

Copeland scroll ZF/ZFI compressor

For medium to low temperature refrigeration applications



COPELAND

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Copeland, a global provider of sustainable climate solutions, developed the ZF range of refrigeration scroll compressors to provide the best performance in medium- to low-temperature application.

With a wide application envelope capable of operating at evaporating temperatures as low as -45°C, the ZF series is perfectly suited for cold rooms, retail, and light industrial applications. Its scroll compliance mechanism ensures high tolerance to liquid slugging, enhancing reliability and durability.

The range consists of:

- The ZF*KQE and ZF*KNE models: Utilize liquid injection to control discharge temperatures and extend the operating envelope.
- The ZFI*KQE and ZFI*KNE models: Optimized for vapor injection with a subcooler, boosting cooling capacity and efficiency.
- ZFJ*KQE models: Feature digital modulation and vapor injection technology for superior efficiency, exceptional reliability, and excellent lifecycle cost savings.

Features and benefits

High efficiency all year-round

- The unique Copeland compliant scroll design patented by Copeland operates under continuous scroll fan contact, maintained by centrifugal force. This minimizes gas leakage while maximizing efficiency.
- Capable of condensing operation down to 5°C for low-temperature applications, delivering superior seasonal performance.
- Equipped with dynamic discharge valve that allows the discharge gas to reach desired pressure, reducing efficiency loss by preventing gas re-compression.
- The vapor injection technology allows ZFI compressors to perform higher efficiency than single-stage compressors at low temperature operation condition, making ZFI one of the best-in-class performers.

Compactness and light weight

- The small footprint enables compact system designs, reducing equipment size and weight.
- Weight and dimensions for refrigeration equipment is reduced with increased capacity per compressor weight.

Robustness and reliability

- The Copeland Compliant Scroll design is tolerant to stresses caused by liquid slugging, flooded starts and debris commonly found in refrigeration systems.
- Easy to service and maintain due to their compact size and lightweight, simple design.
- Engineered for optimum performance with today's chlorine-free refrigerants.
- The Copeland Scroll compressor design has several inherent reliability advantages:
 - 70% fewer moving parts than reciprocating compressors
 - Axial & radial scroll compliance provides improved liquid handling capability
 - Hermetic design reduces leak potential
- Redesigned suction gas flow results in lower oil circulation and better motor cooling.
- EVI vapor injection control kits provide advanced features to ensure optimum system operation.



Example: ZFI180KQE-TRD
oil level sensor is optional

Advanced compressor protection

- The lower horsepower ZF, ZFI, ZFJ compressors are equipped with internal thermal protectors that prevent motor overheating in cases of phase loss or low refrigerant charge.
- The large ZF, ZFI scroll compressors feature a new-generation electronic control module for external scroll and motor protection, oil level protection.
- The ZF*KQE models operate with liquid injection through a DTC valve to regulate discharge temperature.
- All ZFI models can operate with EVI control kits to manage vapor injection superheat and ensure a safe discharge temperature.

Smooth operation

- All Copeland Scroll compressors are designed with a discharge check valve that isolates the high pressure discharge gas. This allows the compressor to start unloaded, resulting in low inrush currents.
- Smooth operations are made possible by the continuous compression process. This generates less vibration than reciprocating technology.

Delivers high energy efficiency: 5-20% improvement*

- Motor, scroll and bearing redesign minimize annual energy consumption.
- Precision machined scrolls provide the highest isentropic efficiency and wear-in for improved performance over time.
- New valving technology adjusts the scroll compression ratio based on operating condition, significantly improving low ambient performance.
- Using vapor injection improves system capacity by 50% and efficiency by 20% on average at the low temperature rating condition.*

Approved for multiple refrigerants

- ZF, ZFI range compressors are approved for R-404A, R-507, R-22, R-448A and R-449A refrigerants. R-407A, R-407C, R-407F and R-134a are approved for selected models.

(Notes: Please visit Copeland Select Software Asia for more information)

- A2L refrigerants (R-454A, R-454C, R-455A) are approved on for the YF series compressors.

Wide product portfolio in 2-50HP range

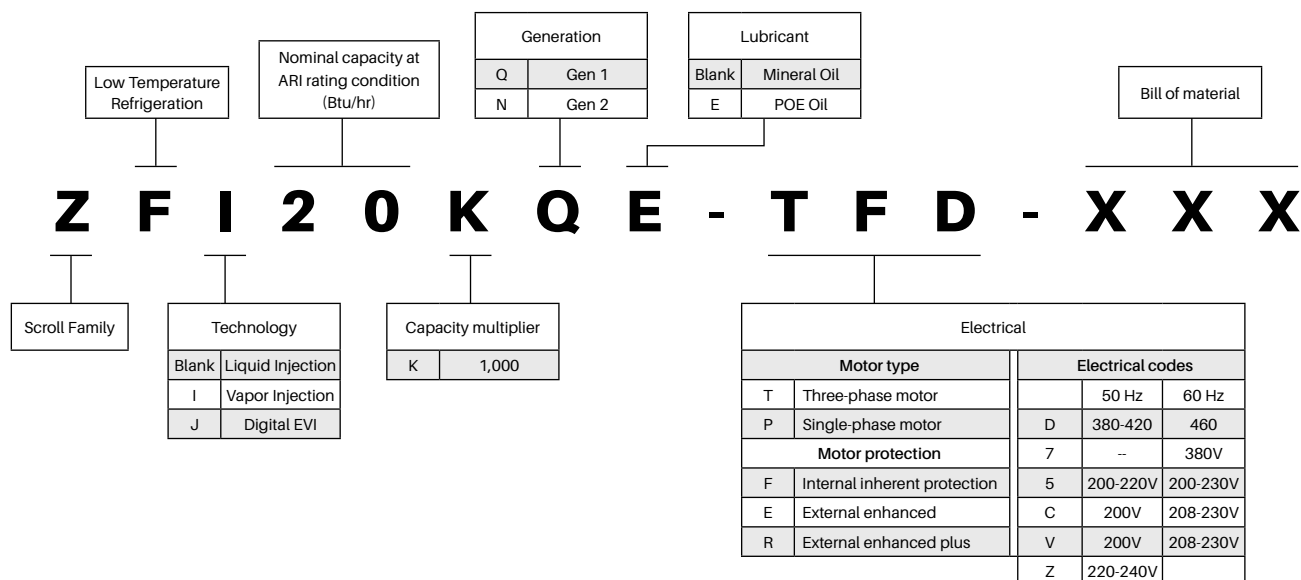
- Proven reliability and wide acceptance in the market.
- An ideal product solution to replace semi-hermetic reciprocating compressors.

Models		53 Frame	63 Frame	70 Frame	90 Frame	130 Frame
Liquid	ZF*KQE		06/08/09/11K	13/15/18/25/28K	34/41/49/54K	
	ZFI(I)*KNE (Gen 2)	09/11/13K	16/19/23K	26/30K	35/42/52/58K	
Vapor	ZFI*KQE			20/23/26/36/39K	50/59/68/81K	96/122/140/180K
	ZFI*KNE (Gen 2)	09/11/13K	16/19/23K	26/30K	51/60/72/82K	
Digital	ZFJ*KQE			20/26/36K		

Notes: ZFI09-ZFI30KNE is capable of both liquid injection and vapor injection

*Data is based on internal testing under controlled conditions. Actual results may vary depending on system configuration, operating environment, and usage. Refer to the chart on page 8 for supporting data.

Nomenclature



Bill of materials

Compressor model	Motor code	BOM number	Stub tube	Rotalock	Oil sight glass	Schrader valve
Vapor injection (Gen 2)						
ZFI09KNE ZFI11KNE ZFI13KNE ZFI16KNE	TFD PFZ	558 657	✓		✓	
ZFI19KNE ZFI23KNE ZFI26KNE ZFI30KNE	TFD	558 657	✓		✓	
ZFI51KNE ZFI60KNE ZFI72KNE ZFI82KNE	TRD	550 551	✓		✓	✓
Vapor Injection						
ZFI20KQE ZFI23KQE ZFI26KQE ZFI36KQE ZFI39KQE	TFD TF7 TFC ¹	550 552	✓		✓	✓
ZFI39KQE	TFC	580 592	✓		✓	✓
ZFI50KQE ZFI59KQE ZFI68KQE ZFI81KQE	TFD TF7 TFC	554 564 567 ³	✓		✓	✓
ZFI96KQE ZFI122KQE ZFI140KQE ZFI180KQE	TRD TR7 TRC	522 523	✓		✓	✓
Digital Vapor injection						
ZFJ20KQE ZFJ26KQE ZFJ36KQE	TFD TF7 TF5	550 552	✓		✓	✓

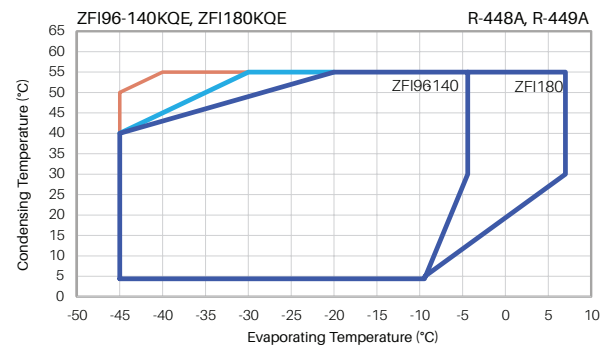
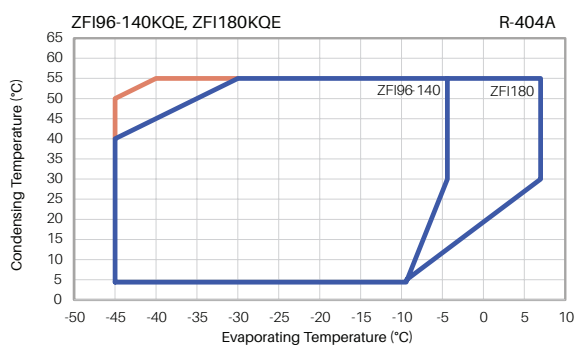
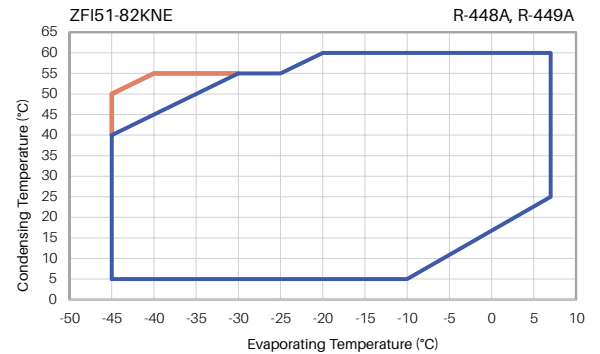
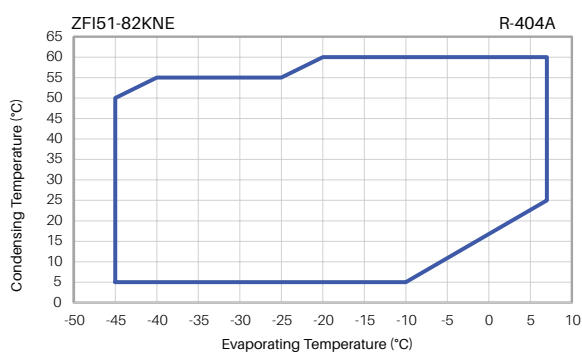
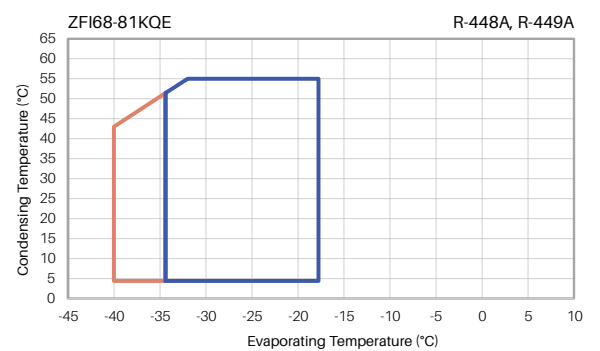
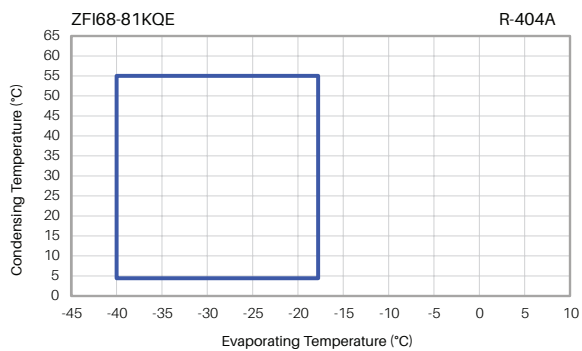
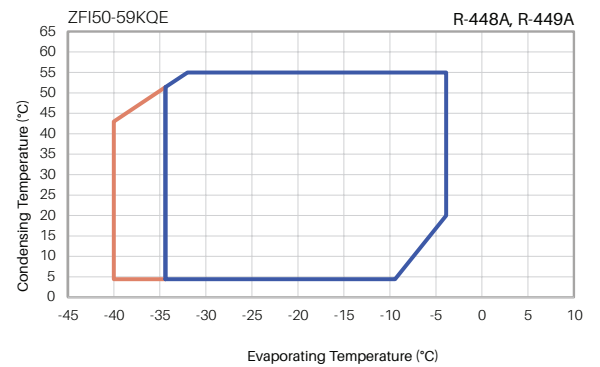
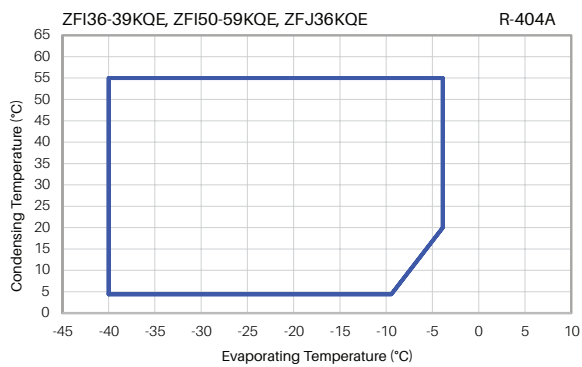
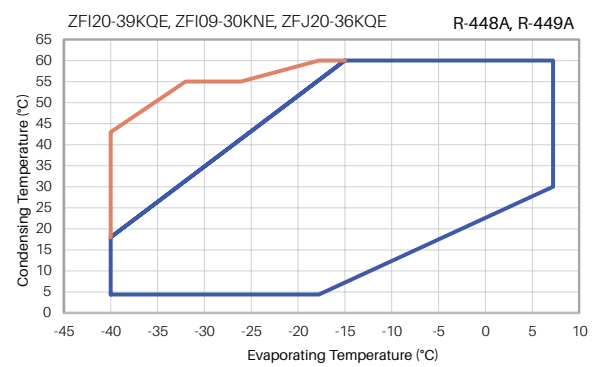
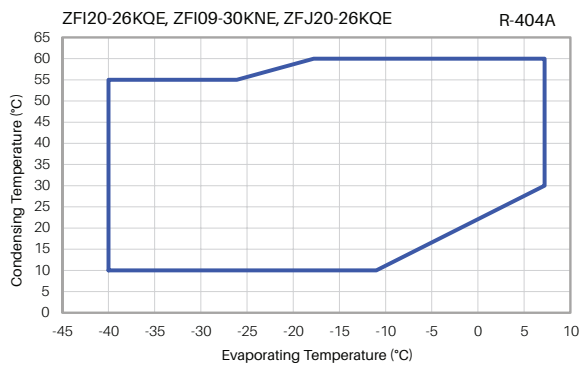
Compressor model	Motor code	BOM number	Stub tube	Rotalock	Oil sight glass	Schrader valve
Liquid injection (Gen 2)						
ZFI09KNE ZFI11KNE ZFI13KNE ZFI16KNE	TFD PFZ	558 657	✓		✓	
ZFI19KNE ZFI23KNE ZFI26KNE ZFI30KNE	TFD	558 657	✓		✓	
ZF35KNE ZF42KNE ZF52KNE ZF52KNE	TRD	550 551	✓		✓	✓
Liquid injection						
ZF06KQE ZF08KQE ZF09KQE ZF11KQE	TFD TF5 PFV	550 551	✓		✓	✓
ZF13KQE ZF15KQE ZF18KQE ZF25KQE ZF28KQE	TFD TF7 TFC ¹ PFV ²	550 551	✓		✓	✓
ZF28KQE	TFC	580 591	✓		✓	✓
ZF34KQE ZF41KQE ZF49KQE ZF54KQE	TFD TF7 TFC	554 564 567 ³	✓		✓	✓

Remarks:

¹ Except ZF28KQE-TFC and ZFI39KQE-TFC

² PFV is for ZF13KQE and ZF15KQE only

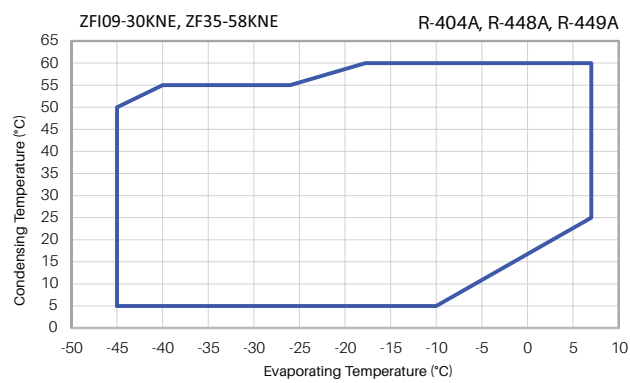
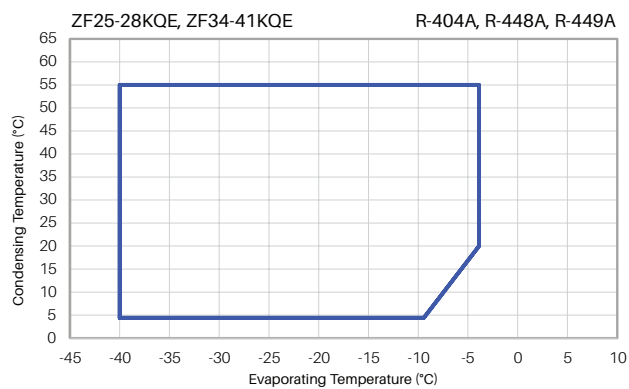
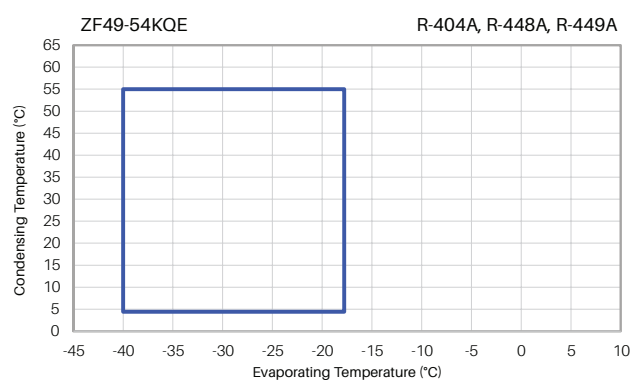
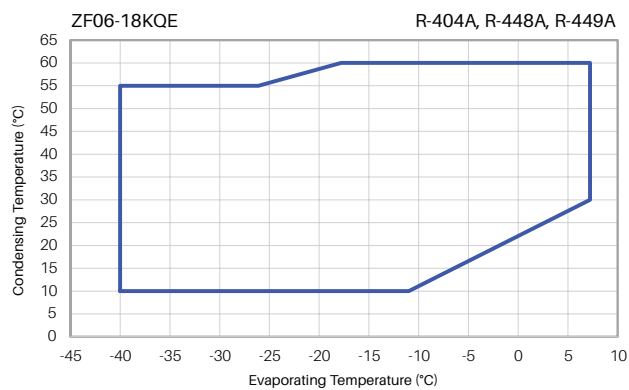
³ BOM554/564 is for OMB and BOM567 is for OM3 in rack application



— 20K Superheat + Vapor Injection

— 0°C Return Gas + Vapor Injection

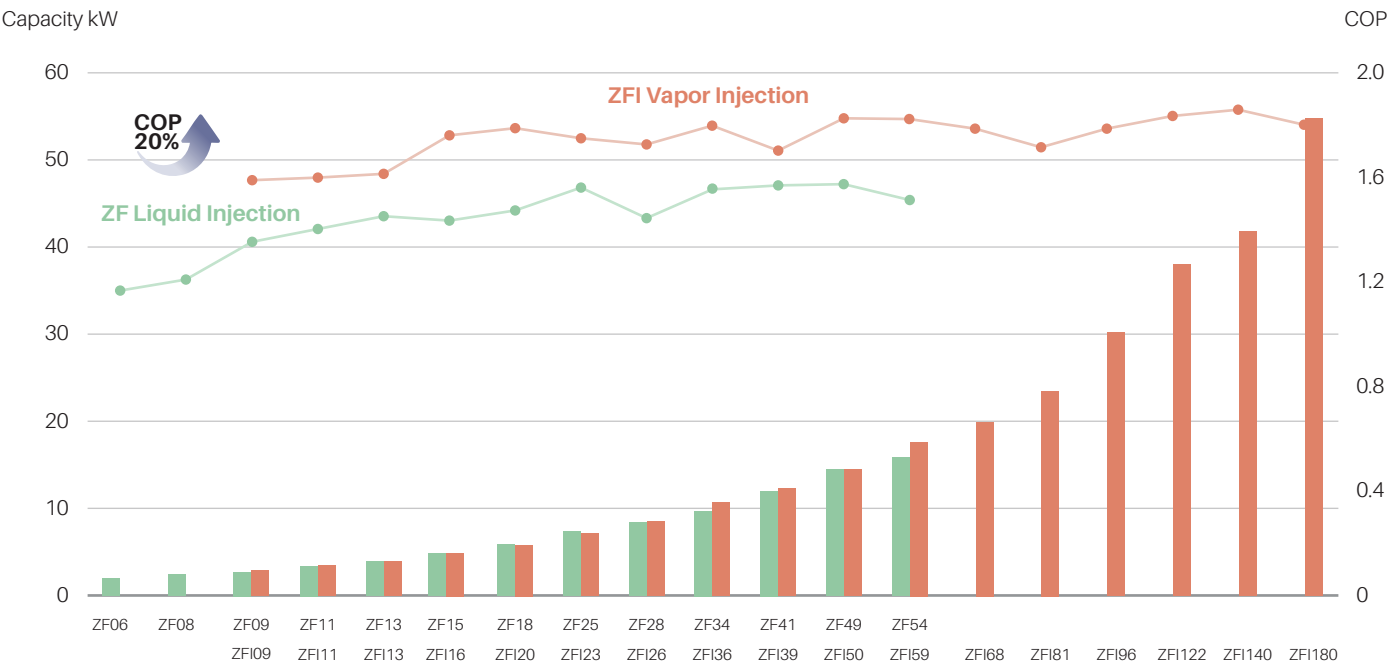
— 20°C Return Gas + Vapor Injection



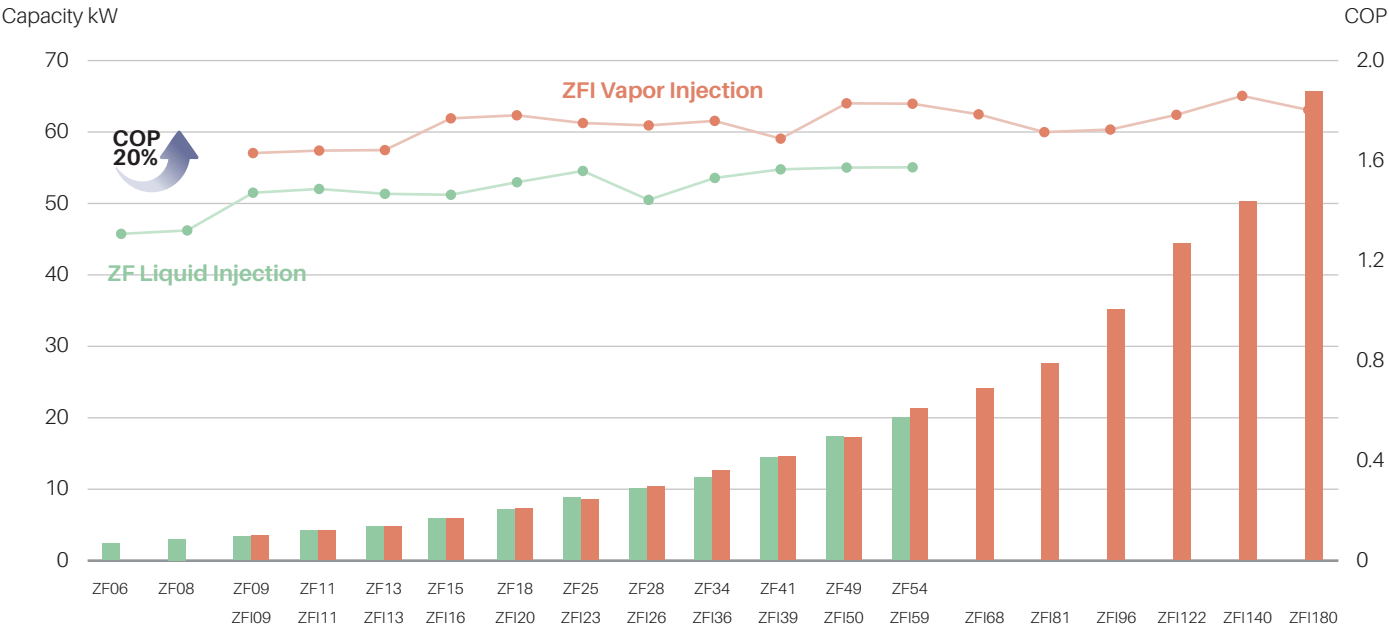
— 20°C Return Gas + Liquid Injection

Product line-up

R-404A, 50Hz



R-404A, 60Hz



Notes: Based on low temperature cold room conditions: -25°C evaporating, 45°C condensing and 20°C return gas temperature.

Quick selection

R-404A, 50Hz

Model	Nominal HP	Displacement (cc/rev)	Condensing Temperature 45°C															
			Capacity, kW								Power, kW							
			Evaporating Temperature, °C								Evaporating Temperature, °C							
			-40	-35	-30	-25	-20	-15	-10	-5	-40	-35	-30	-25	-20	-15	-10	-5
Liquid Injection (Gen 2)																		
ZFI09KNE	2	34.5	0.89	1.19	1.53	1.93	2.39	2.93	3.55	4.26	1.23	1.38	1.49	1.58	1.64	1.69	1.72	1.74
ZFI11KNE	2.5	41.0	1.08	1.44	1.85	2.34	2.90	3.56	4.32	5.19	1.49	1.67	1.80	1.91	1.98	2.03	2.07	2.09
ZFI13KNE	3	46.0	1.23	1.63	2.10	2.65	3.29	4.04	4.90	5.90	1.67	1.87	2.02	2.14	2.22	2.28	2.32	2.35
ZFI16KNE	3.5	57.2	1.64	2.09	2.63	3.27	4.04	4.93	5.97	7.15	2.32	2.36	2.41	2.48	2.57	2.66	2.76	2.86
ZFI19KNE	4	65.5	1.95	2.39	2.98	3.72	4.62	5.66	6.87	8.22	2.60	2.60	2.65	2.73	2.84	2.97	3.11	3.26
ZFI23KNE	5	82.6	2.36	2.99	3.80	4.80	5.97	7.32	8.84	10.53	3.13	3.23	3.35	3.49	3.63	3.78	3.94	4.11
ZFI26KNE	6	98.0	2.83	3.60	4.59	5.79	7.19	8.79	10.59	12.58	3.70	3.81	3.95	4.12	4.32	4.54	4.78	5.04
ZFI30KNE	7.5	105.0	3.17	4.02	5.04	6.25	7.68	9.34	11.26	13.45	3.85	4.00	4.15	4.31	4.48	4.66	4.85	5.04
ZF35KNE	10	175.0	5.02	6.67	8.74	11.20	14.04	17.24	20.78	24.64	6.02	6.33	6.67	7.03	7.42	7.85	8.33	8.85
ZF42KNE	13	209.9	6.01	7.99	10.47	13.43	16.84	20.69	24.94	29.58	7.05	7.42	7.81	8.24	8.70	9.20	9.75	10.36
ZF52KNE	16	262.8	7.52	9.99	13.07	16.75	20.99	25.76	31.05	36.82	8.79	9.24	9.73	10.26	10.84	11.46	12.15	12.91
ZF58KNE	18	287.6	8.38	11.06	14.31	18.14	22.55	27.54	33.12	39.29	9.42	9.91	10.43	11.00	11.62	12.29	13.03	13.85
Liquid Injection																		
ZF06KQE	2	34.0	1.04	1.32	1.65	2.02	2.46	2.97	3.56	4.24	1.55	1.60	1.66	1.73	1.80	1.89	1.98	2.09
ZF08KQE	2.5	42.0	1.28	1.63	2.03	2.49	3.02	3.65	4.37	5.21	1.84	1.91	1.98	2.06	2.15	2.25	2.36	2.49
ZF09KQE	3	46.2	1.42	1.80	2.24	2.75	3.34	4.03	4.83	5.76	1.96	1.96	1.98	2.03	2.09	2.16	2.25	2.36
ZF11KQE	3.5	57.2	1.80	2.28	2.82	3.44	4.16	5.01	6.00	7.16	2.32	2.35	2.39	2.45	2.54	2.64	2.75	2.89
ZF13KQE	4	67.1	2.06	2.59	3.22	3.97	4.85	5.88	7.06	8.42	2.51	2.58	2.65	2.74	2.84	2.95	3.07	3.21
ZF15KQE	5	82.6	2.50	3.18	3.96	4.88	5.95	7.20	8.66	10.35	2.96	3.10	3.25	3.40	3.55	3.72	3.91	4.11
ZF18KQE	6	98.0	3.06	3.88	4.81	5.87	7.12	8.58	10.30	12.35	3.59	3.71	3.84	3.98	4.14	4.31	4.50	4.70
ZF25KQE	7.5	122.9	3.85	4.78	5.96	7.38	9.01	10.85	12.85	15.05	3.64	4.05	4.41	4.73	5.06	5.43	5.86	6.39
ZF28KQE	9	144.4	4.40	5.46	6.81	8.44	10.30	12.40	14.70	17.20	4.48	5.00	5.44	5.84	6.25	6.70	7.23	7.89
ZF34KQE	10	167.5	4.90	6.32	7.92	9.73	11.85	14.25	17.10	20.40	5.24	5.58	5.91	6.25	6.58	6.91	7.25	7.58
ZF41KQE	13	203.0	6.21	7.96	9.87	12.05	14.55	17.45	20.90	24.90	6.43	6.85	7.27	7.68	8.11	8.53	8.97	9.42
ZF49KQE	15	243.7	7.46	9.47	11.80	14.50	17.65	-	-	-	8.01	8.33	8.73	9.21	9.73	-	-	-
ZF54KQE	17	277.8	8.19	10.40	12.95	15.90	19.35	-	-	-	9.13	9.49	9.95	10.50	11.10	-	-	-
Vapor Injection (Gen 2)																		
ZFI09KNE	2	34.5	1.64	1.93	2.35	2.90	3.54	4.25	5.01	5.79	1.41	1.58	1.71	1.82	1.89	1.95	1.98	2.01
ZFI11KNE	2.5	41.0	1.98	2.33	2.85	3.50	4.27	5.13	6.05	7.00	1.70	1.90	2.06	2.19	2.28	2.35	2.39	2.42
ZFI13KNE	3	46.0	2.25	2.64	3.23	3.97	4.85	5.82	6.86	7.94	1.91	2.14	2.32	2.46	2.56	2.63	2.68	2.71
ZFI16KNE	3.5	57.2	2.65	3.28	4.04	4.92	5.91	7.02	8.24	9.57	2.52	2.60	2.69	2.80	2.91	3.02	3.13	3.23
ZFI19KNE	4	65.5	3.30	3.87	4.59	5.47	6.50	7.68	9.02	10.51	2.79	2.91	3.04	3.16	3.28	3.40	3.52	3.62
ZFI23KNE	5	82.6	4.34	5.08	6.03	7.18	8.53	10.09	11.85	13.81	3.57	3.73	3.89	4.05	4.21	4.36	4.50	4.64
ZFI26KNE	6	98.0	4.53	5.64	6.90	8.31	9.91	11.73	13.77	16.07	4.19	4.36	4.54	4.75	4.97	5.20	5.43	5.68
ZFI30KNE	7.5	105.0	5.12	6.33	7.70	9.24	10.99	12.94	15.13	17.56	4.48	4.68	4.88	5.08	5.27	5.45	5.63	5.80
ZFI51KNE	13	175.0	8.30	10.36	12.78	15.55	18.65	22.07	25.81	29.84	7.41	7.81	8.20	8.59	8.98	9.38	9.78	10.20
ZFI60KNE	16	209.9	9.86	12.31	15.19	18.47	22.16	26.22	30.66	35.45	8.52	8.98	9.43	9.87	10.32	10.78	11.24	11.72
ZFI72KNE	18	262.8	11.72	14.72	18.35	22.57	27.33	32.57	38.24	44.30	10.40	10.99	11.57	12.14	12.70	13.27	13.86	14.46
ZFI82KNE	20	287.6	12.97	16.29	20.31	24.98	30.24	36.04	42.32	49.02	11.35	12.00	12.63	13.25	13.88	14.50	15.14	15.79
Vapor Injection																		
ZFI20KQE	4	67.1	3.11	3.91	4.81	5.85	7.05	8.40	9.96	11.70	3.11	3.14	3.20	3.27	3.35	3.42	3.50	3.56
ZFI23KQE	5	82.6	4.77	5.31	6.12	7.20	8.53	10.10	11.90	13.90	3.51	3.72	3.92	4.10	4.27	4.43	4.57	4.71
ZFI26KQE	6	98.0	5.09	6.04	7.18	8.53	10.10	11.95	14.10	16.55	4.26	4.50	4.73	4.94	5.13	5.31	5.48	5.63
ZFI36KQE	8	122.9	6.24	7.53	9.03	10.75	12.70	14.80	17.15	19.70	4.73	5.20	5.61	5.98	6.29	6.56	6.80	7.00
ZFI39KQE	10	144.4	7.16	8.64	10.35	12.35	14.55	17.00	19.70	22.60	5.74	6.31	6.81	7.25	7.63	7.96	8.24	8.49
ZFI50KQE	12	167.5	8.37	9.99	12.05	14.50	17.30	20.40	23.60	27.10	6.65	7.11	7.53	7.94	8.32	8.70	9.10	9.52
ZFI59KQE	15	203.0	10.20	12.15	14.70	17.65	21.10	24.80	28.80	33.00	8.12	8.67	9.19	9.68	10.15	10.60	11.10	11.60
ZFI68KQE	18	243.7	11.55	13.80	16.65	20.10	23.90	-	-	-	9.43	10.10	10.70	11.25	11.80	-	-	-
ZFI81KQE	20	277.8	13.55	16.20	19.50	23.50	28.00	-	-	-	11.50	12.25	13.00	13.70	14.35	-	-	-
ZFI96KQE	25	349.4	16.55	20.60	25.10	30.20	36.00	42.80	50.70	59.80	14.80	15.55	16.25	16.90	17.60	18.30	19.00	19.85
ZFI122KQE	30	444.5	20.80	26.00	31.60	38.00	45.40	53.90	63.80	75.40	18.05	18.95	19.80	20.60	21.40	22.30	23.20	24.20
ZFI140KQE	40	502.6	23.00	28.50	34.70	41.80	50.00	59.60	70.60	83.50	19.70	20.70	21.70	22.50	23.40	24.30	25.30	26.40
ZFI180KQE	50	648.0	29.26	36.91	45.30	54.69	65.31	77.42	91.25	107.05	25.54	27.12	28.74	30.41	32.13	33.89	35.69	37.53

