

IZSI Condensing Unit for Refrigeration Applications



Product catalogue

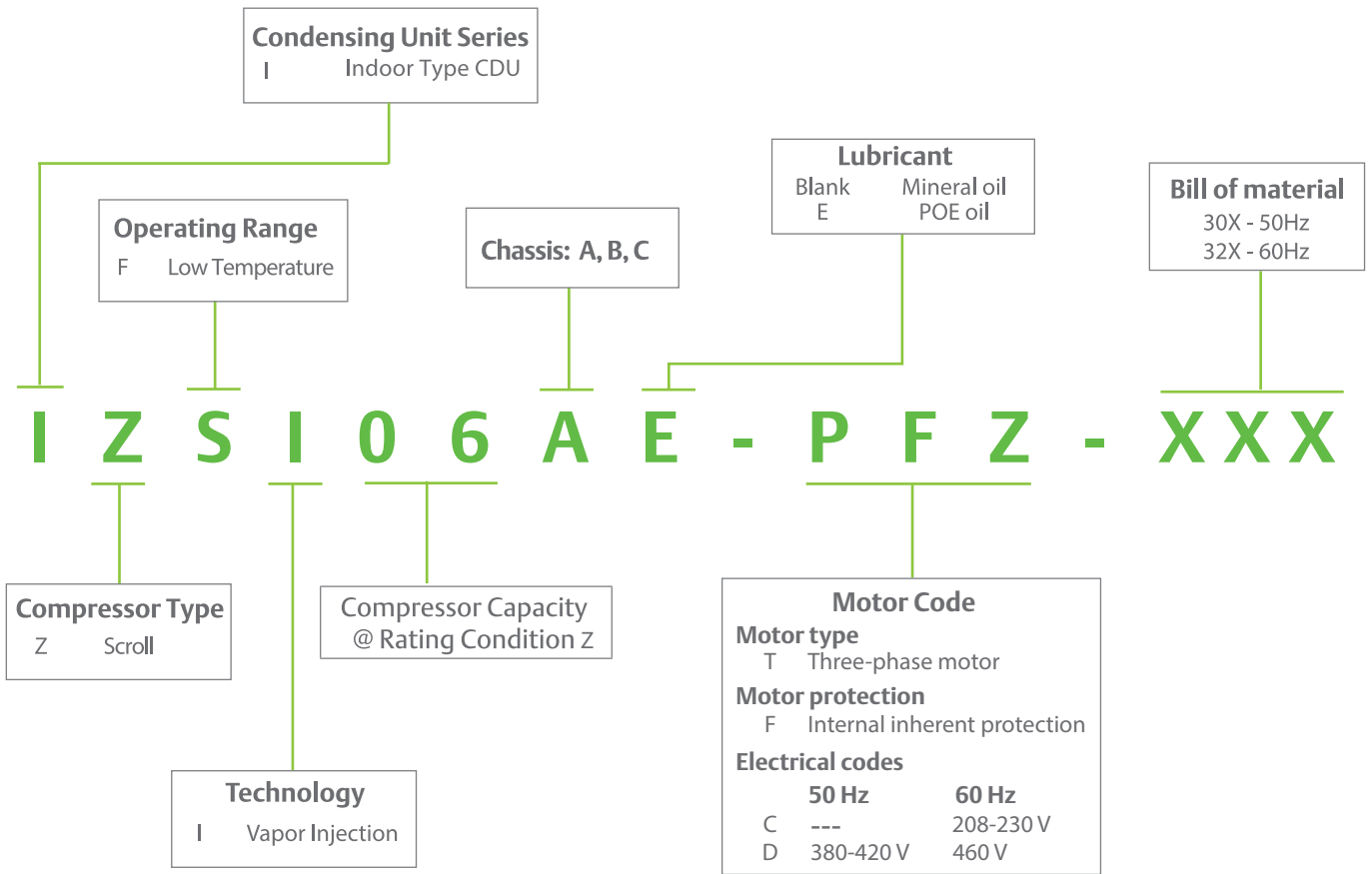
COPELAND™


EMERSON™

Table of contents

Nomenclature	03
Bill of material	04
Layout	05
Key features	06
Operating envelopes	07
Performance data	08
Technical data	10
Typical liquid line temperature	11
Dimensional drawings	12
Contact lists	22

Nomenclature



IZSI Condensing units for refrigeration applications



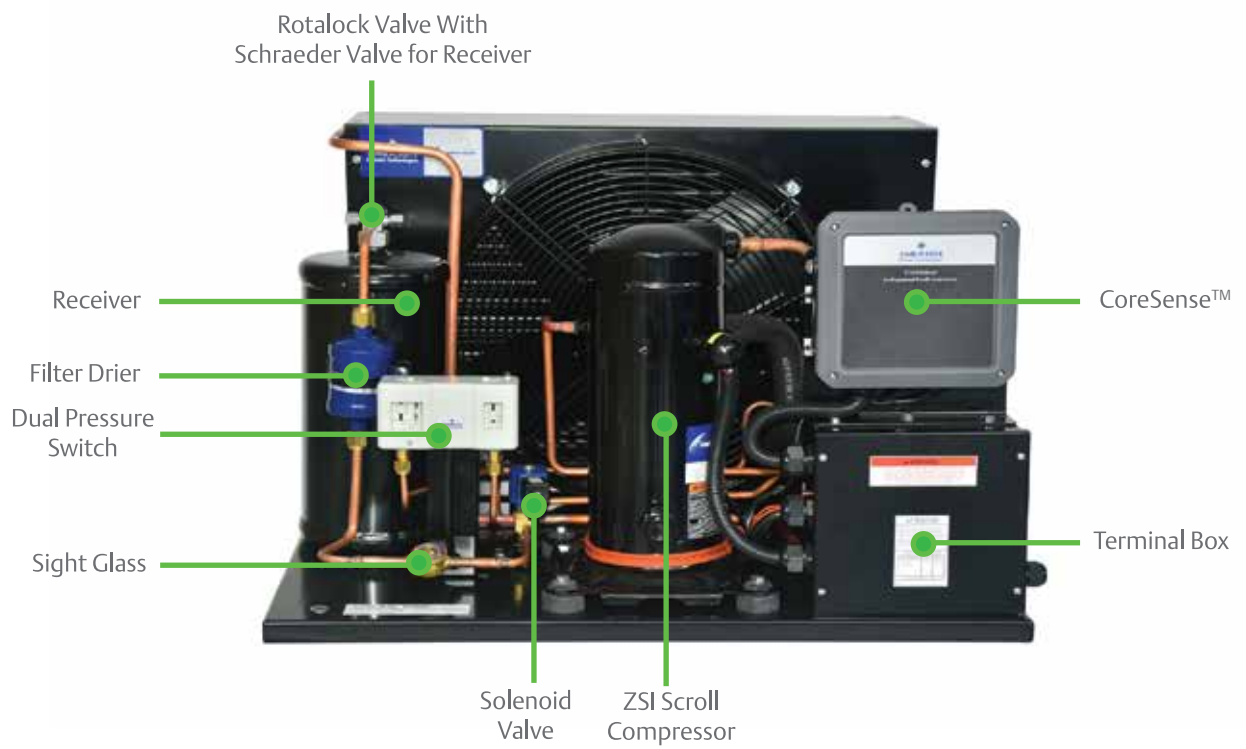
Bill of material

Standard BOM Content	BOM				
	300	301 *	302 *	303 *	304 *
CoreSense™	✓	✓	✓	✓	✓
Electrical Box	✓	✓	✓	✓	✓
Crank Case Heater	✓	✓	✓	✓	✓
Solenoid Valve	✓	✓	✓	✓	✓
Filter Drier – Flare Connection	✓	✓	✓	✓	✓
Moisture Indicator / Sight Glass	✓	✓	✓	✓	✓
Dual Pressure Switch	✓	✓	✓	✓	✓
Receiver with Valve	✓	✓	✓	✓	✓
Accumulator			✓	✓	
Oil Separator			✓		✓
Fan Motor	✓	✓	✓	✓	✓
Heat Exchanger	✓	✓	✓	✓	✓
Compressor with Stub Tube	✓		✓	✓	✓
Canopy Enclosure			✓		
Compressor with Rotalock Connections		✓			

*To be released in the future



Layout



Key features

Save on Applied Costs and Assembly Time

- IZSI comes with accessories (e.g. filter drier, sight glass and moisture indicator, electrical contactor) thus simplifying component sourcing
- Consistent quality achieved through factory built Condensing Unit

CoreSense™ for Copeland Scroll Compressors

- Low temperature operation reliability due to liquid injection technology
- Onboard control for Liquid injection by sensing Discharge Line Temperature (DLT)
- Direct communication function by using Led inside CoreSense™

Wide Range Operating Envelope

- Low temperature to medium temperature from -300C to 50C evaporating temperature
- Low temperature operation reliability by CoreSense™
- Reduced inventory levels due to wide range application

