

COPELAND TECHNOLOGY

Introducing IZSI R404A Models for Low and Medium Temperature Application Condensers

Wide operating envelope for various applications

- Robust and efficient operation from -30°C to 5°C evaporating temperature
- Suitable for application ranging from Low Temperature and Medium Temperature cold rooms to Medium Temperature showcases

Efficient and quiet - key scroll attributes

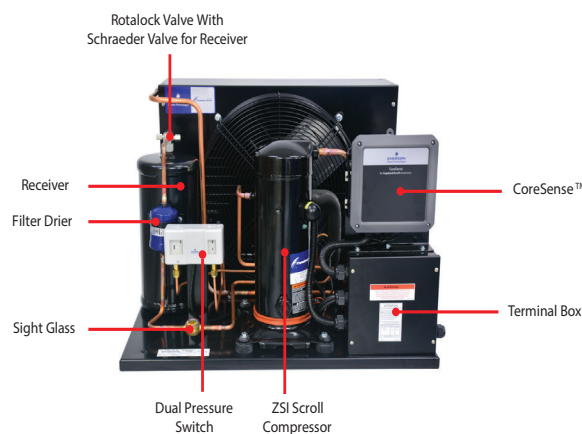
- COP improvement leads to higher annual electrical savings of up to 15% as compared to systems with reciprocating compressors
- Low sound and vibration leading to quieter operation
- No complex internal suction and discharge valves for higher reliability

Low applied cost - completely factory built

- IZSI comes with factory installed accessories (e.g. liquid line filter, sight glass/moisture indicator, liquid line solenoid valve, electrical contactor) thus simplifying component sourcing

Simple and reliable - powered by Copeland Scroll with CoreSense™

- Liquid Injection Technology - controlled by CoreSense - manages discharge temperature for maximum performance and reliability
- CoreSense can detect and display sensor failure through its LEDs enabling easier troubleshooting
- Copeland Scroll compressors have fewer moving parts than reciprocating compressors, thus making it more reliable
- Consistent quality achieved through factory built Condensing Unit



EMERSON IZSI CONDENSING UNITS SET UP FOR MEDIUM TEMP COOLROOM

Stareast Part No.	Voltage	Nominal HP rating	Capacity in KW @ -15SST	Capacity in KW @ -10 SST	Capacity in KW@ - 5SST	Trade Price (ex GST)
SEI/IZSI06AE	240V	2HP	2.95	3.5	4.11	\$1,777. ⁰⁰
SEI/IZSI08AE	240V	2.5HP	3.4	4.03	4.71	\$1,912. ⁰⁰
SEI/IZSI09BE	415V	3HP	3.92	4.63	5.42	\$2,078. ⁰⁰
SEI/IZSI11BE	415V	3.5HP	4.88	5.75	6.72	\$2,254. ⁰⁰
SEI/IZSI14CE	415V	4HP	6.07	7.18	8.39	\$2,950. ⁰⁰
SEI/IZSI15CE	415V	5HP	6.81	7.92	9.15	\$3,047. ⁰⁰
SEI/IZSI18DE	415V	6HP	8.65	10.13	11.75	\$3,453. ⁰⁰

Standard unit (STD) with CoreSense, Electrical Box, CC heater, Filter Drier, Sight Glass, Contactor, Dual Pressure Switch, Receiver with Valve, Fan Motor, Heat Exchanger, Scroll Compressor, failsafe. Note: Timeclock as optional componenets. Conditions at 38°C ambient.

EMERSON IZSI CONDENSING UNITS SET UP FOR LOW TEMP FREEZER ROOM

Stareast Part No.	Voltage	Nominal HP rating	Capacity in KW @ -30SST	Capacity in KW @ -25 SST	Capacity in KW@ -20SST	Trade Price (ex GST)
SEI/IZSI06AE-LT	240V	2HP	1.67	2.04	2.46	\$2,097. ⁰⁰
SEI/IZSI08AE-LT	240V	2.5HP	1.91	2.35	2.85	\$2,218. ⁰⁰
SEI/IZSI09BE-LT	415V	3HP	2.16	2.69	3.27	\$2,358. ⁰⁰
SEI/IZSI11BE-LT	415V	3.5HP	2.69	3.38	4.1	\$3,040. ⁰⁰
SEI/IZSI14CE-LT	415V	4HP	3.4	4.19	5.08	\$3,264. ⁰⁰
SEI/IZSI15CE-LT	415V	5HP	3.83	4.8	5.78	\$3,349. ⁰⁰
SEI/IZSI18DE-LT	415V	6HP	5.02	6.1	7.31	\$3,704. ⁰⁰