Condition: R-404A, 50Hz, 20°C return gas, ZF liquid 0K subcooling, ZFI vapor max subcooling

Performance data

R-404A | 50Hz

Liquid injection, TFC: 200 V, 3-Phase, 50 Hz ; TFD: 380-420 V, 3-Phase, 50 Hz

Model			Condensing Temperature °C	Evaporating Temperature °C										
				-40	-35	-30	-25	-20	-15	-10	-5	0	5	7
ZF06KQE	TF5 TFD	Q	30	1.28	1.61	2.00	2.47	3.01	3.64	4.38	5.22	6.19	7.28	7.76
			40	1.13	1.43	1.77	2.18	2.65	3.21	3.85	4.58	5.43	6.39	6.81
			50	0.96	1.22	1.51	1.85	2.25	2.71	3.25	3.87	4.59	5.41	5.77
		P	30	1.17	1.23	1.30	1.37	1.45	1.54	1.64	1.75	1.87	2.00	2.05
			40	1.40	1.46	1.52	1.59	1.67	1.76	1.85	1.96	2.08	2.20	2.26
			50	1.72	1.77	1.82	1.89	1.96	2.04	2.13	2.24	2.35	2.47	2.52
ZF08KQE	TF5 TFD	Q	30	1.58	1.98	2.46	3.03	3.70	4.48	5.38	6.42	7.61	8.96	9.54
			40	1.39	1.75	2.18	2.68	3.26	3.94	4.73	5.64	6.68	7.86	8.37
			50	1.18	1.50	1.86	2.28	2.77	3.34	4.00	4.76	5.64	6.65	7.10
		P	30	1.39	1.47	1.54	1.63	1.73	1.84	1.95	2.08	2.22	2.37	2.44
			40	1.67	1.74	1.81	1.89	1.99	2.09	2.21	2.33	2.47	2.62	2.69
			50	2.05	2.10	2.17	2.25	2.33	2.43	2.54	2.66	2.79	2.94	3.00
ZF09KQE	TF5 TFD	Q	30	1.71	2.17	2.71	3.35	4.10	4.97	5.97	7.13	8.45	9.96	10.61
			40	1.53	1.94	2.41	2.96	3.60	4.35	5.23	6.23	7.39	8.71	9.29
			50	1.32	1.67	2.07	2.52	3.06	3.69	4.42	5.27	6.25	7.38	7.88
		P	30	1.46	1.48	1.52	1.57	1.65	1.74	1.84	1.96	2.09	2.23	2.29
			40	1.77	1.78	1.81	1.86	1.92	2.00	2.10	2.21	2.33	2.47	2.52
			50	2.16	2.16	2.18	2.22	2.27	2.34	2.43	2.53	2.65	2.78	2.84
ZF11KQE	TF5 TFD	Q	30	2.17	2.74	3.41	4.19	5.10	6.16	7.41	8.85	10.50	12.39	13.22
			40	1.94	2.45	3.03	3.70	4.49	5.41	6.49	7.75	9.20	10.86	11.60
			50	1.65	2.09	2.58	3.15	3.81	4.58	5.48	6.55	7.78	9.22	9.86
		P	30	1.79	1.82	1.87	1.94	2.03	2.14	2.27	2.41	2.57	2.75	2.83
			40	2.13	2.15	2.20	2.26	2.34	2.45	2.57	2.70	2.85	3.02	3.09
			50	2.53	2.56	2.60	2.67	2.75	2.85	2.97	3.10	3.24	3.40	3.47
ZF13KQE	TFC TFD	Q	30	2.45	3.15	3.98	4.93	6.03	7.30	8.74	10.36	12.19	14.24	15.12
			40	2.19	2.78	3.48	4.31	5.27	6.38	7.66	9.11	10.76	12.61	13.41
			50	1.94	2.40	2.95	3.62	4.42	5.35	6.44	7.70	9.13	10.77	11.48
		P	30	1.87	1.93	2.00	2.08	2.19	2.30	2.44	2.59	2.76	2.95	3.03
			40	2.27	2.33	2.41	2.49	2.59	2.70	2.83	2.97	3.13	3.30	3.37
			50	2.78	2.85	2.93	3.02	3.12	3.23	3.35	3.48	3.62	3.78	3.85
ZF15KQE	TFC TFD	Q	30	3.01	3.89	4.91	6.08	7.44	9.01	10.82	12.89	15.26	17.93	19.10
			40	2.66	3.42	4.29	5.30	6.47	7.84	9.43	11.26	13.36	15.76	16.81
			50	2.36	2.95	3.64	4.44	5.40	6.53	7.86	9.41	11.22	13.31	14.22
		P	30	2.21	2.33	2.45	2.58	2.73	2.90	3.09	3.31	3.56	3.85	3.97
			40	2.68	2.82	2.95	3.09	3.24	3.41	3.60	3.80	4.04	4.30	4.41
			50	3.26	3.42	3.58	3.73	3.90	4.07	4.25	4.45	4.67	4.92	5.02
ZF18KQE	TFC TFD	Q	30	3.70	4.70	5.85	7.20	8.78	10.64	12.81	15.33	18.25	21.58	23.04
			40	3.29	4.17	5.17	6.34	7.70	9.30	11.17	13.36	15.91	18.84	20.13
			50	2.81	3.57	4.41	5.37	6.50	7.83	9.40	11.25	13.42	15.94	17.06
		P	30	2.79	2.89	3.01	3.14	3.29	3.46	3.65	3.85	4.07	4.30	4.40
			40	3.29	3.40	3.53	3.67	3.83	4.00	4.18	4.38	4.59	4.82	4.91
			50	3.92	4.04	4.18	4.33	4.49	4.67	4.85	5.05	5.26	5.48	5.57

Notes:

1. Q for capacity; P for power. Units in kW
2. All ZF*KQE values are rated at 20°C return gas temperature and 0 K subcooling

Performance data

R-404A | 50Hz

Liquid injection, TFC: 200 V, 3-Phase, 50 Hz ; TFD: 380-420 V, 3-Phase, 50 Hz

Model			Condensing Temperature °C	Evaporating Temperature °C										
				-40	-35	-30	-25	-20	-15	-10	-5	0	5	7
ZF25KQE	TFC TFD	Q	30	4.59	5.81	7.32	9.08	11.09	13.32	15.75	18.37			
			40	4.09	5.12	6.42	7.96	9.73	11.71	13.87	16.20			
			50	3.63	4.45	5.50	6.79	8.28	9.96	11.81	13.82			
		P	30	3.03	3.31	3.54	3.76	4.00	4.30	4.67	5.16			
			40	3.43	3.80	4.11	4.39	4.69	5.03	5.44	5.95			
			50	3.84	4.31	4.72	5.09	5.46	5.85	6.32	6.87			
ZF28KQE	TFC TFD	Q	30	5.25	6.65	8.36	10.38	12.67	15.22	18.00	21.00			
			40	4.67	5.85	7.34	9.10	11.12	13.38	15.85	18.51			
			50	4.15	5.08	6.29	7.76	9.46	11.39	13.50	15.79			
		P	30	3.74	4.08	4.37	4.64	4.94	5.30	5.76	6.37			
			40	4.23	4.68	5.07	5.42	5.78	6.20	6.71	7.34			
			50	4.74	5.32	5.82	6.28	6.73	7.22	7.79	8.48			
ZF34KQE	TFC TFD	Q	30	6.03	7.72	9.67	11.94	14.57	17.62	21.16	25.23			
			40	5.30	6.82	8.54	10.51	12.79	15.44	18.51	22.06			
			50	4.47	5.79	7.25	8.90	10.81	13.01	15.59	18.58			
		P	30	4.18	4.41	4.67	4.93	5.22	5.53	5.85	6.20			
			40	4.85	5.16	5.46	5.77	6.08	6.40	6.73	7.07			
			50	5.66	6.04	6.41	6.77	7.13	7.48	7.82	8.16			
ZF41KQE	TFC TFD	Q	30	7.57	9.62	11.96	14.69	17.88	21.62	25.98	31.04			
			40	6.71	8.56	10.62	12.98	15.71	18.90	22.64	26.99			
			50	5.65	7.29	9.06	11.04	13.31	15.96	19.05	22.68			
		P	30	5.07	5.40	5.75	6.11	6.48	6.88	7.30	7.75			
			40	5.95	6.33	6.72	7.12	7.52	7.94	8.36	8.81			
			50	6.95	7.40	7.85	8.29	8.74	9.18	9.63	10.09			
ZF49KQE	TFC TFD	Q	30	9.14	11.54	14.39	17.75	21.67						
			40	8.07	10.21	12.72	15.65	19.05						
			50	6.80	8.66	10.80	13.27	16.14						
		P	30	6.24	6.53	6.90	7.33	7.81						
			40	7.36	7.67	8.06	8.52	9.02						
			50	8.73	9.07	9.48	9.97	10.51						
ZF54KQE	TFC TFD	Q	30	10.46	13.21	16.47	20.31	24.80						
			40	9.23	11.69	14.56	17.91	21.80						
			50	7.78	9.91	12.36	15.19	18.47						
		P	30	7.14	7.47	7.90	8.39	8.94						
			40	8.42	8.77	9.22	9.75	10.33						
			50	9.99	10.37	10.85	11.41	12.03						

Notes:

1. Q for capacity; P for power. Units in kW
2. All ZF*KQE values are rated at 20°C return gas temperature and 0 K subcooling

Performance data

R-404A | 50Hz

Liquid injection, PFZ : 220-240V, 1 Phase, 50Hz

Model			Condensing Temperature °C	Evaporating Temperature °C											
				-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	7
ZFI09KNE	PFZ	Q	30	0.95	1.20	1.53	1.92	2.40	2.97	3.65	4.44	5.35	6.40	7.59	8.10
			40	0.72	0.99	1.29	1.66	2.08	2.59	3.18	3.86	4.65	5.55	6.58	7.03
			50	0.55	0.80	1.08	1.40	1.76	2.18	2.67	3.24	3.89	4.63	5.49	5.86
		P	30	0.86	0.98	1.08	1.15	1.20	1.23	1.26	1.28	1.30	1.32	1.35	1.37
			40	1.00	1.16	1.29	1.38	1.46	1.51	1.55	1.57	1.59	1.61	1.62	1.63
			50	1.13	1.34	1.51	1.65	1.75	1.83	1.89	1.93	1.96	1.97	1.99	1.99
ZFI11KNE	PFZ	Q	30	1.14	1.44	1.83	2.31	2.89	3.59	4.41	5.36	6.46	7.72	9.15	9.77
			40	0.88	1.19	1.56	2.00	2.52	3.13	3.85	4.68	5.63	6.73	7.96	8.50
			50	0.68	0.97	1.31	1.69	2.13	2.65	3.24	3.93	4.72	5.63	6.66	7.11
		P	30	1.07	1.21	1.32	1.40	1.46	1.50	1.53	1.56	1.58	1.61	1.65	1.67
			40	1.23	1.42	1.57	1.69	1.78	1.84	1.88	1.91	1.94	1.95	1.97	1.99
			50	1.38	1.64	1.85	2.01	2.14	2.24	2.30	2.35	2.38	2.40	2.42	2.43
ZFI13KNE	PFZ	Q	30	1.29	1.64	2.08	2.62	3.28	4.07	5.00	6.09	7.34	8.77	10.39	11.10
			40	1.00	1.35	1.77	2.27	2.86	3.56	4.37	5.32	6.40	7.64	9.05	9.66
			50	0.77	1.11	1.49	1.92	2.42	3.01	3.68	4.46	5.36	6.39	7.57	8.08
		P	30	1.20	1.36	1.48	1.58	1.64	1.69	1.72	1.75	1.78	1.81	1.85	1.88
			40	1.38	1.60	1.77	1.90	2.00	2.07	2.12	2.16	2.18	2.20	2.22	2.24
			50	1.56	1.84	2.08	2.27	2.41	2.52	2.60	2.65	2.68	2.71	2.73	2.73
ZFI16KNE	PFZ	Q	30	1.77	2.16	2.67	3.31	4.10	5.04	6.16	7.47	8.98	10.71	12.67	13.53
			40	1.43	1.85	2.35	2.94	3.64	4.46	5.42	6.53	7.81	9.26	10.92	11.63
			50	1.05	1.50	1.99	2.54	3.16	3.87	4.67	5.59	6.64	7.83	9.18	9.77
		P	30	1.92	1.99	2.03	2.07	2.11	2.15	2.20	2.27	2.36	2.48	2.64	2.72
			40	2.33	2.40	2.46	2.50	2.54	2.58	2.63	2.69	2.77	2.88	3.02	3.09
			50	3.00	3.07	3.11	3.14	3.17	3.19	3.21	3.25	3.30	3.38	3.49	3.54

Notes:

1. Q for capacity; P for power. Units in kW
2. All ZF*KNE values are rated at 18.3°C return gas temperature and 0 K subcooling

Performance data

R-404A | 50Hz

Liquid injection, TFD: 380-420V, 3 Phase, 50Hz

Model			Condensing Temperature °C	Evaporating Temperature °C											
				-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	7
ZFI09KNE	TFD	Q	30	0.93	1.19	1.52	1.91	2.39	2.95	3.62	4.41	5.31	6.35	7.53	8.04
			40	0.72	0.99	1.29	1.66	2.08	2.58	3.17	3.85	4.63	5.53	6.55	7.00
			50	0.55	0.80	1.09	1.40	1.77	2.18	2.67	3.23	3.88	4.62	5.47	5.85
		P	30	0.85	0.97	1.07	1.14	1.18	1.22	1.24	1.26	1.28	1.30	1.34	1.35
			40	0.98	1.14	1.27	1.37	1.44	1.49	1.53	1.55	1.57	1.58	1.60	1.61
			50	1.10	1.32	1.49	1.63	1.73	1.81	1.86	1.90	1.93	1.94	1.96	1.96
ZFI11KNE	TFD	Q	30	1.14	1.45	1.84	2.31	2.89	3.59	4.40	5.36	6.46	7.72	9.15	9.77
			40	0.88	1.20	1.57	2.01	2.53	3.14	3.85	4.68	5.63	6.72	7.96	8.50
			50	0.68	0.98	1.31	1.70	2.14	2.65	3.24	3.93	4.72	5.63	6.66	7.11
		P	30	1.04	1.18	1.29	1.36	1.42	1.46	1.49	1.52	1.54	1.57	1.61	1.62
			40	1.20	1.39	1.54	1.65	1.73	1.80	1.84	1.87	1.89	1.91	1.93	1.94
			50	1.35	1.60	1.80	1.96	2.09	2.18	2.25	2.29	2.33	2.35	2.36	2.37
ZFI13KNE	TFD	Q	30	1.29	1.64	2.08	2.62	3.28	4.07	5.00	6.09	7.34	8.77	10.39	11.10
			40	1.00	1.35	1.77	2.27	2.86	3.56	4.37	5.32	6.40	7.64	9.05	9.66
			50	0.77	1.11	1.49	1.92	2.42	3.01	3.68	4.46	5.36	6.39	7.57	8.08
		P	30	1.17	1.32	1.44	1.53	1.60	1.64	1.68	1.70	1.73	1.76	1.80	1.82
			40	1.35	1.56	1.72	1.85	1.95	2.02	2.06	2.10	2.12	2.14	2.16	2.17
			50	1.51	1.79	2.02	2.20	2.34	2.45	2.52	2.58	2.61	2.63	2.65	2.66
ZFI16KNE	TFD	Q	30	1.58	2.01	2.55	3.22	4.03	4.99	6.10	7.38	8.84	10.49	12.35	13.14
			40	1.37	1.76	2.24	2.83	3.53	4.36	5.33	6.45	7.73	9.18	10.81	11.51
			50	1.20	1.53	1.93	2.42	3.01	3.70	4.52	5.46	6.54	7.78	9.17	9.77
		P	30	1.56	1.62	1.69	1.78	1.87	1.96	2.06	2.16	2.25	2.34	2.42	2.45
			40	2.01	2.04	2.09	2.16	2.24	2.33	2.43	2.53	2.63	2.74	2.84	2.88
			50	2.64	2.64	2.66	2.71	2.76	2.84	2.92	3.02	3.12	3.23	3.35	3.39
ZFI19KNE	TFD	Q	30	2.00	2.37	2.93	3.67	4.59	5.69	6.98	8.45	10.11	11.94	13.97	14.83
			40	1.76	2.08	2.57	3.21	4.02	5.00	6.13	7.43	8.89	10.51	12.30	13.06
			50	1.58	1.83	2.21	2.74	3.41	4.22	5.18	6.27	7.51	8.89	10.42	11.07
		P	30	1.89	1.89	1.92	1.99	2.08	2.20	2.32	2.46	2.59	2.72	2.84	2.88
			40	2.34	2.31	2.33	2.39	2.48	2.59	2.72	2.87	3.02	3.17	3.31	3.37
			50	3.00	2.94	2.93	2.96	3.03	3.13	3.25	3.39	3.54	3.69	3.84	3.90
ZFI23KNE	TFD	Q	30	2.49	3.03	3.78	4.74	5.90	7.26	8.83	10.59	12.55	14.70	17.04	18.03
			40	2.09	2.58	3.27	4.14	5.21	6.46	7.89	9.51	11.31	13.28	15.43	16.34
			50	1.78	2.16	2.73	3.46	4.37	5.45	6.70	8.11	9.69	11.42	13.31	14.12
		P	30	2.07	2.21	2.36	2.51	2.67	2.83	2.99	3.15	3.31	3.46	3.60	3.65
			40	2.65	2.76	2.88	3.02	3.16	3.31	3.47	3.63	3.80	3.96	4.13	4.19
			50	3.48	3.55	3.64	3.74	3.86	4.00	4.15	4.30	4.47	4.64	4.82	4.89
ZFI26KNE	TFD	Q	30	2.89	3.58	4.53	5.74	7.19	8.88	10.82	12.99	15.39	18.02	20.86	22.06
			40	2.40	3.01	3.85	4.91	6.21	7.71	9.44	11.37	13.50	15.83	18.36	19.42
			50	2.14	2.64	3.34	4.24	5.33	6.62	8.09	9.75	11.58	13.59	15.76	16.68
		P	30	2.60	2.70	2.83	2.99	3.17	3.38	3.60	3.84	4.09	4.35	4.62	4.73
			40	3.22	3.31	3.43	3.58	3.76	3.96	4.18	4.42	4.69	4.96	5.25	5.36
			50	4.11	4.17	4.26	4.39	4.55	4.74	4.95	5.19	5.44	5.72	6.01	6.13
ZFI30KNE	TFD	Q	30	3.11	3.92	4.95	6.20	7.70	9.47	11.54	13.92	16.63	19.70	23.14	24.63
			40	2.64	3.40	4.32	5.43	6.75	8.31	10.11	12.20	14.57	17.27	20.30	21.62
			50	2.32	2.96	3.73	4.65	5.74	7.03	8.53	10.27	12.26	14.53	17.10	18.22
		P	30	2.57	2.74	2.91	3.09	3.26	3.45	3.63	3.82	4.02	4.23	4.45	4.53
			40	3.26	3.42	3.57	3.74	3.90	4.08	4.26	4.45	4.65	4.86	5.09	5.18
			50	4.24	4.37	4.51	4.65	4.80	4.96	5.13	5.31	5.50	5.71	5.93	6.02

Notes:

1. Q for capacity; P for power. Units in kW
2. All ZF*KNE values are rated at 18.3°C return gas temperature and 0 K subcooling

Performance data

R-404A | 50Hz

Liquid injection, TRD: 380-420V, 3 Phase, 50Hz

Model			Condensing Temperature °C	Evaporating Temperature °C											
				-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	7
ZF35KNE	TRD	Q	30	4.81	6.28	8.22	10.61	13.44	16.69	20.34	24.37	28.76	33.50	38.57	40.68
			40	4.08	5.40	7.16	9.35	11.95	14.94	18.30	22.02	26.08	30.45	35.12	37.07
			50	3.56	4.67	6.19	8.12	10.43	13.10	16.12	19.47	23.12	27.07	31.29	33.05
		P	30	4.41	4.66	4.94	5.24	5.58	5.95	6.36	6.82	7.34	7.91	8.54	8.81
			40	5.20	5.49	5.79	6.12	6.48	6.87	7.30	7.78	8.30	8.88	9.52	9.79
			50	6.33	6.63	6.95	7.28	7.64	8.03	8.46	8.93	9.44	10.00	10.62	10.89
ZF42KNE	TRD	Q	30	5.78	7.54	9.87	12.74	16.14	20.05	24.43	29.27	34.55	40.24	46.33	48.87
			40	4.90	6.49	8.60	11.24	14.36	17.95	21.99	26.46	31.33	36.59	42.20	44.54
			50	4.23	5.57	7.40	9.72	12.49	15.70	19.33	23.35	27.74	32.48	37.55	39.67
		P	30	5.16	5.46	5.78	6.14	6.53	6.97	7.45	7.99	8.59	9.26	10.01	10.32
			40	6.09	6.43	6.78	7.17	7.59	8.05	8.55	9.11	9.72	10.40	11.14	11.46
			50	7.42	7.77	8.14	8.54	8.96	9.42	9.91	10.46	11.06	11.72	12.45	12.76
ZF52KNE	TRD	Q	30	7.19	9.38	12.28	15.85	20.07	24.92	30.37	36.39	42.95	50.02	57.59	60.75
			40	6.09	8.05	10.69	13.96	17.84	22.30	27.33	32.88	38.93	45.46	52.44	55.35
			50	5.34	7.00	9.28	12.16	15.60	19.60	24.10	29.10	34.56	40.45	46.75	49.38
		P	30	6.43	6.80	7.21	7.65	8.14	8.68	9.29	9.96	10.71	11.54	12.47	12.86
			40	7.58	8.00	8.45	8.93	9.46	10.03	10.66	11.35	12.11	12.95	13.88	14.28
			50	9.25	9.69	10.15	10.64	11.16	11.73	12.35	13.03	13.78	14.60	15.51	15.89
ZF58KNE	TRD	Q	30	7.94	10.47	13.66	17.53	22.08	27.31	33.22	39.82	47.11	55.09	63.78	67.45
			40	6.85	9.07	11.90	15.33	19.37	24.02	29.30	35.19	41.71	48.85	56.63	59.92
			50	5.65	7.68	10.24	13.34	16.98	21.18	25.92	31.22	37.07	43.49	50.47	53.42
		P	30	6.90	7.30	7.73	8.21	8.73	9.31	9.96	10.68	11.49	12.38	13.37	13.80
			40	8.14	8.59	9.07	9.59	10.15	10.76	11.43	12.18	13.00	13.90	14.90	15.33
			50	9.91	10.38	10.88	11.40	11.96	12.58	13.24	13.97	14.78	15.66	16.63	17.04

Notes:

1. Q for capacity; P for power. Units in kW
2. All ZF*KNE values are rated at 18.3°C return gas temperature and 0 K subcooling

Performance data

R-404A | 50Hz

Vapor Injection, PFZ : 220-240V, 1 Phase, 50Hz

Model			Condensing Temperature °C	Evaporating Temperature °C										
				-40	-35	-30	-25	-20	-15	-10	-5	0	5	7
ZFI09KNE	PFZ	Q	30	1.92	2.21	2.65	3.23	3.91	4.69	5.53	6.42	7.32	8.22	8.58
			40	1.77	2.06	2.49	3.04	3.69	4.42	5.21	6.02	6.85	7.66	7.98
			50	1.47	1.76	2.19	2.73	3.35	4.05	4.78	5.54	6.30	7.03	7.31
		P	30	1.20	1.27	1.32	1.36	1.38	1.39	1.40	1.41	1.43	1.46	1.47
			40	1.36	1.50	1.60	1.67	1.73	1.77	1.79	1.80	1.81	1.82	1.83
			50	1.49	1.70	1.87	2.01	2.11	2.19	2.25	2.28	2.30	2.32	2.32
ZFI11KNE	PFZ	Q	30	2.33	2.67	3.21	3.91	4.75	5.69	6.71	7.78	8.88	9.98	10.41
			40	2.15	2.49	3.02	3.69	4.48	5.36	6.31	7.30	8.31	9.29	9.68
			50	1.78	2.14	2.65	3.31	4.07	4.91	5.80	6.72	7.64	8.53	8.87
		P	30	1.49	1.58	1.65	1.69	1.72	1.73	1.75	1.76	1.78	1.81	1.83
			40	1.70	1.87	1.99	2.09	2.16	2.20	2.23	2.25	2.26	2.27	2.28
			50	1.85	2.12	2.33	2.50	2.64	2.73	2.80	2.84	2.87	2.89	2.89
ZFI13KNE	PFZ	Q	30	2.63	3.02	3.63	4.42	5.36	6.43	7.58	8.80	10.04	11.27	11.76
			40	2.43	2.82	3.41	4.17	5.06	6.06	7.14	8.26	9.39	10.50	10.94
			50	2.02	2.41	3.00	3.74	4.60	5.55	6.56	7.60	8.63	9.64	10.02
		P	30	1.64	1.74	1.81	1.86	1.89	1.91	1.92	1.94	1.96	2.00	2.02
			40	1.87	2.05	2.20	2.30	2.37	2.42	2.46	2.48	2.49	2.50	2.51
			50	2.04	2.33	2.57	2.76	2.90	3.01	3.08	3.13	3.16	3.18	3.19
ZFI16KNE	PFZ	Q	30	3.33	3.82	4.55	5.49	6.63	7.92	9.35	10.90	12.53	14.22	14.91
			40	3.09	3.58	4.29	5.21	6.30	7.55	8.93	10.40	11.96	13.56	14.21
			50	2.88	3.33	4.00	4.86	5.89	7.07	8.36	9.74	11.19	12.68	13.29
		P	30	2.06	2.13	2.21	2.29	2.36	2.44	2.51	2.57	2.63	2.67	2.69
			40	2.49	2.57	2.66	2.75	2.85	2.94	3.02	3.10	3.17	3.23	3.24
			50	3.04	3.14	3.25	3.35	3.46	3.56	3.66	3.75	3.83	3.90	3.93

Notes:

1. Q for capacity; P for power, Units in kW. LO for liquid out temperature in °C
2. All ZFI*KNE values are rated at 18.3°C return gas temperature and max subcooling

Performance data

R-404A | 50Hz

Vapor Injection, TFD: 380-420V, 3 Phase, 50Hz

Model			Condensing Temperature °C	Evaporating Temperature °C										
				-40	-35	-30	-25	-20	-15	-10	-5	0	5	7
ZFI09KNE	TFD	Q	30	1.92	2.21	2.65	3.23	3.91	4.69	5.53	6.42	7.32	8.22	8.58
			40	1.77	2.06	2.49	3.04	3.69	4.42	5.21	6.02	6.85	7.66	7.98
			50	1.47	1.76	2.19	2.73	3.35	4.05	4.78	5.54	6.30	7.03	7.31
		P	30	1.18	1.25	1.30	1.34	1.36	1.37	1.38	1.39	1.41	1.44	1.45
			40	1.35	1.48	1.58	1.65	1.71	1.74	1.77	1.78	1.79	1.80	1.81
			50	1.47	1.68	1.85	1.98	2.09	2.16	2.22	2.25	2.28	2.29	2.29
ZFI11KNE	TFD	Q	30	2.32	2.67	3.20	3.90	4.73	5.67	6.69	7.76	8.85	9.94	10.37
			40	2.14	2.49	3.01	3.67	4.46	5.35	6.29	7.28	8.28	9.26	9.64
			50	1.78	2.13	2.64	3.29	4.05	4.89	5.78	6.70	7.61	8.50	8.84
		P	30	1.43	1.51	1.57	1.61	1.64	1.65	1.67	1.68	1.70	1.73	1.75
			40	1.62	1.78	1.90	1.99	2.06	2.10	2.13	2.15	2.16	2.17	2.18
			50	1.77	2.02	2.23	2.39	2.51	2.61	2.67	2.71	2.74	2.76	2.76
ZFI13KNE	TFD	Q	30	2.63	3.02	3.63	4.42	5.36	6.43	7.58	8.80	10.04	11.28	11.76
			40	2.43	2.82	3.41	4.17	5.06	6.06	7.14	8.26	9.39	10.50	10.94
			50	2.02	2.41	3.00	3.74	4.60	5.55	6.56	7.60	8.63	9.64	10.02
		P	30	1.60	1.70	1.76	1.81	1.84	1.86	1.87	1.88	1.91	1.94	1.96
			40	1.82	2.00	2.13	2.24	2.31	2.36	2.39	2.41	2.42	2.44	2.44
			50	1.98	2.27	2.50	2.68	2.82	2.92	3.00	3.05	3.08	3.09	3.10
ZFI16KNE	TFD	Q	30	2.87	3.53	4.33	5.26	6.32	7.51	8.82	10.24	11.77	13.41	14.09
			40	2.72	3.37	4.14	5.05	6.07	7.22	8.47	9.84	11.30	12.87	13.52
			50	2.59	3.19	3.92	4.77	5.73	6.80	7.97	9.25	10.62	12.09	12.70
		P	30	1.83	1.90	1.99	2.08	2.17	2.26	2.34	2.40	2.44	2.45	2.45
			40	2.25	2.32	2.42	2.52	2.63	2.74	2.84	2.93	3.00	3.05	3.06
			50	2.85	2.92	3.01	3.12	3.24	3.35	3.47	3.58	3.67	3.75	3.77
ZFI19KNE	TFD	Q	30	3.65	4.19	4.92	5.83	6.92	8.19	9.64	11.27	13.07	15.05	15.90
			40	3.46	4.01	4.73	5.61	6.65	7.86	9.23	10.76	12.45	14.30	15.09
			50	3.08	3.67	4.40	5.28	6.30	7.47	8.79	10.25	11.85	13.60	14.34
		P	30	2.07	2.17	2.27	2.37	2.47	2.56	2.65	2.73	2.80	2.86	2.88
			40	2.50	2.62	2.74	2.86	2.97	3.09	3.19	3.30	3.39	3.47	3.50
			50	3.14	3.27	3.39	3.52	3.64	3.77	3.88	3.99	4.10	4.19	4.23
ZFI23KNE	TFD	Q	30	4.79	5.51	6.47	7.66	9.09	10.76	12.66	14.80	17.17	19.78	20.88
			40	4.54	5.27	6.21	7.37	8.74	10.32	12.12	14.13	16.36	18.79	19.82
			50	4.05	4.82	5.78	6.93	8.28	9.82	11.54	13.46	15.57	17.86	18.83
		P	30	2.66	2.78	2.91	3.04	3.16	3.28	3.39	3.50	3.59	3.67	3.70
			40	3.20	3.36	3.51	3.66	3.81	3.95	4.09	4.22	4.34	4.45	4.49
			50	4.02	4.18	4.35	4.51	4.67	4.83	4.98	5.12	5.25	5.37	5.41
ZFI26KNE	TFD	Q	30	5.15	6.30	7.64	9.20	10.99	13.04	15.37	18.02	20.99	24.32	25.75
			40	4.76	5.89	7.18	8.65	10.33	12.22	14.37	16.79	19.51	22.55	23.86
			50	4.30	5.39	6.60	7.95	9.47	11.19	13.12	15.29	17.72	20.44	21.61
		P	30	3.08	3.26	3.45	3.65	3.87	4.09	4.31	4.54	4.76	4.97	5.06
			40	3.77	3.94	4.13	4.33	4.55	4.78	5.01	5.25	5.48	5.72	5.81
			50	4.69	4.86	5.04	5.25	5.47	5.70	5.94	6.19	6.45	6.70	6.80
ZFI30KNE	TFD	Q	30	5.54	6.83	8.31	10.02	11.96	14.17	16.64	19.41	22.49	25.89	27.35
			40	5.26	6.51	7.93	9.54	11.36	13.41	15.70	18.26	21.10	24.23	25.57
			50	4.97	6.13	7.44	8.91	10.56	12.41	14.48	16.78	19.33	22.15	23.35
		P	30	3.23	3.43	3.63	3.81	3.99	4.16	4.32	4.47	4.62	4.75	4.80
			40	3.99	4.20	4.39	4.59	4.77	4.95	5.12	5.28	5.44	5.59	5.64
			50	5.06	5.26	5.47	5.67	5.86	6.05	6.24	6.42	6.59	6.76	6.82

Notes:

1. Q for capacity; P for power, Units in kW. LO for liquid out temperature in °C
2. All ZFI*KNE values are rated at 18.3°C return gas temperature and max subcooling

Performance data

R-404A | 50Hz

Vapor Injection, TRD: 380-420V, 3 Phase, 50Hz

Model			Condensing Temperature °C	Evaporating Temperature °C											
				-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	7
ZFI51KNE	TRD	Q	30	8.26	10.45	13.02	15.94	19.20	22.80	26.72	30.95	35.47	40.28	45.35	47.46
			40	6.81	8.65	10.87	13.44	16.36	19.62	23.20	27.08	31.27	35.74	40.48	42.45
			50	6.55	8.09	10.01	12.28	14.90	17.86	21.14	24.73	28.62	32.80	37.24	39.10
		P	30	5.13	5.52	5.89	6.25	6.61	6.96	7.32	7.68	8.06	8.44	8.85	9.02
			40	6.29	6.68	7.07	7.45	7.82	8.20	8.58	8.97	9.36	9.78	10.22	10.40
			50	7.79	8.21	8.63	9.04	9.45	9.86	10.27	10.70	11.14	11.59	12.07	12.27
ZFI60KNE	TRD	Q	30	9.82	12.42	15.46	18.93	22.81	27.09	31.75	36.77	42.14	47.85	53.89	56.39
			40	8.09	10.28	12.91	15.97	19.44	23.31	27.56	32.18	37.15	42.46	48.09	50.43
			50	7.78	9.61	11.89	14.59	17.71	21.22	25.12	29.39	34.01	38.97	44.25	46.45
		P	30	5.90	6.34	6.77	7.18	7.59	8.00	8.41	8.83	9.26	9.71	10.18	10.37
			40	7.22	7.68	8.13	8.56	8.99	9.42	9.86	10.30	10.76	11.24	11.74	11.95
			50	8.95	9.44	9.92	10.39	10.86	11.33	11.81	12.30	12.80	13.32	13.87	14.10
ZFI72KNE	TRD	Q	30	11.21	14.08	17.64	21.82	26.59	31.89	37.67	43.88	50.46	57.38	64.57	67.51
			40	9.85	12.37	15.58	19.43	23.86	28.82	34.27	40.15	46.41	53.01	59.88	62.70
			50	9.23	11.30	14.05	17.44	21.42	25.94	30.94	36.38	42.21	48.36	54.81	57.45
		P	30	7.34	7.87	8.39	8.90	9.41	9.92	10.43	10.97	11.52	12.10	12.72	12.98
			40	8.86	9.44	10.00	10.55	11.09	11.63	12.18	12.74	13.32	13.92	14.56	14.82
			50	10.84	11.48	12.11	12.72	13.32	13.91	14.51	15.12	15.75	16.39	17.07	17.35
ZFI82KNE	TRD	Q	30	12.41	15.58	19.52	24.15	29.42	35.29	41.68	48.55	55.84	63.49	71.45	74.70
			40	10.90	13.69	17.24	21.50	26.40	31.89	37.92	44.43	51.36	58.65	66.26	69.38
			50	10.22	12.50	15.55	19.30	23.70	28.70	34.24	40.26	46.70	53.52	60.65	63.57
		P	30	8.02	8.60	9.16	9.71	10.25	10.80	11.34	11.91	12.49	13.09	13.73	14.00
			40	9.67	10.31	10.92	11.52	12.12	12.71	13.31	13.92	14.54	15.20	15.88	16.16
				11.83	12.53	13.21	13.88	14.53	15.19	15.85	16.51	17.20	17.91	18.65	18.96