Qualified for R404A, R134a*, R407*

- Multi refrigerants capability

Scroll Efficiency and Reliability

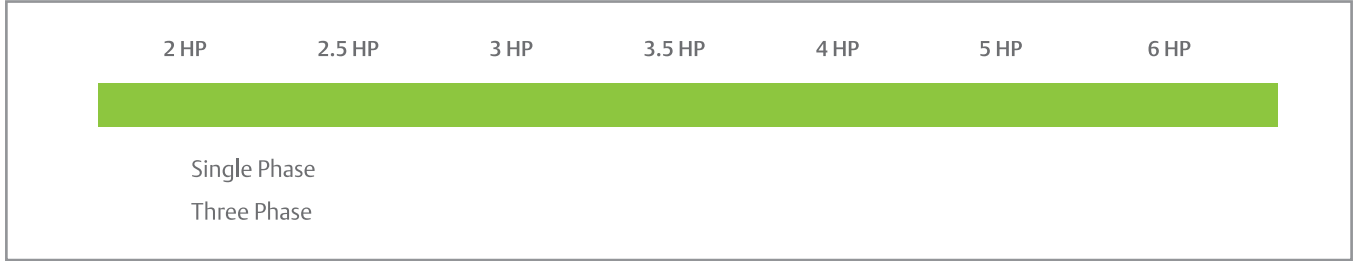
- COP improvement leads to annual electrical savings of 10-30% as compared with reciprocating systems
- 70% fewer moving parts than reciprocating
- Superior liquid handling

Operating envelopes

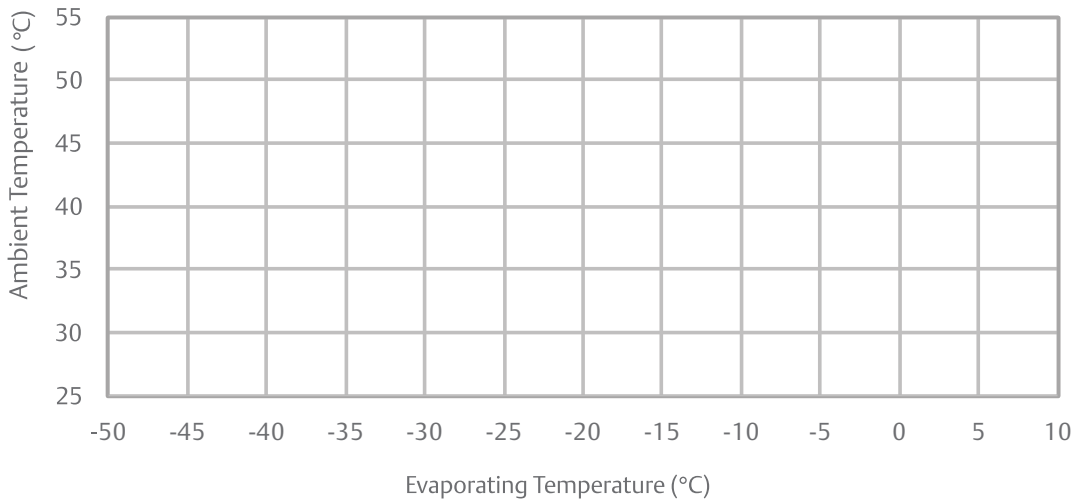
R22/ R404A

50Hz

IZSI Product Range



Operating Envelope



Performance data

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

R22

Model	Ambient Temperature °C	Capacity Evaporating Temperature								Power Evaporating Temperature							
		-30	-25	-20	-15	-10	-5	0	5	-30	-25	-20	-15	-10	-5	0	5
IZSI06A	27	1.65	2.09	2.56	3.08	3.68	4.39	5.24	6.23	1.43	1.48	1.52	1.57	1.62	1.67	1.72	1.78
	32	1.60	2.04	2.49	2.99	3.56	4.23	5.04	5.98	1.59	1.64	1.70	1.75	1.81	1.86	1.92	1.97
	38	1.56	1.98	2.41	2.87	3.40	4.03	4.77	5.64	1.79	1.86	1.93	1.99	2.05	2.11	2.17	2.22
	43	1.50	1.91	2.31	2.74	3.23	3.79	4.46	5.25	1.96	2.04	2.12	2.20	2.27	2.34	2.41	2.47
IZSI08A	27	2.04	2.48	3.02	3.66	4.37	5.14	5.94	6.77	1.87	1.90	1.96	2.04	2.12	2.19	2.23	2.23
	32	1.94	2.35	2.86	3.47	4.15	4.89	5.67	6.48	2.00	2.03	2.09	2.17	2.26	2.33	2.38	2.39
	38	1.80	2.18	2.66	3.24	3.89	4.60	5.35	6.12	2.18	2.21	2.28	2.37	2.47	2.56	2.64	2.67
	43	1.68	2.03	2.49	3.03	3.65	4.33	5.05	5.80	2.35	2.39	2.47	2.59	2.72	2.85	2.96	3.05
IZSI09B	27	2.10	2.67	3.32	4.07	4.93	5.91	7.03	8.29	1.79	1.84	1.90	1.97	2.05	2.12	2.17	2.21
	32	2.01	2.55	3.17	3.88	4.70	5.63	6.70	7.92	1.98	2.03	2.10	2.17	2.25	2.32	2.39	2.43
	38	1.90	2.41	2.98	3.65	4.41	5.29	6.30	7.45	2.22	2.28	2.35	2.43	2.52	2.60	2.67	2.73
	43	1.82	2.29	2.83	3.45	4.17	4.98	5.91	6.97	2.40	2.47	2.56	2.66	2.77	2.87	2.98	3.07
IZSI11B	27	2.88	3.56	4.30	5.14	6.13	7.29	8.65	10.24	2.22	2.33	2.43	2.52	2.63	2.77	2.94	3.18
	32	2.72	3.36	4.06	4.86	5.81	6.92	8.24	9.78	2.38	2.49	2.59	2.68	2.79	2.93	3.11	3.35
	38	2.53	3.13	3.79	4.54	5.43	6.49	7.74	9.22	2.62	2.74	2.83	2.93	3.05	3.20	3.39	3.66
	43	2.39	2.96	3.58	4.29	5.12	6.11	7.28	8.67	2.90	3.03	3.14	3.26	3.40	3.58	3.83	4.17
IZSI14C	27	3.47	4.40	5.39	6.50	7.75	9.18	10.83	12.73	2.56	2.65	2.79	2.96	3.14	3.31	3.43	3.51
	32	3.29	4.18	5.13	6.17	7.36	8.72	10.30	12.12	2.83	2.95	3.11	3.29	3.48	3.66	3.79	3.87
	38	3.07	3.92	4.81	5.79	6.90	8.18	9.67	11.39	3.21	3.36	3.55	3.75	3.96	4.14	4.29	4.37
	43	2.91	3.72	4.57	5.49	6.53	7.72	9.11	10.72	3.55	3.74	3.96	4.20	4.44	4.65	4.83	4.94
IZSI15C	27	4.15	5.11	6.15	7.31	8.64	10.18	11.95	13.98	2.95	3.07	3.24	3.45	3.67	3.89	4.09	4.24
	32	3.90	4.81	5.79	6.88	8.14	9.59	11.27	13.22	3.22	3.37	3.56	3.79	4.02	4.25	4.46	4.63
	38	3.61	4.46	5.37	6.39	7.55	8.91	10.49	12.34	3.61	3.79	4.01	4.26	4.52	4.77	5.00	5.18
	43	3.44	4.25	5.09	6.03	7.11	8.36	9.84	11.57	3.97	4.20	4.46	4.75	5.05	5.35	5.62	5.86
IZSI18D	27	5.09	6.22	7.54	9.07	10.83	12.80	15.00	17.43	3.43	3.55	3.71	3.90	4.13	4.39	4.66	4.96
	32	4.88	5.97	7.24	8.70	10.37	12.25	14.35	16.66	3.84	4.01	4.20	4.42	4.66	4.93	5.21	5.49
	38	4.61	5.65	6.84	8.22	9.78	11.55	13.52	15.71	4.47	4.67	4.89	5.12	5.37	5.63	5.90	6.16
	43	4.36	5.35	6.49	7.79	9.27	10.94	12.81	14.89	5.02	5.25	5.48	5.73	5.97	6.22	6.45	6.68

Notes: 1. All values are rated at return gas temperature: 18.33 °C and subcooling: 2.77 °C
 2. Units are in Kilowatts (kW) for Capacity and Power

