from overheating. LED display alerts the user of discharge line temperature sensor status and electronic expansion valve operation. Vapor injection regulation through CoreSense technology results in better condensing unit reliability at low temperature operation and higher system efficiencies.

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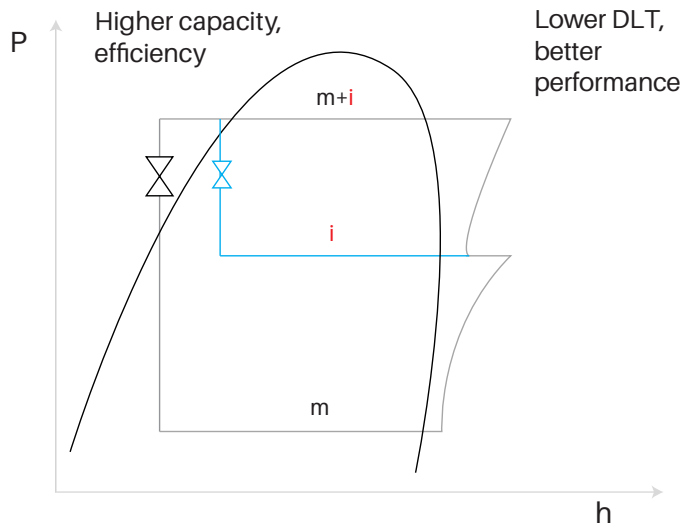
Key features

Vapor injection technology for higher efficiency

- Vapor injection allows ZFI* KQE compressors to perform at higher efficiencies than single-stage compressors at low temperature operation.
- Vapor injection improves system capacity and efficiency.

Scroll efficiency and reliability

- COP improvement reduces energy consumption.
- 70% fewer moving parts than reciprocating.
- Superior liquid handling.



Smooth scroll movement

- Low sound and vibration leading to reliable & peaceful operation.
- No complex internal suction and discharge valves for quieter operation and higher reliability.

CoreSense for Copeland scroll compressors

- High discharge line temperature protection through onboard control for vapor injection.
- Direct communication function by using LED display alerts.
- Low temperature operation reliability due to vapor injection technology.

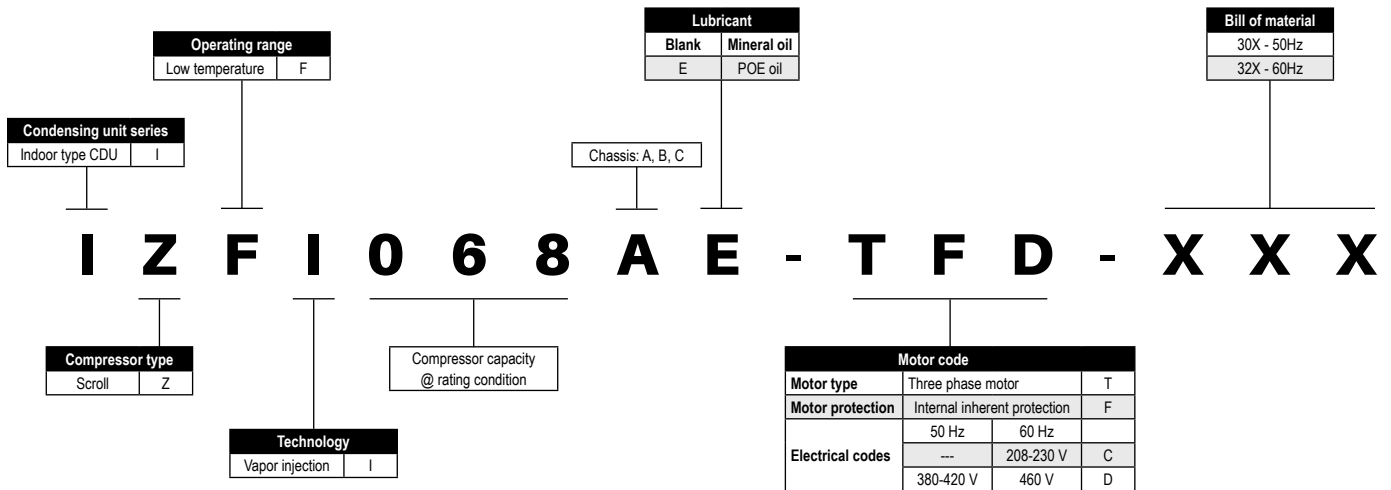
Wide range operating envelope

- Designed for low temperature operation.
- Designed for tropical ambient operation.