Notes:

1. Q for capacity; P for power, Units in kW. LO for liquid out temperature in °C
2. All ZFI*KNE values are rated at 18.3°C return gas temperature and max subcooling

Performance data

R-404A | 50Hz

Vapor injection, TFC: 200 V, 3-Phase, 50 Hz ; TFD: 380-420 V, 3-Phase, 50 Hz

Model			Condensing Temperature °C	Evaporating Temperature °C										
				-40	-35	-30	-25	-20	-15	-10	-5	0	5	7
ZFI20KQE ZFJ20KQE	TFC TFD	Q	30	3.43	4.28	5.23	6.30	7.50	8.86	10.40	12.14	14.09	16.28	17.23
			40	3.25	4.07	4.99	6.04	7.23	8.60	10.14	11.90	13.88	16.11	17.08
			50	2.92	3.70	4.59	5.62	6.80	8.17	9.73	11.50	13.51	15.76	16.74
		P	30	2.17	2.23	2.30	2.38	2.46	2.53	2.58	2.62	2.62	2.59	2.57
			40	2.73	2.78	2.84	2.92	3.01	3.09	3.16	3.22	3.25	3.27	3.26
			50	3.56	3.58	3.62	3.68	3.75	3.82	3.90	3.96	4.01	4.04	4.05
		LO	30	-13.50	-9.80	-6.10	-2.00	2.30	6.50	10.50	14.20	17.40	20.00	20.90
			40	-6.70	-4.80	-2.20	1.00	4.60	8.30	12.00	15.40	18.20	20.60	21.40
			50	6.00	4.80	5.10	6.50	8.90	11.60	14.50	17.20	19.70	21.80	22.50
ZFI23KQE	TFC TFD	Q	30	4.85	5.51	6.46	7.67	9.13	10.80	12.75	14.85	17.15	19.65	20.70
			40	4.78	5.36	6.23	7.35	8.73	10.35	12.20	14.25	16.45	18.90	19.90
			50	4.78	5.26	6.01	7.04	8.31	9.82	11.55	13.50	15.65	18.00	18.95
		P	30	2.68	2.82	2.96	3.09	3.21	3.32	3.44	3.55	3.66	3.76	3.80
			40	3.19	3.38	3.55	3.72	3.87	4.02	4.15	4.28	4.40	4.51	4.55
			50	3.90	4.13	4.35	4.55	4.73	4.90	5.05	5.19	5.32	5.43	5.48
		LO	30	-33.40	-15.50	-6.10	-0.50	3.60	7.10	10.60	13.90	17.30	20.40	21.60
			40	-28.70	-12.10	-3.00	2.70	6.80	10.40	13.80	17.20	20.40	23.50	24.70
			50	-25.90	-9.70	-0.40	5.60	10.00	13.80	17.40	20.80	24.10	27.10	28.20
ZFI26KQE ZFJ26KQE	TFC TFD	Q	30	5.14	6.29	7.61	9.14	10.90	12.91	15.20	17.79	20.72	24.02	25.44
			40	5.09	6.12	7.33	8.74	10.39	12.30	14.49	17.01	19.86	23.06	24.45
			50	5.08	5.97	7.03	8.32	9.84	11.62	13.70	16.10	18.83	21.94	23.30
		P	30	3.22	3.38	3.54	3.70	3.84	3.98	4.11	4.24	4.37	4.50	4.55
			40	3.85	4.07	4.28	4.47	4.65	4.81	4.97	5.12	5.26	5.39	5.44
			50	4.74	5.01	5.26	5.50	5.70	5.90	6.07	6.24	6.38	6.52	6.57
		LO	30	-13.00	-8.10	-4.00	-0.10	3.70	7.20	10.50	13.60	16.10	18.10	18.80
			40	-10.10	-5.20	-0.80	3.30	7.30	10.90	14.20	17.10	19.50	21.50	22.10
			50	-7.30	-2.10	2.60	7.00	11.10	14.90	18.20	21.00	23.40	25.10	25.70
ZFI36KQE ZFJ36KQE	TFC TFD	Q	30	6.48	8.01	9.76	11.70	13.85	16.20	18.73	21.45			
			40	6.29	7.67	9.27	11.08	13.09	15.32	17.74	20.32			
			50	6.24	7.42	8.82	10.43	12.26	14.30	16.54	18.97			
		P	30	3.78	4.05	4.29	4.52	4.75	4.97	5.19	5.42			
			40	4.46	4.86	5.21	5.52	5.80	6.05	6.27	6.47			
			50	5.21	5.78	6.29	6.72	7.09	7.42	7.69	7.91			
		LO	30	-13.80	-10.00	-5.40	-0.70	3.90	8.10	12.00	15.40			
			40	-10.80	-5.80	-0.50	4.50	9.10	13.20	16.90	20.20			
			50	-11.10	-3.70	3.00	9.00	14.20	18.50	22.30	25.40			
ZFI39KQE	TFC TFD	Q	30	7.44	9.19	11.19	13.43	15.89	18.58	21.49	24.61			
			40	7.22	8.80	10.63	12.71	15.04	17.58	20.35	23.34			
			50	7.16	8.51	10.12	11.97	14.06	16.41	18.97	21.76			
		P	30	4.49	4.81	5.10	5.38	5.64	5.91	6.17	6.45			
			40	5.30	5.78	6.19	6.56	6.90	7.19	7.46	7.70			
			50	6.19	6.87	7.47	7.99	8.43	8.82	9.14	9.40			
		LO	30	-13.80	-10.00	-5.40	-0.70	3.90	8.10	12.00	15.40			
			40	-10.80	-5.80	-0.50	4.50	9.00	13.20	16.90	20.10			
			50	-11.10	-3.70	3.00	9.00	14.20	18.50	22.30	25.40			
ZFI50KQE	TFC TFD	Q	30	9.11	10.80	12.99	15.63	18.68	22.06	25.71	29.59			
			40	8.66	10.29	12.40	14.91	17.77	20.94	24.34	27.91			
			50	8.04	9.65	11.68	14.07	16.79	19.75	22.91	26.23			
		P	30	5.04	5.42	5.76	6.08	6.38	6.67	6.98	7.31			
			40	6.06	6.49	6.89	7.26	7.61	7.97	8.33	8.72			
			50	7.31	7.79	8.25	8.67	9.09	9.50	9.92	10.38			
		LO	30	-18.10	-7.60	-2.60	0.50	3.40	6.70	10.50	14.80			
			40	-12.10	-2.70	1.90	5.00	8.10	11.70	15.70	20.20			
			50	-3.60	3.70	7.30	10.10	13.10	16.70	20.80	25.20			
ZFI59KQE	TFC TFD	Q	30	11.10	13.15	15.82	19.05	22.74	26.86	31.31	36.02			
			40	10.55	12.53	15.09	18.16	21.65	25.51	29.65	34.01			
			50	9.80	11.75	14.21	17.14	20.45	24.05	27.92	31.93			
		P	30	6.15	6.61	7.03	7.41	7.77	8.14	8.51	8.92			
			40	7.39	7.91	8.39	8.85	9.29	9.72	10.17	10.65			
			50	8.92	9.51	10.05	10.58	11.09	11.58	12.11	12.66			
		LO	30	-15.40	-5.10	-0.30	2.70	5.60	8.80	12.60	16.70			
			40	-9.50	-0.30	4.20	7.20	10.20	13.60	17.50	21.80			
				-1.20	5.90	9.50	12.10	15.00	18.60	22.50	26.90			

Notes:

1. Q for capacity; P for power, Units in kW. LO for liquid out temperature in °C
2. All ZFI*KQE values are rated at 20°C return gas temperature and max subcooling

Performance data

R-404A | 50Hz

Vapor injection, TFC: 200 V, 3-Phase, 50 Hz ; TFD / TRD: 380-420 V, 3-Phase, 50 Hz

Model			Condensing Temperature °C	Evaporating Temperature °C										
				-40	-35	-30	-25	-20	-15	-10	-5	0	5	7
ZFI68KQE	TFC TFD	Q	30	12.60	14.92	17.95	21.61	25.81						
			40	11.97	14.23	17.13	20.60	24.56						
			50	11.12	13.33	16.14	19.45	23.20						
		P	30	7.15	7.68	8.17	8.62	9.04						
			40	8.60	9.20	9.77	10.29	10.80						
			50	10.36	11.05	11.70	12.30	12.89						
		LO	30	-15.40	-5.10	-0.30	2.70	5.50						
			40	-9.60	-0.40	4.10	7.20	10.20						
			50	-1.20	5.90	9.40	12.10	15.00						
ZFI81KQE	TFC TFD	Q	30	14.37	17.01	20.46	24.63	29.43						
			40	13.66	16.23	19.55	23.50	28.03						
			50	12.68	15.21	18.41	22.18	26.47						
		P	30	8.26	8.87	9.44	9.96	10.45						
			40	9.94	10.64	11.30	11.90	12.49						
			50	11.98	12.78	13.53	14.23	14.91						
		LO	30	-10.00	-0.20	4.40	7.30	9.90						
			40	-4.50	4.20	8.50	11.40	14.20						
			50	3.50	10.20	13.60	16.10	18.80						
ZFI96KQE	TRC TRD	Q	30	18.35	22.00	26.50	32.20	39.10	47.50	57.60	69.40			
			40	17.45	21.30	25.70	30.90	37.10	44.40	52.90	62.90			
			50	14.30	18.70	24.20	29.20	34.80	41.10	48.40	56.80			
		P	30	10.75	11.30	11.85	12.45	13.10	13.90	14.80	15.85			
			40	13.30	13.95	14.60	15.25	15.90	16.60	17.40	18.30			
			50	16.85	17.80	18.10	18.80	19.50	20.20	20.90	21.60			
		LO	30	-10.40	-2.80	2.10	5.00	6.40	6.60	5.90	4.60			
			40	-0.90	1.10	4.60	8.10	11.00	13.20	14.60	15.20			
			50	16.20	10.20	10.00	12.50	16.10	19.50	22.40	24.40			
ZFI122KQE	TRC TRD	Q	30	23.14	27.67	33.39	40.53	49.30	59.91	72.57	87.50			
			40	21.96	26.81	32.42	38.99	46.75	55.91	66.68	79.27			
			50	18.04	23.62	30.52	36.81	43.84	51.83	60.98	71.51			
		P	30	13.14	13.77	14.45	15.18	16.01	16.96	18.06	19.33			
			40	16.21	17.02	17.80	18.59	19.40	20.28	21.24	22.32			
			50	20.57	21.72	22.09	22.95	23.78	24.62	25.48	26.39			
		LO	30	-10.40	-2.80	2.10	5.00	6.40	6.60	5.90	4.60			
			40	-0.90	1.10	4.60	8.10	11.00	13.20	14.60	15.20			
			50	16.20	10.20	10.00	12.50	16.10	19.50	22.40	24.40			
ZFI140KQE	TRC TRD	Q	30	25.70	30.70	37.00	44.90	54.60	66.50	80.60	97.20			
			40	24.30	29.50	35.70	43.00	51.60	61.90	73.90	87.90			
			50	19.80	27.20	33.60	40.50	48.30	57.30	67.50	79.20			
		P	30	14.30	15.05	15.80	16.60	17.50	18.50	19.65	21.00			
			40	17.70	18.60	19.50	20.30	21.20	22.10	23.10	24.30			
			50	22.40	23.10	24.10	25.10	25.90	26.80	27.80	28.80			
		LO	30	-8.00	0.00	4.90	7.60	8.80	8.90	8.10	6.80			
			40	2.20	4.60	7.90	11.10	13.80	15.70	16.80	17.30			
			50	18.80	13.50	13.30	15.60	18.80	21.90	24.50	26.40			
ZFI180KQE	TRD	Q	30	33.84	41.94	50.96	61.16	72.77	86.05	101.22	118.55	138.27	160.62	170.36
			40	30.49	38.43	47.18	56.99	68.09	80.73	95.16	111.62	130.35	151.59	160.85
			50	28.43	35.62	43.51	52.33	62.33	73.75	86.84	101.83	118.98	138.52	147.06
		P	30	19.70	20.99	22.34	23.74	25.20	26.70	28.26	29.87	31.52	33.22	33.91
			40	23.36	24.84	26.37	27.95	29.58	31.26	32.98	34.74	36.55	38.40	39.15
			50	27.99	29.66	31.38	33.14	34.94	36.79	38.67	40.60	42.56	44.56	45.37

Notes:

1. Q for capacity; P for power, Units in kW. LO for liquid out temperature in °C
2. All ZFI*KQE values are rated at 20°C return gas temperature and max subcooling
3. 20K Superheat

Performance data

Liquid injection, TF7: 380 V, 3-Phase, 60 Hz ; TFC : 208-230 V, 3-Phase, 60 Hz ; TFD : 460 V, 3-Phase, 60 Hz

R-404A | 60Hz

Model			Condensing Temperature °C	Evaporating Temperature °C										
				-40	-35	-30	-25	-20	-15	-10	-5	0	5	7
ZF06KQE	TF5 TFD	Q	30	1.49	1.90	2.36	2.90	3.53	4.26	5.12	6.12	7.27	8.59	9.17
			40	1.30	1.67	2.09	2.56	3.10	3.74	4.48	5.34	6.34	7.49	7.99
			50	1.11	1.45	1.80	2.20	2.65	3.17	3.78	4.49	5.32	6.29	6.72
		P	30	1.27	1.29	1.34	1.43	1.52	1.63	1.74	1.84	1.93	1.99	2.00
			40	1.57	1.57	1.60	1.67	1.77	1.88	2.00	2.12	2.22	2.32	2.34
			50	1.94	1.90	1.92	1.97	2.06	2.17	2.30	2.43	2.56	2.68	2.72
ZF08KQE	TF5 TFD	Q	30	1.90	2.39	2.98	3.66	4.47	5.42	6.51	7.76	9.20	10.83	11.53
			40	1.68	2.12	2.64	3.24	3.95	4.77	5.72	6.81	8.07	9.50	10.12
			50	1.42	1.81	2.25	2.76	3.35	4.03	4.83	5.76	6.82	8.04	8.58
		P	30	1.57	1.63	1.71	1.80	1.92	2.04	2.17	2.32	2.46	2.61	2.66
			40	1.91	1.95	2.01	2.09	2.20	2.32	2.45	2.60	2.75	2.91	2.98
			50	2.40	2.40	2.44	2.50	2.59	2.69	2.82	2.96	3.11	3.27	3.34
ZF09KQE	TF5 TFD	Q	30	2.11	2.67	3.32	4.08	4.98	6.02	7.23	8.62	10.23	12.05	12.85
			40	1.87	2.37	2.94	3.60	4.37	5.27	6.32	7.53	8.93	10.54	11.24
			50	1.60	2.03	2.51	3.06	3.71	4.46	5.34	6.36	7.56	8.94	9.55
		P	30	1.58	1.63	1.69	1.78	1.88	2.01	2.15	2.31	2.49	2.68	2.76
			40	1.92	1.95	2.01	2.09	2.18	2.30	2.44	2.59	2.76	2.95	3.03
			50	2.34	2.37	2.41	2.48	2.56	2.67	2.80	2.95	3.12	3.30	3.38
ZF11KQE	TF5 TFD	Q	30	2.60	3.30	4.11	5.07	6.19	7.49	8.99	10.72	12.68	14.90	15.87
			40	2.33	2.94	3.65	4.48	5.46	6.59	7.90	9.41	11.13	13.10	13.95
			50	1.99	2.52	3.11	3.81	4.62	5.57	6.68	7.96	9.44	11.14	11.88
		P	30	1.90	1.97	2.06	2.18	2.33	2.50	2.70	2.92	3.17	3.45	3.57
			40	2.30	2.37	2.46	2.57	2.71	2.86	3.05	3.25	3.48	3.74	3.85
			50	2.79	2.86	2.95	3.06	3.19	3.35	3.52	3.71	3.93	4.17	4.27
ZF13KQE	TF7 TFC TFD	Q	30	2.95	3.80	4.79	5.93	7.24	8.73	10.40	12.29	14.40	16.74	17.74
			40	2.60	3.32	4.16	5.15	6.31	7.63	9.14	10.85	12.77	14.92	15.85
			50	2.28	2.83	3.50	4.31	5.27	6.39	7.70	9.20	10.91	12.84	13.68
		P	30	2.24	2.30	2.39	2.50	2.65	2.82	3.03	3.28	3.56	3.89	4.03
			40	2.70	2.76	2.85	2.95	3.09	3.25	3.44	3.67	3.92	4.22	4.35
			50	3.30	3.37	3.45	3.55	3.68	3.83	4.01	4.21	4.45	4.71	4.83
ZF15KQE	TF7 TFC TFD	Q	30	3.74	4.72	5.88	7.25	8.86	10.73	12.90	15.40	18.26	21.50	22.91
			40	3.30	4.16	5.17	6.35	7.74	9.36	11.24	13.41	15.91	18.76	20.00
			50	2.81	3.54	4.38	5.36	6.51	7.85	9.43	11.27	13.39	15.83	16.90
		P	30	2.70	2.79	2.92	3.07	3.26	3.49	3.78	4.13	4.54	5.02	5.24
			40	3.19	3.34	3.49	3.66	3.85	4.07	4.32	4.62	4.96	5.36	5.54
			50	3.77	3.98	4.19	4.40	4.62	4.84	5.08	5.36	5.66	6.01	6.16
ZF18KQE	TF7 TFC TFD	Q	30	4.46	5.67	7.07	8.70	10.61	12.84	15.43	18.42	21.87	25.81	27.53
			40	3.98	5.05	6.26	7.66	9.29	11.21	13.44	16.04	19.05	22.51	24.03
			50	3.47	4.37	5.37	6.53	7.87	9.46	11.32	13.51	16.06	19.03	20.34
		P	30	3.27	3.37	3.52	3.72	3.96	4.24	4.55	4.88	5.23	5.59	5.73
			40	3.88	3.98	4.13	4.34	4.59	4.87	5.19	5.53	5.88	6.24	6.39
			50	4.57	4.68	4.85	5.07	5.33	5.63	5.96	6.31	6.68	7.05	7.20

Notes:

1. Q for capacity; P for power. Units in kW
2. All ZF*KQE values are rated at 20 °C return gas temperature and 0K subcooling

Performance data

Liquid injection, TF7: 380 V, 3-Phase, 60 Hz ; TFC : 208-230 V, 3-Phase, 60 Hz ; TFD : 460 V, 3-Phase, 60 Hz

R-404A | 60Hz

Model			Condensing Temperature °C	Evaporating Temperature °C										
				-40	-35	-30	-25	-20	-15	-10	-5	0	5	7
ZF25KQE	TF7 TFC TFD	Q	30	5.52	7.01	8.78	10.86	13.27	16.05	19.21	22.79			
			40	4.93	6.19	7.72	9.53	11.67	14.15	17.01	20.27			
			50	4.44	5.42	6.65	8.15	9.96	12.10	14.60	17.48			
		P	30	3.63	3.96	4.28	4.60	4.90	5.21	5.53	5.87			
			40	4.06	4.50	4.91	5.30	5.68	6.04	6.41	6.78			
			50	4.46	5.03	5.56	6.06	6.52	6.97	7.40	7.82			
ZF28KQE	TF7 TFC TFD	Q	30	6.31	8.01	10.03	12.41	15.16	18.33	21.94	26.03			
			40	5.63	7.07	8.82	10.89	13.33	16.17	19.43	23.15			
			50	5.07	6.19	7.59	9.31	11.38	13.82	16.67	19.97			
		P	30	4.47	4.89	5.29	5.67	6.05	6.43	6.83	7.25			
			40	5.00	5.55	6.06	6.54	7.00	7.45	7.90	8.36			
			50	5.50	6.21	6.86	7.47	8.05	8.59	9.12	9.64			
ZF34KQE	TF7 TFC TFD	Q	30	7.22	9.25	11.58	14.29	17.44	21.10	25.33	30.21			
			40	6.34	8.16	10.22	12.59	15.32	18.49	22.16	26.41			
			50	5.35	6.93	8.68	10.66	12.94	15.58	18.66	22.24			
		P	30	5.08	5.37	5.68	6.01	6.36	6.73	7.13	7.55			
			40	5.91	6.28	6.65	7.02	7.40	7.79	8.19	8.60			
			50	6.89	7.35	7.80	8.25	8.68	9.10	9.52	9.93			
ZF41KQE	TF7 TFC TFD	Q	30	9.12	11.59	14.41	17.70	21.55	26.05	31.30	37.40			
			40	8.09	10.31	12.80	15.64	18.93	22.78	27.27	32.51			
			50	6.81	8.79	10.92	13.30	16.04	19.22	22.96	27.33			
		P	30	6.11	6.51	6.92	7.36	7.81	8.29	8.80	9.34			
			40	7.17	7.63	8.10	8.57	9.06	9.56	10.08	10.61			
			50	8.37	8.92	9.45	9.99	10.52	11.06	11.60	12.15			
ZF49KQE	TF7 TFC TFD	Q	30	11.01	13.90	17.34	21.38	26.11						
			40	9.72	12.31	15.33	18.85	22.95						
			50	8.19	10.44	13.01	15.99	19.44						
		P	30	7.52	7.87	8.31	8.83	9.41						
			40	8.86	9.24	9.71	10.26	10.87						
			50	10.52	10.92	11.43	12.01	12.67						
ZF54KQE	TF7 TFC TFD	Q	30	12.55	15.85	19.76	24.38	29.76						
			40	11.08	14.03	17.47	21.49	26.17						
			50	9.33	11.90	14.83	18.23	22.16						
		P	30	8.57	8.97	9.48	10.07	10.73						
			40	10.10	10.53	11.07	11.70	12.39						
			50	11.99	12.45	13.02	13.69	14.44						

Notes:

1. Q for capacity; P for power. Units in kW
2. All ZF*KQE values are rated at 20 °C return gas temperature and 0K subcooling

Performance data

Liquid injection, TFD: 460V, 3 Phase , 60Hz

R-404A | 60Hz

Model			Condensing Temperature °C	Evaporating Temperature °C											
				-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	
ZFI09KNE	TFD	Q	30	1.13	1.45	1.84	2.32	2.90	3.59	4.40	5.36	6.46	7.72	9.15	9.77
			40	0.88	1.20	1.57	2.01	2.53	3.14	3.85	4.68	5.63	6.72	7.96	8.51
			50	0.68	0.98	1.32	1.71	2.15	2.66	3.25	3.93	4.72	5.62	6.66	7.11
		P	30	1.02	1.16	1.27	1.35	1.41	1.45	1.48	1.51	1.53	1.56	1.59	1.61
			40	1.17	1.36	1.52	1.63	1.72	1.78	1.82	1.85	1.87	1.89	1.91	1.92
			50	1.32	1.57	1.78	1.94	2.07	2.16	2.23	2.27	2.30	2.32	2.34	2.35
ZFI11KNE	TFD	Q	30	1.35	1.72	2.18	2.75	3.44	4.26	5.24	6.37	7.68	9.18	10.88	11.61
			40	1.05	1.42	1.86	2.38	3.00	3.73	4.58	5.56	6.70	8.00	9.47	10.11
			50	0.80	1.16	1.55	2.01	2.54	3.15	3.85	4.67	5.61	6.69	7.92	8.45
		P	30	1.22	1.39	1.51	1.60	1.67	1.72	1.76	1.78	1.81	1.84	1.89	1.91
			40	1.41	1.63	1.80	1.94	2.04	2.11	2.16	2.19	2.22	2.24	2.26	2.28
			50	1.58	1.88	2.12	2.31	2.45	2.56	2.64	2.70	2.73	2.76	2.78	2.78
ZFI13KNE	TFD	Q	30	1.55	1.96	2.49	3.14	3.93	4.87	5.99	7.28	8.78	10.49	12.43	13.27
			40	1.20	1.62	2.12	2.72	3.43	4.26	5.23	6.36	7.66	9.14	10.82	11.55
			50	0.92	1.32	1.78	2.30	2.90	3.60	4.41	5.34	6.42	7.65	9.05	9.66
		P	30	1.37	1.56	1.70	1.80	1.88	1.93	1.97	2.00	2.03	2.07	2.12	2.14
			40	1.58	1.83	2.03	2.18	2.29	2.37	2.43	2.46	2.49	2.51	2.54	2.55
			50	1.78	2.11	2.38	2.59	2.75	2.88	2.97	3.03	3.07	3.09	3.11	3.12
ZFI16KNE	TFD	Q	30	1.84	2.35	2.98	3.77	4.71	5.83	7.13	8.63	10.34	12.27	14.43	15.37
			40	1.60	2.05	2.62	3.30	4.13	5.10	6.23	7.54	9.04	10.73	12.64	13.46
			50	1.41	1.79	2.26	2.83	3.52	4.33	5.28	6.38	7.65	9.09	10.72	11.43
		P	30	1.87	1.95	2.04	2.14	2.25	2.36	2.48	2.60	2.71	2.82	2.92	2.95
			40	2.41	2.46	2.52	2.60	2.70	2.80	2.92	3.04	3.17	3.29	3.42	3.47
			50	3.18	3.18	3.21	3.26	3.33	3.41	3.52	3.63	3.76	3.89	4.03	4.08
ZFI19KNE	TFD	Q	30	2.42	2.87	3.54	4.44	5.55	6.88	8.44	10.22	12.22	14.44	16.89	17.93
			40	2.13	2.52	3.10	3.89	4.87	6.04	7.41	8.98	10.75	12.71	14.87	15.80
			50	1.91	2.21	2.68	3.31	4.12	5.10	6.26	7.58	9.08	10.75	12.60	13.38
		P	30	2.23	2.23	2.27	2.35	2.46	2.60	2.75	2.91	3.07	3.22	3.36	3.41
			40	2.76	2.73	2.76	2.83	2.93	3.07	3.22	3.39	3.57	3.75	3.92	3.98
			50	3.55	3.48	3.47	3.50	3.58	3.70	3.84	4.01	4.18	4.37	4.55	4.62
ZFI23KNE	TFD	Q	30	2.92	3.55	4.43	5.54	6.90	8.49	10.32	12.38	14.67	17.19	19.93	21.08
			40	2.44	3.02	3.82	4.85	6.09	7.55	9.23	11.12	13.22	15.53	18.04	19.10
			50	2.07	2.53	3.19	4.05	5.11	6.37	7.83	9.48	11.32	13.35	15.57	16.50
		P	30	2.42	2.59	2.76	2.94	3.13	3.32	3.50	3.69	3.87	4.05	4.22	4.28
			40	3.11	3.23	3.38	3.53	3.70	3.88	4.06	4.25	4.45	4.64	4.83	4.91
			50	4.08	4.16	4.26	4.39	4.53	4.68	4.86	5.04	5.23	5.44	5.64	5.73
ZFI26KNE	TFD	Q	30	3.51	4.34	5.49	6.95	8.71	10.76	13.11	15.73	18.64	21.82	25.27	26.72
			40	2.90	3.64	4.66	5.95	7.52	9.34	11.43	13.77	16.35	19.18	22.24	23.53
			50	2.60	3.19	4.04	5.13	6.46	8.02	9.80	11.81	14.03	16.46	19.09	20.20
		P	30	3.06	3.18	3.34	3.53	3.74	3.98	4.24	4.52	4.82	5.13	5.44	5.57
			40	3.79	3.90	4.04	4.22	4.43	4.67	4.93	5.22	5.52	5.85	6.19	6.32
			50	4.84	4.91	5.02	5.18	5.36	5.58	5.84	6.11	6.42	6.74	7.08	7.22
ZFI30KNE	TFD	Q	30	3.76	4.75	5.99	7.50	9.32	11.47	13.97	16.85	20.13	23.85	28.02	29.82
			40	3.20	4.11	5.23	6.57	8.17	10.06	12.24	14.76	17.64	20.91	24.58	26.17
			50	2.81	3.58	4.51	5.63	6.95	8.51	10.33	12.43	14.84	17.59	20.70	22.06
		P	30	3.10	3.29	3.49	3.70	3.92	4.14	4.37	4.60	4.84	5.08	5.32	5.41
			40	3.90	4.07	4.26	4.45	4.66	4.88	5.11	5.35	5.60	5.85	6.12	6.23
			50	5.12	5.24	5.39	5.55	5.73	5.93	6.14	6.37	6.61	6.87	7.13	7.24

Notes:

1. Q for capacity; P for power. Units in kW
2. All ZF+KNE values are rated at 18.3°C return gas temperature and 0 K subcooling

Performance data

Liquid injection, TRD: 460V, 3 Phase, 60Hz

R-404A | 60Hz

Model			Condensing Temperature °C	Evaporating Temperature °C											
				-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	7
ZF35KNE	TRD	Q	30	5.81	7.57	9.91	12.79	16.20	20.11	24.51	29.36	34.66	40.37	46.47	49.02
			40	4.91	6.50	8.62	11.26	14.39	18.00	22.05	26.53	31.42	36.69	42.32	44.67
			50	4.31	5.65	7.49	9.81	12.59	15.81	19.45	23.48	27.88	32.64	37.72	39.84
		P	30	5.30	5.61	5.94	6.30	6.71	7.15	7.65	8.21	8.83	9.51	10.27	10.60
			40	6.25	6.60	6.97	7.36	7.79	8.26	8.78	9.35	9.98	10.68	11.44	11.77
			50	7.62	7.99	8.36	8.77	9.20	9.67	10.18	10.74	11.36	12.04	12.78	13.10
ZF42KNE	TRD	Q	30	7.11	9.28	12.14	15.67	19.85	24.65	30.04	35.99	42.47	49.47	56.96	60.08
			40	6.02	7.97	10.57	13.80	17.64	22.06	27.03	32.52	38.51	44.96	51.87	54.74
			50	5.27	6.90	9.16	12.01	15.42	19.36	23.82	28.76	34.16	39.99	46.22	48.82
		P	30	6.35	6.72	7.12	7.56	8.04	8.58	9.17	9.84	10.58	11.40	12.31	12.71
			40	7.49	7.91	8.35	8.83	9.34	9.91	10.53	11.21	11.96	12.80	13.72	14.11
			50	9.13	9.57	10.02	10.50	11.02	11.59	12.20	12.87	13.61	14.42	15.32	15.70
ZF52KNE	TRD	Q	30	8.80	11.48	15.02	19.39	24.57	30.50	37.16	44.53	52.56	61.22	70.47	74.34
			40	7.45	9.86	13.08	17.08	21.83	27.29	33.44	40.23	47.64	55.63	64.17	67.73
			50	6.53	8.56	11.35	14.87	19.09	23.97	29.49	35.60	42.28	49.49	57.20	60.42
		P	30	7.90	8.36	8.85	9.40	10.00	10.66	11.41	12.23	13.15	14.18	15.31	15.80
			40	9.32	9.84	10.38	10.98	11.62	12.32	13.09	13.94	14.88	15.92	17.06	17.55
			50	11.35	11.89	12.46	13.06	13.71	14.41	15.17	16.01	16.92	17.94	19.05	19.52
ZF58KNE	TRD	Q	30	9.53	12.57	16.40	21.05	26.50	32.77	39.87	47.79	56.53	66.12	76.54	80.94
			40	8.22	10.89	14.28	18.39	23.24	28.83	35.15	42.22	50.04	58.62	67.95	71.90
			50	6.82	9.25	12.32	16.04	20.42	25.45	31.14	37.49	44.52	52.22	60.60	64.14
		P	30	8.28	8.76	9.28	9.85	10.48	11.18	11.95	12.82	13.78	14.86	16.05	16.56
			40	9.77	10.31	10.88	11.50	12.18	12.91	13.72	14.61	15.59	16.68	17.88	18.39
				11.90	12.46	13.05	13.68	14.36	15.09	15.90	16.77	17.74	18.79	19.96	20.46

Notes:

1. Q for capacity; P for power. Units in kW
2. All ZF+KNE values are rated at 18.3°C return gas temperature and 0 K subcooling