Performance data

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

R404A

Model	Ambient Temperature °C	Capacity Evaporating Temperature								Power Evaporating Temperature							
		-30	-25	-20	-15	-10	-5	0	5	-30	-25	-20	-15	-10	-5	0	5
IZSI06AE	27	1.98	2.42	2.93	3.51	4.16	4.88	5.67	6.53	1.64	1.71	1.77	1.82	1.88	1.93	1.97	2.01
	32	1.85	2.25	2.72	3.26	3.86	4.53	5.27	6.07	1.77	1.82	1.88	1.94	1.99	2.05	2.09	2.14
	38	1.67	2.04	2.46	2.95	3.50	4.11	4.78	5.52	1.94	1.99	2.05	2.11	2.16	2.22	2.27	2.33
	43	1.52	1.86	2.25	2.70	3.20	3.77	4.39	5.07	2.13	2.18	2.24	2.29	2.35	2.41	2.47	2.53
IZSI08AE	27	2.26	2.78	3.36	4.02	4.76	5.57	6.46	7.43	2.03	2.08	2.14	2.22	2.30	2.37	2.42	2.44
	32	2.11	2.59	3.13	3.75	4.43	5.18	6.01	6.92	2.16	2.20	2.27	2.34	2.42	2.49	2.55	2.58
	38	1.91	2.35	2.85	3.40	4.03	4.71	5.47	6.30	2.34	2.38	2.45	2.53	2.61	2.68	2.75	2.78
	43	1.74	2.15	2.61	3.12	3.70	4.33	5.03	5.80	2.55	2.59	2.65	2.73	2.82	2.90	2.97	3.01
IZSI09BE	27	2.71	3.32	4.00	4.76	5.60	6.53	7.55	8.64	1.90	2.04	2.14	2.20	2.27	2.36	2.49	2.68
	32	2.48	3.05	3.69	4.39	5.17	6.03	6.97	7.98	2.09	2.23	2.33	2.39	2.46	2.55	2.68	2.88
	38	2.16	2.69	3.27	3.92	4.63	5.42	6.28	7.22	2.37	2.50	2.59	2.66	2.72	2.81	2.94	3.13
	43	1.89	2.40	2.95	3.55	4.22	4.95	5.76	6.64	2.66	2.78	2.86	2.92	2.97	3.05	3.17	3.36
IZSI11BE	27	3.09	3.89	4.74	5.68	6.72	7.89	9.20	10.65	2.08	2.29	2.43	2.53	2.63	2.77	2.99	3.31
	32	2.91	3.66	4.46	5.32	6.29	7.37	8.59	9.94	2.36	2.58	2.73	2.83	2.93	3.07	3.28	3.58
	38	2.69	3.38	4.10	4.88	5.75	6.72	7.83	9.06	2.80	3.02	3.15	3.24	3.33	3.44	3.62	3.90
	43	2.49	3.13	3.79	4.49	5.28	6.16	7.16	8.28	3.24	3.44	3.55	3.61	3.67	3.76	3.90	4.14
IZSI14CE	27	3.99	4.92	5.98	7.17	8.49	9.94	11.51	13.21	2.88	2.98	3.15	3.35	3.55	3.73	3.87	3.93
	32	3.73	4.59	5.57	6.68	7.90	9.24	10.71	12.29	3.11	3.21	3.37	3.57	3.77	3.96	4.11	4.19
	38	3.40	4.19	5.08	6.07	7.18	8.39	9.71	11.15	3.45	3.54	3.70	3.90	4.12	4.33	4.50	4.61
	43	3.13	3.85	4.66	5.57	6.57	7.68	8.89	10.20	3.83	3.91	4.07	4.28	4.51	4.74	4.93	5.07
IZSI15CE	27	4.31	5.42	6.58	7.84	9.24	10.79	12.51	14.42	3.18	3.23	3.37	3.59	3.87	4.19	4.54	4.89
	32	4.09	5.15	6.23	7.40	8.67	10.08	11.65	13.39	3.52	3.61	3.78	4.00	4.28	4.58	4.90	5.21
	38	3.83	4.80	5.78	6.81	7.92	9.15	10.52	12.06	3.83	4.00	4.17	4.40	4.69	5.01	5.34	5.66
	43	3.57	4.46	5.33	6.22	7.18	8.25	9.44	10.77	4.32	4.51	4.74	4.98	5.25	5.51	5.76	5.97
IZSI18DE	27	5.78	7.03	8.46	10.05	11.81	13.74	15.83	18.07	3.85	4.05	4.30	4.59	4.89	5.18	5.44	5.64
	32	5.46	6.63	7.96	9.43	11.07	12.86	14.80	16.89	4.18	4.37	4.62	4.91	5.22	5.51	5.77	5.98
	38	5.02	6.10	7.31	8.65	10.13	11.75	13.51	15.42	4.65	4.84	5.09	5.38	5.69	5.99	6.26	6.47
	43	4.59	5.59	6.70	7.94	9.31	10.82	12.47	14.27	5.21	5.38	5.61	5.89	6.18	6.47	6.73	6.94

Notes: 1. All values are rated at return gas temperature: 18.33 °C and subcooling: 2.77 °C
 2. Units are in Kilowatts (kW) for Capacity and Power

Technical data

R22

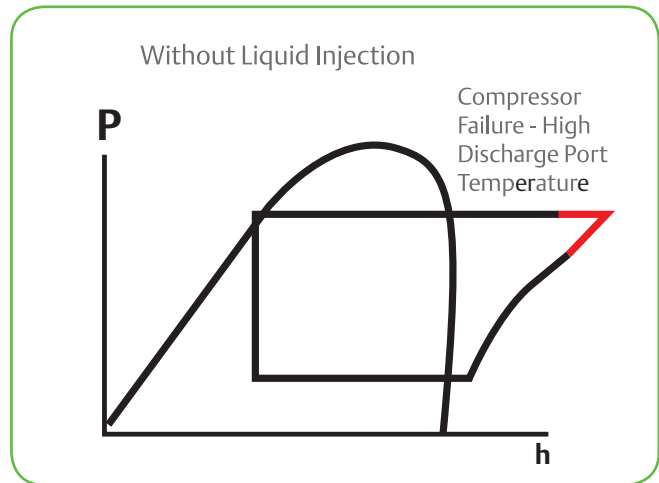
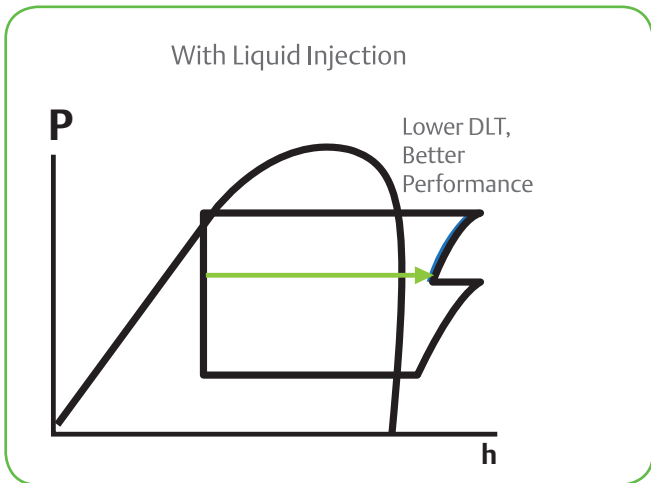
Family				IZSI						
Nominal Rating	Horsepower		HP	2.0	2.5	3.0	3.5	4.0	5.0	6.0
Model Name				IZSI06A	IZSI08A	IZSI09B	IZSI11B	IZSI14C	IZSI15C	IZSI18D
Compressor	Model Name	R22		ZSI06KQ	ZSI08KQ	ZSI09KQ	ZSI11KQ	ZSI14KQ	ZSI15KQ	ZSI18KQ
	Rated Load Ampere	R22	Amp	11	12	5	7.1	7.8	8.4	9.5
	Locked Rotor Ampere	R22	Amp	57	72	40	52	52	52	74
	Oil Type	R22		Mineral	Mineral	Mineral	Mineral	Mineral	Mineral	Mineral
	Oil Recharge Volume	R22	mL	562	562	562	1242	1242	1242	1774
Others	Oil Separator	Volume	Liters	0.6	0.6	0.6	1.2	1.2	1.2	1.8
	Receiver Volume	R22	Liters	2.5	2.5	5.0	5.0	5.0	5.0	7.0
	Dimension	WxDxH	mm	716 x 538 x 470	716 x 538 x 470	738 x 674 x 521	738 x 674 x 521	738 x 674 x 572	738 x 674 x 572	1045 x 679 x 557
	Weight	Net	kg	65	65	70	78	80	80	85

R404A

Family				IZSI						
Nominal Rating	Horsepower		HP	2.0	2.5	3.0	3.5	4.0	5.0	6.0
Model Name				IZSI06AE	IZSI08AE	IZSI09BE	IZSI11BE	IZSI14CE	IZSI15CE	IZSI18DE
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	mL	562	562	562	1242	1242	1242	1774
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	5.0	5.0	5.0	5.0	7.0
	Dimension	WxDxH	mm	716 x 538 x 470	716 x 538 x 470	738 x 674 x 521	738 x 674 x 521	738 x 674 x 572	738 x 674 x 572	1045 x 679 x 557
	Weight	Net	kg	65	65	70	78	80	80	85