Scroll efficiency and reliability

- IZFI condensing units come fully assembled with full scope of supply (e.g. filter drier, sight glass, electrical contactor).
- Copeland quality built condensing unit.

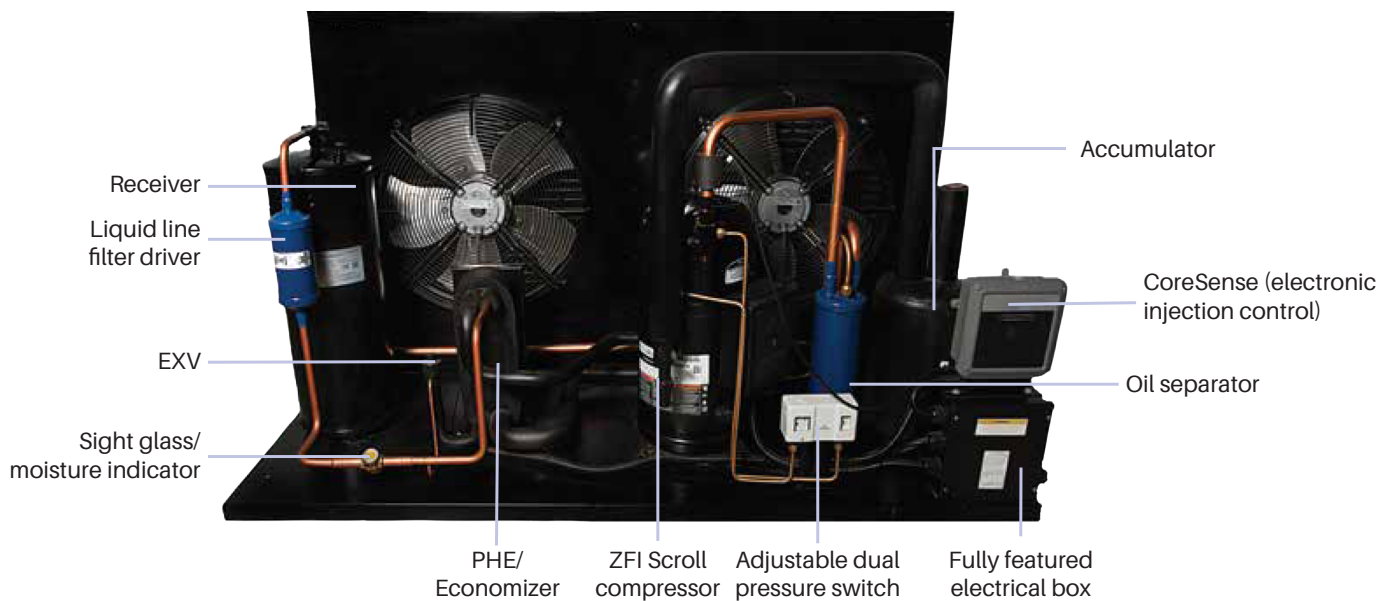
Nomenclature



Bill of material

Standard features	300/320
Compressor - rotalock connection	✓
PHE/economizer	✓
Fan motor	✓
Receiver	✓
Accumulator	✓
Sight glass/moisture indicator	✓
Filter drier	✓
Adjustable dual pressure switch	✓
Oil separator	✓
Crankcase heater	✓
CoreSense	✓
Compressor contactor	✓
Fully featured electrical box	✓