LT version includes STD unit with CoreSense, Oil Sep + Accumulator, Service Valve + Contactor, CC Heater, Filter Drier, Sight Glass, Dual Pressure Switch, Receiver with Valve, Fan Motor, Heat Exchanger, failsafe. Note: Timeclock as optional componenets. Conditions at 38°C ambient.

Prices shown in AUD. Excludes GST & shipping. Valid from 5th November until the 31st December, 2015. TRADE ONLY.
For other terms and conditions, please see our website.



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Quick Select Guide

For Freezer - R404A

Dimension (mm)	Volume (m³)	Cooling Capacity (kW)	Model
1800x2100	9.1	2.93	SEI/IZSI09BE-TFM-500
2100x2400	12.1	3.22	SEI/IZSI11BE-TFM-500
2700x2400	15.6	3.53	SEI/IZSI11BE-TFM-500
3300x2700	21.4	3.94	SEI/IZSI14CE-TFM-500
4200x2400	24.2	4.11	SEI/IZSI14CE-TFM-500
3300x3600	28.5	4.41	SEI/IZSI14CE-TFM-500
5100x2400	29.4	4.59	SEI/IZSI14CE-TFM-500
4800x3300	38.0	4.97	SEI/IZSI15CE-TFM-500
4500x4500	48.6	5.50	SEI/IZSI18DE-TFM-500
5100x4200	51.4	5.65	SEI/IZSI18DE-TFM-500
6000x4200	60.5	6.10	SEI/IZSI18DE-TFM-500

Freezer design assumptions

- Design is based on climatic conditions of 35°C ambient.
- Room temperature is -18°C, evaporating temperature is -23.5°C, based on a 5.5K evaporator temperature difference.
- Condensing temperature is 44°C sct, based on 9K condenser temperature difference.
- Electrical rating TFM isolated 415V, 3 phase, 50Hz; PFZ isolated 220/240V, 1 phase 50Hz.
- Cold room height: 2400mm
- Insulation type and thickness: 150mm polystyrene
- Cooling capacity is based on heavy usage. For all other load conditions, contact Stareast.
- Equipment selection is based on 20hr per day running time.
- 300kg/day product load, at an entering temperature of 4.5°C.
- Stareast will be supplying these models fitted with suction accumulator, oil separator and ball valve.

For Coolroom - R404A

Dimension (mm)	Volume (m³)	Cooling Capacity (kW)	Model
1800x2100	9	2.06	SEI/KCJ461CAL-B321H
2100x2400	12	2.38	SIE/KCJ484CAL-B321H
2700x2400	16	2.86	SEI/SCM511CAL-B311H
3300x2700	21	3.71	SEI/IZSI06AE-PFZ-500
4200x2400	24	4.13	SEI/IZSI06AE-PFZ-500
3300x3600	29	4.61	SEI/IZSI08AE-PFZ-500
5100x2400	29	4.97	SEI/IZSI08AE-PFZ-500
4800x3300	38	6.04	SEI/IZSI09BE-TFM-500
4500x4500	47	6.77	SEI/IZSI11BE-TFM-500
5100x4200	51	7.11	SEI/IZSI11BE-TFM-500
6000x4200	60	8.10	SEI/IZSI14CE-TFM-500
8700x3900	81	9.17	SEI/IZSI15CE-TFM-500
9000x4200	91	10.86	SEI/IZSI18CE-TFM-500
9000x5100	110	12.58	SEI/IZSI18CE-TFM-500
10000x6000	144	18.75	2 x SEI/IZSI15CE-TFM-500
10000x6600	158	20.25	2 x SEI/IZSI18DE-TFM-500
10200x6600	162	20.63	2 x SEI/IZSI18DE-TFM-500