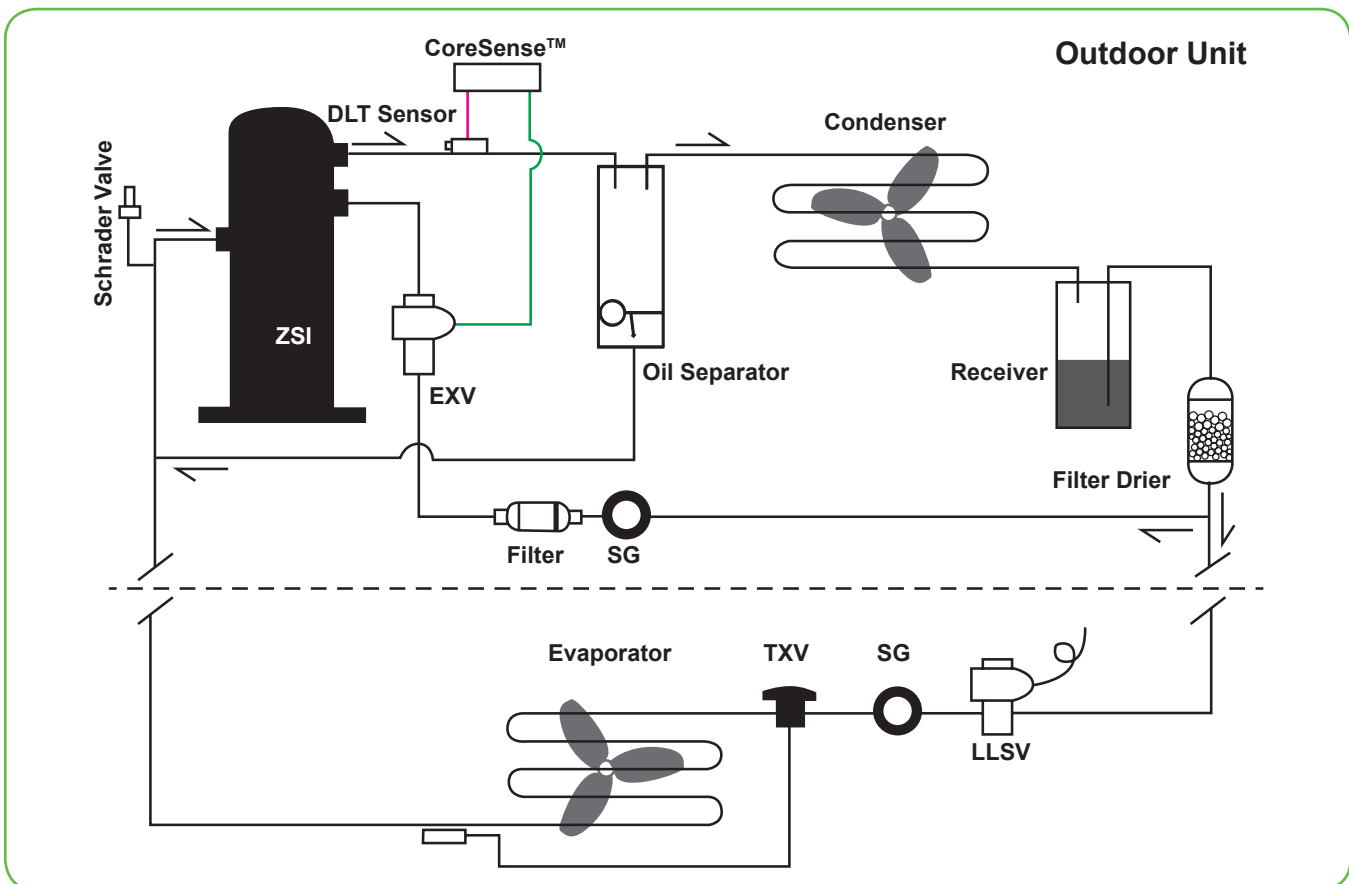
Liquid Injection Technology for Efficient Operation

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.



Liquid Injection Protects Compressor From Failure by Preventing Too High Discharge Temperature
 Liquid Injection Helps Provide Wide Range Operating Envelope

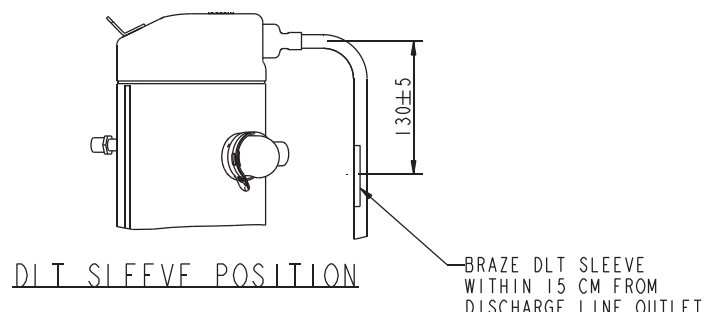
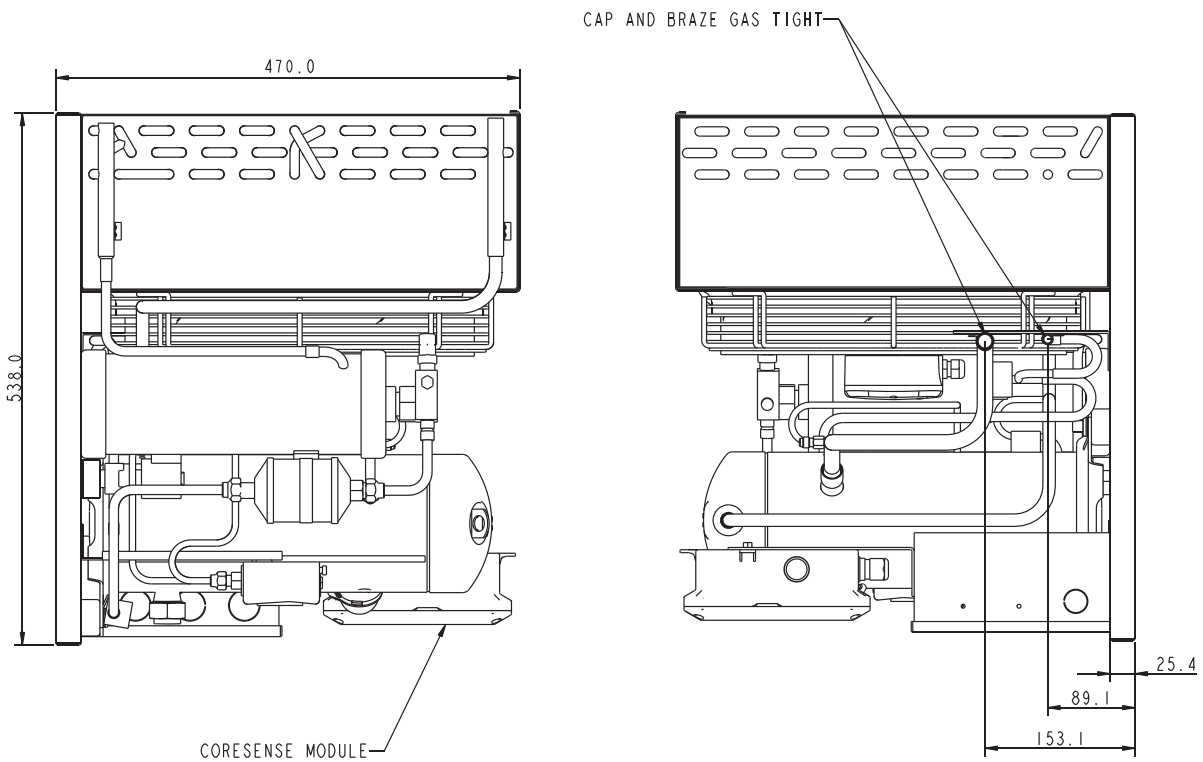
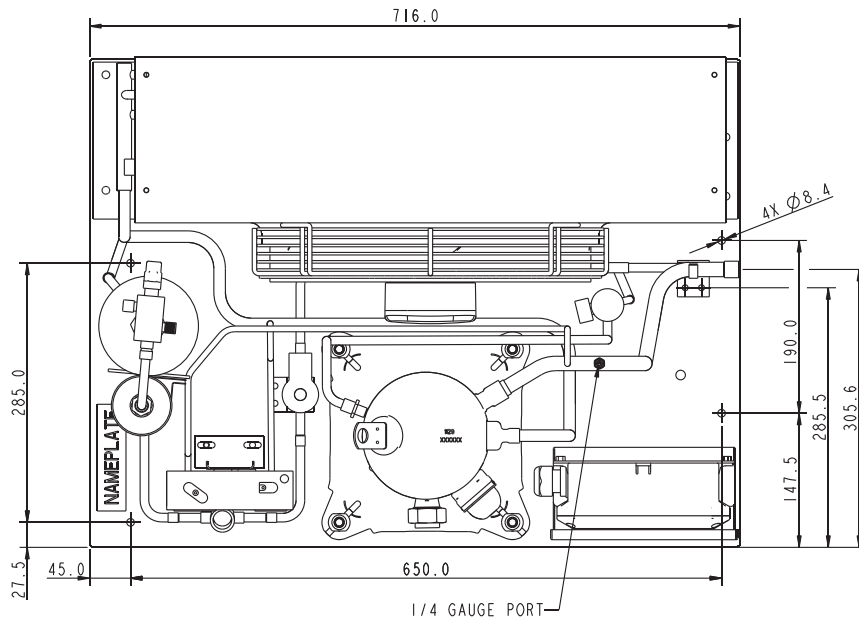
Schematic Diagram



- Similar to a 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 Discharge Line Temperature