Performance data

Vapor injection, TFD: 460V, 3 Phase, 60Hz

R-404A | 60Hz

Model			Condensing Temperature °C	Evaporating Temperature °C											
				-40	-35	-30	-25	-20	-15	-10	-5	0	5	7	
ZFI09KNE	TFD	Q	30	2.33	2.68	3.22	3.92	4.76	5.70	6.72	7.80	8.90	9.99	10.43	
			40	2.15	2.50	3.02	3.69	4.49	5.37	6.33	7.32	8.32	9.31	9.69	
			50	1.79	2.14	2.66	3.31	4.07	4.92	5.81	6.73	7.65	8.54	8.88	
		P	30	1.41	1.49	1.55	1.59	1.62	1.63	1.65	1.66	1.68	1.71	1.73	
			40	1.60	1.76	1.88	1.97	2.03	2.08	2.10	2.12	2.13	2.15	2.15	
			50	1.75	2.00	2.20	2.36	2.48	2.58	2.64	2.68	2.71	2.72	2.73	
ZFI11KNE	TFD	Q	30	2.80	3.22	3.87	4.71	5.71	6.84	8.07	9.37	10.69	12.00	12.52	
			40	2.59	3.00	3.63	4.43	5.39	6.45	7.60	8.79	10.00	11.18	11.64	
			50	2.15	2.57	3.19	3.98	4.89	5.90	6.98	8.09	9.19	10.26	10.67	
		P	30	1.68	1.78	1.85	1.89	1.92	1.94	1.96	1.97	2.00	2.03	2.05	
			40	1.90	2.09	2.23	2.34	2.42	2.47	2.50	2.52	2.54	2.55	2.56	
			50	2.08	2.37	2.62	2.81	2.95	3.06	3.14	3.19	3.22	3.24	3.24	
ZFI13KNE	TFD	Q	30	3.13	3.60	4.32	5.26	6.39	7.66	9.03	10.47	11.95	13.43	14.01	
			40	2.89	3.36	4.06	4.96	6.03	7.22	8.50	9.83	11.18	12.51	13.02	
			50	2.40	2.88	3.57	4.45	5.47	6.60	7.81	9.04	10.28	11.47	11.93	
		P	30	1.88	1.99	2.07	2.12	2.16	2.18	2.20	2.21	2.24	2.28	2.30	
			40	2.13	2.34	2.51	2.62	2.71	2.77	2.80	2.83	2.84	2.86	2.87	
			50	2.33	2.66	2.93	3.15	3.31	3.43	3.52	3.58	3.61	3.63	3.64	
ZFI16KNE	TFD	Q	30	3.45	4.26	5.23	6.36	7.64	9.07	10.66	12.40	14.30	16.34	17.20	
			40	3.23	4.03	4.99	6.09	7.34	8.74	10.29	11.98	13.82	15.80	16.64	
			50	3.08	3.82	4.71	5.74	6.91	8.22	9.67	11.25	12.98	14.85	15.63	
		P	30	2.17	2.25	2.35	2.47	2.58	2.70	2.80	2.88	2.93	2.94	2.93	
			40	2.70	2.78	2.88	3.00	3.12	3.25	3.37	3.48	3.56	3.61	3.62	
			50	3.46	3.52	3.61	3.73	3.87	4.01	4.15	4.28	4.39	4.48	4.50	
ZFI19KNE	TFD	Q	30	4.43	5.09	5.98	7.08	8.41	9.95	11.71	13.69	15.88	18.29	19.31	
			40	4.20	4.87	5.74	6.81	8.08	9.55	11.21	13.07	15.13	17.38	18.33	
			50	3.75	4.46	5.34	6.41	7.66	9.08	10.68	12.45	14.40	16.52	17.42	
		P	30	2.46	2.58	2.70	2.82	2.93	3.04	3.15	3.24	3.33	3.40	3.43	
			40	2.97	3.11	3.25	3.39	3.53	3.67	3.80	3.92	4.03	4.13	4.16	
			50	3.73	3.88	4.03	4.18	4.33	4.47	4.61	4.75	4.87	4.98	5.02	
ZFI23KNE	TFD	Q	30	5.62	6.47	7.59	8.99	10.67	12.63	14.86	17.37	20.16	23.21	24.51	
			40	5.33	6.19	7.29	8.65	10.26	12.12	14.23	16.59	19.20	22.05	23.26	
			50	4.76	5.66	6.78	8.14	9.72	11.52	13.55	15.80	18.27	20.97	22.11	
		P	30	3.11	3.26	3.41	3.56	3.71	3.85	3.98	4.10	4.21	4.30	4.34	
			40	3.76	3.94	4.12	4.29	4.47	4.64	4.80	4.95	5.09	5.22	5.27	
			50	4.72	4.91	5.10	5.29	5.48	5.66	5.84	6.00	6.16	6.30	6.35	
ZFI26KNE	TFD	Q	30	6.13	7.50	9.09	10.94	13.08	15.52	18.30	21.44	24.98	28.94	30.64	
			40	5.66	7.01	8.55	10.30	12.29	14.55	17.10	19.99	23.22	26.83	28.39	
			50	5.12	6.41	7.85	9.46	11.28	13.32	15.61	18.19	21.09	24.32	25.71	
		P	30	3.71	3.92	4.15	4.40	4.66	4.92	5.19	5.46	5.73	5.99	6.09	
			40	4.54	4.74	4.97	5.21	5.48	5.75	6.03	6.32	6.60	6.88	6.99	
			50	5.65	5.85	6.07	6.32	6.58	6.86	7.16	7.46	7.76	8.06	8.19	
ZFI30KNE	TFD	Q	30	6.73	8.23	9.99	12.02	14.36	17.04	20.09	23.55	27.43	31.78	33.66	
			40	6.22	7.70	9.39	11.31	13.50	15.98	18.79	21.95	25.50	29.47	31.18	
			50	5.62	7.04	8.62	10.39	12.38	14.62	17.15	19.98	23.16	26.71	28.24	
		P	30	3.95	4.17	4.42	4.68	4.96	5.24	5.53	5.81	6.10	6.37	6.48	
			40	4.83	5.04	5.29	5.55	5.83	6.12	6.42	6.72	7.02	7.32	7.44	
			50	6.01	6.22	6.46	6.72	7.01	7.30	7.62	7.93	8.26	8.58	8.71	

Notes:

1. Q for capacity; P for power, Units in kW. LO for liquid out temperature in °C
2. All ZFI*KNE values are rated at 18.3°C return gas temperature and max subcooling

Performance data

Vapor injection, TRD: 460V, 3 Phase , 60Hz

R-404A | 60Hz

Model			Condensing Temperature °C	Evaporating Temperature °C										5	7
				-45	-40	-35	-30	-25	-20	-15	-10	-5	0		
ZFI51KNE	TRD	Q	30	9.89	12.52	15.59	19.09	23.00	27.31	32.00	37.06	42.48	48.24	54.32	56.84
			40	8.15	10.36	13.02	16.10	19.60	23.50	27.78	32.44	37.45	42.80	48.47	50.83
			50	7.84	9.69	11.98	14.71	17.85	21.39	25.32	29.62	34.28	39.28	44.60	46.82
		P	30	6.14	6.60	7.05	7.48	7.90	8.33	8.76	9.19	9.64	10.10	10.59	10.80
			40	7.52	8.00	8.46	8.91	9.36	9.81	10.26	10.73	11.20	11.70	12.22	12.44
			50	9.32	9.83	10.33	10.82	11.30	11.79	12.29	12.80	13.32	13.87	14.44	14.68
ZFI60KNE	TRD	Q	30	11.77	14.89	18.54	22.70	27.35	32.48	38.06	44.08	50.52	57.37	64.60	67.60
			40	9.69	12.32	15.48	19.15	23.31	27.95	33.04	38.58	44.54	50.90	57.65	60.46
			50	9.33	11.52	14.25	17.49	21.23	25.44	30.12	35.23	40.77	46.72	53.05	55.69
		P	30	7.08	7.61	8.13	8.63	9.12	9.61	10.10	10.60	11.12	11.66	12.22	12.45
			40	8.68	9.23	9.76	10.28	10.80	11.32	11.84	12.37	12.93	13.50	14.10	14.35
			50	10.75	11.34	11.91	12.48	13.04	13.61	14.18	14.77	15.37	16.00	16.66	16.94
ZFI72KNE	TRD	Q	30	13.27	16.67	20.87	25.83	31.47	37.74	44.58	51.92	59.72	67.90	76.41	79.90
			40	11.65	14.64	18.44	22.99	28.23	34.11	40.56	47.52	54.93	62.73	70.86	74.20
			50	10.93	13.37	16.63	20.64	25.35	30.70	36.62	43.06	49.95	57.24	64.86	67.99
		P	30	8.67	9.30	9.91	10.50	11.09	11.68	12.27	12.88	13.50	14.16	14.85	15.14
			40	10.46	11.15	11.81	12.46	13.11	13.75	14.39	15.05	15.73	16.43	17.17	17.48
			50	12.79	13.55	14.29	15.01	15.72	16.43	17.14	17.86	18.60	19.37	20.17	20.51
ZFI82KNE	TRD	Q	30	14.73	18.50	23.16	28.66	34.92	41.88	49.47	57.62	66.27	75.35	84.79	88.66
			40	12.93	16.24	20.46	25.51	31.33	37.85	45.00	52.73	60.95	69.61	78.63	82.33
			50	12.13	14.84	18.45	22.90	28.13	34.06	40.63	47.78	55.43	63.51	71.97	75.45
		P	30	9.49	10.17	10.84	11.49	12.13	12.77	13.42	14.09	14.77	15.49	16.25	16.56
			40	11.44	12.19	12.92	13.63	14.34	15.04	15.74	16.46	17.21	17.98	18.79	19.12
			50	13.99	14.83	15.63	16.42	17.19	17.97	18.75	19.54	20.35	21.19	22.07	22.43

- Notes:
- 1. Q for capacity; P for power, Units in kW. LO for liquid out temperature in °C
 - 2. All ZFI*KNE values are rated at 18.3°C return gas temperature and max subcooling

Performance data

R-404A | 60Hz

Vapor injection, TF7: 380 V, 3-Phase, 60 Hz ; TFC : 208-230 V, 3-Phase, 60 Hz ; TFD : 460 V, 3-Phase, 60 Hz

Model			Condensing Temperature °C	Evaporating Temperature °C										
				-40	-35	-30	-25	-20	-15	-10	-5	0	5	7
ZFI20KQE ZFJ20KQE	TF7 TFC TFD	Q	30	4.27	5.27	6.40	7.69	9.15	10.81	12.68	14.80	17.16	19.82	20.96
			40	4.21	5.16	6.25	7.48	8.89	10.50	12.32	14.38	16.71	19.30	20.43
			50	4.01	4.91	5.95	7.13	8.49	10.05	11.82	13.84	16.11	18.67	19.78
		P	30	2.65	2.79	2.93	3.05	3.16	3.26	3.35	3.43	3.49	3.55	3.57
			40	3.24	3.41	3.57	3.72	3.86	3.99	4.10	4.21	4.31	4.39	4.42
			50	4.00	4.19	4.38	4.55	4.71	4.87	5.01	5.15	5.28	5.40	5.45
		LO	30	-9.30	-6.50	-3.30	0.20	3.90	7.70	11.30	14.50	17.50	19.80	20.60
			40	-9.40	-6.00	-2.40	1.60	5.70	9.80	13.50	16.90	19.80	22.20	22.90
			50	-7.10	-3.50	0.40	4.70	8.90	13.00	16.80	20.10	22.90	25.10	25.80
ZFI23KQE	TF7 TFC TFD	Q	30	5.77	6.56	7.69	9.13	10.85	12.90	15.15	17.70	20.40	23.40	24.60
			40	5.69	6.38	7.41	8.75	10.40	12.30	14.50	16.95	19.60	22.50	23.70
			50	5.69	6.26	7.16	8.37	9.89	11.70	13.75	16.10	18.65	21.40	22.60
		P	30	3.16	3.33	3.49	3.64	3.78	3.92	4.06	4.19	4.31	4.44	4.49
			40	3.76	3.98	4.19	4.39	4.57	4.74	4.90	5.05	5.19	5.32	5.37
			50	4.60	4.88	5.13	5.37	5.58	5.78	5.96	6.13	6.28	6.41	6.46
		LO	30	-31.80	-14.00	-4.70	0.80	4.70	8.20	11.50	14.90	18.20	21.40	22.60
			40	-27.20	-10.70	-1.70	3.80	7.80	11.30	14.70	18.10	21.40	24.50	25.70
			50	-24.10	-8.10	1.00	6.70	11.00	14.80	18.30	21.70	25.00	28.00	29.20
ZFI26KQE ZFJ26KQE	TF7 TFC TFD	Q	30	6.30	7.81	9.47	11.34	13.43	15.81	18.50	21.55	24.98	28.86	30.55
			40	6.03	7.47	9.04	10.79	12.76	14.98	17.49	20.35	23.58	27.23	28.81
			50	5.64	6.99	8.46	10.08	11.89	13.94	16.27	18.91	21.90	25.29	26.77
		P	30	3.80	4.05	4.30	4.55	4.80	5.07	5.34	5.64	5.97	6.33	6.49
			40	4.50	4.83	5.15	5.46	5.75	6.04	6.34	6.64	6.95	7.29	7.43
			50	5.46	5.89	6.28	6.64	6.98	7.30	7.61	7.92	8.22	8.54	8.67
		LO	30	-12.20	-8.00	-4.10	-0.10	3.90	7.80	11.30	14.40	17.20	19.20	19.90
			40	-9.60	-4.70	-0.20	4.30	8.60	12.60	16.20	19.30	21.90	23.90	24.50
			50	-5.80	-0.30	4.80	9.60	14.10	18.20	21.80	24.90	27.40	29.20	29.80
ZFI36KQE ZFJ36KQE	TF7 TFC TFD	Q	30	7.73	9.58	11.62	13.92	16.56	19.64	23.23	27.39			
			40	7.53	9.15	10.97	13.08	15.56	18.50	21.95	26.01			
			50	7.74	9.00	10.49	12.29	14.48	17.14	20.35	24.21			
		P	30	4.46	4.84	5.16	5.45	5.73	6.03	6.38	6.79			
			40	5.25	5.74	6.17	6.56	6.95	7.36	7.80	8.31			
			50	6.26	6.85	7.37	7.88	8.38	8.89	9.44	10.08			
		LO	30	-12.60	-9.00	-4.10	0.60	4.70	7.70	9.80	11.00			
			40	-9.90	-3.90	2.10	7.10	10.80	13.40	14.90	15.50			
			50	-16.10	-3.90	5.40	12.10	16.70	19.50	20.90	21.00			
ZFI39KQE	TF7 TFC TFD	Q	30	8.89	11.02	13.36	16.01	19.06	22.59	26.72	31.51			
			40	8.66	10.53	12.62	15.05	17.90	21.28	25.25	29.93			
			50	8.91	10.35	12.06	14.14	16.65	19.72	23.41	27.86			
		P	30	5.35	5.80	6.18	6.53	6.87	7.23	7.65	8.14			
			40	6.29	6.88	7.39	7.87	8.33	8.82	9.35	9.96			
			50	7.51	8.21	8.84	9.45	10.04	10.66	11.32	12.08			
		LO	30	-12.60	-9.00	-4.10	0.60	4.70	7.70	9.80	11.00			
			40	-9.90	-3.90	2.10	7.10	10.80	13.40	14.90	15.50			
			50	-16.10	-3.90	5.40	12.10	16.70	19.50	20.90	21.00			
ZFI50KQE	TF7 TFC TFD	Q	30	10.79	12.78	15.38	18.52	22.10	26.11	30.43	35.02			
			40	10.25	12.19	14.67	17.65	21.05	24.80	28.83	33.06			
			50	9.53	11.42	13.82	16.66	19.88	23.40	27.14	31.04			
		P	30	5.95	6.40	6.80	7.18	7.53	7.88	8.24	8.63			
			40	7.15	7.66	8.13	8.57	8.99	9.41	9.84	10.31			
			50	8.63	9.20	9.73	10.25	10.74	11.23	11.72	12.25			
		LO	30	-15.40	-5.10	-0.30	2.70	5.60	8.80	12.60	16.70			
			40	-9.50	-0.40	4.20	7.20	10.20	13.60	17.50	21.80			
			50	-1.20	5.90	9.50	12.10	15.00	18.50	22.50	26.90			
ZFI59KQE	TF7 TFC TFD	Q	30	13.38	15.84	19.06	22.95	27.40	32.36	37.72	43.40			
			40	12.71	15.10	18.18	21.88	26.09	30.74	35.73	40.97			
			50	11.81	14.16	17.12	20.65	24.64	28.97	33.64	38.46			
		P	30	7.41	7.96	8.46	8.93	9.37	9.80	10.25	10.74			
			40	8.90	9.53	10.11	10.66	11.19	11.71	12.25	12.83			
			50	10.74	11.45	12.11	12.75	13.36	13.95	14.59	15.25			
		LO	30	-15.40	-5.10	-0.30	2.70	5.60	8.80	12.60	16.70			
			40	-9.50	-0.30	4.20	7.20	10.20	13.60	17.50	21.80			
			50	-1.20	5.90	9.50	12.10	15.00	18.60	22.50	26.90			

Notes:

1. Q for capacity, P for power. Units in kW; LO for liquid out temperature in °C
2. All ZF*KQE values are rated at 20°C return gas temperature and max subcooling

Performance data

Vapor injection

TF7 / TR7: 380 V, 3-Phase, 60 Hz ; TFC / TRC : 208-230 V, 3-Phase, 60 Hz ; TFD / TRD: 460 V, 3-Phase, 60 Hz

R-404A | 60Hz

Model			Condensing Temperature °C	Evaporating Temperature °C											
				-40	-35	-30	-25	-20	-15	-10	-5	0	5	7	
ZFI68KQE	TF7 TFC TFD	Q	30	15.12	17.91	21.54	25.94	30.99							
			40	14.37	17.08	20.57	24.73	29.49							
			50	13.35	16.00	19.37	23.35	27.85							
		P	30	8.58	9.22	9.80	10.34	10.86							
			40	10.32	11.05	11.73	12.35	12.96							
			50	12.44	13.27	14.05	14.77	15.48							
		LO	30	-15.40	-5.10	-0.30	2.70	5.50							
			40	-9.60	-0.40	4.10	7.20	10.20							
			50	-1.20	5.90	9.40	12.10	15.00							
ZFI81KQE	TF7 TFC TFD	Q	30	17.37	20.58	24.75	29.80	35.61							
			40	16.52	19.63	23.63	28.41	33.88							
			50	15.33	18.39	22.26	26.82	32.00							
		P	30	10.23	10.99	11.69	12.33	12.94							
			40	12.30	13.17	13.98	14.73	15.45							
			50	14.83	15.82	16.74	17.61	18.45							
		LO	30	-15.40	-5.10	-0.30	2.70	5.50							
			40	-9.60	-0.40	4.10	7.20	10.20							
			50	-1.20	5.90	9.40	12.10	15.00							
ZFI96KQE	TR7 TRC TRD	Q	30	21.40	25.60	30.90	37.50	45.70	55.50	67.20	81.10				
			40	20.30	24.80	30.00	36.10	43.30	51.80	61.80	73.40				
			50	16.60	21.70	28.30	34.10	40.60	48.00	56.50	66.30				
		P	30	13.00	13.65	14.30	15.05	15.85	16.80	17.90	19.15				
			40	16.05	16.85	17.65	18.40	19.20	20.10	21.00	22.10				
			50	20.30	21.40	21.90	22.70	23.60	24.40	25.20	26.10				
		LO	30	-6.40	0.90	5.70	8.40	9.70	9.90	9.30	8.00				
			40	2.80	4.70	8.00	11.40	14.20	16.30	17.60	18.20				
			50	19.30	13.50	13.20	15.70	19.10	22.30	25.10	27.10				
ZFI122KQE	TR7 TRC TRD	Q	30	27.01	32.29	38.98	47.31	57.54	69.93	84.71	102.13				
			40	25.63	31.29	37.84	45.51	54.57	65.26	77.84	92.54				
			50	20.92	27.41	35.62	42.97	51.17	60.50	71.18	83.48				
		P	30	15.86	16.63	17.45	18.34	19.34	20.48	21.81	23.35				
			40	19.58	20.55	21.49	22.44	23.43	24.49	25.65	26.96				
			50	24.75	26.13	26.66	27.71	28.72	29.72	30.76	31.87				
		LO	30	-6.40	0.90	5.70	8.40	9.70	9.90	9.30	8.00				
			40	2.80	4.70	8.00	11.40	14.20	16.30	17.60	18.20				
			50	19.30	13.50	13.20	15.70	19.10	22.30	25.10	27.00				
ZFI140KQE	TR7 TRC TRD	Q	30	31.00	36.90	44.50	54.00	65.80	80.00	97.00	117.00				
			40	29.20	35.50	43.00	51.80	62.20	74.50	88.90	106.00				
			50	23.90	32.80	40.40	48.80	58.20	68.90	81.20	95.40				
		P	30	17.15	18.10	19.00	19.95	21.00	22.20	23.60	25.20				
			40	21.20	22.30	23.40	24.40	25.40	26.50	27.80	29.20				
			50	26.90	27.70	29.00	30.10	31.10	32.20	33.30	34.50				
		LO	30	-8.50	-0.50	4.40	7.20	8.40	8.40	7.70	6.40				
			40	1.80	4.20	7.50	10.70	13.40	15.30	16.50	16.90				
			50	18.40	13.10	12.90	15.20	18.40	21.60	24.20	26.10				
ZFI180KQE	TRD	Q	30	39.60	49.07	59.62	71.55	85.14	100.67	118.43	138.70	161.78	187.93	199.32	
			40	35.68	44.97	55.20	66.68	79.67	94.46	111.34	130.59	152.50	177.36	188.19	
			50	33.26	41.68	50.91	61.23	72.93	86.29	101.60	119.14	139.20	162.07	172.06	
		P	30	23.84	25.40	27.03	28.73	30.49	32.31	34.19	36.14	38.14	40.19	41.03	
			40	28.27	30.06	31.91	33.82	35.80	37.82	39.90	42.04	44.23	46.46	47.37	
			50	33.87	35.89	37.97	40.10	42.28	44.51	46.79	49.12	51.50	53.92	54.89	

Notes:

1. Q for capacity, P for power. Units in kW; LO for liquid out temperature in °C
2. All ZF*KQE values are rated at 20°C return gas temperature and max subcooling
3. 20K Superheat

Technical data - ZF06-54KQE

Compressor Model			Liquid injection (ZF+KQE)													
			ZF06 KQE	ZF08 KQE	ZF09 KQE	ZF11 KQE	ZF13 KQE	ZF15 KQE	ZF18 KQE	ZF25 KQE	ZF28 KQE	ZF34 KQE	ZF41 KQE	ZF49 KQE	ZF54 KQE	
Normal horsepower		HP	2	2.5	3	3.5	4	5	6	7.5	9	10	13	15	17	
Displacement		cc/rev	34.0	42.0	46.2	57.2	67.1	82.6	98.0	122.9	144.4	167.5	203.0	243.7	277.8	
Motor type	50Hz	380-420V-3ph	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	
		200V-3ph	TF5	TF5	TF5	TF5	TFC	TFC	TFC	TFC	TFC	TFC	TFC	TFC	TFC	
	60Hz	460V-3ph	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	
		208-230V-3ph	TF5	TF5	TF5	TF5	TFC	TFC	TFC	TFC	TFC	TFC	TFC	TFC	TFC	
		380-400V-3ph	NA	NA	NA	NA	TF7	TF7	TF7	TF7	TF7	TF7	TF7	TF7	TF7	
380-400V-3ph	PFV	PFV	PFV	PFV	PFV	PFV	NA	NA	NA	NA	NA	NA	NA	NA		
Run capacitor			PFV	50µF/370V	50µF/370V	50µF/370V	60µF/370V	60µF/370V	80µF/370V	NA	NA	NA	NA	NA	NA	
Locked rotor current (LRA)	50Hz	TFD	Amps	26.0	32.0	40.0	46.0	51.5	64.0	74.0	102.0	121.4	118.0	139.0	168.0	
		TFC		56.0	70.0	83.0	87.0	94.0	122.0	171.0	223.0	197.9	220.0	248.0	423.0	
	60Hz	TFD	Amps	27.0	31.0	39.0	44.0	49.5	75.0	75.0	99.0	121.4	125.0	139.0	185.0	
		TFC		55.0	63.0	77.0	88.0	99.0	123.0	156.0	224.0	199.0	239.0	248.0	423.0	
		TF7		NA	NA	NA	NA	57.0	64.0	70.0	119.6	106.6	145.0	145.0	220.0	220.0
PFV	61.0	73.0	88.0	109.0	129.0	169.0	NA	NA	NA	NA	NA	NA	NA	NA		
Maximum operating current (MOC)	50Hz	TFD	Amps	5.0	6.0	6.0	7.1	8.0	10.0	12.5	13.7	16.8	25.0	29.0	30.0	31.0
		TFC		10.0	12.0	13.0	14.5	16.0	22.0	25.0	28.8	38.7	51.4	57.7	67.9	66.0
	60Hz	TFD	Amps	5.0	6.0	6.0	7.1	8.0	10.0	12.5	13.7	16.8	25.0	29.0	30.0	31.0
		TFC		10.0	12.0	13.0	14.5	16.0	22.0	25.0	28.8	38.7	51.4	57.7	67.9	66.0
		TF7		NA	NA	NA	NA	10.0	12.0	14.0	17.4	20.9	23.3	27.6	40.6	39.6
PFV	17.1	21.2	20.2	24.7	30.3	40.0	NA	NA	NA	NA	NA	NA	NA	NA		
Maximum continuous current (MCC)	50Hz	TFD	Amps	6.0	7.0	6.5	8.0	10.0	12.0	12.5	16.6	20.1	25.0	27.0	28.3	40.0
		TFC		13.0	13.5	13.5	16.5	18.5	23.5	28.5	36.3	42.6	52.0	59.0	71.0	82.2
	60Hz	TFD	Amps	6.0	7.0	7.0	9.0	10.0	12.5	12.5	16.6	20.1	25.0	27.0	28.3	40.0
		TFC		13.0	13.5	13.5	17.0	18.5	26.5	30.5	37.4	42.6	52.0	59.0	71.0	82.2
		TF7		NA	NA	NA	NA	11.5	15.9	17.7	19.9	23.8	28.6	30.4	40.5	44.4
PFV	19.0	23.0	23.0	25.5	35.0	38.5	NA	NA	NA	NA	NA	NA	NA	NA		
Rated load current (RLA=MCC/1.4)	50Hz	TFD	Amps	4.3	5.0	4.6	5.7	7.1	8.6	8.9	11.9	14.4	17.9	19.3	20.2	28.6
		TFC		9.3	9.6	9.6	11.8	13.2	16.8	20.4	25.9	30.4	37.1	42.1	50.7	58.7
	60Hz	TFD	Amps	4.3	5.0	5.0	6.4	7.1	8.9	8.9	11.9	14.4	17.9	19.3	20.2	28.6
		TFC		9.3	9.6	9.6	12.1	13.2	18.9	21.8	26.7	30.4	37.1	42.1	50.7	58.7
		TF7		NA	NA	NA	NA	8.2	11.4	12.6	14.2	17.0	20.4	21.7	28.9	31.7
PFV	13.6	16.4	16.4	18.2	25.0	27.5	NA	NA	NA	NA	NA	NA	NA	NA		
Rated load current (RLA=MCC/1.56)	50Hz	TFD	Amps	3.8	4.5	4.2	5.1	6.4	7.7	8.0	10.6	12.9	16.0	17.3	18.1	25.6
		TFC		8.3	8.7	8.7	10.6	11.9	15.1	18.3	23.3	27.3	33.3	37.8	45.5	52.7
	60Hz	TFD	Amps	3.8	4.5	4.5	5.8	6.4	8.0	8.0	10.6	12.9	16.0	17.3	18.1	25.6
		TFC		8.3	8.7	8.7	10.9	11.9	17.0	19.6	24.0	27.3	33.3	37.8	45.5	52.7
		TF7		NA	NA	NA	NA	7.4	10.2	11.3	12.8	15.3	18.3	19.5	26.0	28.5
PFV	12.2	14.7	14.7	16.3	22.4	24.7	NA	NA	NA	NA	NA	NA	NA	NA		
Winding resistance at 25°C		TFD	Ohm	7.150	5.940	4.830	4.030	3.640	2.750	2.270	1.719	1.625	1.236	1.236	1.086	0.776
		TFC		1.790	1.460	1.230	0.995	0.911	0.686	0.562	0.391	0.367	0.309	0.277	0.215	0.194
		TF7		NA	NA	NA	NA	2.780	2.232	1.920	1.196	1.062	0.853	0.853	0.562	0.562
		PFV		2.280	1.720	1.460	1.280	0.779	0.605	0.329	NA	NA	NA	NA	NA	NA
Connection size	Suction	in	Rotalock connection													
			1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 3/4	1 3/4	1 3/4	1 3/4	
			1	1	1	1	1	1	1	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	
	Injection		11/16	11/16	11/16	11/16	11/16	11/16	11/16	11/16	11/16	11/16	1	1	1	1
			Brazing connection													
			7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	1 3/8	1 3/8	1 3/8	1 3/8
			1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	3/4	3/4	7/8	7/8	7/8	7/8
			11/16 (Rotalock only)									1 (Rotalock only)				
Outline dimension	Length	mm	246	246	246	246	246	246	246	246	246	280	280	280	280	
	Width		246	246	246	246	257	257	257	257	257	280	280	280	280	
	Height		369	391	391	405	442	442	442	442	451	534	534	552	552	
Sight glass fitting thread		in	1 1/4"-12UNF				1 1/4"-12UNF				1 1/4"-12UNF					
Oil quantity		L	1.3	1.5	1.5	1.5	1.9	1.9	1.9	1.9	1.9	3.4	3.4	3.4	3.4	
Net weight		kg	25	27	27	29	39	39	39	39	40	63	63	66	66	
Terminal box IP grade			IP21				IP21 (Except ZF28KQE-TFC with IP54)				IP54					
Crankcase heater power		W	70				70				90					
Mounting parts installation size (hole size)		mm	190x 190 (Ø19)													

Technical data - ZFI20-180KQE

Compressor Model			Vapor injection (ZF*KQE)														
			ZFI20 KQE	ZFI23 KQE	ZFI26 KQE	ZFI36 KQE	ZFI39 KQE	ZFI50 KQE	ZFI59 KQE	ZFI68 KQE	ZFI81 KQE	ZFI96 KQE	ZFI122 KQE	ZFI140 KQE	ZFI180 KQE		
Nominal horsepower		HP	4	5	6	8	10	12	15	18	20	25	30	40	50		
Displacement		cc/rev	67.1	82.6	98.0	122.9	144.4	167.5	203.0	243.7	277.8	349.4	444.5	502.6	648.0		
Motor type	50Hz	380-420V-3ph		TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TRD	TRD	TRD	TRD	
		200V-3ph		TFC	TFC	TFC	TFC	TFC	TFC	TFC	TFC	TFC	TFC	TRC	TRC	TRC	
	60Hz	460V-3ph		TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD	TRD	TRD	TRD	TRD	
		208-230V-3ph		TFC	TFC	TFC	TFC	TFC	TFC	TFC	TFC	TFC	TFC	TRC	TRC	TRC	
		380-400V-3ph		TF7	TF7	TF7	TF7	TF7	TF7	TF7	TF7	TF7	TF7	TR7	TR7	TR7	
Locked rotor current (LRA)	50Hz	TFD	Amps	64.0	74.0	74.0	102.0	121.4	118.0	118.0	139.0	168.0	246.5	333.2	333.2	576.3	
		TFC		135.0	163.4	172.0	223.0	197.9	220.0	248.0	338.7	423.0	659.5	659.5	659.5		
	60Hz	TFD	Amps	62.0	75.0	70.0	99.0	121.4	125.0	125.0	139.0	185.0	272.9	330.1	330.1	554.0	
		TFC		123.0	170.9	156.0	224.0	199.0	239.0	248.0	338.7	423.0	657.1	657.1	657.1		
TF7		64.0		94.3	70.0	119.6	106.6	145.0	145.0	220.0	220.0	317.3	399.7	399.7			
Maximum operating current (MOC)	50Hz	TFD	Amps	9.0	12.4	13.7	16.0	18.1	25.0	29.0	30.0	31.0	41.5	53.6	56.3	83.4	
		TFC		18.0	23.6	26.0	36.7	37.2	51.4	57.7	67.9	66.0	81.4	101.6	112.6		
	60Hz	TFD	Amps	9.0	12.4	13.7	16.0	18.1	25.0	29.0	30.0	31.0	41.5	53.6	56.3	85.9	
		TFC		18.0	26.5	26.0	36.7	37.2	51.4	57.7	67.9	66.0	81.4	101.6	112.6		
TF7		12.2		15.2	16.3	18.9	20.5	23.3	27.6	40.6	39.6	49.0	61.2	64.3			
Maximum continuous current (MCC)	50Hz	TFD	Amps	12.0	13.6	13.0	16.6	20.3	25.0	27.0	28.3	40.0	52.6	68.1	65.6	127.3	
		TFC		24.0	24.8	28.5	35.3	42.6	52.0	59.0	71.0	82.2	120.0	130.3	130.8		
	60Hz	TFD	Amps	12.0	14.0	13.0	18.5	20.3	25.0	27.0	28.3	40.0	50.1	64.8	69.2	143.4	
		TFC		24.0	25.5	30.5	38.2	42.6	52.0	59.0	71.0	82.2	112.2	132.7	142.3		
TF7		14.0		17.9	17.5	20.3	24.3	28.6	30.4	40.5	44.4	71.3	76.3	76.7			
Rated load current (RLA=MCC/1.4)	50Hz	TFD	Amps	8.6	9.7	9.3	11.9	14.5	17.9	19.3	20.2	28.6	37.6	48.6	46.9	90.9	
		TFC		17.1	17.7	20.4	25.2	30.4	37.1	42.1	50.7	58.7	85.7	93.1	93.4		
	60Hz	TFD	Amps	8.6	10.0	9.3	11.9	14.5	17.9	19.3	20.2	28.6	35.8	46.3	49.4	102.4	
		TFC		17.1	18.2	21.8	27.3	30.4	37.1	42.1	50.7	58.7	80.1	94.8	101.6		
TF7		10.0		12.8	12.5	14.5	17.4	20.4	21.7	28.9	31.7	50.9	54.5	54.8			
Rated load current (RLA=MCC/1.56)	50Hz	TFD	Amps	7.7	8.7	8.3	10.6	13.0	16.0	17.3	18.1	25.6	26.8	43.7	42.1	81.6	
		TFC		15.4	15.9	18.3	22.6	27.3	33.3	37.8	45.5	52.7	76.9	83.5	83.8		
	60Hz	TFD	Amps	7.7	9.0	8.3	10.6	13.0	16.0	17.3	18.1	25.6	32.1	41.5	44.4	91.9	
		TFC		15.4	16.3	19.6	24.5	27.3	33.3	37.8	45.5	52.7	71.9	85.1	91.2		
TF7		9.0		11.5	11.2	13.0	15.6	18.3	19.5	26.0	28.5	45.7	48.9	49.2			
Winding resistance at 25°C			TFD	Ohm	2.750	2.270	2.270	1.719	1.625	1.236	1.236	1.086	0.776	0.581	0.361	0.361	0.190
			TFC		0.690	0.501	0.560	0.391	0.367	0.309	0.277	0.215	0.194	0.091	0.091	0.091	
			TF7		2.232	1.640	1.920	1.196	1.062	0.853	0.853	0.562	0.562	0.250	0.250	0.250	
Connection size	Rotalock connection																
	Suction	in	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 3/4	1 3/4	1 3/4	1 3/4	2 1/4	2 1/4	2 1/4	2 1/4		
	Discharge		1	1	1	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 3/4	1 3/4	1 3/4	1 3/4		
	Injection		1	1	1	1	1	1	1	1	1	1	1	1	1		
	Brazing connection																
	Suction	in	7/8	7/8	7/8	7/8	7/8	1 3/8	1 3/8	1 3/8	1 3/8	1 5/8	1 5/8	1 5/8	1 5/8		
	Discharge		1/2	1/2	1/2	3/4	3/4	7/8	7/8	7/8	7/8	1 3/8'	1 3/8'	1 3/8'	1 3/8		
Injection	1/2		1/2	1/2	1/2	1/2	5/8	5/8	5/8	5/8	3/4	3/4	3/4	3/4			
Outline dimension	Length	mm	246	246	246	246	246	328	328	328	328	448	448	448	390		
	Width		257	257	257	257	257	297	297	297	297	409.3	409.3	409.3	447		
	Height		442	442	442	442	451	534	534	552	552	715	715	715	789		
Sight glass fitting thread		in	1 1/4"-12UNF					1 1/4"-12UNF				1 3/4" x 12UNF					
Oil quantity		L	1.9	1.9	1.9	1.9	1.9	3.4	3.4	3.4	3.4	6.3	6.3	6.3	6.1		
Net weight		kg	39	39	39	39	40	63	63	66	66	176.9	179.2	179.2	235		
Terminal box IP grade			IP21 (Except ZFI39KQE-TFC with IP54)					IP54				IP56					
Crankcase heater power		W	70					90				140					
Mounting parts installation size (hole size)		mm	190.5 x 190.5 (Ø19)									266.7 x 266.7 (Ø22.6)					