Coolroom design assumptions

- Design is based on climatic conditions of 35°C ambient.
- Room temperature is 1°C, evaporating temperature is -5°C, based on a 6K evaporator temperature difference.
- Condensing temperature is 50°C sct, based on 15K condenser temperature difference.
- Electrical rating TFM isolated 415V, 3 phase, 50Hz; PFZ isolated 220/240V, 1 phase, 50Hz; BXXXH isolated 220/240V, 1 phase, 50Hz.
- Cold room height: 2400mm
- Insulation type and thickness: 75mm polystyrene
- Cooling capacity is based on heavy usage. For all other load conditions, contact Stareast.
- Equipment selection is based on 16hr per day running time.

Notes:

The above tables are for general representation, used for selection of refrigeration units required in standard walk-in chiller or freezer rooms. In case of customised applications such as blast freezing, pull down, food processing etc or non-standard requirements, detailed heat load calculations will have to be done for the refrigeration unit selection. In this case, please contact your nearest Stareast representative.



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Performance Data

Capacity and Power (kW) at 50Hz - PFZ/TFM

R404A

50Hz

Model	Ambient Temperature °C	Capacity									Power								
		-30	-25	-23	-20	-15	-10	-5	0	5	-30	-25	-23	-20	-15	-10	-5	0	5
IZS06AE	27	1.98	2.42	2.58	2.93	3.51	4.16	4.88	5.67	6.53	1.64	1.71	1.73	1.77	1.82	1.88	1.93	1.97	2.01
	32	1.85	2.25	2.40	2.72	3.26	3.86	4.53	5.27	6.07	1.77	1.82	1.84	1.88	1.94	1.99	2.05	2.09	2.14
	38	1.67	2.04	2.17	2.46	2.95	3.50	4.11	4.78	5.52	1.94	1.99	2.01	2.05	2.11	2.16	2.22	2.27	2.33
	43	1.52	1.86	1.98	2.25	2.70	3.20	3.77	4.39	5.07	2.13	2.18	2.20	2.24	2.29	2.35	2.41	2.47	2.53
IZS08AE	27	2.26	2.78	2.96	3.36	4.02	4.76	5.57	6.46	7.43	2.03	2.08	2.10	2.14	2.22	2.30	2.37	2.42	2.44
	32	2.11	2.59	2.76	3.13	3.75	4.43	5.18	6.01	6.92	2.16	2.20	2.22	2.27	2.34	2.42	2.49	2.55	2.58
	38	1.91	2.35	2.51	2.85	3.40	4.03	4.71	5.47	6.30	2.34	2.38	2.40	2.45	2.53	2.61	2.68	2.75	2.78
	43	1.74	2.15	2.30	2.61	3.12	3.70	4.33	5.03	5.80	2.55	2.59	2.61	2.65	2.73	2.82	2.90	2.97	3.01
IZS09BE	27	2.71	3.32	3.54	4.00	4.76	5.60	6.53	7.55	8.64	1.90	2.04	2.08	2.14	2.20	2.27	2.36	2.49	2.68
	32	2.48	3.05	3.26	3.69	4.39	5.17	6.03	6.97	7.98	2.09	2.23	2.27	2.33	2.39	2.46	2.55	2.68	2.88
	38	2.16	2.69	2.88	3.27	3.92	4.63	5.42	6.28	7.22	2.37	2.50	2.54	2.59	2.66	2.72	2.81	2.94	3.13
	43	1.89	2.40	2.57	2.95	3.55	4.22	4.95	5.76	6.64	2.66	2.78	2.81	2.86	2.92	2.97	3.05	3.17	3.36
IZS11BE	27	3.09	3.89	4.17	4.74	5.68	6.72	7.89	9.20	10.65	2.08	2.29	2.34	2.43	2.53	2.63	2.77	2.99	3.31
	32	2.91	3.66	3.92	4.46	5.32	6.29	7.37	8.59	9.94	2.36	2.58	2.64	2.73	2.83	2.93	3.07	3.28	3.58
	38	2.69	3.38	3.62	4.10	4.88	5.75	6.72	7.83	9.06	2.80	3.02	3.07	3.15	3.24	3.33	3.44	3.62	3.90
	43	2.49	3.13	3.35	3.79	4.49	5.28	6.16	7.16	8.28	3.24	3.44	3.48	3.55	3.61	3.67	3.76	3.90	4.14
IZS14CE	27	3.99	4.92	5.26	5.98	7.17	8.49	9.94	11.51	13.21	2.88	2.98	3.03	3.15	3.35	3.55	3.73	3.87	3.93
	32	3.73	4.59	4.91	5.57	6.68	7.90	9.24	10.71	12.29	3.11	3.21	3.26	3.37	3.57	3.77	3.96	4.11	4.19
	38	3.40	4.19	4.47	5.08	6.07	7.18	8.39	9.71	11.15	3.45	3.54	3.58	3.70	3.90	4.12	4.33	4.50	4.61
	43	3.13	3.85	4.11	4.66	5.57	6.57	7.68	8.89	10.20	3.83	3.91	3.96	4.07	4.28	4.51	4.74	4.93	5.07
IZS15CE	27	4.31	5.42	5.80	6.58	7.84	9.24	10.79	12.51	14.42	3.18	3.23	3.27	3.37	3.59	3.87	4.19	4.54	4.89
	32	4.09	5.15	5.50	6.23	7.40	8.67	10.08	11.65	13.39	3.52	3.61	3.66	3.78	4.00	4.28	4.58	4.90	5.21
	38	3.83	4.80	5.13	5.78	6.81	7.92	9.15	10.52	12.06	3.83	4.80	5.13	5.78	6.81	7.92	9.15	10.52	12.06
	43	3.57	4.46	4.75	5.33	6.22	7.18	8.25	9.44	10.77	4.32	4.51	4.58	4.74	4.98	5.25	5.51	5.76	5.97
IZS18DE	27	5.78	7.03	7.49	8.46	10.05	11.81	13.74	15.83	18.07	3.85	4.05	4.13	4.30	4.59	4.89	5.18	5.44	5.64
	32	5.46	6.63	7.06	7.96	9.43	11.07	12.86	14.80	16.89	4.18	4.37	4.45	4.62	4.91	5.22	5.51	5.77	5.98
	38	5.02	6.10	6.49	7.31	8.65	10.13	11.75	13.51	15.42	4.65	4.84	4.91	5.09	5.38	5.69	5.99	6.26	6.47
	43	4.59	5.59	5.95	6.70	7.94	9.31	10.82	12.47	14.27	5.21	5.38	5.45	5.61	5.89	6.18	6.47	6.73	6.94