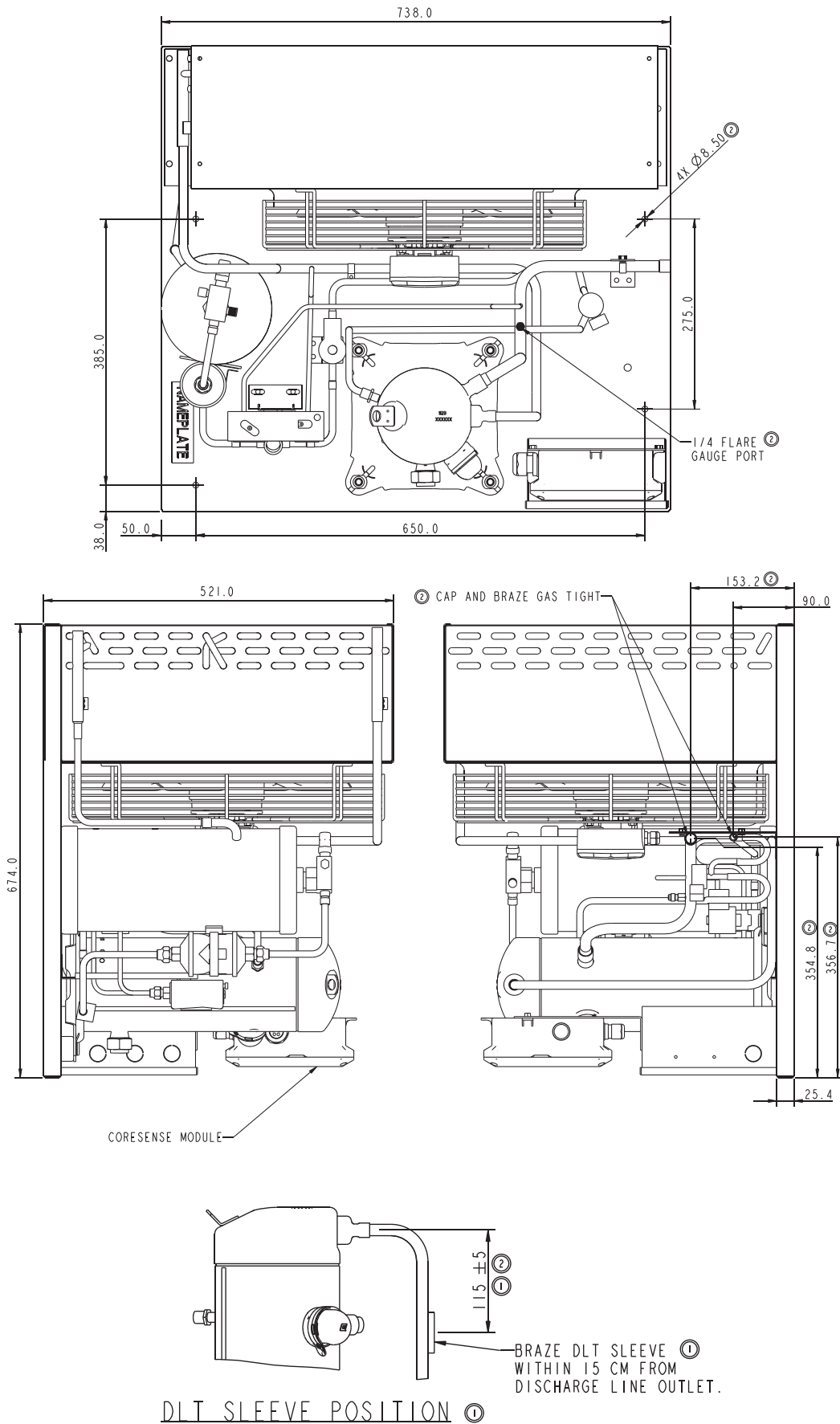
Dimensional drawings

IZSI06A, IZSI08A, IZSI06AE, IZSI08AE



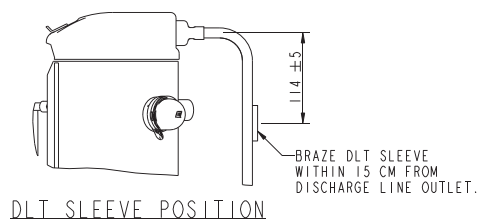
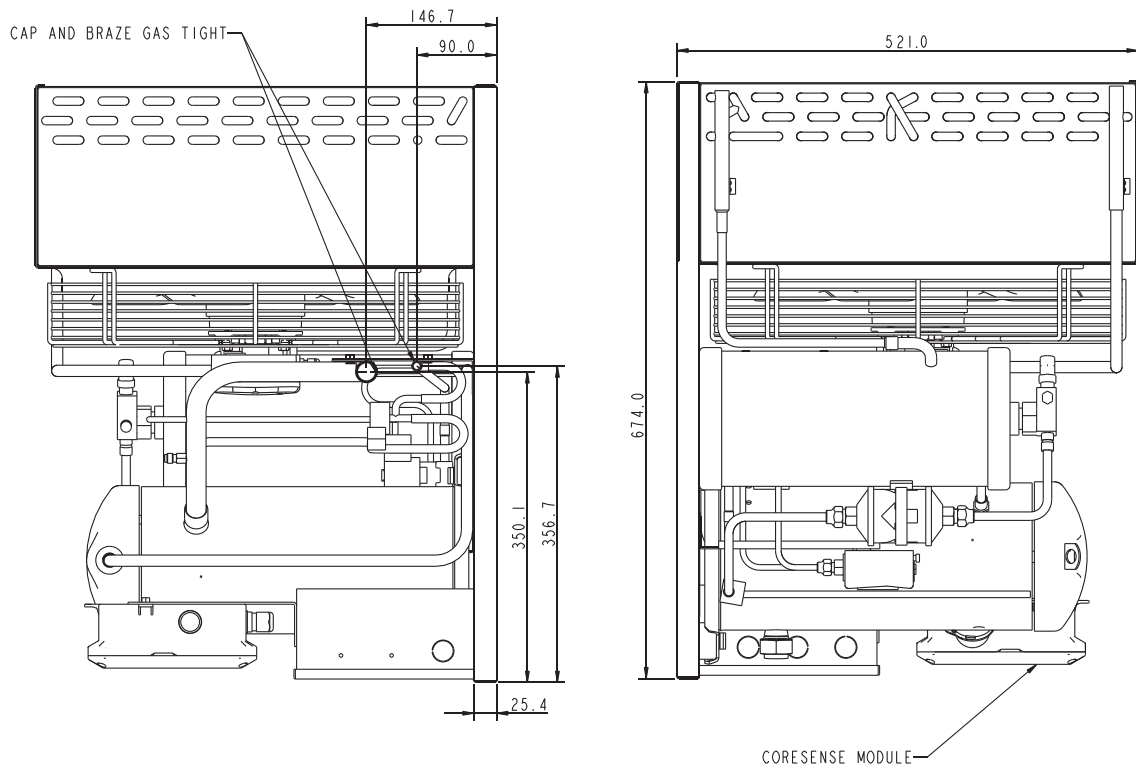
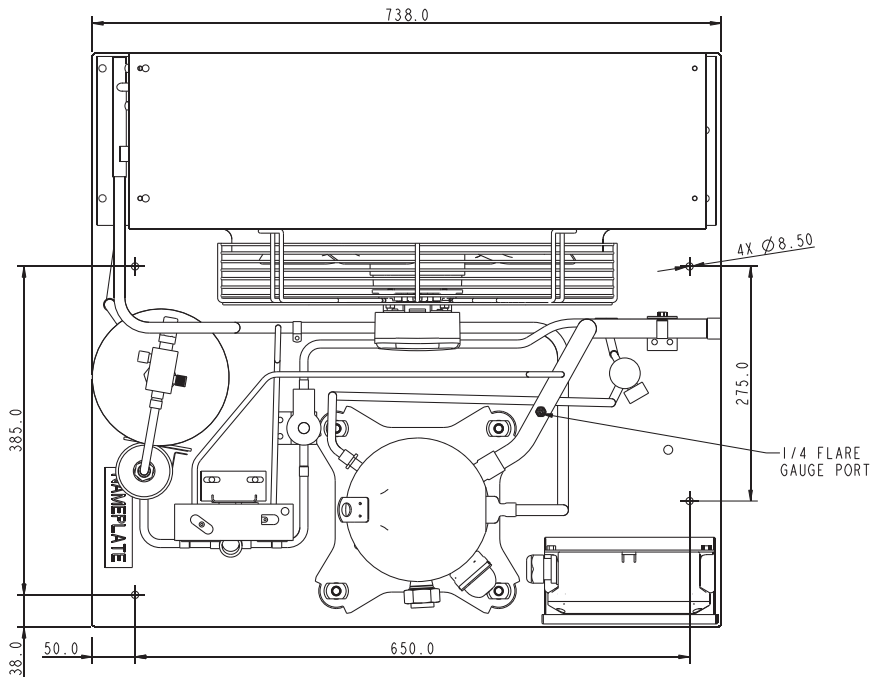
Dimensional drawings