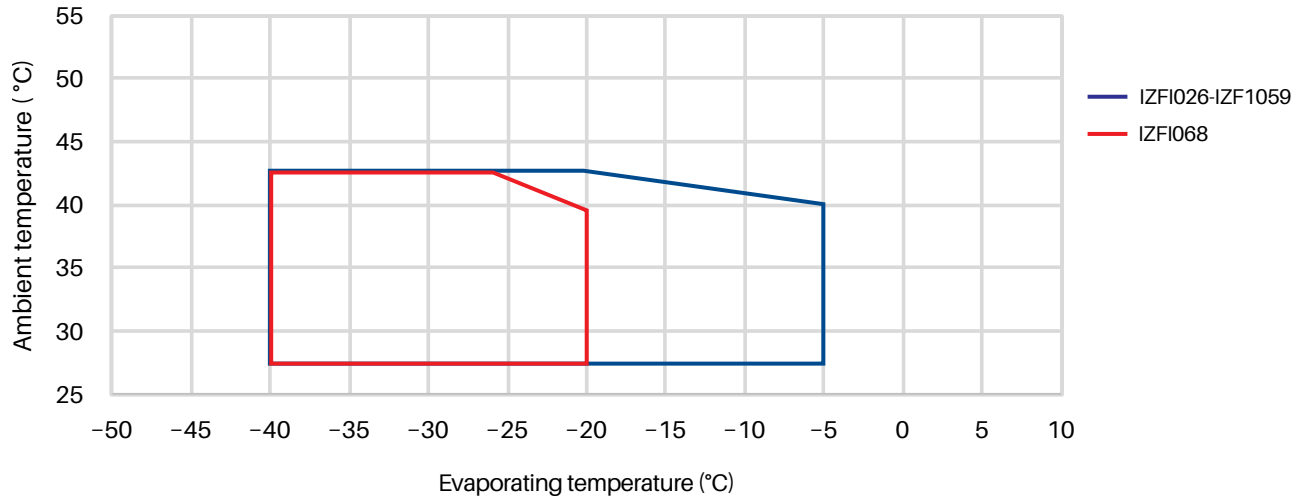
Layout



Operating envelopes

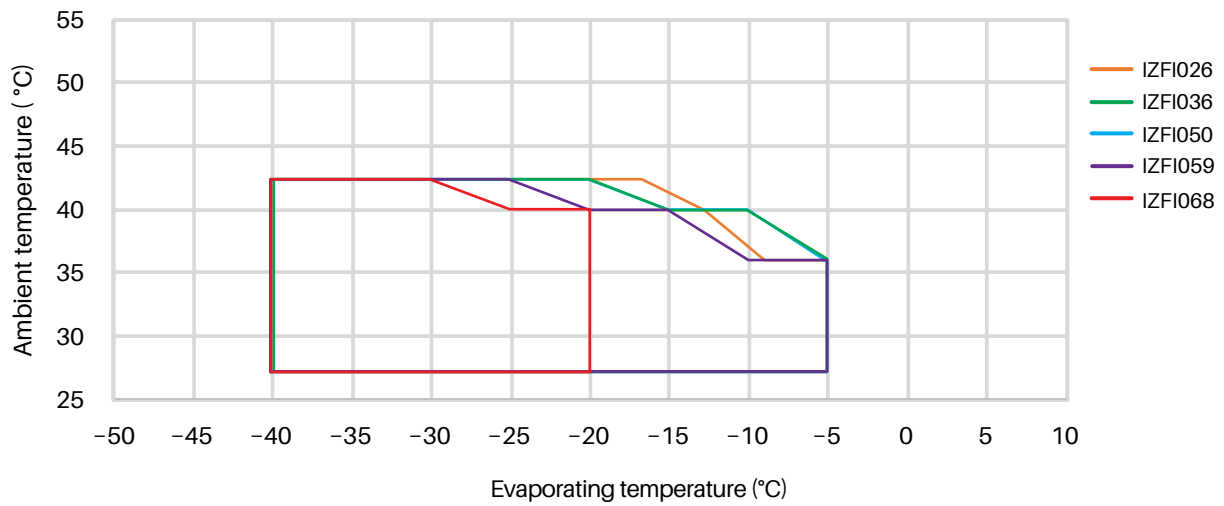
R404A

50Hz



R404A

50Hz



Performance data

R404A

50Hz

Model	Nominal HP		R-404A /3 phase				Evaporating temperature (°C)					
			Ambient temperature (°C)	-40	-35	-30	-25	-20	-15	-10	-5	
IZFI026AE	7.5	Q	27	5.11	6.21	7.46	8.88	10.50	12.33	14.41	16.74	
			32	5.09	6.13	7.31	8.67	10.23	12.01	14.02	16.28	
			38	5.08	6.03	7.13	8.41	9.88	11.57	13.49	15.66	
			43	5.08	5.95	6.96	8.17	9.56	11.17	13.01	15.09	
		P	27	3.86	4.10	4.36	4.62	4.90	5.20	5.51	5.85	
			32	4.20	4.48	4.76	5.06	5.37	5.70	6.05	6.42	
			38	4.60	5.02	5.35	5.69	6.04	6.41	6.80	7.22	
			43	5.20	5.57	5.94	6.33	6.72	7.13	7.57	8.03	