Notes:

1. Conditions are rated as follows:

Return gas temp (°C): 18.33

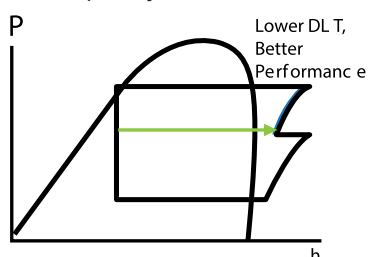
Subcooling (°C): 2.77

2. Units are in kilowatts (kW) for Capacity and Power.

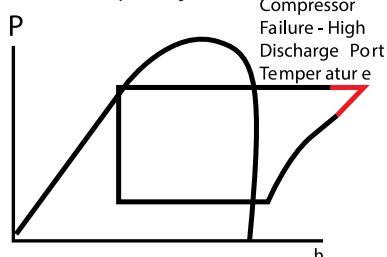
Liquid Injection Technology for Efficient Operation

IZSI indoor condensing unit powered by Copeland Scroll comes with Liquid Injection technology for improved performance and reliability. High discharge temperature is often a cause of compressor failure. To prevent this, refrigerant is injected mid-pocket of the scroll. The compressor then works similarly as a two-stage compressor thereby lowering discharge line temperature and improving performance.

With Liquid Injection



Without Liquid Injection



Liquid Injection protects compressor from failure by preventing too high discharge temperature. Liquid Injection helps provide wide range operating envelope.