IZSI09B, IZSI09BE



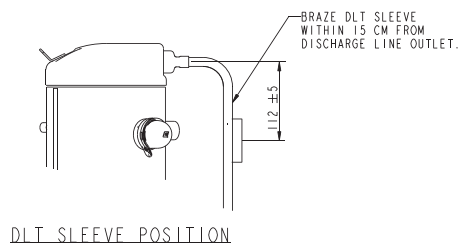
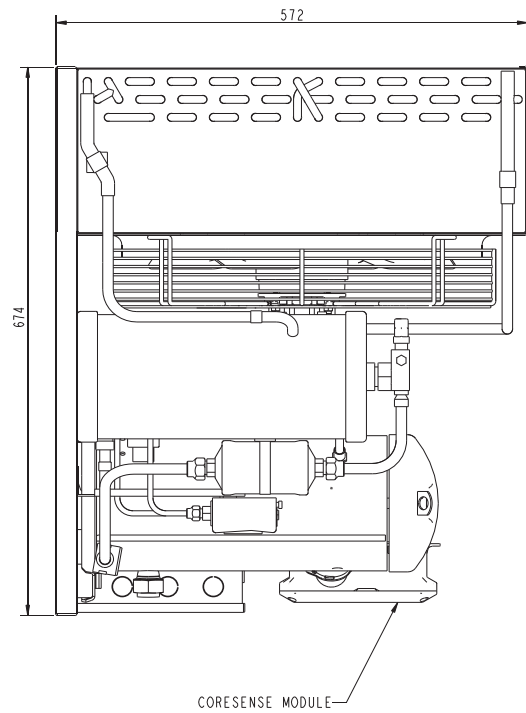
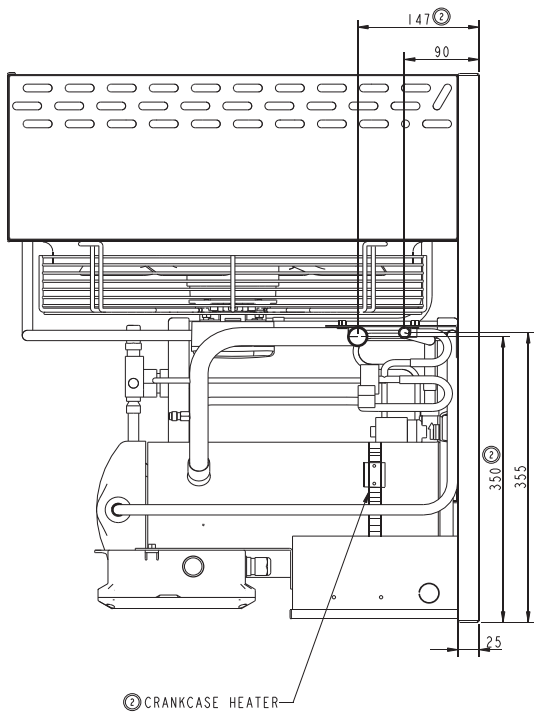
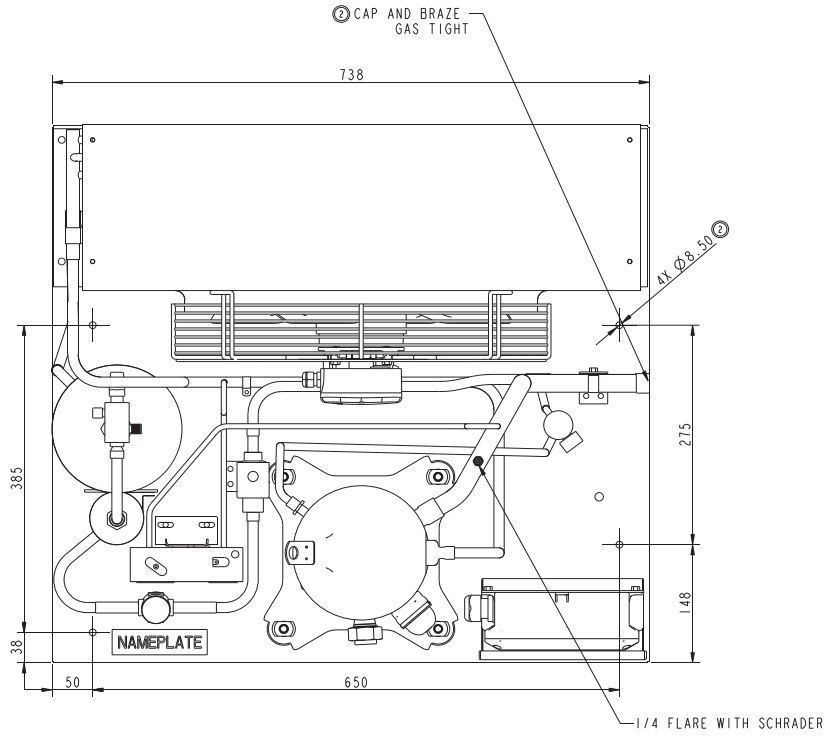
Dimensional drawings