Technical data - ZFI09-30KNE

Compressor Model				Liquid / Vapor injection (ZFI+KNE)										
				ZFI09 KNE	ZFI11 KNE	ZFI13 KNE	ZFI16 KNE	ZFI19 KNE	ZFI23 KNE	ZFI26 KNE	ZFI30 KNE			
Norminal horsepower			HP	2	2.5	3	3.5	4	5	6	7			
Displacement			cc/rev	34.5	41.0	46.0	57.2	65.5	82.6	98.0	105.0			
Motor type	50Hz	380-420V-3ph		TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD			
		220-240-1ph		PFZ	PFZ	PFZ	PFZ	NA	NA	NA	NA			
	60Hz	460V-3ph		TFD	TFD	TFD	TFD	TFD	TFD	TFD	TFD			
Run capacitor			PFV	45µF/370V	70µF/370V	70µF/370V	70µF/370V	NA	NA	NA	NA			
Locked rotor current (LRA)	50Hz	TFD	Amps	41.6	46.9	46.9	58.7	58.7	82.5	85.1	85.1			
		PFZ		79.0	73.1	73.1	123.3	NA	NA	NA	NA			
	60Hz	TFD	Amps	41.6	46.9	46.9	59.7	59.7	88.1	88.8	88.8			
Maximum operating current (MOC)	50Hz	TFD	Amps	5.6	6.7	7.0	8.9	9.7	12.9	14.6	15.5			
		PFZ		14.5	17.4	18.5	25.2	NA	NA	NA	NA			
	60Hz	TFD	Amps	5.5	7	7.2	9.2	10.2	13.3	16.3	16.2			
Maximum continuous current (MCC)	50Hz	TFD	Amps	8.1	9.1	10.3	15.4	14.6	15.3	20.4	20.9			
		PFZ		21.4	23.5	24.7	36.7	NA	NA	NA	NA			
	60Hz	TFD	Amps	8.6	8.8	10.3	16	14.7	15.4	21.1	20.4			
Rated load current (RLA=MCC/1.4)	50Hz	TFD	Amps	5.8	6.5	7.4	11.0	10.4	10.9	14.6	14.9			
		PFZ		15.3	16.8	17.6	26.2	NA	NA	NA	NA			
	60Hz	TFD	Amps	6.1	6.3	7.4	11.4	10.5	11.0	15.1	14.6			
Rated load current (RLA=MCC/1.56)	50Hz	TFD	Amps	5.2	5.8	6.6	9.9	9.4	9.8	13.1	13.4			
		PFZ		13.7	15.1	15.8	23.5	NA	NA	NA	NA			
	60Hz	TFD	Amps	5.5	5.6	6.6	10.3	9.4	9.9	13.5	13.1			
Winding resistance at 25°C			TFD	Ohm	5.209 ⁽¹⁾	3.98 ⁽¹⁾	3.98 ⁽¹⁾	3.03 ⁽¹⁾	3.03 ⁽¹⁾	2.135 ⁽¹⁾	1.808 ⁽¹⁾	1.808 ⁽¹⁾		
					5.209 ⁽²⁾	4.01 ⁽²⁾	4.01 ⁽²⁾	3.03 ⁽²⁾	3.03 ⁽²⁾	2.135 ⁽²⁾	1.808 ⁽²⁾	1.808 ⁽²⁾		
			6.252 ⁽³⁾		4.03 ⁽³⁾	4.03 ⁽³⁾	3.03 ⁽³⁾	3.03 ⁽³⁾	2.135 ⁽³⁾	1.808 ⁽³⁾	1.808 ⁽³⁾			
PFV	1.053	0.949	0.949		0.523	NA	NA	NA	NA					
	1.717	1.808	1.808		0.601									
Connection size					Rotalock connection									
					Suction	in	NA	NA	NA	NA	NA	NA	NA	NA
					Discharge		NA	NA	NA	NA	NA	NA	NA	
					Injection		NA	NA	NA	NA	NA	NA	NA	
					Brazing connection									
					Suction	in	3/4	3/4	3/4	7/8	7/8	7/8	7/8	7/8
				Discharge	1/2		1/2	1/2	1/2	1/2	1/2	3/4		
				Injection	3/8		3/8	3/8	3/8	3/8	3/8	1/2	1/2	
Outline dimension		Length	mm	229	229	229	236	236	236	248	248			
		Width		229	229	229	236	236	236	250	252			
		Height		396	396	396	417	417	430	438	443			
Sight glass fitting thread			in	1 1/4"-12UNF										
Oil quantity			L	0.86	0.86	0.86	1.36	1.36	1.48	1.77	1.77			
Net weight			kg	23	23	24	31	31	32	39	39			
Terminal box IP grade				IP21 (BOM558); IP54 (BOM657)										
Crankcase heater power			W	33			40			40				
Mounting parts installation size (hole size)			mm	190.5 x 190.5 (Ø19)										

Notes: ⁽¹⁾ T1-T2, ⁽²⁾ T2-T3, ⁽³⁾ T3-T1

Technical data - ZF35-58KNE, ZFI51-82KNE

Compressor Model				Liquid injection (ZF* KNE)				Vapor injection (ZFI* KNE)					
				ZF35 KNE	ZF42 KNE	ZF52 KNE	ZF58 KNE	ZFI51 KNE	ZFI60 KNE	ZFI72 KNE	ZFI82 KNE		
Normal horsepower			HP	10	13	16	18	13	16	18	20		
Displacement			cc/rev	175.0	209.9	262.8	287.6	175.0	209.9	262.8	287.6		
Motor type	50Hz	380-420V-3ph		TRD	TRD	TRD	TRD	TRD	TRD	TRD	TRD		
	60Hz	460V-3ph		TRD	TRD	TRD	TRD	TRD	TRD	TRD	TRD		
Locked rotor current (LRA)	50Hz	TRD	Amps	162.3	186.4	239.2	239.2	162.3	186.4	239.2	239.2		
	60Hz	TRD	Amps	157.8	191.7	252.5	252.5	157.8	191.7	252.5	252.5		
Maximum operating current (MOC)	50Hz	TRD	Amps	25.0	29.2	34.5	37.7	25.0	29.2	34.5	37.7		
	60Hz	TRD	Amps	24.5	29.1	34.3	37.2	24.5	29.1	34.3	37.2		
Maximum continuous current (MCC)	50Hz	TRD	Amps	34.7	35.6	50.9	50.9	34.7	35.6	50.9	50.9		
	60Hz	TRD	Amps	36.3	38.9	54.8	54.8	36.3	38.9	54.8	54.8		
Rated load current (RLA=MCC/1.4)	50Hz	TRD	Amps	24.8	25.4	36.4	36.4	24.8	25.4	36.4	36.4		
	60Hz	TRD	Amps	25.9	27.8	39.1	39.1	25.9	27.8	39.1	39.1		
Rated load current (RLA=MCC/1.56)	50Hz	TRD	Amps	22.2	22.8	32.6	32.6	22.2	22.8	32.6	32.6		
	60Hz	TRD	Amps	23.3	24.9	35.1	35.1	23.3	24.9	35.1	35.1		
Winding resistance at 25°C			TFD	Ohm	1.056	0.937	0.732	0.732	1.056	0.937	0.732		
Connection size				Rotalock connection									
				Suction	in	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4	2 1/4
				Discharge		1 3/4	1 3/4	1 3/4	1 3/4	1 3/4	1 3/4	1 3/4	
				Injection		1	1	1	1	1	1	1	1
				Brazing connection									
				Suction	in	1 5/8	1 5/8	1 5/8	1 5/8	1 5/8	1 5/8	1 5/8	1 5/8
				Discharge		1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	
				Injection		5/8	5/8	5/8	5/8	5/8	5/8	5/8	
				Outline dimension				Length	mm	385	385	385	385
Width	350	350	350					350		350	350	350	
Height	687	687	687					687		687	687	687	
Sight glass fitting thread			in	1 3/4" - 12UNF				1 3/4" - 12UNF					
Oil quantity			L	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4		
Net weight			kg	89	89	93	93	89	89	93	93		
Terminal box IP grade				54	54	54	54	54	54	54	54		
Crankcase heater power			W	90	90	90	90	90	90	90	90		
Mounting parts installation size (hole size)			mm	232.0 X 232.0 (Ø22.6)				232.0 X 232.0 (Ø22.6)					

Enhanced Vapor Injection (EVI) control kits

Introduction

The EVI control kit of ZFI compressor is intended to control vapor injection, maintain a safe discharge temperature, and provide intelligent diagnosis and protection.

The EVI control system includes a new generation of Copeland electronics module (smart control module), an EXV valve and 3 temperature sensors as the main component.

In vapor injection application, the EXV valve is driven by sensors mounted near the heat exchanger and attempts to maintain the vapor outlet sensor 5K higher than the vapor inlet. The system will switch to discharge temperature control if vapor injection is insufficient to maintain a safe discharge temperature. If the discharge temperature becomes dangerously high, the system will stop the compressor, turn on an LED alarm, and trigger a voltage free alarm relay contact. The compressor can auto reset, but not lockout.

Copeland provides customer vapor injection control kits with 1.8m or 4.5m wire lengths in a bundle package.

Vapor injection control kits			
Part numbers with 1.8m wire length	Part numbers with 4.5m wire length	Applicable models	EXV valve orifice size (Identification code)
562-0471-01	562-0471-02	ZFI09-30KNE ZFI20-26KQE	Ø1.3mm (TS113C0x)
562-0471-03	562-0471-04	ZFI36-39KQE	Ø1.65mm (TS116C0x)
562-0471-05	562-0471-06	ZFI50-59KQE	Ø1.65mm (TS116C0x)
562-0471-07	562-0471-08	ZFI68-81KQE	Ø1.8mm (TS118C0x)
562-0613-06	562-0613-07	ZFI51-60KNE	Ø1.65mm (TS116C0x)
562-0613-04	562-0613-05	ZFI72-82KNE	Ø1.8mm (TS118C0x)
562-0460-00	562-0460-01	ZFI96-140KQE	Ø2.4mm (TS124C0x)
562-0680-00	562-0680-01	ZFI180KQE	Ø3.0mm (TS130C0x)

EVI control module

The next generation of Copeland's compressor electronics module presents a breakthrough in innovation, by providing advanced diagnostics, intelligent protection and communications that enhances compressor performance and reliability. The module assists contractors or service providers in the troubleshooting of commercial refrigeration systems by providing valuable information to help diagnose issues quickly and accurately, significantly reducing costly costly downtimes.

The module includes 2 design versions for different product platforms.

The new generation ZF35-58KNE, ZFI51-82KNE and large scroll compressors ZB150-300KQE, ZFI96-180KQE are equipped with this module. The module (Plus 5 type 571-0106-00) is installed in the compressor electrical box. Copeland scroll compressors equipped with this electronic module will have a "R" in the electrical code. An example, ZFI122KQE-TRD.

The liquid injection scroll ZSI06-21KQ/E, ZFI09-30KNE and the vapor injection scroll compressor ZFI09-30KNE, ZFI20-81KQE could use this module (Plus 4 type 571-0170) via its accessory kits package.



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Smart Control Module User Manual

Dip-switch setting

Bit 1 dip-switch is used for selecting compressor discharge temperature control target. Bit 2 is enable or disable for oil level control. The combination of Bit 3 and Bit 4 is for injection control mode and vapor injection superheat target.



Plus 5 Module: 571-0106-00

Location	Bit 1	Bit 2	Bit 3	Bit 4
OFF	Discharge port temperature control target at 120°C (OFF)	Disable oil level control (OFF)	Disable injection (ON-OFF) Liquid Injection (ON-ON) Vapor Injection 5K Superheat (OFF-OFF) Vapor Injection 10K Superheat (OFF-ON)	
ON	Discharge port temperature control target at 110°C (ON)	Enable oil level control (ON)		

Plus 4 Module: 571-0107-00

Location	Bit 1	Bit 2	Bit 3	Bit 4
OFF	Discharge line temperature control target at 110°C (OFF)	Disable oil level control (OFF)	Disable Injection (ON-OFF) Liquid Injection (ON-ON) Vapor Injection 5K Superheat (OFF-OFF) Vapor Injection 10K Superheat (OFF-ON)	
ON	Discharge line temperature control target at 95°C (ON)	Enable oil level control (ON)		

Temperature sensors

The EVI control system includes 3 temperature sensors. Please ensure all sensors are mounted in the correct locations, fastened, and insulated properly.

The discharge temperature sensor should be installed approximately 178mm (7 inches) from discharge tube outlet. If a service valve is installed at the discharge tube, the sensor should be located 127mm (5 inches) from the valve braze.

The vapor-in sensor is connected to the pipe between the EXV and PHE. The vapor-out sensor is connected to the pipe from the PHE to the compressor vapor injection port. The 2 sensors share the same pin connector but with 2 lead wires. Don't make the vapor-in and vapor-out sensor location reversed.

The new generation ZF35-58KNE, ZFI51-82KNE and large scroll compressors ZFI96-180KQE is equipped with a discharge port temperature (DPT) sensor inside in scroll casting.



DLT Sensor



Vapor In/Out Sensor

Part Number	Sensor	Resistance value vs. temperature	Open	Short
543-0371-00 (1.8m) 543-0371-01 (4.5m)	Discharge temperature (DLT) sensor	351.6 kΩ @ 0 °C 100.0 kΩ @ 25 °C 5.8 kΩ @ 100 °C	> 1000kΩ	< 400Ω
043-0285-00 (1.8m) 043-0285-01 (4.5m)	Vapor in/out temperature (VIT/VOT) sensor	28.1 kΩ @ 0 °C 10.0 kΩ @ 25 °C 0.9 kΩ @ 100 °C	> 500kΩ	< 500Ω

Electronic expansion valve (EXV)

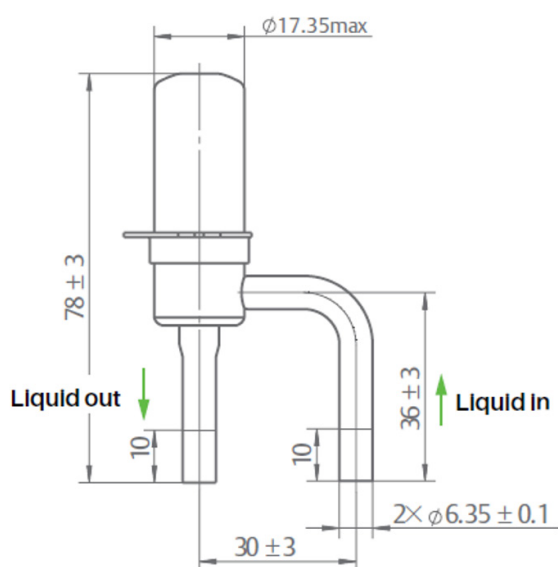
The EXV contains an EXV-valve and EXV-coil, lead wire length is 1.8m and 4.5m, the valve size includes Ø1.3mm, Ø1.65mm, Ø1.8mm, Ø2.4mm and Ø3.0mm depending on system size, applied to different ZFI models.

The liquid refrigerant should pass from the bending tube and flow out from the straight tube. Please weld the filter before the EXV provided along with the kits

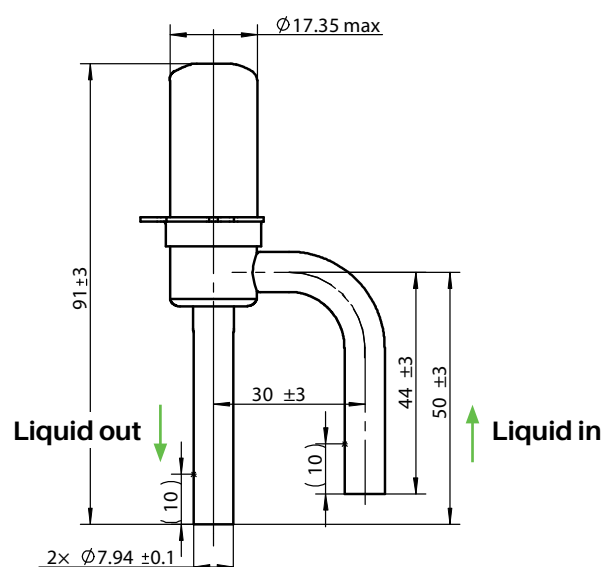
EXV valve	Orifice size
010-0240-00	Ø1.3mm
010-0240-01	Ø1.65mm
010-0240-02	Ø1.8mm
010-0240-03	Ø2.4mm
010-0380-00	Ø3.0mm

EXV coil	Wire length
023-0111-00	1.8m
023-0111-01	4.5m

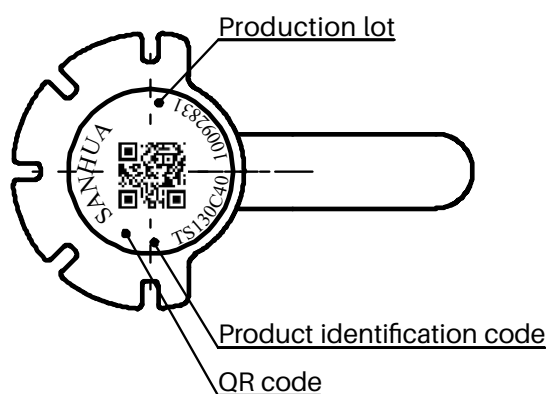
EXV valve connection size, mm



EXV valve: 010-0240-00/01/02/03



EXV valve: 010-0380-00



Product identification code specifications:

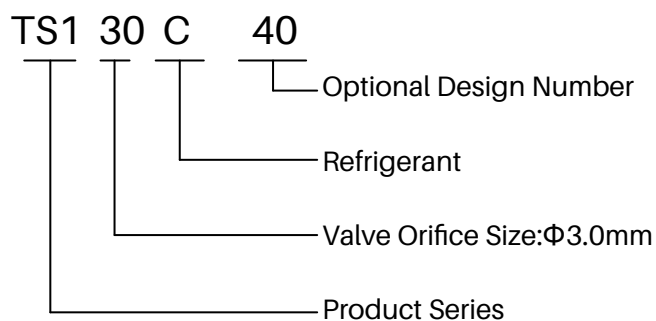
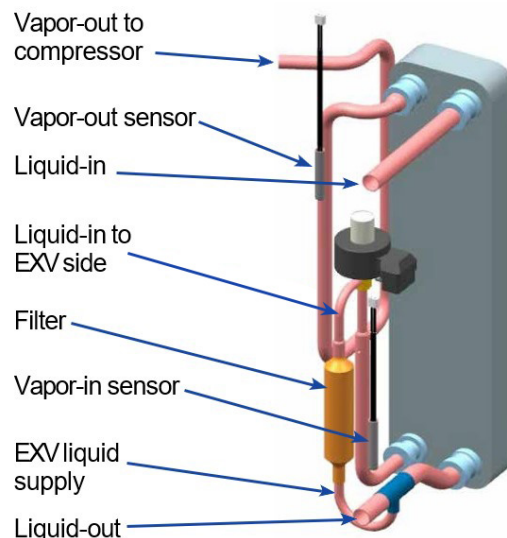


Plate heat exchanger (PHE) and liquid line temperature

Mount plate heat exchanger in the vertical position and oriented correctly. Ensure that sensors are located correctly as well.

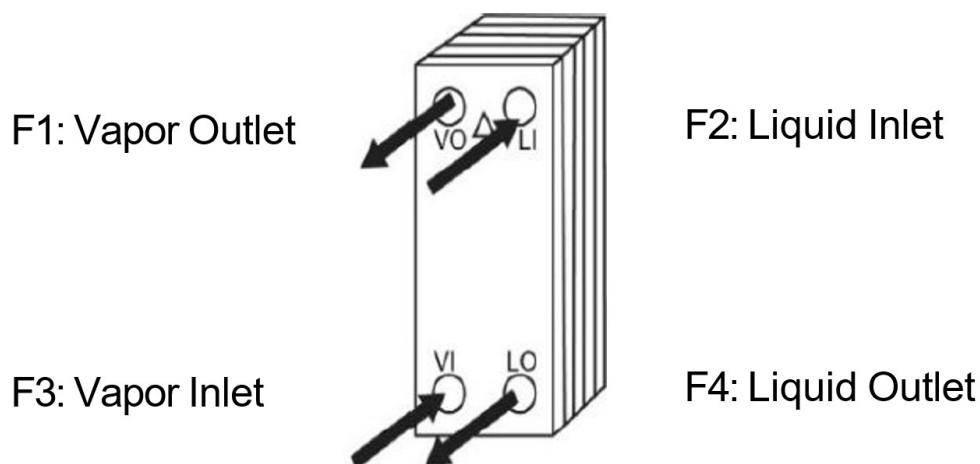
ZFI vapor injection compressors can deliver very cold liquid with economizer cycle. The sub-cooling of liquid line calls for these recommendations:

1. Liquid line pipe connecting the economizer to the evaporator expansion valve should be well-insulated separately.
2. The lower liquid line temperature can increase the evaporator valve capacities. Please follow the valve manufacturer's recommended liquid temperature correction factors for proper selection of evaporator expansion valve. Refer to product catalogue or select software for liquid line temperature.



Example of PHE assembly with downstream liquid supply

PHE piping size and flow direction

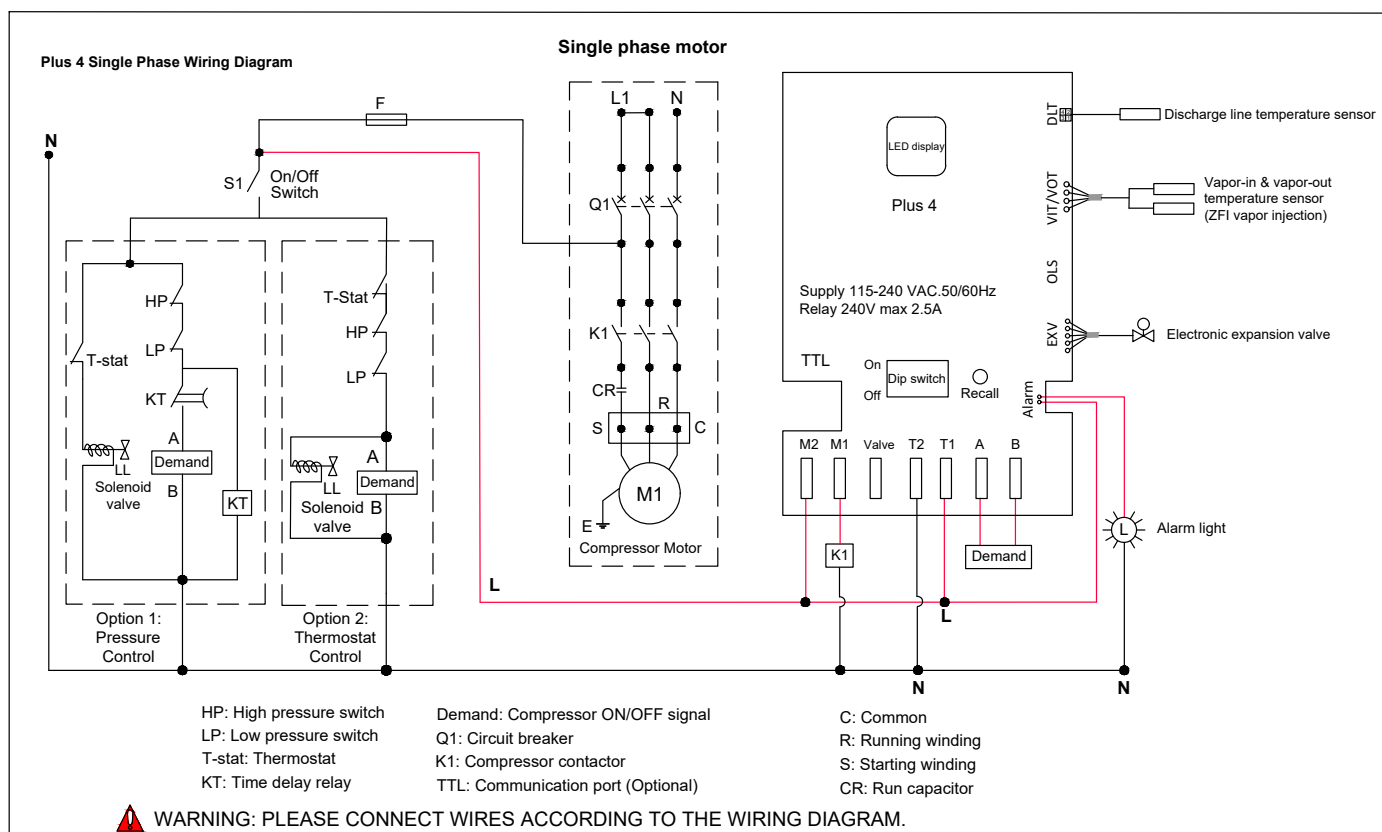


Compressor model	Part number (Copeland)	PHE model (SWEP)	F1 Vapor outlet	F3 Vapor inlet	F2 Liquid inlet	F4 Liquid outlet
ZFI09,11,13,16,19KNE	067-0098-00	BX4TH x 10	Ø9.65	Ø9.65	Ø12.8	Ø12.8
ZFI23,26,30KNE ZFI20,23,26,36,39KNE	067-0091-00	BX4TH x 14	Ø9.65	Ø9.65	Ø12.8	Ø12.8
ZFI50, 59KQE ZFI51, 60KNE	067-0092-00	BX4TH x 20	Ø9.65	Ø9.65	Ø19.2	Ø19.2
ZFI68, 81KQE ZFI72, 82KNE	067-0093-00	BX4TH x 24	Ø9.65	Ø9.65	Ø19.2	Ø19.2
ZFI96, 122, 140KQE	067-0067-00	B10TH x 40	Ø19.2	Ø19.2	Ø19.2	Ø19.2

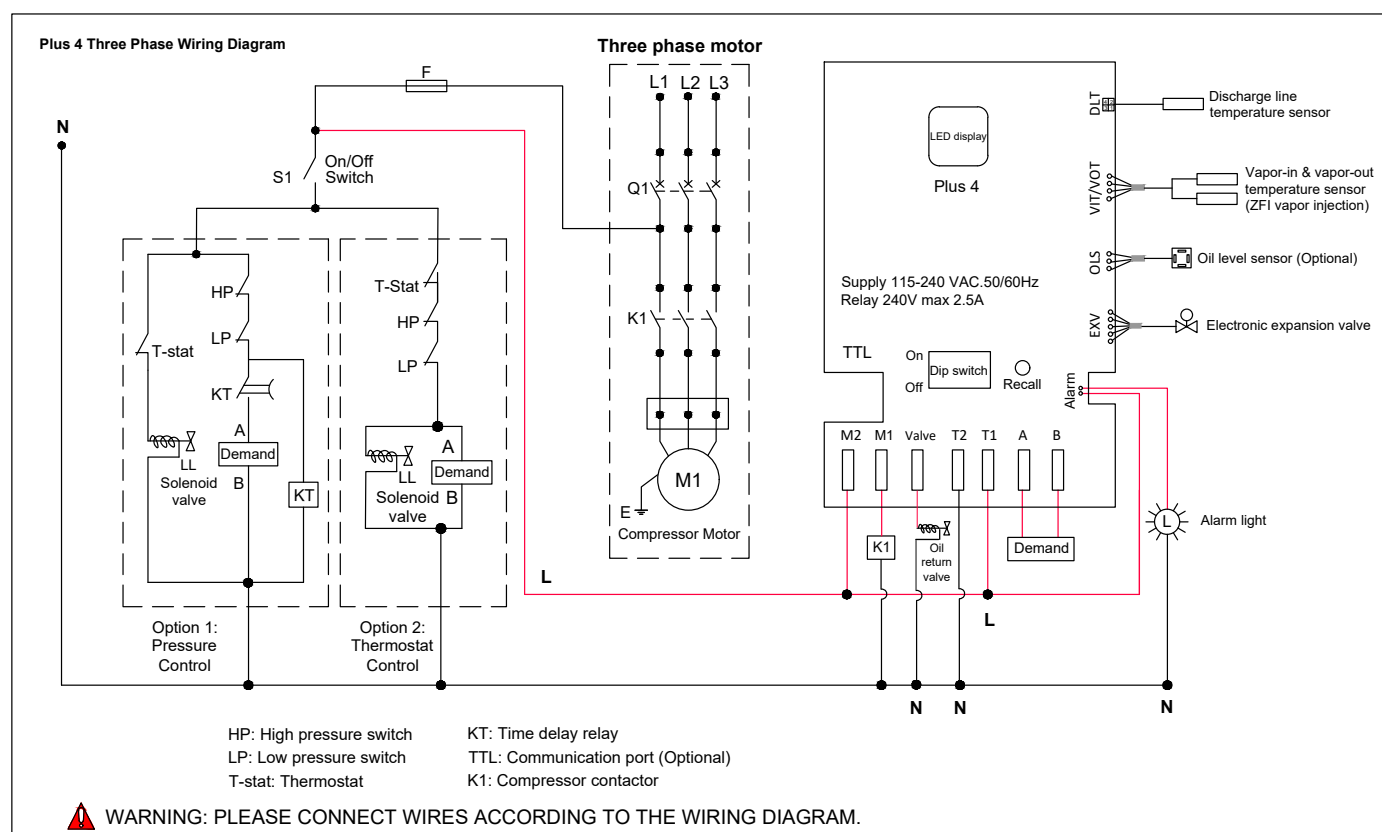
Unit: mm

Wiring diagram

ZSI06-14KQE, ZFI09-16KNE single phase compressor (plus 4 module)



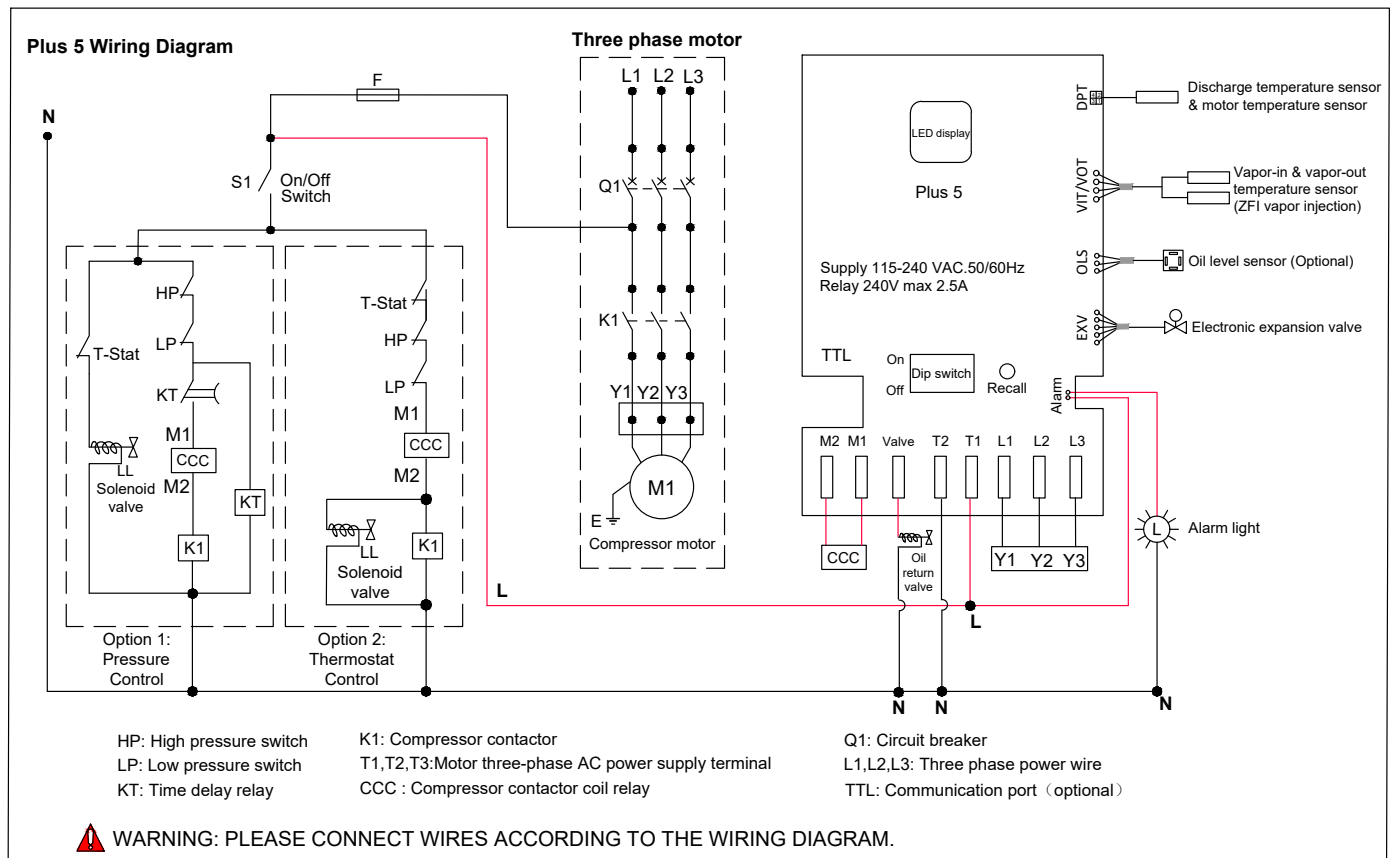
ZSI06-21KQE, ZFI09-30KNE, ZFI20-81KQE three phase compressor (plus 4 module)