IZFI036BE	10.0	Q	27	6.44	7.91	9.58	11.43	13.44	15.61	17.94	20.42
			32	6.33	7.74	9.33	11.11	13.04	15.13	17.39	19.76
			38	6.25	7.55	9.04	10.70	12.53	14.52	16.64	18.92
			43	6.23	7.43	8.81	10.37	12.09	13.97	16.00	18.14
		P	27	4.61	4.95	5.29	5.63	5.98	6.32	6.68	7.03
			32	4.95	5.36	5.76	6.15	6.53	6.92	7.29	7.66
			38	5.38	5.89	6.37	6.84	7.29	7.73	8.14	8.55
			43	5.76	6.36	6.93	7.47	7.98	8.48	8.96	9.40

IZFI050CE	15.0	Q	27	9.02	10.64	12.74	15.24	18.06	21.14	24.37	27.70
			32	8.79	10.37	12.42	14.85	17.59	20.55	23.68	26.85
			38	8.45	10.01	12.00	14.35	16.98	19.84	22.80	25.83
			43	8.12	9.66	11.61	13.89	16.45	19.20	-	-
		P	27	6.07	6.54	7.01	7.48	7.96	8.49	9.04	9.66
			32	6.59	7.09	7.60	8.11	8.64	9.20	9.81	10.46
			38	7.29	7.84	8.39	8.95	9.53	10.15	10.80	11.52
			43	7.95	8.53	9.12	9.73	10.36	11.02	-	-

IZFI059CE	18.0	Q	27	10.92	12.87	15.40	18.39	21.76	25.40	29.23	33.13
			32	10.62	12.53	15.00	17.90	21.16	24.69	28.35	32.09
			38	10.19	12.07	14.47	17.28	20.42	23.78	27.27	30.79
			43	9.78	11.63	13.97	16.71	19.74	-	-	-
		P	27	7.37	7.97	8.59	9.22	9.87	10.57	11.34	12.19
			32	8.03	8.67	9.34	10.02	10.73	11.49	12.31	13.22
			38	8.91	9.61	10.34	11.09	11.88	12.70	13.59	14.55
			43	9.73	10.49	11.27	12.09	12.92	-	-	-

IZFI068CE	20.0	Q	27	12.32	14.53	17.36	20.71	24.47	-	-	-
			32	11.98	14.13	16.89	20.14	23.78	-	-	-
			38	11.48	13.58	16.26	19.41	22.90	-	-	-
			43	10.99	13.08	15.69	-	-	-	-	-
		P	27	8.58	9.31	10.07	10.85	11.67	-	-	-
			32	9.36	10.14	10.96	11.81	12.71	-	-	-
			38	10.41	11.27	12.16	13.10	14.08	-	-	-
			43	11.40	12.33	13.28	-	-	-	-	-

Q: Cooling capacity (kW), P: Total power input (kW), Return gas temperature: 18.30 °C

Performance data

R404A

60Hz

Model	Nominal HP		R-404A /3 phase				Evaporating temperature (°C)					
			Ambient temperature (°C)	-40	-35	-30	-25	-20	-15	-10	-5	
IZFI026AE	7.5	Q	27	6.20	7.64	9.20	10.91	12.79	14.86	17.13	19.64	
			32	6.06	7.45	8.96	10.59	12.39	14.35	16.51	18.88	
			38	5.84	7.18	8.60	10.14	11.82	13.65	15.67	17.88	
			43	5.61	6.89	8.23	9.69	11.26	12.98	14.87	-	
		P	27	4.83	5.20	5.59	6.01	6.46	6.93	7.44	8.00	
			32	5.19	5.62	6.07	6.53	7.02	7.53	8.08	8.67	
			38	5.72	6.24	6.75	7.29	7.84	8.41	9.01	9.66	
			43	6.28	6.87	7.46	8.06	8.67	9.31	9.98	-	