IZSI11B, IZSI11BE



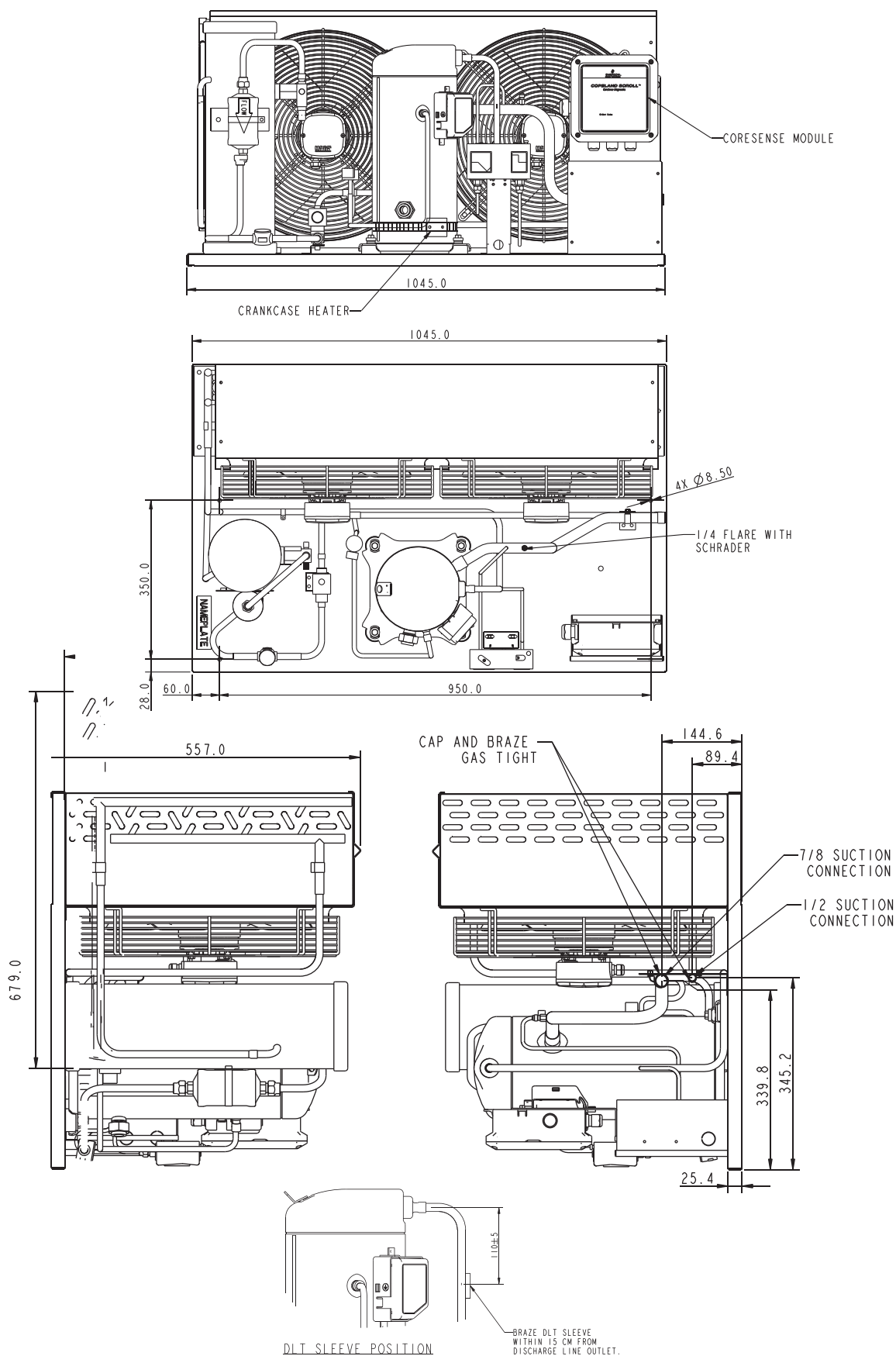
Dimensional drawings

IZSI14C, IZSI15C, IZSI14CE, IZSI15CE



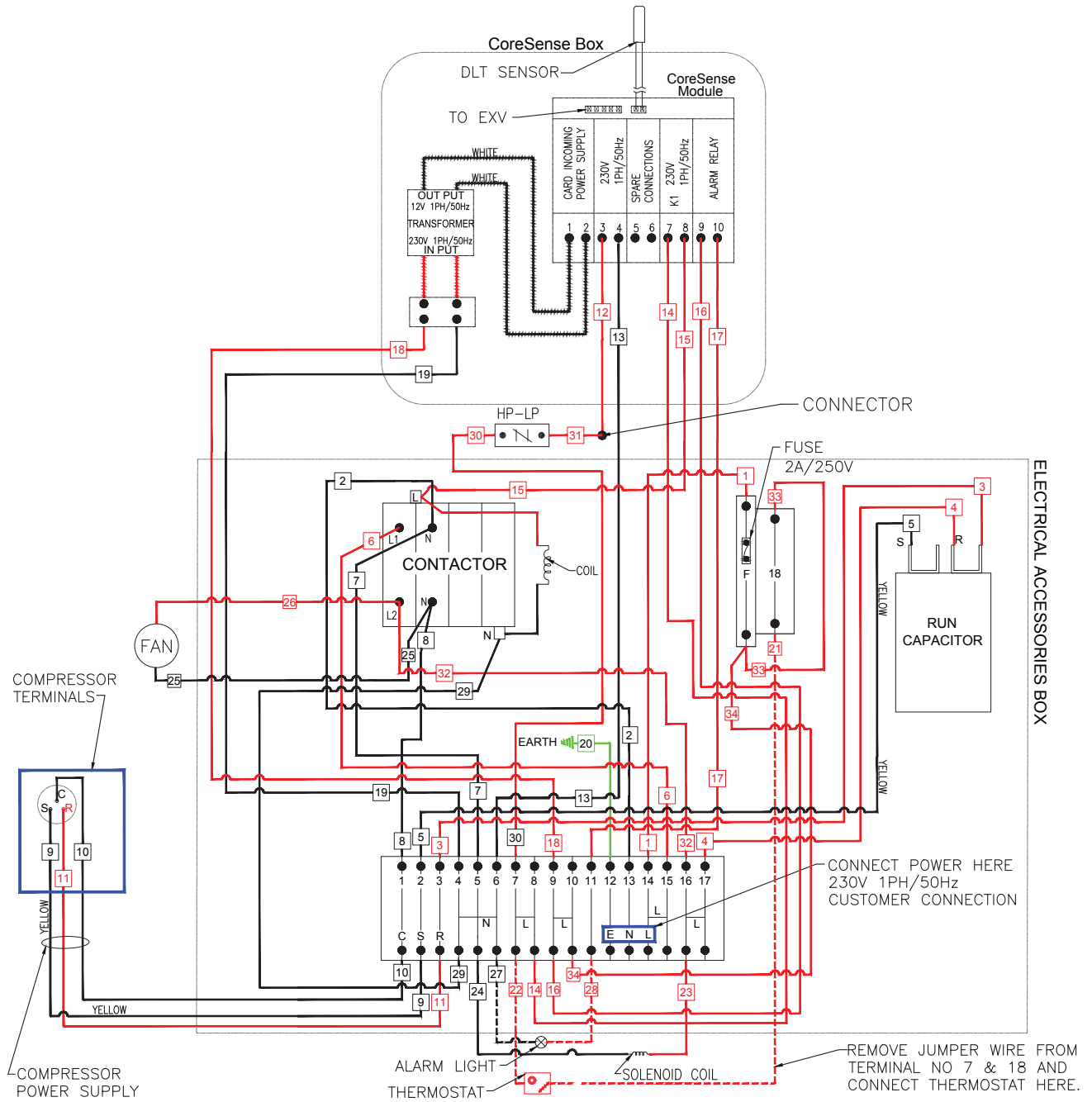
Dimensional drawings

IZSI18D, IZSI18DE



Wiring Diagram

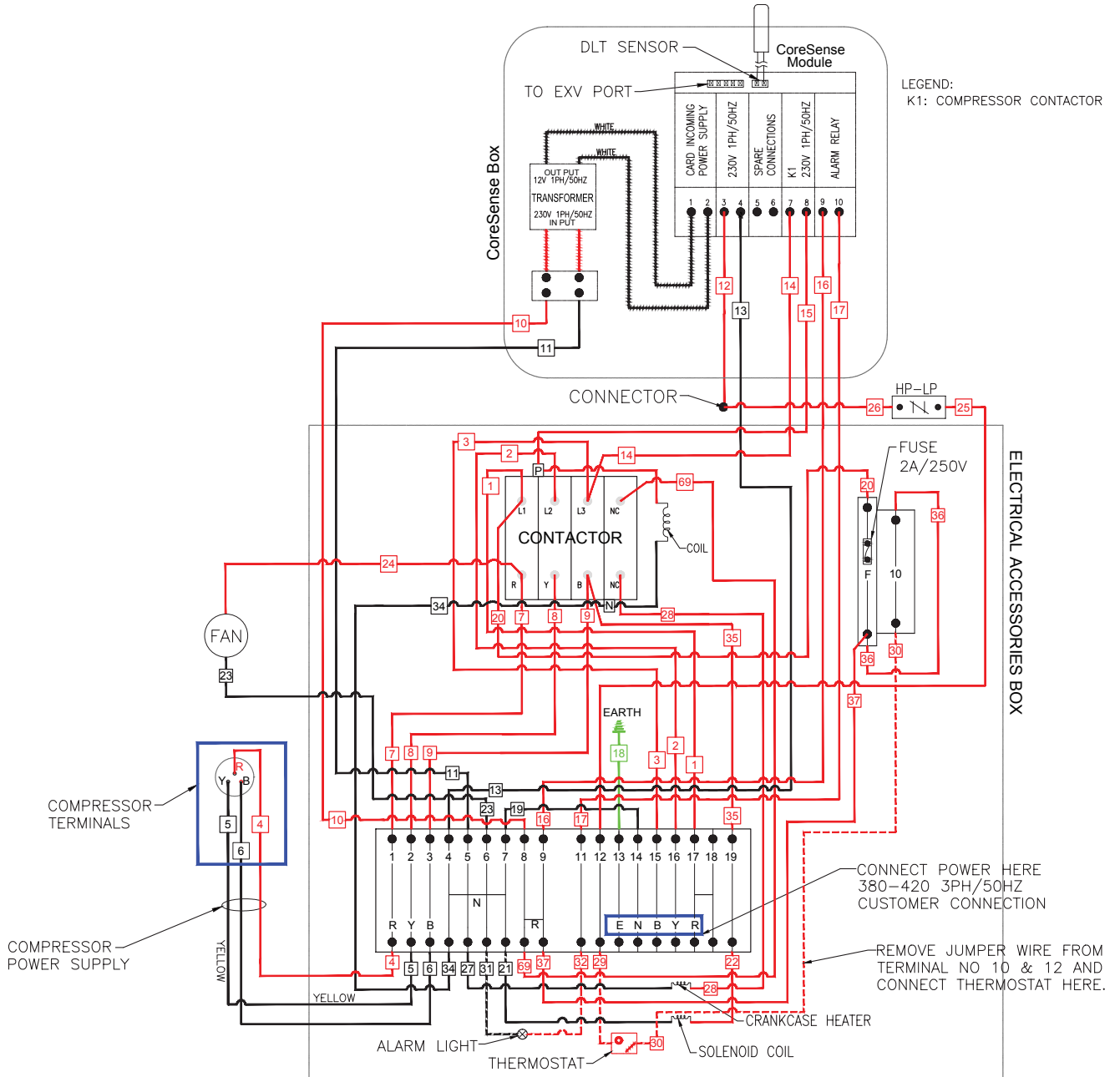
IZSI06A, IZSI08A, IZSI06AE, IZSI08AE



CONNECTIONS CHART	
FERRULE No. ON WIRES	USED FOR CONNECTING
23 24	TO SOLENOID COIL 230V 1PH/50Hz
21 22	TO THERMOSTAT
25 26	TO FAN
27 28	TO ALARM LIGHT
30 31	TO HP/LP
9 10 11	TO COMPRESSOR