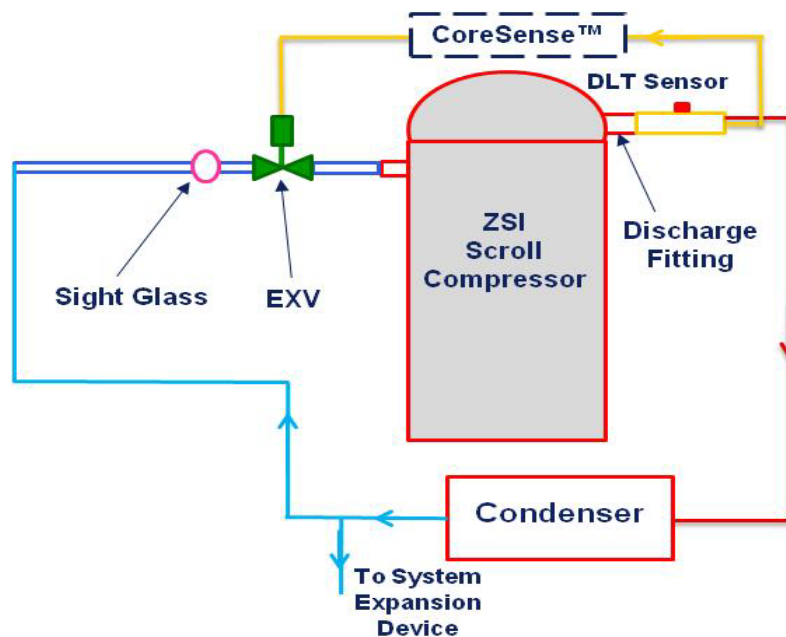
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Technical Data

R404A

Family				IZSI						
Nominal Rating	Horsepower		HP	2	2.5	3	3.5	4	5	6
Model Name				IZSI06AE	IZSI08AE	IZSI09BE	IZSI11BE	IZSI14CE	IZSI15CE	IZSI18DE
Performance	R404A	ET/AT/RGT	°C	-25/32/18.33	-25/32/18.33	-25/32/18.33	-25/32/18.33	-25/32/18.33	-25/32/18.33	-25/32/18.33
		Capacity	kW	2.25	2.59	3.05	3.66	4.59	5.15	6.63
		COP	W/W	1.23	1.18	1.37	1.42	1.43	1.43	1.52
	Sound Pressure Level		dB(A)	73	73	73	79	81	81	83
Compressor	Model Name	R404A		ZSI06KQE	ZSI08KQE	ZSI09KQE	ZSI11KQE	ZSI14KQE	ZSI15KQE	ZSI18KQE
	Rated Load Ampere	R404A	Amp	13	13	6	8	9	10	11
	Locked Rotor Ampere	R404A	Amp	57	72	40	52	52	52	74
	Oil Type	R404A		POE	POE	POE	POE	POE	POE	POE
	Oil Recharge Volume	R404A		562	562	562	1242	1242	1242	1774
Fan Motor	Number of Fan		Pieces	1	1	1	1	1	1	2
	Diameter		mm	350	350	420	420	420	420	420
	Fan Speed		rpm	1400	1400	1400	1400	1400	1400	1400
	Air Flow	Total	m3/h	1144	1144	1737	1737	2034	2034	3199
	Total Fan Motor Power	Input	W	155	155	235	235	235	235	235
Others	Oil Separator	Volume	Liters	0.56	0.56	0.56	1.24	1.24	1.24	1.77
	Receiver Volume	R404A	Liters	2.5	2.5	5	5	5	5	7
	Pipes	Suction OD	mm	15.87	15.87	15.87	22.22	22.22	22.22	22.22
		Liquid OD	mm	9.52	9.52	12.70	12.70	12.70	12.70	12.70
	Dimension	WxDxH	mm	710x570x476	710x570x476	735x680x533	735x680x533	735x680x533	735x680x533	1020x680x560
	Weight	Net	kg	65	65	70	78	80	80	85

Schematic Diagram



- Similar to 2-stage Cycle but Accomplished with Single Scroll Compressor
- Liquid Injection controlled by CoreSense module
- DLT sensor signals EXV to control the flow depending on the discharge line temperature