IZFI036BE	10.0	Q	27	7.65	9.42	11.32	13.46	15.91	18.71	21.96	25.71
			32	7.55	9.19	11.00	13.03	15.36	18.07	21.21	24.82
			38	7.54	9.02	10.66	12.53	14.70	17.23	20.20	23.64
			43	7.68	8.98	10.45	12.15	14.17	16.53	-	-
		P	27	6.08	6.57	7.02	7.47	7.96	8.53	9.20	10.04
			32	6.49	7.03	7.54	8.06	8.61	9.25	10.00	10.90
			38	7.04	7.67	8.25	8.85	9.47	10.18	11.02	12.01
			43	7.60	8.27	8.92	9.57	10.27	11.04	-	-

IZFI050CE	15.0	Q	27	10.64	12.55	15.02	17.95	21.27	24.85	28.61	32.48
			32	10.36	12.24	14.64	17.50	20.70	24.15	27.79	31.47
			38	9.95	11.79	14.13	16.88	19.97	23.28	26.75	30.23
			43	9.56	11.38	13.67	16.34	19.33	-	-	-
		P	27	7.75	8.32	8.90	9.48	10.09	10.74	11.44	12.22
			32	8.38	8.99	9.61	10.25	10.91	11.60	12.36	13.18
			38	9.22	9.89	10.56	11.26	11.98	12.74	13.57	14.45
			43	10.00	10.73	11.46	12.20	12.98	-	-	-

IZFI059CE	18.0	Q	27	13.09	15.44	18.44	21.99	26.00	30.30	34.78	39.35
			32	12.72	15.01	17.95	21.41	25.27	29.42	33.72	38.05
			38	12.19	14.44	17.29	20.63	24.35	28.32	-	-
			43	11.68	13.89	16.68	19.93	-	-	-	-
		P	27	9.51	10.27	11.04	11.85	12.71	13.63	14.62	15.73
			32	10.31	11.13	11.98	12.85	13.78	14.77	15.83	17.00
			38	11.39	12.29	13.22	14.18	15.20	16.28	-	-
			43	12.41	13.37	14.37	15.42	-	-	-	-

IZFI068CE	20.0	Q	27	14.72	17.34	20.69	24.65	29.08	-	-	-
			32	14.28	16.84	20.13	23.95	28.24	-	-	-
			38	13.66	16.17	19.35	23.05	27.17	-	-	-
			43	13.06	15.53	18.63	-	-	-	-	-
		P	27	10.98	11.90	12.85	13.86	14.93	-	-	-
			32	11.93	12.93	13.98	15.05	16.22	-	-	-
			38	13.23	14.32	15.47	16.66	17.94	-	-	-
			43	14.44	15.62	16.85	-	-	-	-	-

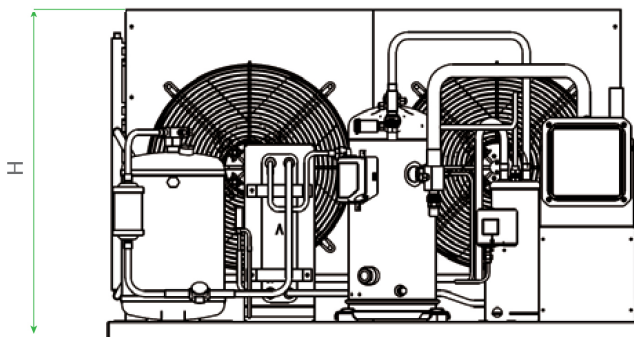
Q: Cooling capacity (kW), P: Total power input (kW), Return gas temperature: 18.30 °C