Wiring Diagram

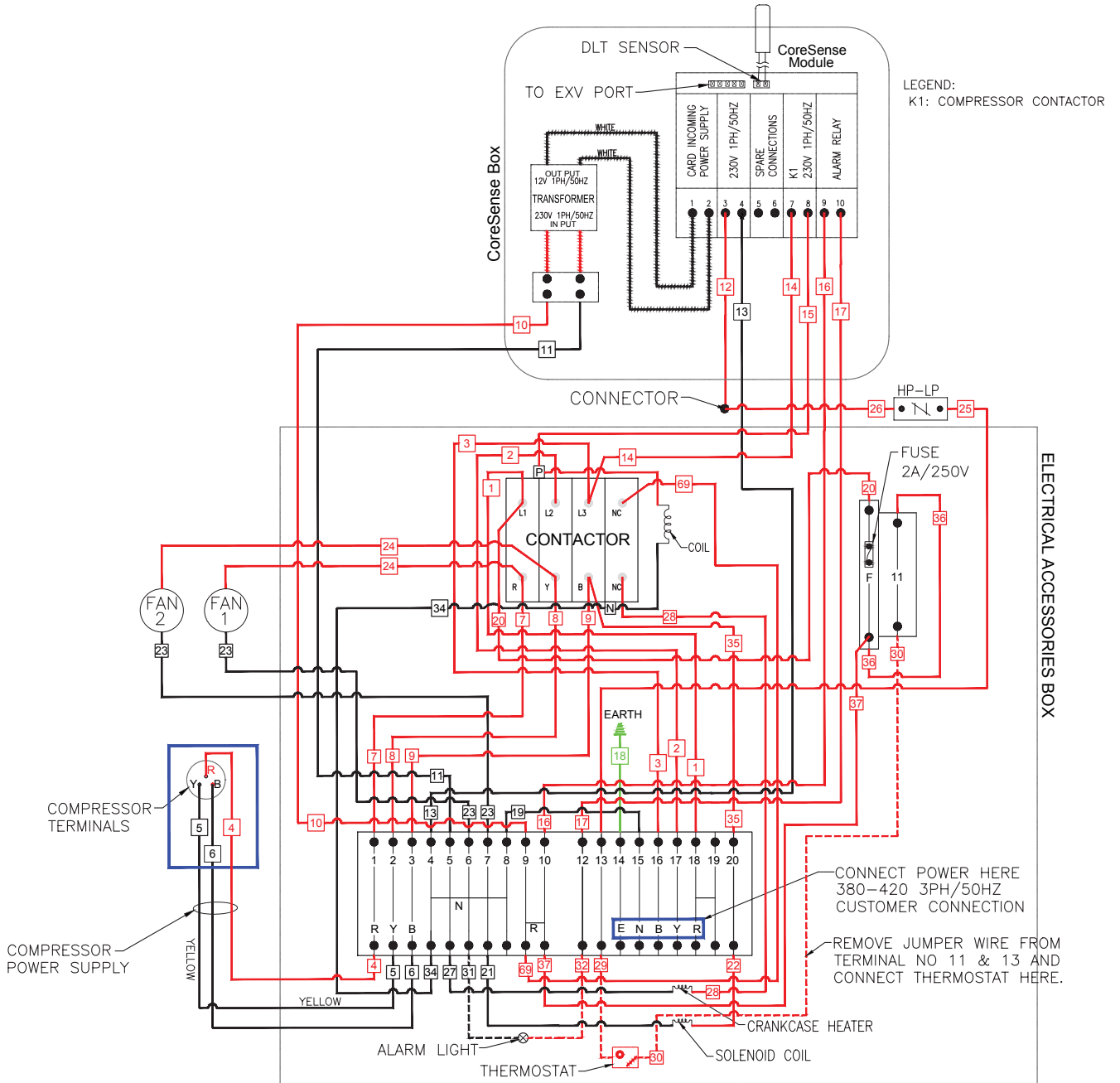
IZSI06A, IZSI08A, IZSI09B, IZSI11B, IZSI14C, IZSI15C,
IZSI06AE, IZSI08AE IZSI09BE, IZSI11BE, IZSI14CE, IZSI15CE



CONNECTIONS CHART	
FERRULES No. ON WIRES	FOR CONNECTING
21/22	TO SOLENOID COIL 230V 1PH/50Hz
29/30	TO THERMOSTAT
23/24	TO FAN
31/32	TO ALARM LIGHT
25/26	TO HP/LP
4/5/6	TO COMPRESSOR
27/28	CRANKCASE HEATER

Wiring Diagram

IZSI18D, IZSI18DE



CONNECTIONS CHART	
FERRULES No. ON WIRES	FOR CONNECTING
21 22	TO SOLENOID COIL 230V 1PH/50Hz
29 30	TO THERMOSTAT
23 24	TO FAN
31 32	TO ALARM LIGHT
25 26	TO HP/LP
4 5 6	TO COMPRESSOR
27 28	CRANKSPACE HEATER

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 Emerson clearly stating the information required.

Emerson 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 Emerson 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. Emerson cannot be held responsible for any damage caused by using these substances.

About Emerson

Emerson (NYSE: EMR), headquartered in St. Louis, Missouri (USA), is a global technology and engineering company providing innovative solutions for customers in industrial, commercial, and residential markets. Our Emerson Automation Solutions business helps process, hybrid, and discrete manufacturers maximize production, protect personnel and the environment while optimizing their energy and operating costs. Our Emerson Commercial and Residential Solutions business helps ensure human comfort and health, protect food quality and safety, advance energy efficiency, and create sustainable infrastructure. For more information visit [Emerson.com](https://www.emerson.com).

Contact lists

Emerson Commercial & Residential Solutions

Asia Pacific Headquarters

Emerson Climate Technologies
Suite No. 2503-8, 25/F,
Exchange Tower, 33 Wang Chiu Road,
Kowloon Bay, Kowloon, Hong Kong
Tel: (852) 2866 3108
Fax: (852) 2520 6227

Australia

Emerson Climate Technologies
Australia Pty Ltd
356 Chisholm Road
Auburn NSW 2144, Australia
Tel: (612) 9795 2800
Fax: (612) 9738 1699

China - Beijing

Emerson Climate Technologies
(Suzhou) Co. Ltd
Beijing Sales Office
Room 1017 JianWei Building,
66 Nan Lishi Road, XiCheng District,
Beijing, PRC
Tel: (8610) 5763 0488
Fax: (8610) 5763 0499

China - Guangzhou

Emerson Climate Technologies
(Suzhou) Co. Ltd
Guangzhou Sales Office
508-509 R&F Yinglong Plaza,
No. 76 Huangpu Road West,
Guangzhou, PRC
Tel: (8620) 2886 7668
Fax: (8620) 2886 7622

China - Shanghai

Emerson Climate Technologies
(Suzhou) Co. Ltd
Shanghai Sales Office
7F, Emerson Building, 1582 Gumei
Rd, Shanghai, PRC
Tel: (8621) 3338 7333

India - Mumbai

Emerson Climate Technologies (India) Ltd
Delphi B-Wing, 601-602, 6th Floor
Central Avenue, Hiranandani Business Park,
Powai, Mumbai 400076
Tel: (9122) 6786 0793
Fax: (9122) 6662 0500

India - Pune

Emerson Climate Technologies (India) Ltd
Plot No. 23, Rajiv Gandhi Infotech Park,
Phase - II, Hinjewadi,
Pune 411 057, Maharashtra, India
Tel: (9120) 4200 2000
Fax: (9120) 4200 2099

Indonesia

PT Emerson Indonesia
BSD Taman Tekno 8
Jl. Tekno Widya Blok H10 No 2 & 3
Tangerang Selatan 15314
Indonesia
Tel: (6221) 2966 6242
Fax: (6221) 2966 6245

Japan

Emerson Japan Ltd
Shin-yokohama Tosho Building
No. 3-9-5 Shin-Yokohama, Kohoku-ku
Yokohama 222-0033 Japan
Tel: (8145) 475 6371
Fax: (8145) 475 3565

Malaysia

Emerson Electric (Malaysia) Sdn. Bhd.
Level M2, Blk A, Menara PKNS-PJ
Jalan Yong Shook Lin
46050 Petaling Jaya, Selangor, Malaysia
Tel: (603) 7949 9222
Fax: (603) 7949 9333

Middle East & Africa

Emerson Climate Technologies
PO Box 26382
Jebel Ali Free Zone – South
Dubai, UAE
Tel: (9714) 811 8100
Fax: (9714) 886 5465

Philippines

Emerson Climate Technologies
10/F SM Cyber West Avenue, EDSA cor. West
Avenue, Barangay Bungad, Diliman, Quezon
City 1105 Philippines
Tel: (632) 689 7200

Saudi Arabia

Emerson Arabia Inc.
P.O Box 34332 – 3620 Building 7874
Unit 1, 67th street 2nd Industrial City
Dammam, Saudi Arabia
Toll Free: 8008443426
Tel: + 966 3 8147560
Fax: + 966 3 8147570

South Korea

Emerson Electric Korea Ltd.
3F POBA Gangnam Tower
343, Hakdong-ro, Gangnam-gu,
Seoul 135-820, Republic of Korea
Tel: (822) 3483 1500
Fax: (822) 592 7883

Taiwan

Emerson Electric (Taiwan) Co. Ltd
3F No. 122 Lane 235,
Pao Chiau Rd., XinDian Dist.,
New Taipei City 23145, Taiwan (R.O.C.)
Tel: (8862) 8912 1360
Fax: (8862) 8912 1890

Thailand - Bangkok

Emerson Electric (Thailand) Ltd
34th Floor, Interlink Tower,
1858/133, Bangna Trad,
Bangkok 10260, Thailand
Tel: (662) 716 4700
Fax: (662) 751 4241

United Arab Emirates

Emerson Climate Technologies FZE
Jebel Ali Free Zone
PO Box 26382
Dubai UAE
Toll Free: 8004413428
Tel: + 971 4 8118100
Fax: + 971 4 8865465

Vietnam

Emerson Commercial & Residential Solutions
Level 6, Melinh Point Tower, 2 Ngo Due Ke,
District 1, Ho Chi Minh City
Vietnam
Tel: (84) 908 009 189

Emerson.com

Asia 02 A0103 - R00 Issued 11/2017

Emerson, Copeland PerformanceAlert, CoreSense and Copeland Scroll are trademarks of Emerson Electric Co. or one of its affiliated companies. ©2017 Emerson Climate Technologies, Inc. All rights reserved.

EMERSON. CONSIDER IT SOLVED.™