Technical data

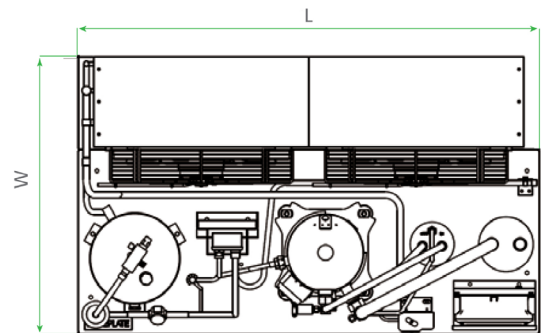
Vapor injection						
Model name		IZFI026AE	IZFI036BE	IZFI050CE	IZFI059CE	IZFI068CE
Compressor model		ZFI26KQE	ZFI36KQE	ZFI50KQE	ZFI59KQE	ZFI68KQE
Motor code	50Hz	TFD	TFD	TFD	TFD	TFD
	60Hz	TFD/TFC	TFD/TFC	TFD/TFC	TFD/TFC	TFD/TFC
Receiver (liters)		12	18	21	21	21
Number of fans/fan motor power/ fan full load amps		2/470W/2.3 Amps	2/800W/3.7 Amps	2/800W/3.7 Amps	2/800W/3.7 Amps	2/800W/3.7 Amps
Air flow in m ³ /hr	50Hz	4111	6300	7500	7500	7500
	60Hz	4111	6300	7400	7400	7400
Return gas line size (in)		1 1/8	1 3/8	1 5/8	1 5/8	1 5/8
Liquid line size (in)		1/2	1/2	5/8	5/8	5/8
Voltage	50Hz	380-420				
	60Hz	460/208-230				
Locked rotor amperes	50Hz	74	102	118	118	139
	60Hz	75/156	99/224	125/239	125/248	139/338.7
Rated load amperes	50Hz	12.3	14.6	21.7	23.0	20.2
	60Hz	12.3/23.9	14.6/31.3	21.7/41.2	23.0/49.5	20.2/57.1
Maximum operating current	50Hz	13.7	16.0	25.0	29.0	30.0
	60Hz	13.7/26.0	16.0/36.7	25.0/51.4	29.0/57.7	30.0/67.9
Net weight (kg including oil)		126	141	247	247	250
Oil type		POE				

Dimensional drawings

Front view



Top view



Model name	IZFI026AE	IZFI036BE	IZFI050CE	IZFI059CE	IZFI068CE
Chassis size (LxWxH) cm	113 x 68 x 70	133 x 82 x 83	164 x 82 x 95	164 x 82 x 95	164 x 82 x 95

Typical liquid line temperature

R404A

Evaporating temperature (°C)	Ambient temperature (°C)			
	27	32	38	43
-40	-17.1	-14.6	-11.9	-9.2
-35	-12.8	-10.2	-7.4	-4.7
-30	-8.4	-5.7	-3.0	-0.2
-25	-4.0	-1.2	-1.6	-4.3
-20	0.6	3.3	6.0	8.6
-15	6.7	8.8	11.4	14.1
-10	10.7	12.6	14.9	17.3
-5	14.4	16.0	17.9	---

Note: Liquid line temperatures in the above table should be used for expansion valve sizing.

General information

Technical data are correct at the time of printing. Updates may occur, and should you need confirmation of a specific value, please contact Copeland clearly stating the information required.

Copeland cannot be held responsible for errors in capacities, dimensions, etc., stated herein. Products, specifications and data in this literature are subject to change without notice.

The information given herein is based on data and tests which Copeland believes to be reliable and which are in accordance with today's technical knowledge. It is intended for use by persons having the appropriate technical knowledge and skill, at their own discretion and risk. Our products are designed and adapted for fixed locations. For mobile applications, failures may occur.

The suitability for this has to be assured from the plant manufacturer, which may include making appropriate tests.

Note:

The components listed in this catalogue are not released for use with caustic, poisonous or flammable substances. Copeland cannot be held responsible for any damage caused by using these substances.

A photograph of a modern office interior. The main feature is a wall made of vertical, light-colored 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 gold, italicized, sans-serif capital letters. The floor is a mix of light and dark tiles.

COPELAND

*ENGINEERED FOR
SUSTAINABILITY*

About Copeland

Copeland, a global provider of sustainable climate solutions, combines category-leading brands in compression, controls, software and monitoring for heating, cooling and refrigeration. With best-in-class engineering and design and the broadest portfolio of modulated solutions, we're not just setting the standard for compressor leadership; we're pioneering its evolution. Combining our technology with our smart energy management solutions, we can regulate, track and optimize conditions to help protect temperature-sensitive goods over land and sea, while delivering comfort in any space. Through energy-efficient products, regulation-ready solutions and expertise, we're revolutionizing the next generation of climate technology for the better.

To learn more, visit [copeland.com](https://www.copeland.com)

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