Wiring diagram

ZF35-58KNE, ZFI51-82KNE, ZFI96-180KQE, ZB150-300KQE

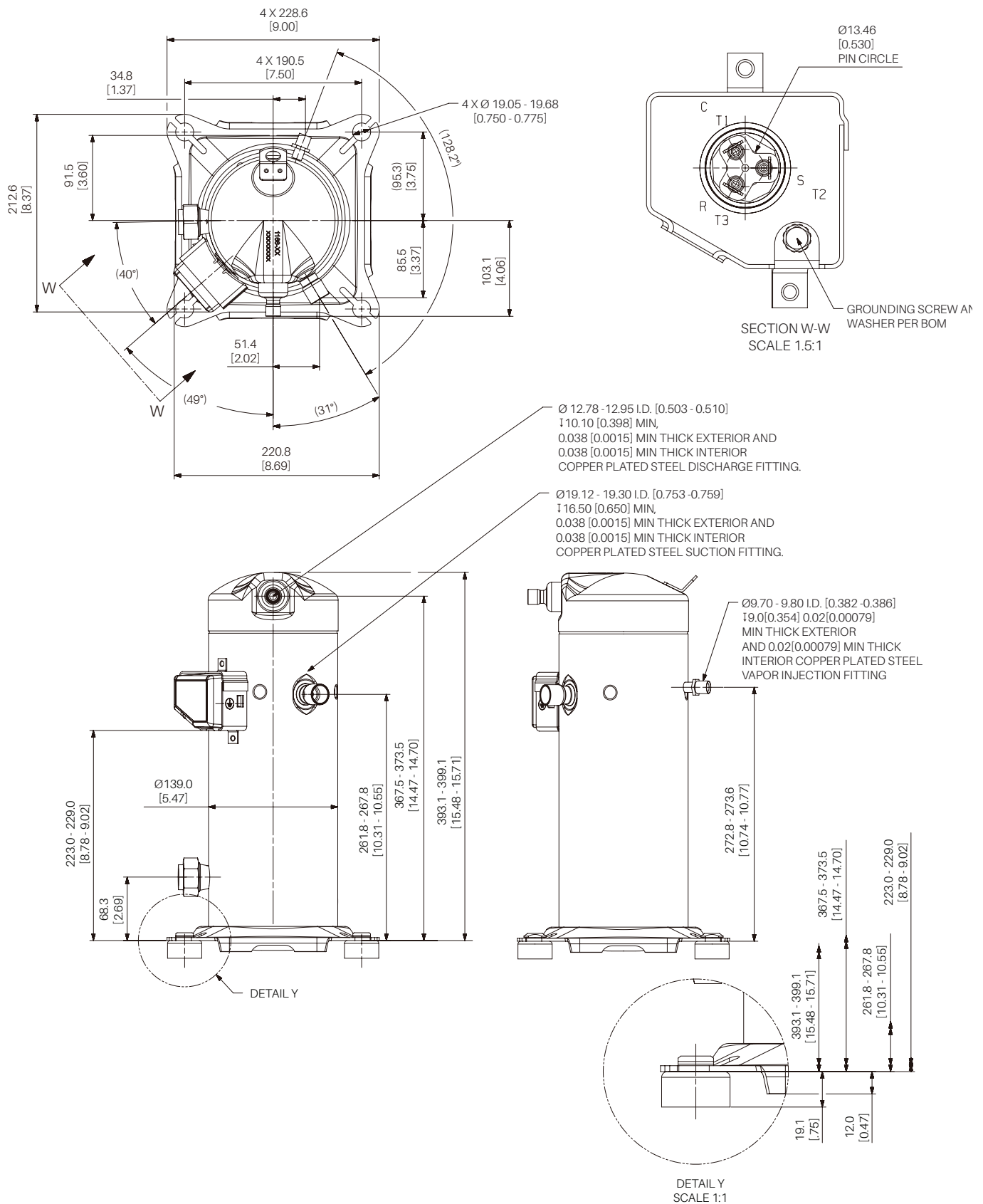
three phase compressor (plus 5 module)



Dimensional drawings

ZFI09, 11, 13KNE (BOM558)

Stub tube connection



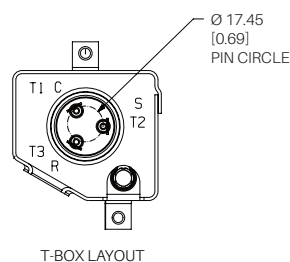
Notes:

- (1) All tolerances $\pm 1.5\text{mm}$ [0.06in] unless otherwise specified
- (2) Due to accumulated assembly tolerances, the listed components may vary from the mounting holes. All fittings: $\pm 3.0\text{mm}$ [0.12in]
- (3) Tube ends must be plugged
- (4) All units are in mm[inch]

Stub tube connection



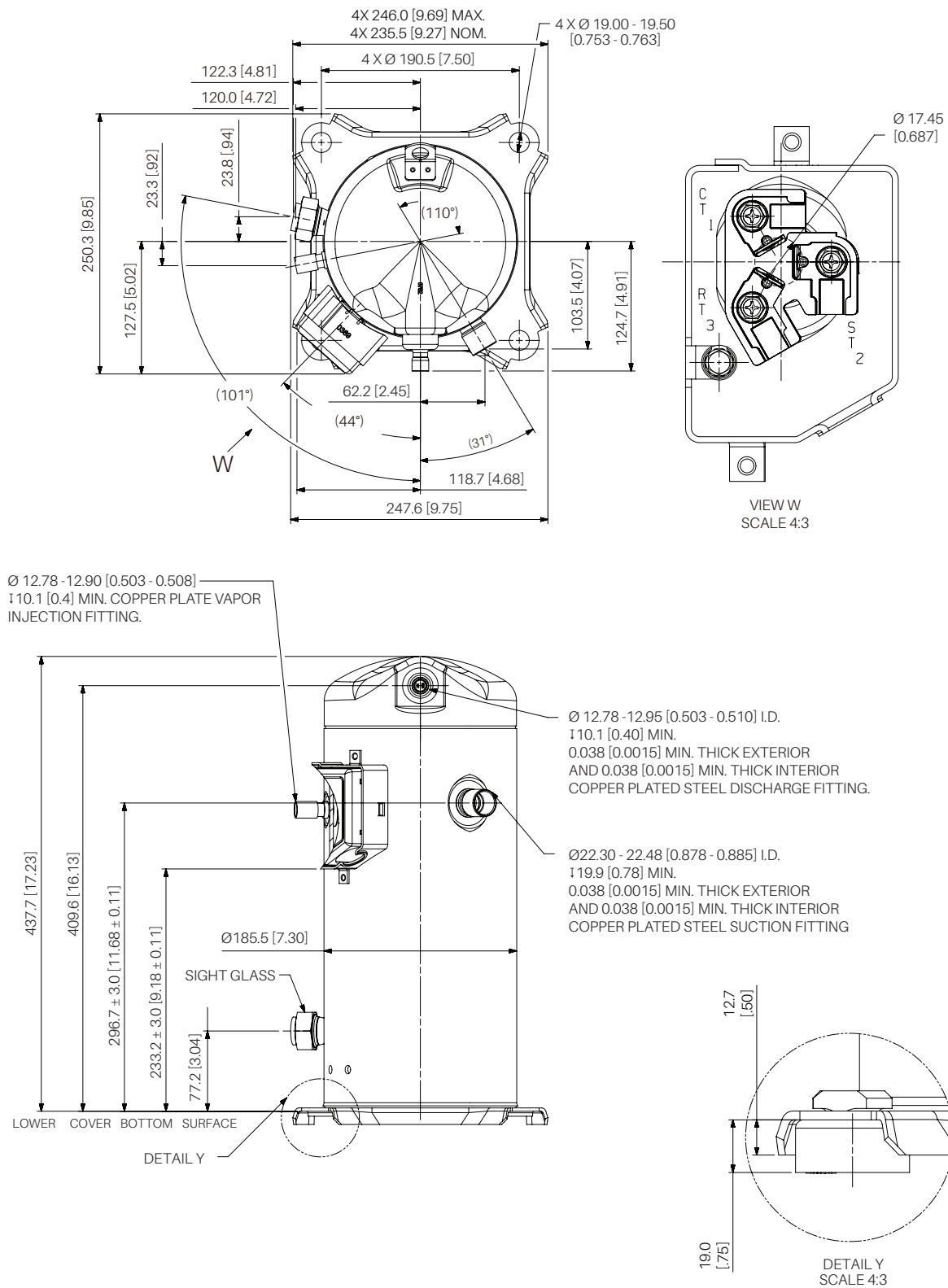
Stub tube connection



Dimensional drawings

ZFI26KNE (BOM558)

Stub tube connection



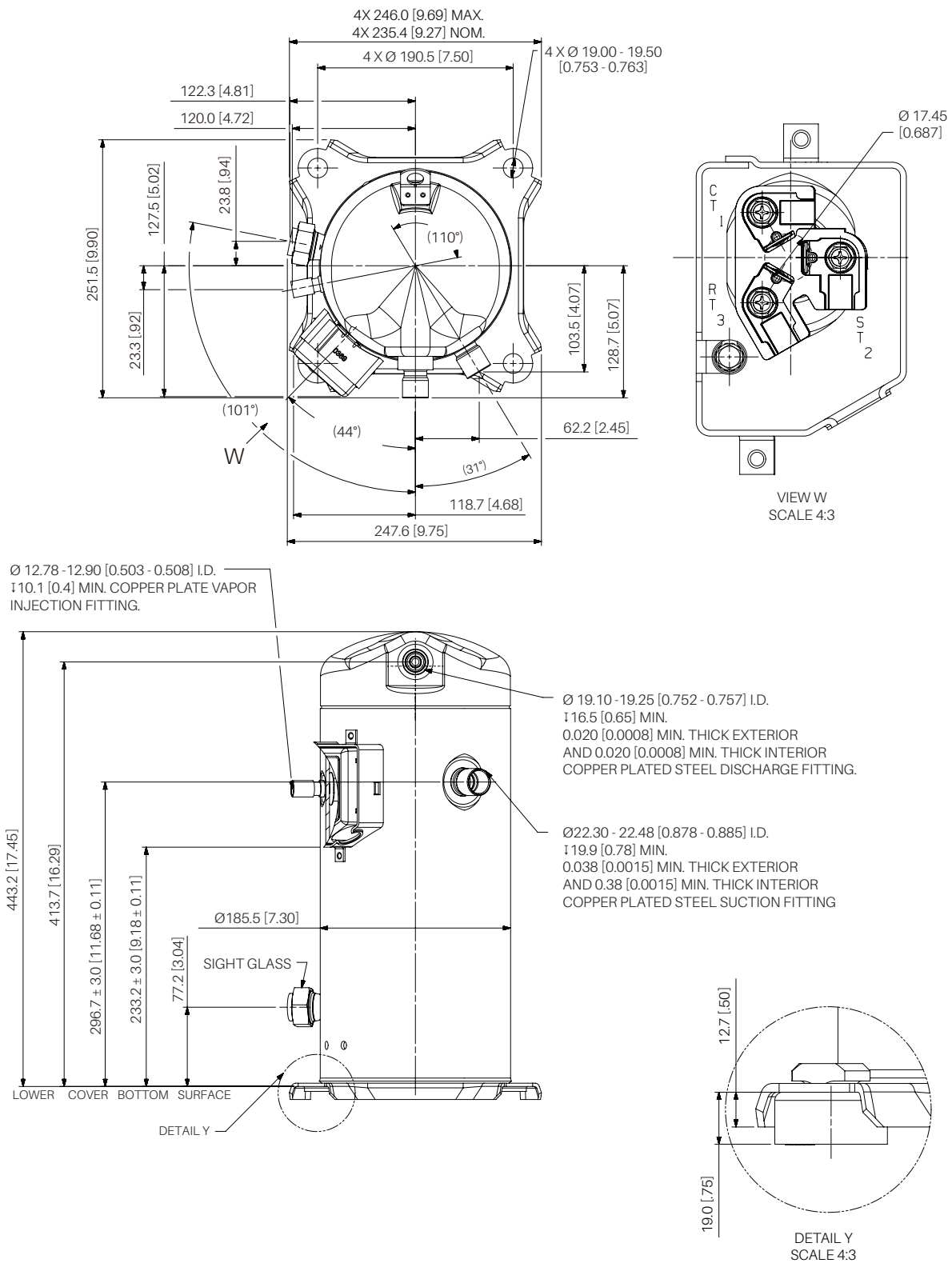
Notes:

- (1) All tolerances ± 1.5mm [0.06in] unless otherwise specified
- (2) Due to accumulated assembly tolerances, the listed components may vary from the mounting holes. All fittings: ± 3.0mm [0.12in]
- (3) Tube ends must be plugged
- (4) All units are in mm[inch]

Dimensional drawings

ZFI30KNE (BOM558)

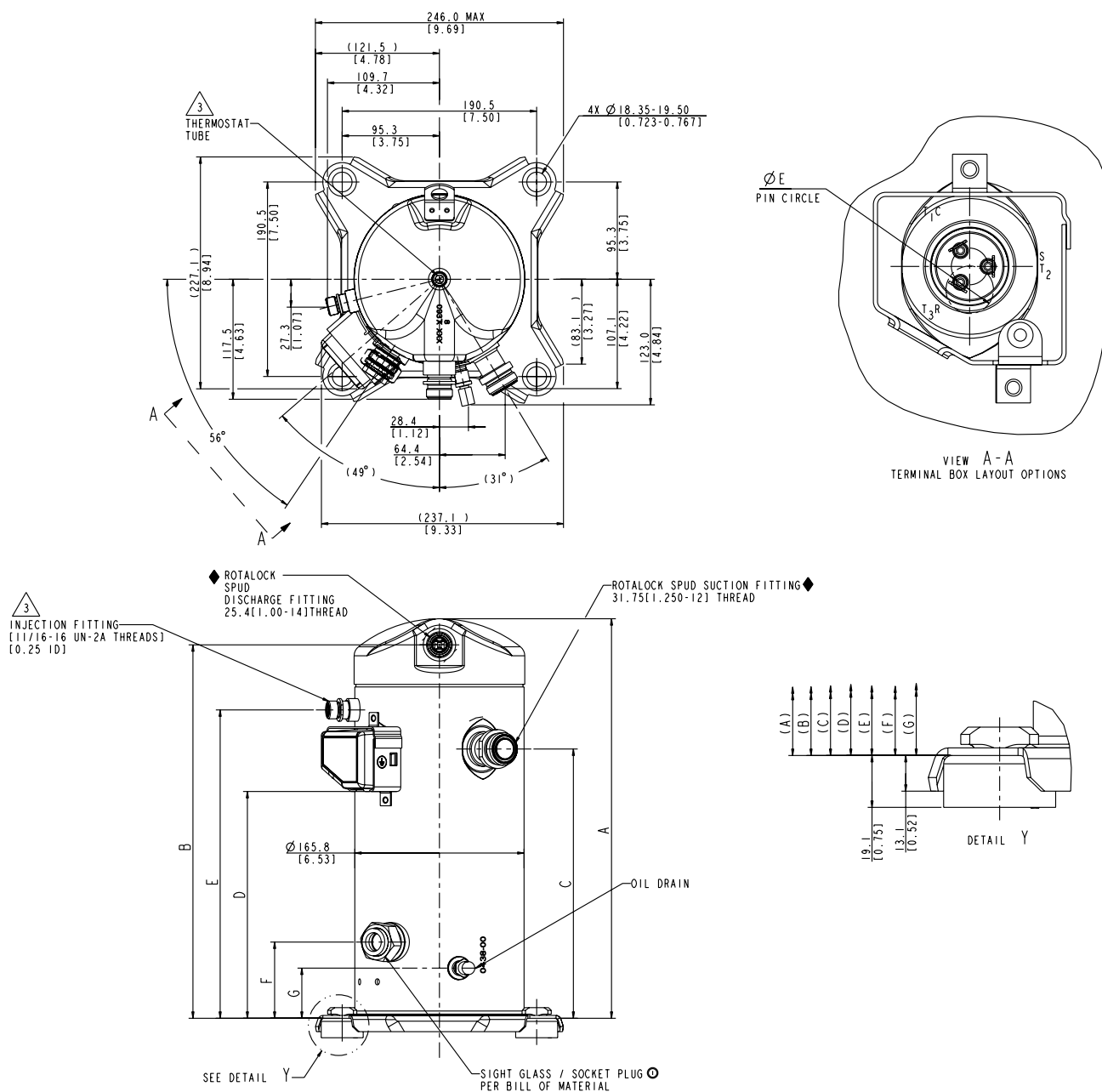
Stub tube connection



Dimensional drawings

ZF06KQE - ZF11KQE (BOM 551)

Rotalock connection



Model number	mm[in]						
	A±3.0	B	C	D±3.0	E	F	G
ZF06KQE	368.7 [14.52]	343.1 [13.51]	243.8 [9.60]	202.2 [7.96]	279.4 [11.00]	68.9 [2.71]	43.4 [1.70]
ZF08KQE	391.3 [15.41]	365.7 [14.40]	263.7 [10.38]	222.1 [8.74]	302.0 [11.88]	74.6 [2.93]	49.1 [1.93]
ZF09KQE	391.3 [15.41]	365.7 [14.40]	263.7 [10.38]	222.1 [8.74]	302.0 [11.88]	74.6 [2.93]	49.1 [1.93]
ZF11KQE	405.0 [15.94]	379.4 [14.94]	276.4 [10.88]	234.8 [9.24]	315.7 [12.42]	74.6 [2.93]	49.1 [1.93]

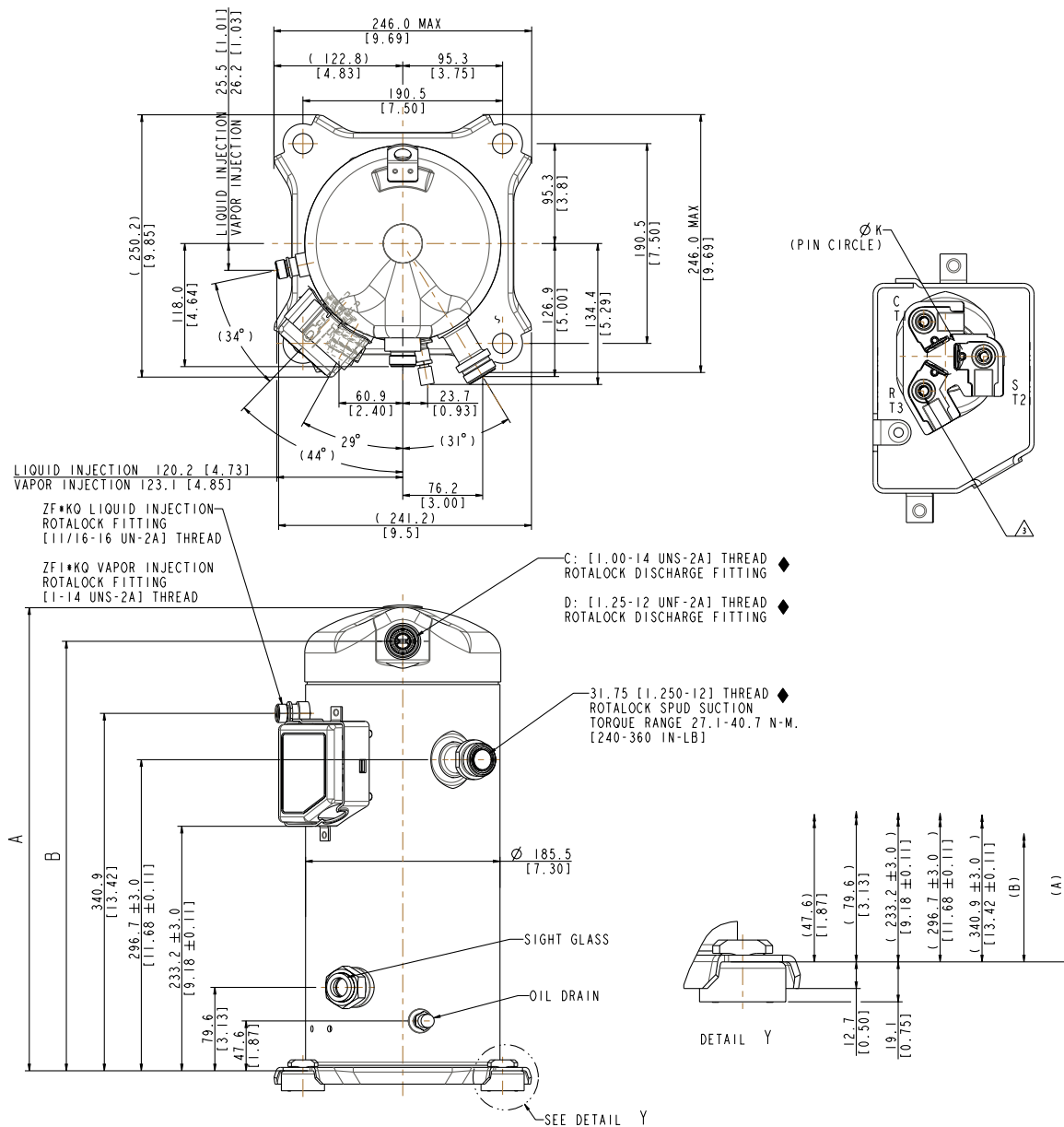
Notes:

- (1) All tolerances ± 1.5mm [0.06in] unless otherwise specified
- (2) Due to accumulated assembly tolerances, the listed components may vary from the mounting holes. All fittings: ± 3.0mm [0.12in]
- (3) Tube ends must be plugged
- (4) All units are in mm[inch]

Dimensional drawings

ZF13KQE - ZF28KQE (BOM 551)

Rotalock connection



Model number	mm (in)		Discharge fitting
	A±3.0	B±3.0	
ZF13KQE	442.0 [17.40]	409.6 [16.13]	C
ZF15KQE			
ZF18KQE			
ZF25KQE			D
ZF28KQE	451.0 [17.76]	418.6 [16.48]	D

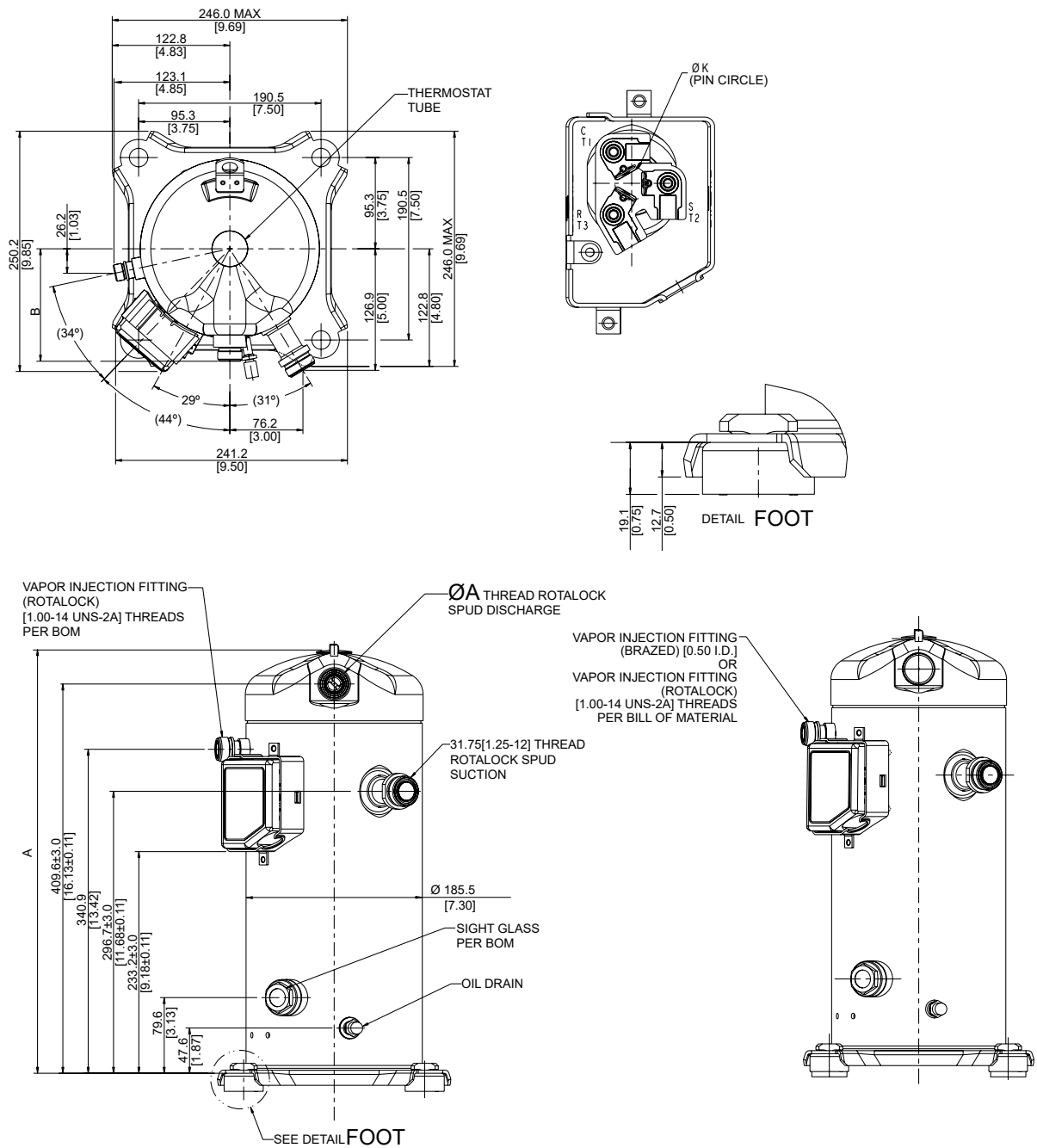
Notes:

- (1) All tolerances ± 1.5mm [0.06in] unless otherwise specified
- (2) Due to accumulated assembly tolerances, the listed components may vary from the mounting holes. All fittings: ± 3.0mm [0.12in]
- (3) Tube ends must be plugged
- (4) All units are in mm[inch]

Dimensional drawings

ZFI20KQE - ZFI39KQE (BOM 552)

Rotalock connection

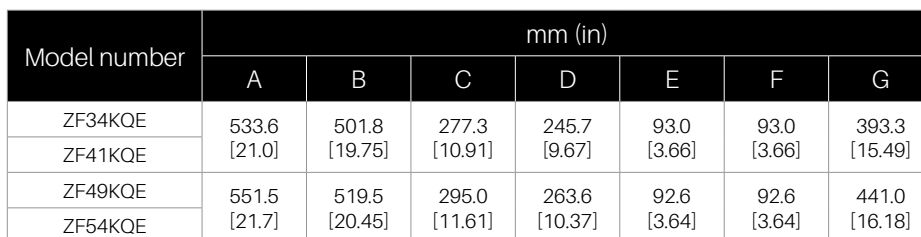


Model number	mm (in)		Discharge fitting
	A±3.0	B	
ZFI20KQE	442.0 [17.40]	409.6 [16.13]	C
ZFI23KQE			
ZFI26KQE			D
ZFI36KQE	451.0 [17.76]	418.6 [16.48]	D
ZFI39KQE			

Notes:

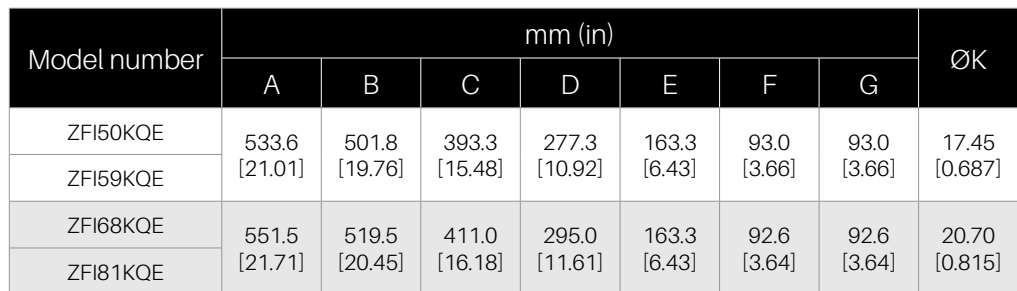
- (1) All tolerances $\pm 1.5\text{mm}$ [0.06in] unless otherwise specified
- (2) Due to accumulated assembly tolerances, the listed components may vary from the mounting holes. All fittings: $\pm 3.0\text{mm}$ [0.12in]
- (3) Tube ends must be plugged
- (4) All units are in mm[inch]

Rotalock connection



(4) All units are in mm[inch]

Rotalock connection

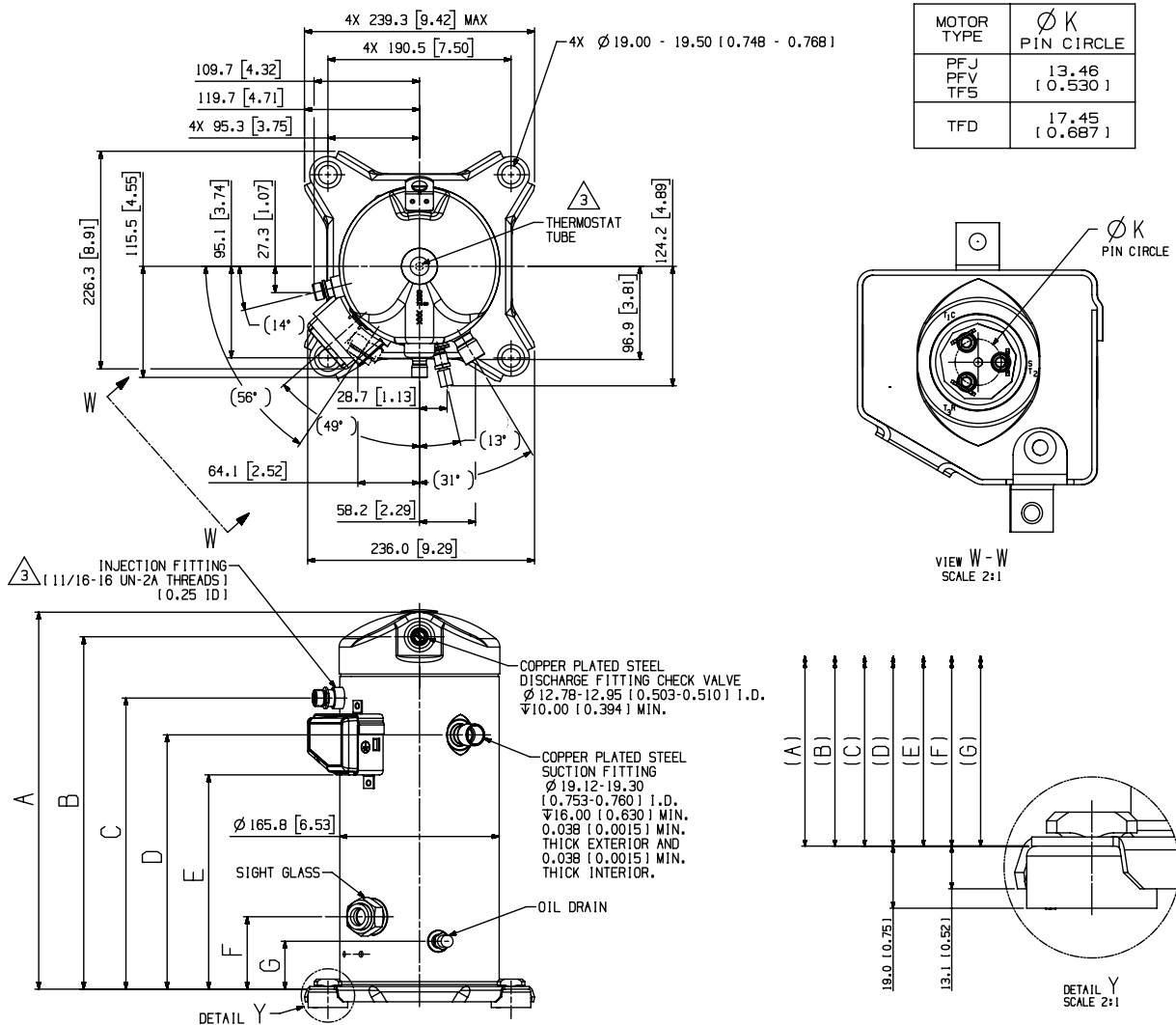


(1) All tolerances $\pm 1.5\text{mm}$ [0.06in] unless otherwise specified
(2) Due to accumulated assembly tolerances, the listed components may vary from the mounting holes. All fittings: $\pm 3.0\text{mm}$ [0.12in]
(3) Tube ends must be plugged
(4) All units are in mm[inch]

Dimensional drawings

ZF06KQE - ZF11KQE (BOM 550)

Stub tube connection



Model number	mm (in)						
	A	B	C	D	E	F	G
ZF06KQE	369.9 [14.56]	343.8 [13.54]	280.0 [11.02]	244.5 [9.62]	202.9 [7.99]	69.6 [2.74]	44.1 [1.74]
ZF08KQE	392.5 [15.45]	366.4 [14.42]	302.6 [11.91]	264.4 [10.41]	222.8 [8.77]	75.3 [2.96]	49.8 [1.96]
ZF09KQE							
ZF11KQE	406.3 [16.00]	380.1 [14.96]	316.4 [12.46]	277.1 [10.91]	235.5 [9.27]	75.3 [2.96]	49.8 [1.96]

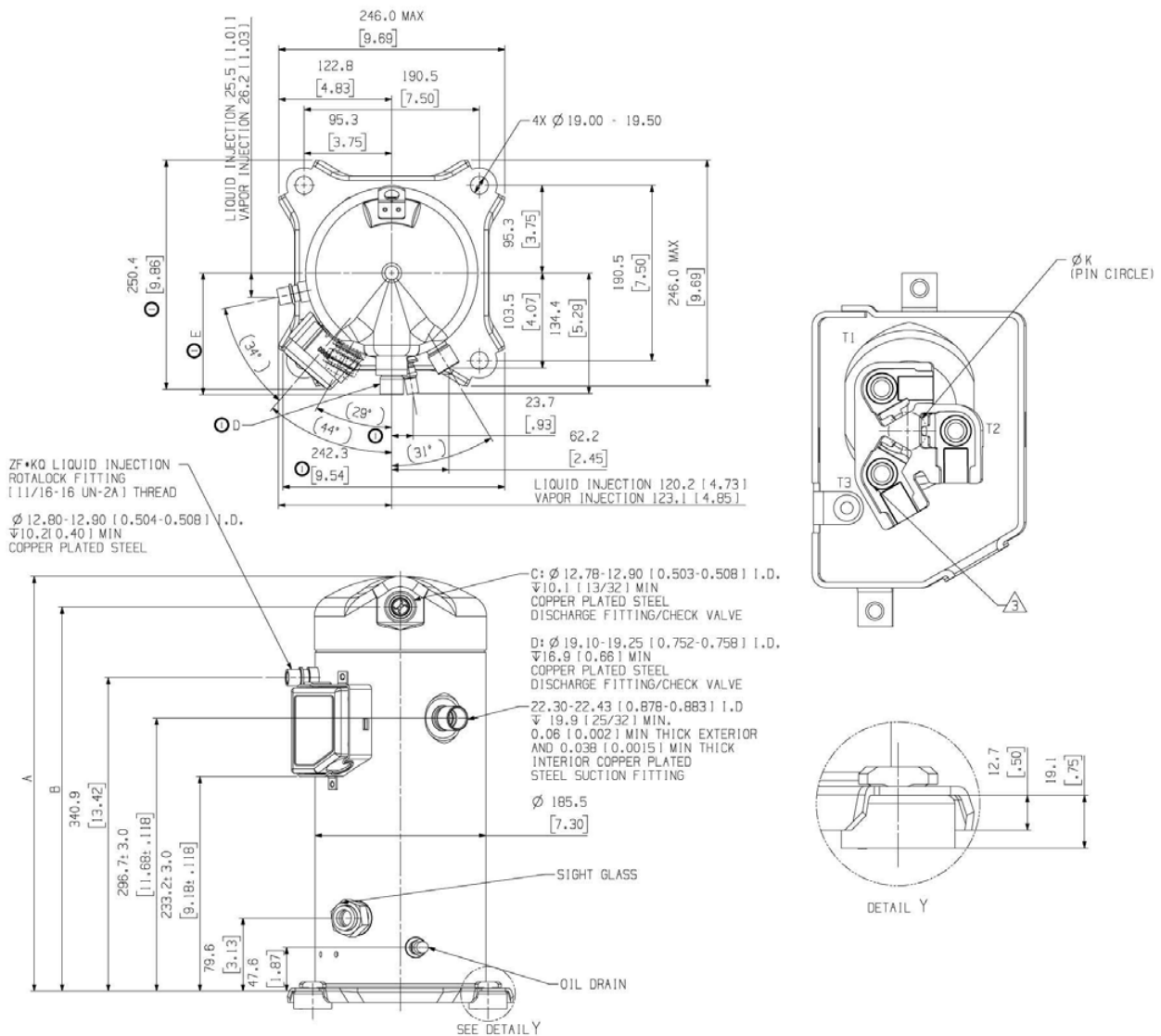
Notes:

- (1) All tolerances $\pm 1.5\text{mm}$ [0.06in] unless otherwise specified
- (2) Due to accumulated assembly tolerances, the listed components may vary from the mounting holes. All fittings: $\pm 3.0\text{mm}$ [0.12in]
- (3) Tube ends must be plugged
- (4) All units are in mm[inch]

Dimensional drawings

ZF13KQE - ZF28KQE (BOM 550)

Stub tube connection

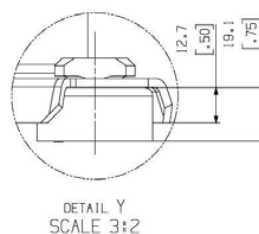
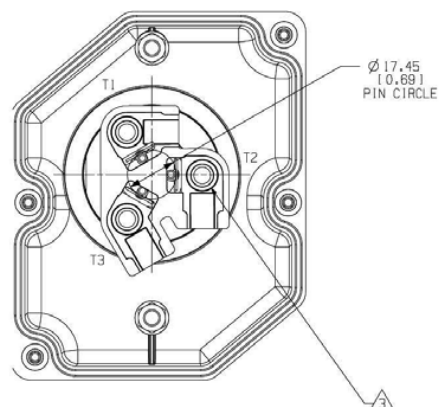
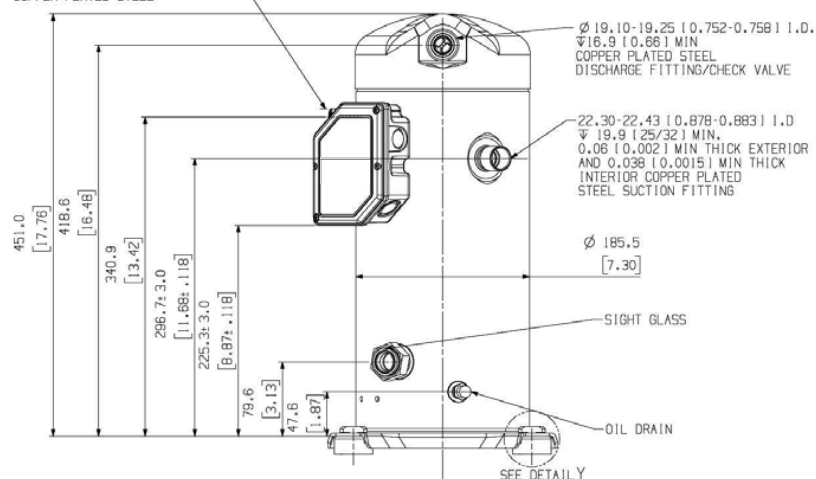


Model number	mm (in)		Discharge fitting
	A±3.0	B±3.0	
ZF13KQE	442.0 [17.40]	409.6 [16.13]	C
ZF15KQE			
ZF18KQE			D
ZF25KQE			
ZF28KQE	451.0 [17.76]	418.6 [16.48]	D

Notes:

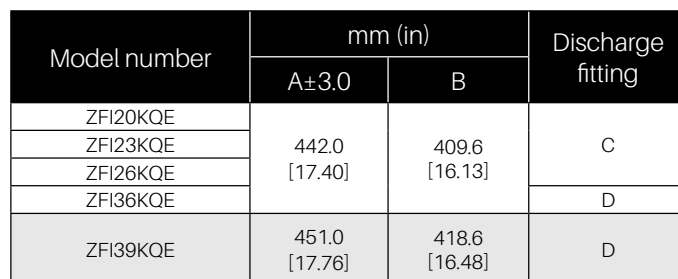
- (1) All tolerances ± 1.5mm [0.06in] unless otherwise specified
- (2) Due to accumulated assembly tolerances, the listed components may vary from the mounting holes. All fittings: ± 3.0mm [0.12in]
- (3) Tube ends must be plugged
- (4) All units are in mm[inch]

Stub tube connection



(4) All units are in mm[inch]

Stub tube connection



(4) All units are in mm[inch]

Stub tube connection

Stub tube connection

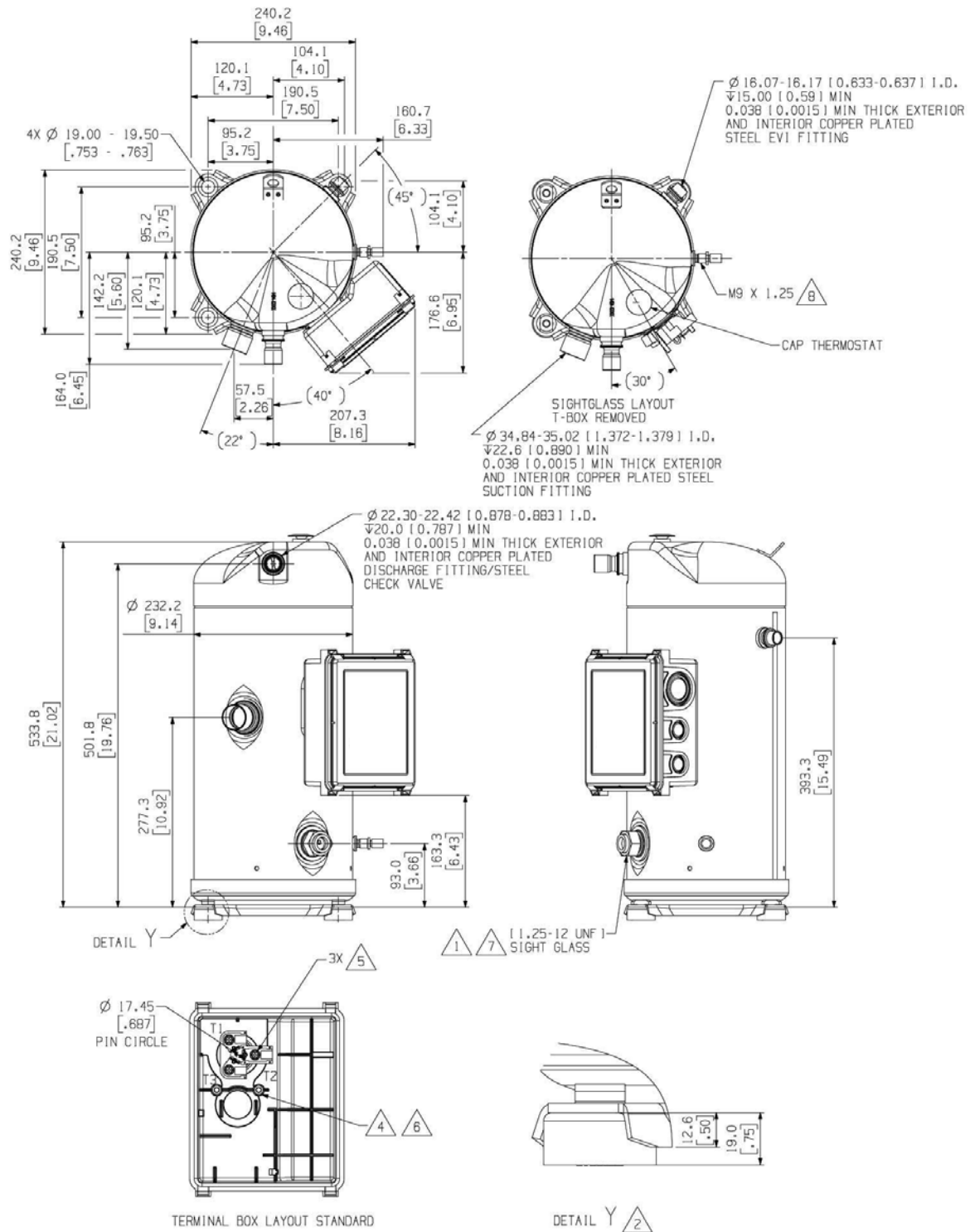


Stub tube connection

Dimensional drawings

ZFI50KQE - ZFI59KQE (BOM 554)

Stub tube connection



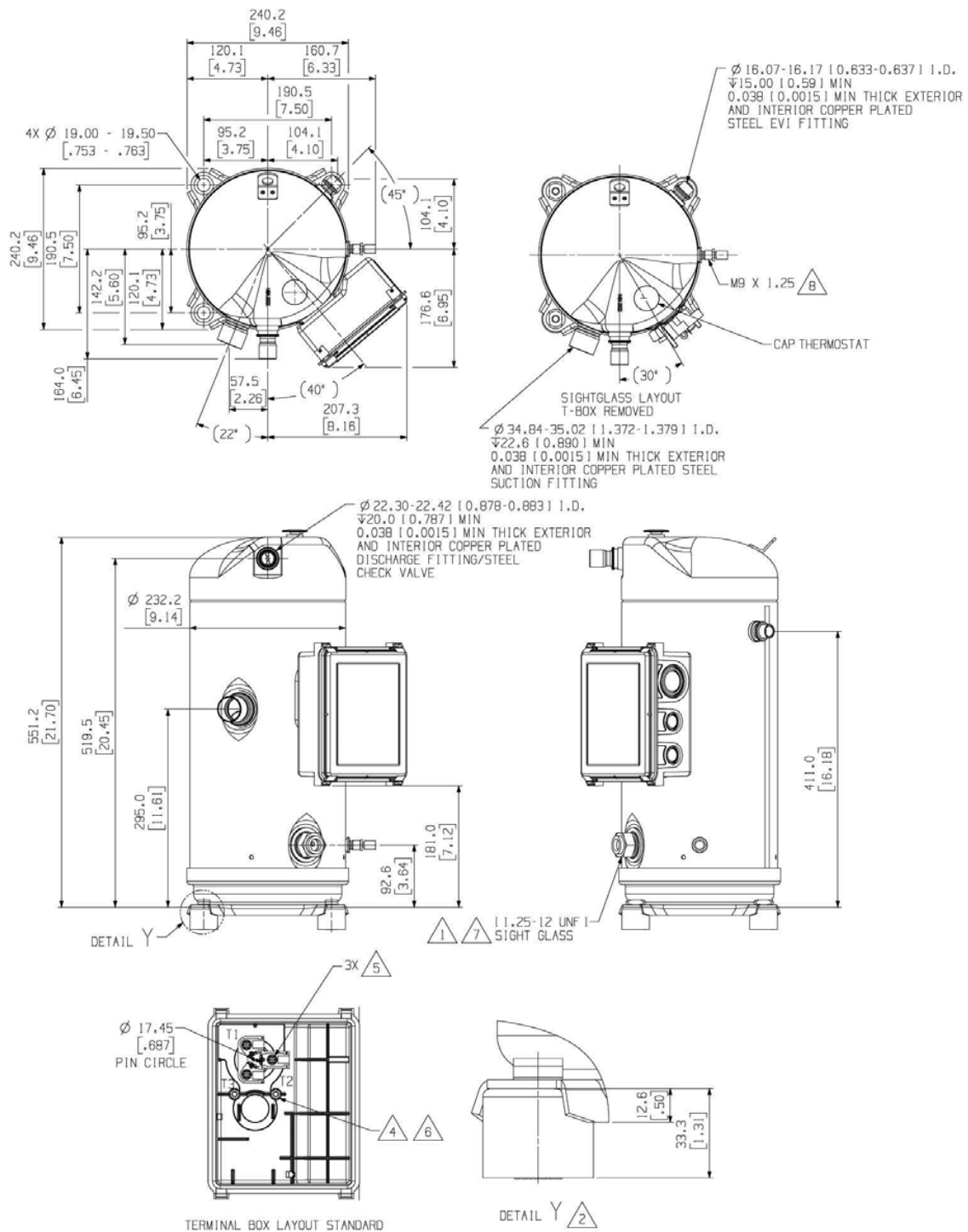
Notes:

- (1) All tolerances $\pm 1.5\text{mm}$ [0.06in] unless otherwise specified
- (2) Due to accumulated assembly tolerances, the listed components may vary from the mounting holes. All fittings: $\pm 3.0\text{mm}$ [0.12in]
- (3) Tube ends must be plugged
- (4) All units are in mm[inch]

Dimensional drawings

ZFI68/81KQE-TFD/TF7 (BOM 554)

Stub tube connection



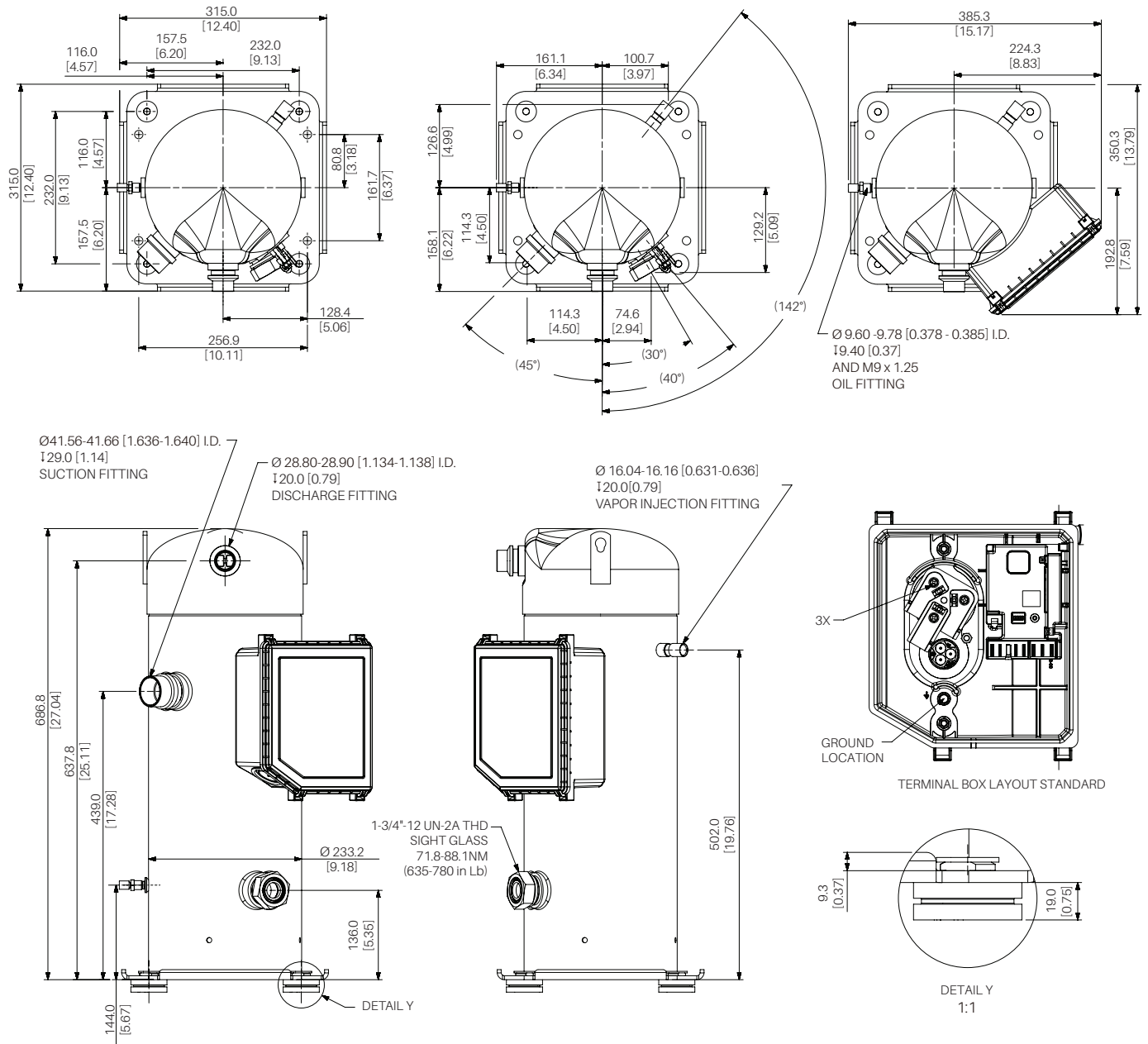
Notes:

- (1) All tolerances $\pm 1.5\text{mm}$ [0.06in] unless otherwise specified
- (2) Due to accumulated assembly tolerances, the listed components may vary from the mounting holes. All fittings: $\pm 3.0\text{mm}$ [0.12in]
- (3) Tube ends must be plugged
- (4) All units are in mm[inch]

Dimensional drawings

ZF34KNE-ZF58KNE, ZFI51-ZFI82KNE (BOM 500)

Stub tube connection



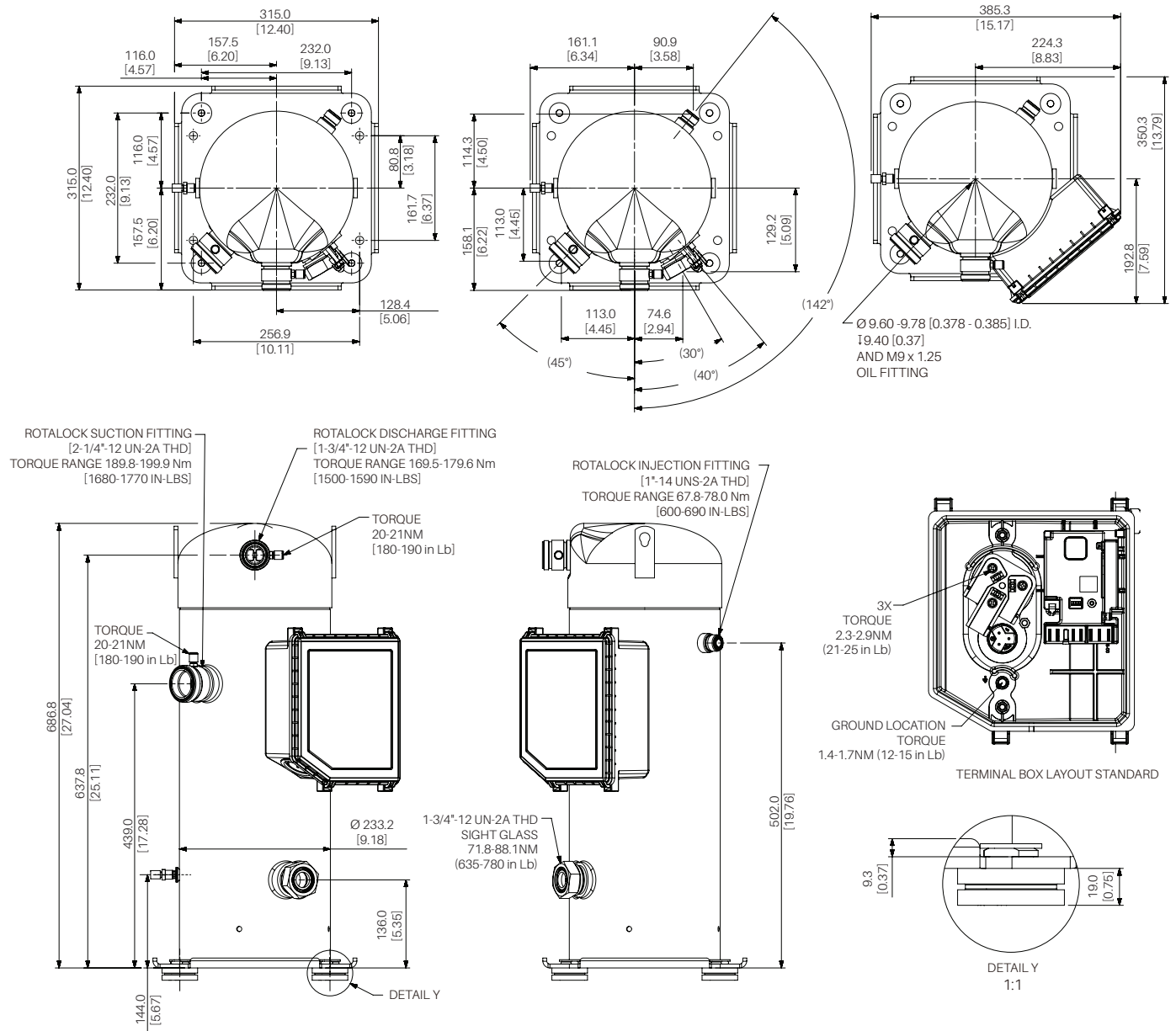
Notes:

- (1) All tolerances $\pm 1.5\text{mm}$ [0.06in] unless otherwise specified
- (2) Due to accumulated assembly tolerances, the listed components may vary from the mounting holes. All fittings: $\pm 3.0\text{mm}$ [0.12in]
- (3) Tube ends must be plugged
- (4) All units are in mm[inch]

Dimensional drawings

ZF34KNE-ZF58KNE, ZFI51-ZFI82KNE (BOM 515)

Rotalock connection



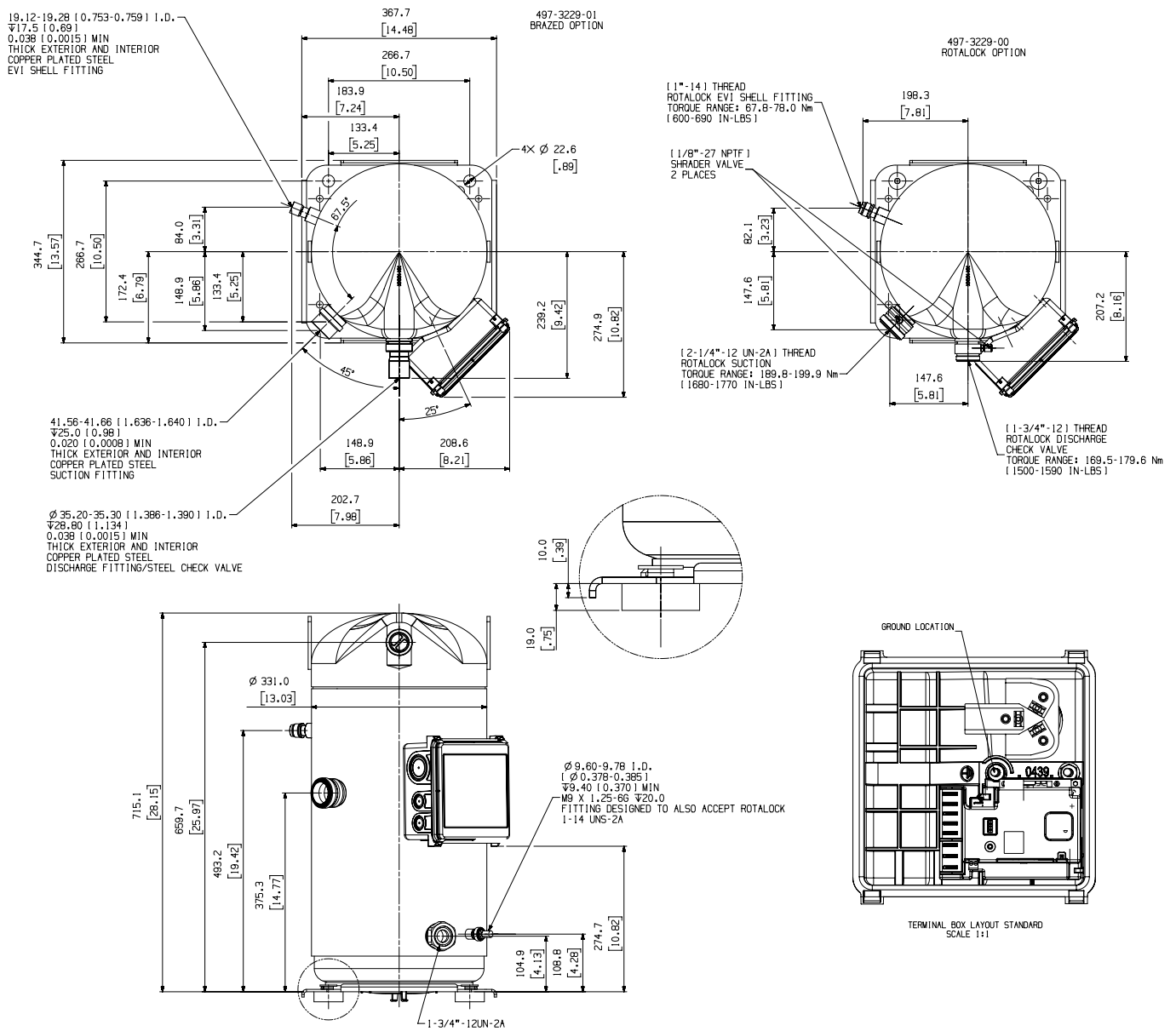
Notes:

- (1) All tolerances $\pm 1.5\text{mm}$ [0.06in] unless otherwise specified
- (2) Due to accumulated assembly tolerances, the listed components may vary from the mounting holes. All fittings: $\pm 3.0\text{mm}$ [0.12in]
- (3) Tube ends must be plugged
- (4) All units are in mm[inch]

Dimensional drawings

ZFI96/122/140KQE-TRD/TR7/TRC (BOM522/523)

Stub tube / Rotalock connection



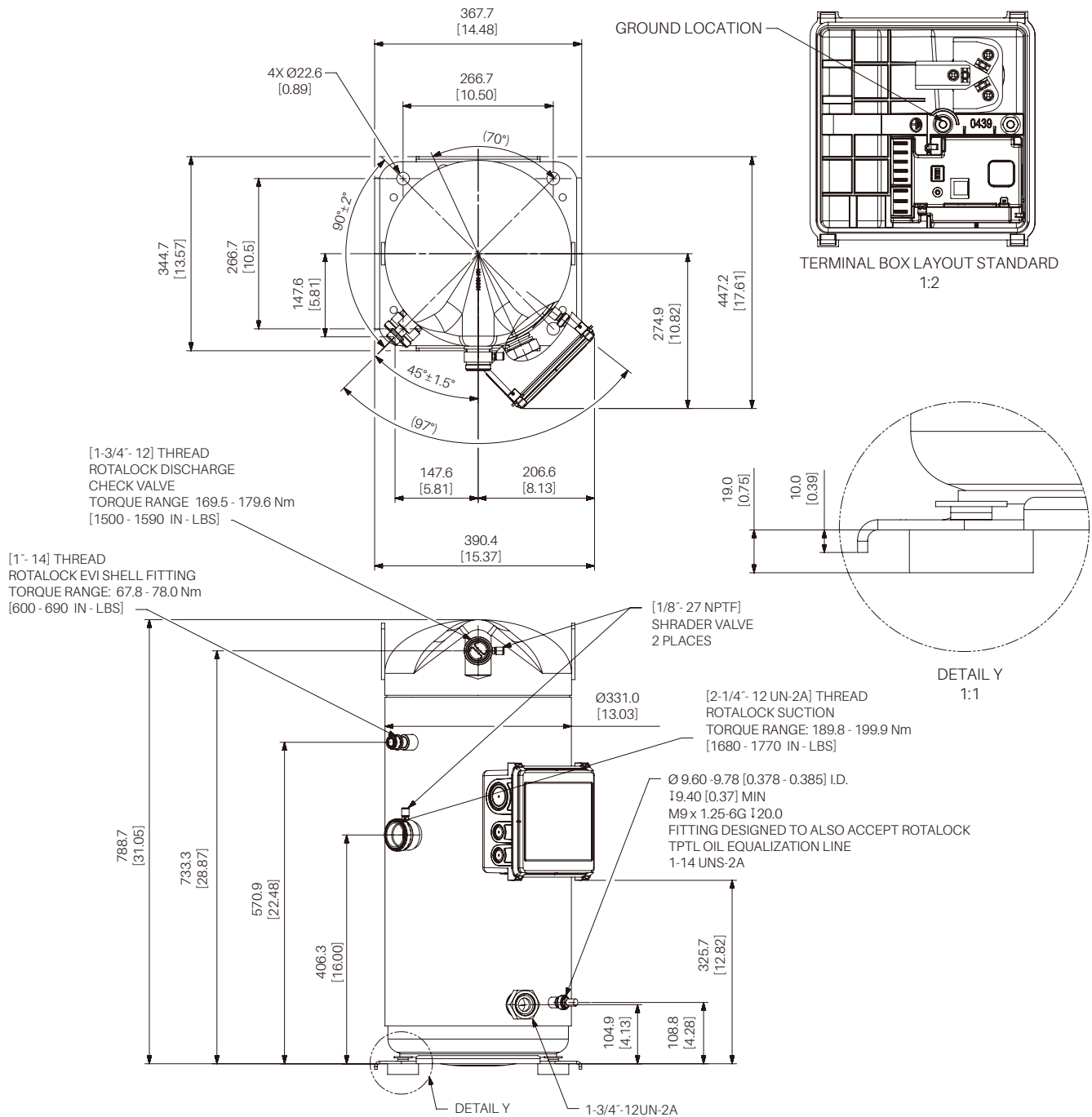
Notes:

- (1) All tolerances $\pm 1.5\text{mm}$ [0.06in] unless otherwise specified
- (2) Due to accumulated assembly tolerances, the listed components may vary from the mounting holes. All fittings: $\pm 3.0\text{mm}$ [0.12in]
- (3) Tube ends must be plugged
- (4) All units are in mm [inch]

Dimensional drawings

ZFI180KQE (BOM523)

Rotalock connection



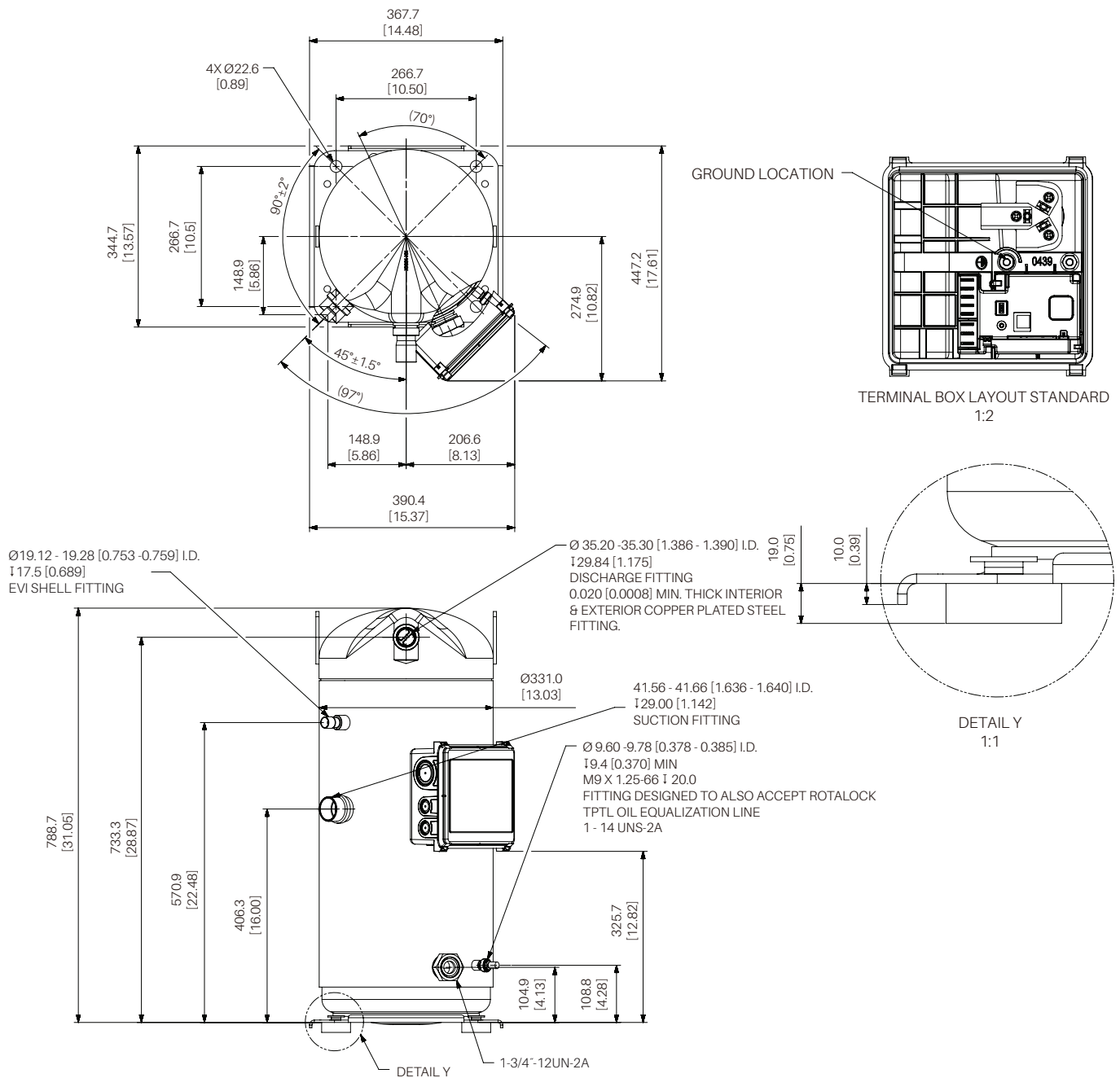
Notes:

- (1) All tolerances $\pm 1.5\text{mm}$ [0.06in] unless otherwise specified
- (2) Due to accumulated assembly tolerances, the listed components may vary from the mounting holes. All fittings: $\pm 3.0\text{mm}$ [0.12in]
- (3) Tube ends must be plugged
- (4) All units are in mm[inch]

Dimensional drawings

ZFI180KQE (BOM522)

Rotalock connection



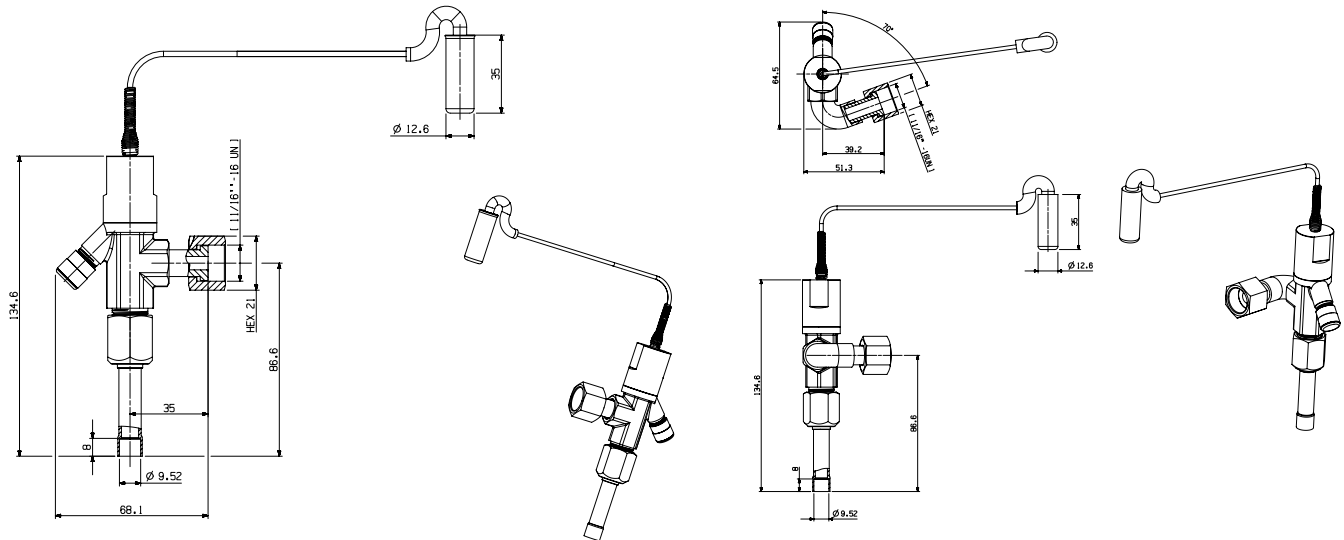
Notes:

- (1) All tolerances $\pm 1.5\text{mm}$ [0.06in] unless otherwise specified
- (2) Due to accumulated assembly tolerances, the listed components may vary from the mounting holes. All fittings: $\pm 3.0\text{mm}$ [0.12in]
- (3) Tube ends must be plugged
- (4) All units are in mm[inch]

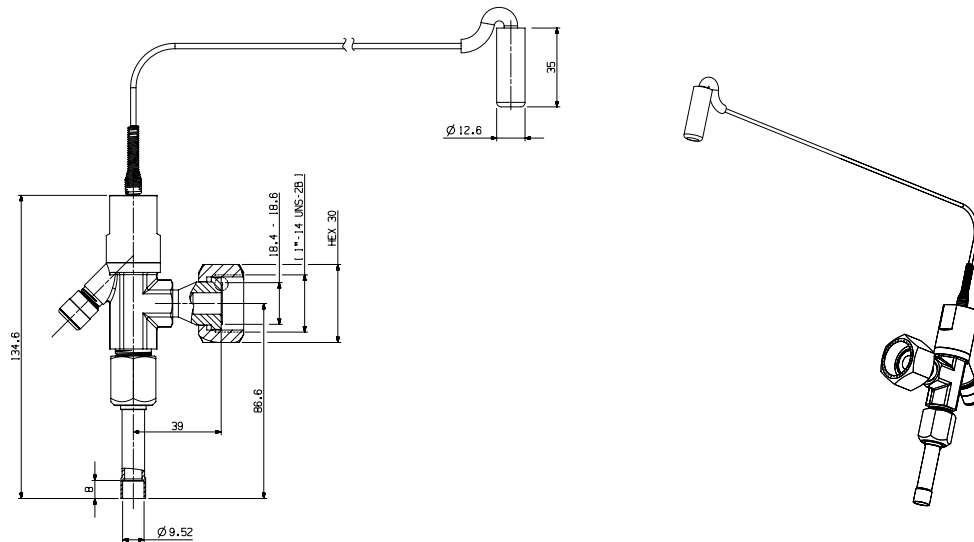
Dimensional drawings

DTC Valve prints

ZF06-28



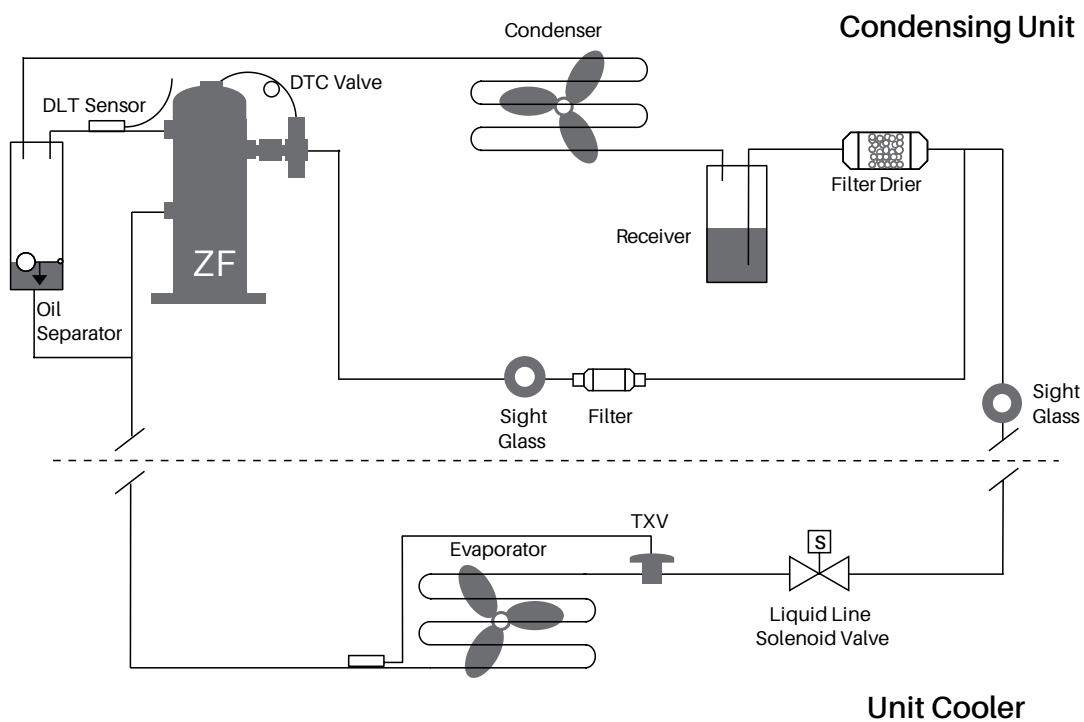
ZF34-54



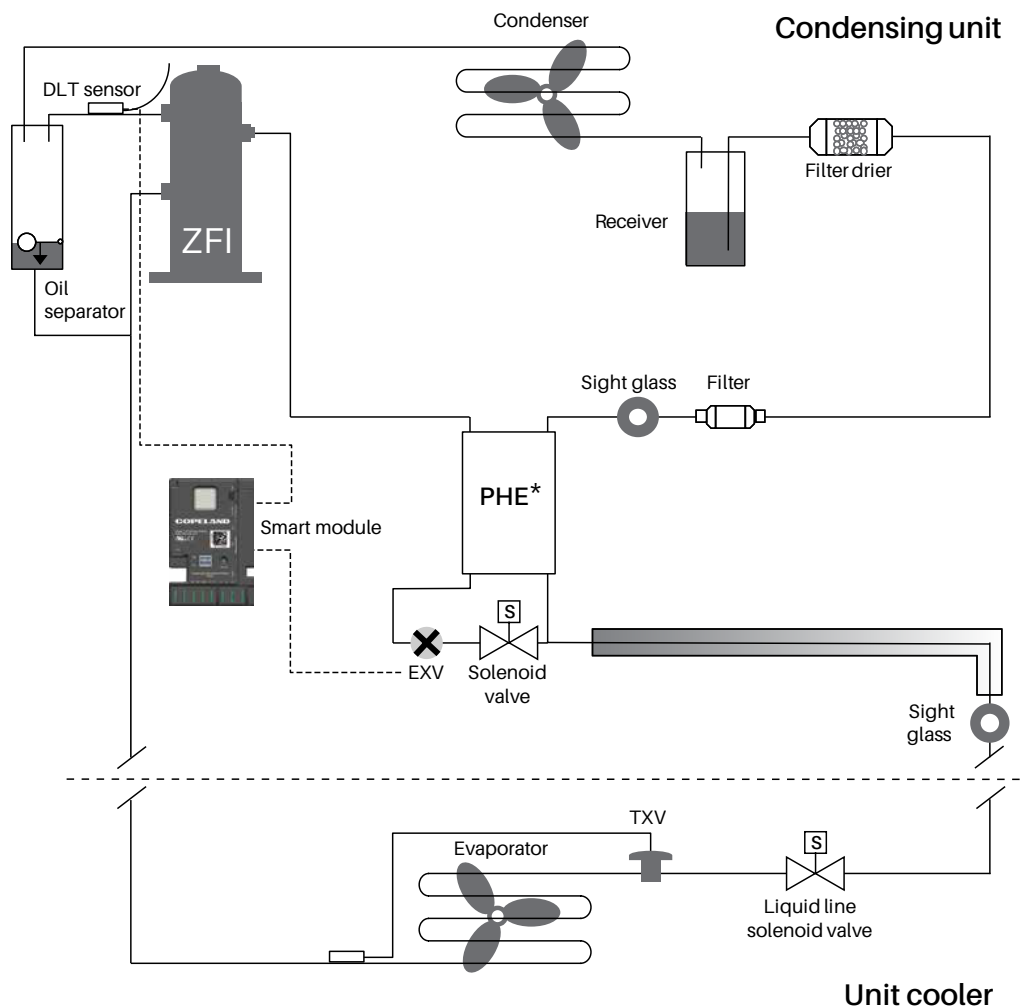
Note: Unit is mm

Schematic diagram

Liquid injection schematic



Vapor injection schematic



*PHE: Plate heat exchanger

Available models - ZF Liquid injection

Motor	Rotalock	Stub tube	Manufacturing plant	Status
PFZ 220-240V-1ph-50Hz	NA	ZFI09KNE-PFZ-558 / 657	Suzhou, China	Active
	NA	ZFI11KNE-PFZ-558 / 657	Suzhou, China	Active
	NA	ZFI13KNE-PFZ-558 / 657	Suzhou, China	Active
	NA	ZFI16KNE-PFZ-558 / 657	Suzhou, China	Active
TFD / TRD 380-420V-3ph-50Hz ; 460V-3ph-60Hz	NA	ZFI09KNE-TFD-558 / 657	Suzhou, China	Active
	NA	ZFI11KNE-TFD-558 / 657	Suzhou, China	Active
	NA	ZFI13KNE-TFD-558 / 657	Suzhou, China	Active
	NA	ZFI16KNE-TFD-558 / 657	Suzhou, China	Active
	NA	ZFI19KNE-TFD-558 / 657	Suzhou, China	Active
	NA	ZFI23KNE-TFD-558 / 657	Suzhou, China	Active
	NA	ZFI26KNE-TFD-558 / 657	Suzhou, China	Active
	NA	ZFI30KNE-TFD-558 / 657	Suzhou, China	Prototype
	ZF06KQE-TFD-551	ZF06KQE-TFD-550	Thailand	Active
	ZF08KQE-TFD-551	ZF08KQE-TFD-550	Thailand	Active
	ZF09KQE-TFD-551	ZF09KQE-TFD-550	Thailand	Active
	ZF11KQE-TFD-551	ZF11KQE-TFD-550	Thailand	Active
	ZF13KQE-TFD-551	ZF13KQE-TFD-550	Thailand	Active
	ZF15KQE-TFD-551	ZF15KQE-TFD-550	Thailand	Active
	ZF18KQE-TFD-551	ZF18KQE-TFD-550	Thailand	Active
	ZF25KQE-TFD-551	ZF25KQE-TFD-550	Thailand	Active
	ZF28KQE-TFD-551	ZF28KQE-TFD-550	Thailand	Active
	ZF34KQE-TFD-564	ZF34KQE-TFD-554	Thailand	Active
	ZF41KQE-TFD-564	ZF41KQE-TFD-554	Thailand	Active
	ZF49KQE-TFD-564	ZF49KQE-TFD-554	Thailand	Active
	ZF54KQE-TFD-564	ZF54KQE-TFD-554	Thailand	Active
	ZF35KNE-TRD-515	ZF35KQE-TRD-500	Suzhou, China	Prototype
	ZF42KNE-TRD-515	ZF42KQE-TRD-500	Suzhou, China	Prototype
	ZF52KNE-TRD-515	ZF52KQE-TRD-500	Suzhou, China	Active
	ZF58KNE-TRD-515	ZF58KQE-TRD-500	Suzhou, China	Active
TF5 200-220V-3ph-50Hz ; 200-230V-3ph-60Hz TFC 200V-3ph-50Hz ; 208-230V-3ph-60Hz	ZF06KQE-TF5-551	ZF06KQE-TF5-550	Thailand	Active
	ZF08KQE-TF5-551	ZF08KQE-TF5-550	Thailand	Active
	ZF09KQE-TF5-551	ZF09KQE-TF5-550	Thailand	Active
	ZF11KQE-TF5-551	ZF11KQE-TF5-550	Thailand	Active
	ZF13KQE-TFC-551	ZF13KQE-TFC-550	Thailand	Active
	ZF13KQE-TFC-551	ZF13KQE-TFC-550	Thailand	Active
	ZF15KQE-TFC-551	ZF15KQE-TFC-550	Thailand	Active
	ZF18KQE-TFC-551	ZF18KQE-TFC-550	Thailand	Active
	ZF25KQE-TFC-551	ZF25KQE-TFC-550	Thailand	Active
	ZF28KQE-TFC-591	ZF28KQE-TFC-580	Thailand	Active
	ZF34KQE-TFC-564 / 567	ZF34KQE-TFC-554	Thailand	Active
	ZF41KQE-TFC-564 / 567	ZF41KQE-TFC-554	Thailand	Active
	ZF49KQE-TFC-564 / 567	ZF49KQE-TFC-554	Thailand	Active
	ZF54KQE-TFC-564 / 567	ZF54KQE-TFC-554	Thailand	Active
TF7 380V-3ph-60Hz	ZF13KQE-TF7-551	ZF13KQE-TF7-550	Thailand	Active
	ZF15KQE-TF7-551	ZF15KQE-TF7-550	Thailand	Active
	ZF18KQE-TF7-551	ZF18KQE-TF7-550	Thailand	Active
	ZF25KQE-TF7-551	ZF25KQE-TF7-550	Thailand	Active
	ZF28KQE-TF7-551	ZF28KQE-TF7-550	Thailand	Active
	ZF34KQE-TF7-564 / 567	ZF34KQE-TF7-554	Thailand	Active
	ZF41KQE-TF7-564 / 567	ZF41KQE-TF7-554	Thailand	Active
	ZF49KQE-TF7-564 / 567	ZF49KQE-TF7-554	Thailand	Active
	ZF54KQE-TF7-564 / 567	ZF54KQE-TF7-554	Thailand	Active
PFV 200V-1ph-50Hz ; 208-230V-1ph-60Hz	ZF06KQE-PFV-551	ZF06KQE-PFV-550	Thailand	Active
	ZF08KQE-PFV-551	ZF08KQE-PFV-550	Thailand	Active
	ZF09KQE-PFV-551	ZF09KQE-PFV-550	Thailand	Active
	ZF11KQE-PFV-551	ZF11KQE-PFV-550	Thailand	Active
	ZF13KQE-PFV-551	ZF13KQE-PFV-550	Thailand	TBD
	ZF15KQE-PFV-551	ZF15KQE-PFV-550	Thailand	TBD

Notes:

⁽¹⁾ ZFI09-30KNE is capable of both liquid and vaport injection, select BOM657 with IP54 molded plug cable.

⁽²⁾ BOM554/564 wrok with OMB and BOM567 work with OM3 in rack application.

Available models - ZFI Vapor injection

Motor	Rotalock	Stub tube	Manufacturing plant	Status
PFZ 220-240V-1ph-50Hz	NA	ZFI09KNE-PFZ-558 / 657	Suzhou, China	Active
	NA	ZFI11KNE-PFZ-558 / 657	Suzhou, China	Active
	NA	ZFI13KNE-PFZ-558 / 657	Suzhou, China	Active
	NA	ZFI16KNE-PFZ-558 / 657	Suzhou, China	Active
TFD/TRD 380-420V-3ph-50Hz ; 460V-3ph-60Hz	NA	ZFI09KNE-TFD-558	Suzhou, China	Active
	NA	ZFI11KNE-TFD-558	Suzhou, China	Active
	NA	ZFI13KNE-TFD-558	Suzhou, China	Active
	NA	ZFI16KNE-TFD-558	Suzhou, China	Active
	NA	ZFI19KNE-TFD-558	Suzhou, China	Active
	NA	ZFI23KNE-TFD-558	Suzhou, China	Active
	NA	ZFI26KNE-TFD-558	Suzhou, China	Active
	NA	ZFI30KNE-TFD-558	Suzhou, China	Prototype
	ZFI20KQE-TFD-552	ZFI20KQE-TFD-550	Thailand	Active
	ZFI23KQE-TFD-552	ZFI23KQE-TFD-550	Thailand	Active
	ZFI26KQE-TFD-552	ZFI26KQE-TFD-550	Thailand	Active
	ZFI36KQE-TFD-552	ZFI36KQE-TFD-550	Thailand	Active
	ZFI39KQE-TFD-552	ZFI39KQE-TFD-550	Thailand	Active
	ZFI50KQE-TFD-564 / 567	ZFI50KQE-TFD-554	Thailand	Active
	ZFI59KQE-TFD-564 / 567	ZFI59KQE-TFD-554	Thailand	Active
	ZFI68KQE-TFD-564 / 567	ZFI68KQE-TFD-554	Thailand	Active
	ZFI81KQE-TFD-564 / 567	ZFI81KQE-TFD-554	Thailand	Active
	ZFI51KNE-TRD-515	ZFI51KQE-TRD-500	Suzhou, China	Prototype
	ZFI60KNE-TRD-515	ZFI60KQE-TRD-500	Suzhou, China	Prototype
	ZFI72KNE-TRD-515	ZFI72KQE-TRD-500	Suzhou, China	Active
	ZFI82KNE-TRD-515	ZFI82KQE-TRD-500	Suzhou, China	Active
	ZFI96KQE-TRD-523	ZFI96KQE-TRD-522	Suzhou, China	Active
	ZFI122KQE-TRD-523	ZFI122KQE-TRD-522	Suzhou, China	Active
	ZFI140KQE-TRD-523	ZFI140KQE-TRD-522	Suzhou, China	Active
	ZFI180KQE-TRD-523	ZFI180KQE-TRD-522	Suzhou, China	Active
TFC/TRC 200V-3ph-50Hz ; 208-230V-3ph-60Hz	ZFI20KQE-TFC-552	ZFI20KQE-TFC-550	Thailand	Active
	ZFI23KQE-TFC-552	ZFI23KQE-TFC-550	Thailand	Active
	ZFI26KQE-TFC-552	ZFI26KQE-TFC-550	Thailand	Active
	ZFI36KQE-TFC-552	ZFI36KQE-TFC-550	Thailand	Active
	ZFI39KQE-TFC-592	ZFI39KQE-TFC-580	Thailand	Active
	ZFI50KQE-TFC-564 / 567	ZFI50KQE-TFC-554	Thailand	Active
	ZFI59KQE-TFC-564 / 567	ZFI59KQE-TFC-554	Thailand	Active
	ZFI68KQE-TFC-564 / 567	ZFI68KQE-TFC-554	Thailand	Active
	ZFI81KQE-TFC-564 / 567	ZFI81KQE-TFC-554	Thailand	Active
	ZFI96KQE-TRC-523	ZFI96KQE-TRC-522	Suzhou, China	Active
	ZFI122KQE-TRC-523	ZFI122KQE-TRC-522	Suzhou, China	Active
	ZFI140KQE-TRC-523	ZFI140KQE-TRC-522	Suzhou, China	Active
TF7/TR7 380V-3ph-60Hz	ZFI20KQE-TF7-552	ZFI20KQE-TF7-550	Thailand	Active
	NA	ZFI23KQE-TF7-550	Thailand	Active
	ZFI26KQE-TF7-552	ZFI26KQE-TF7-550	Thailand	Active
	ZFI36KQE-TF7-552	ZFI36KQE-TF7-550	Thailand	Active
	ZFI39KQE-TF7-552	ZFI39KQE-TF7-550	Thailand	Active
	ZFI50KQE-TF7-564 / 567	ZFI50KQE-TF7-554	Thailand	Active
	ZFI59KQE-TF7-564 / 567	ZFI59KQE-TF7-554	Thailand	Active
	ZFI68KQE-TF7-564 / 567	ZFI68KQE-TF7-554	Thailand	Active
	ZFI81KQE-TF7-564 / 567	ZFI81KQE-TF7-554	Thailand	Active
	ZFI96KQE-TR7-523	ZFI96KQE-TR7-522	Suzhou, China	Active
	ZFI122KQE-TR7-523	ZFI122KQE-TR7-522	Suzhou, China	Active
	ZFI140KQE-TR7-523	ZFI140KQE-TR7-522	Suzhou, China	Active

Notes:

⁽¹⁾ ZFI09-30KNE is capable of both liquid and vaport injection, select BOM657 with IP54 molded plug cable.

⁽²⁾ BOM554/564 wrok with OMB and BOM567 work with OM3 in rack application.

Available models - ZFJ digital vapor Injection

Motor	Rotalock	Stub tube	Manufacturing plant	Status
TFD 380-420V-3ph-50Hz ; 460V-3ph-60Hz	ZFJ20KQE-TFD-552	ZFJ20KQE-TFD-550	Thailand	Active
	ZFJ26KQE-TFD-552	ZFJ26KQE-TFD-550	Thailand	Active
	ZFJ36KQE-TFD-552	ZFJ36KQE-TFD-550	Thailand	Active
TF5 200-220V-3ph-50Hz ; 200-230V-3ph-60Hz	ZFJ20KQE-TF5-552	ZFJ20KQE-TF5-550	Thailand	552 Prototype /550 Active
	ZFJ26KQE-TF5-552	ZFJ26KQE-TF5-550	Thailand	Prototype
	ZFJ36KQE-TF5-552	ZFJ36KQE-TF5-550	Thailand	Active
TF7 380V-3ph-60Hz	ZFJ20KQE-TF7-552	ZFJ20KQE-TF7-550	Thailand	552 Prototype /550 Active
	ZFJ26KQE-TF7-552	ZFJ26KQE-TF7-550	Thailand	Prototype
	ZFJ36KQE-TF7-552	ZFJ36KQE-TF7-550	Thailand	Active

Available models - ZF/ZFI*KNE integrated solution (90F)

Bundle P/N	Compressor	Liquid injection kits		Oil level control kits	Manufacturing plant	Status
998-S004-07	ZF35KNE-TRD-500	562-0613-02	/	NA	Suzhou, China	Prototype
998-S004-08	ZF35KNE-TRD-515	562-0613-02	/	NA	Suzhou, China	Prototype
998-S004-09	ZF42KNE-TRD-500	562-0613-02	/	NA	Suzhou, China	Prototype
998-S004-10	ZF42KNE-TRD-515	562-0613-02	/	NA	Suzhou, China	Prototype
998-S004-01	ZF52KNE-TRD-500	562-0613-00	/	NA	Suzhou, China	Active
998-S004-11	ZF52KNE-TRD-515	562-0613-00	/	NA	Suzhou, China	Active
998-S004-12	ZF58KNE-TRD-500	562-0613-00	/	NA	Suzhou, China	Active
998-S004-13	ZF58KNE-TRD-515	562-0613-00	/	NA	Suzhou, China	Active
998-S004-14	ZF35KNE-TRD-500	562-0613-02	/	562-0528-00	Suzhou, China	Prototype
998-S004-15	ZF35KNE-TRD-515	562-0613-02	/	562-0528-00	Suzhou, China	Prototype
998-S004-16	ZF42KNE-TRD-500	562-0613-02	/	562-0528-00	Suzhou, China	Prototype
998-S004-17	ZF42KNE-TRD-515	562-0613-02	/	562-0528-00	Suzhou, China	Prototype
998-S004-02	ZF52KNE-TRD-500	562-0613-00	/	562-0528-00	Suzhou, China	Active
998-S004-18	ZF52KNE-TRD-515	562-0613-00	/	562-0528-00	Suzhou, China	Active
998-S004-19	ZF58KNE-TRD-500	562-0613-00	/	562-0528-00	Suzhou, China	Active
998-S004-20	ZF58KNE-TRD-515	562-0613-00	/	562-0528-00	Suzhou, China	Active

Bundle P/N	Compressor	EVI control kits	PHE	Oil level control kits	Manufacturing plant	Status
998-S004-21	ZFI51KNE-TRD-500	562-0613-06	067-0092-00	NA	Suzhou, China	Prototype
998-S004-22	ZFI51KNE-TRD-515	562-0613-06	067-0092-00	NA	Suzhou, China	Prototype
998-S004-23	ZFI60KNE-TRD-500	562-0613-06	067-0092-00	NA	Suzhou, China	Prototype
998-S004-24	ZFI60KNE-TRD-515	562-0613-06	067-0092-00	NA	Suzhou, China	Prototype
998-S004-03	ZFI72KNE-TRD-500	562-0613-04	067-0093-00	NA	Suzhou, China	Active
998-S004-25	ZFI72KNE-TRD-515	562-0613-04	067-0093-00	NA	Suzhou, China	Active
998-S004-26	ZFI82KNE-TRD-500	562-0613-04	067-0093-00	NA	Suzhou, China	Active
998-S004-27	ZFI82KNE-TRD-515	562-0613-04	067-0093-00	NA	Suzhou, China	Active
998-S004-28	ZFI51KNE-TRD-500	562-0613-06	067-0092-00	562-0528-00	Suzhou, China	Prototype
998-S004-29	ZFI51KNE-TRD-515	562-0613-06	067-0092-00	562-0528-00	Suzhou, China	Prototype
998-S004-30	ZFI60KNE-TRD-500	562-0613-06	067-0092-00	562-0528-00	Suzhou, China	Prototype
998-S004-31	ZFI60KNE-TRD-515	562-0613-06	067-0092-00	562-0528-00	Suzhou, China	Prototype
998-S004-05	ZFI72KNE-TRD-500	562-0613-04	067-0093-00	562-0528-00	Suzhou, China	Active
998-S004-32	ZFI72KNE-TRD-515	562-0613-04	067-0093-00	562-0528-00	Suzhou, China	Active
998-S004-33	ZFI82KNE-TRD-500	562-0613-04	067-0093-00	562-0528-00	Suzhou, China	Active
998-S004-34	ZFI82KNE-TRD-515	562-0613-04	067-0093-00	562-0528-00	Suzhou, China	Active

Notes:

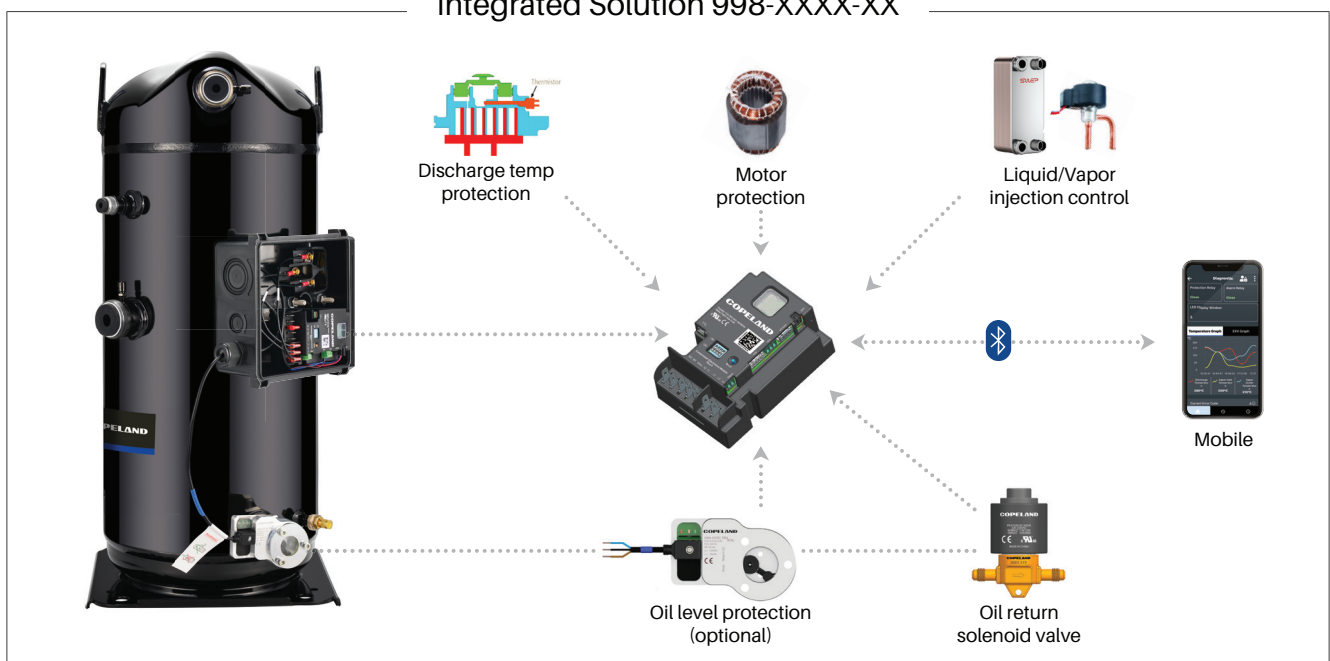
1. Compressor BOM515 is rotalock connection, BOM500 is stub tube connection.
2. Liquid / vapor injection control kits including EXV valve and coil, sensors, cable glands, pin connectors, etc.
3. Oil level control kits include OW4-12VDC oil level sensor, power cable and sight glass adapter.
4. To enable oil level management, require to reset dip-switch Bit 2 from OFF to ON

Available models - Large ZFI integrated solution (130F)

Bundle P/N	Compressor	EVI control kits	PHE	Oil level control kits	Manufacturing plant	Status
998-L000-00	ZFI122KQE-TRD-523	562-0460-00	067-0067-00	NA	Suzhou, China	Active
998-L000-01	ZFI122KQE-TR7-523	562-0460-00	067-0067-00	NA	Suzhou, China	Active
998-L000-02	ZFI122KQE-TRC-523	562-0460-00	067-0067-00	NA	Suzhou, China	Active
998-L000-04	ZFI96KQE-TRD-523	562-0460-00	067-0067-00	NA	Suzhou, China	Active
998-L000-05	ZFI96KQE-TR7-523	562-0460-00	067-0067-00	NA	Suzhou, China	Active
998-L000-06	ZFI96KQE-TRC-523	562-0460-00	067-0067-00	NA	Suzhou, China	Active
998-L000-07	ZFI140KQE-TRD-523	562-0460-00	067-0067-00	NA	Suzhou, China	Active
998-L000-08	ZFI140KQE-TR7-523	562-0460-00	067-0067-00	NA	Suzhou, China	Active
998-L000-09	ZFI140KQE-TRC-523	562-0460-00	067-0067-00	NA	Suzhou, China	Active
998-L000-10	ZFI96KQE-TRD-522	562-0460-00	067-0067-00	NA	Suzhou, China	Active
998-L000-11	ZFI122KQE-TRD-522	562-0460-00	067-0067-00	NA	Suzhou, China	Active
998-L000-12	ZFI140KQE-TRD-522	562-0460-00	067-0067-00	NA	Suzhou, China	Active
998-L000-13	ZFI96KQE-TR7-522	562-0460-00	067-0067-00	NA	Suzhou, China	Active
998-L000-14	ZFI122KQE-TR7-522	562-0460-00	067-0067-00	NA	Suzhou, China	Active
998-L000-15	ZFI140KQE-TR7-522	562-0460-00	067-0067-00	NA	Suzhou, China	Active
998-L000-16	ZFI96KQE-TRC-522	562-0460-00	067-0067-00	NA	Suzhou, China	Active
998-L000-17	ZFI122KQE-TRC-522	562-0460-00	067-0067-00	NA	Suzhou, China	Active
998-L000-18	ZFI140KQE-TRC-522	562-0460-00	067-0067-00	NA	Suzhou, China	Active
998-L000-19	ZFI96KQE-TRD-523	562-0460-00	067-0067-00	562-0528-00	Suzhou, China	Active
998-L000-20	ZFI122KQE-TRD-523	562-0460-00	067-0067-00	562-0528-00	Suzhou, China	Active
998-L000-21	ZFI140KQE-TRD-523	562-0460-00	067-0067-00	562-0528-00	Suzhou, China	Active
998-L000-22	ZFI96KQE-TRD-522	562-0460-00	067-0067-00	562-0528-00	Suzhou, China	Active
998-L000-23	ZFI122KQE-TRD-522	562-0460-00	067-0067-00	562-0528-00	Suzhou, China	Active
998-L000-24	ZFI140KQE-TRD-522	562-0460-00	067-0067-00	562-0528-00	Suzhou, China	Active
998-L000-25	ZFI180KQE-TRD-522	562-0680-00	067-0119-00	562-0528-00	Suzhou, China	Prototype
998-L000-26	ZFI180KQE-TRD-523	562-0680-00	067-0119-00	562-0528-00	Suzhou, China	Prototype
998-L000-27	ZFI180KQE-TRD-522	562-0680-00	067-0119-00	NA	Suzhou, China	Prototype
998-L000-28	ZFI180KQE-TRD-523	562-0680-00	067-0119-00	NA	Suzhou, China	Prototype
998-L000-29	ZFI96KQE-TR7-523	562-0460-00	067-0067-00	562-0528-00	Suzhou, China	Active
998-L000-30	ZFI122KQE-TR7-523	562-0460-00	067-0067-00	562-0528-00	Suzhou, China	Active
998-L000-31	ZFI140KQE-TR7-523	562-0460-00	067-0067-00	562-0528-00	Suzhou, China	Active
998-L000-32	ZFI96KQE-TR7-522	562-0460-00	067-0067-00	562-0528-00	Suzhou, China	Active
998-L000-33	ZFI122KQE-TR7-522	562-0460-00	067-0067-00	562-0528-00	Suzhou, China	Active
998-L000-34	ZFI140KQE-TR7-522	562-0460-00	067-0067-00	562-0528-00	Suzhou, China	Active
998-L000-35	ZFI96KQE-TRC-523	562-0460-00	067-0067-00	562-0528-00	Suzhou, China	Active
998-L000-36	ZFI122KQE-TRC-523	562-0460-00	067-0067-00	562-0528-00	Suzhou, China	Active
998-L000-37	ZFI140KQE-TRC-523	562-0460-00	067-0067-00	562-0528-00	Suzhou, China	Active
998-L000-38	ZFI96KQE-TRC-522	562-0460-00	067-0067-00	562-0528-00	Suzhou, China	Active
998-L000-39	ZFI122KQE-TRC-522	562-0460-00	067-0067-00	562-0528-00	Suzhou, China	Active
998-L000-40	ZFI140KQE-TRC-522	562-0460-00	067-0067-00	562-0528-00	Suzhou, China	Active

Notes: 1. Compressor BOM523 is rotalock connection, BOM522 is stub tube connection 2. To enable oil level management, require to reset dip-switch Bit 2 from OFF to ON

Integrated Solution 998-XXXX-XX



Copeland's product solution integrates advanced electronic technology, including discharge temperature protection, motor protection, oil level protection, oil return control, liquid or vapor injection control and Bluetooth communication. It not only provides an outstanding energy efficiency but also further enhances the reliability of scroll compressor in refrigeration system and helps customers reduce the life cycle cost.

ZF06-54KQE Accessory list

Item	Parts	Part No.	Description	ZF06-54KQE Liquid Injection														Source
				ZF06KQE	ZF08KQE	ZF09KQE	ZF11KQE	ZF13KQE	ZF15KQE	ZF18KQE	ZF25KQE	ZF28KQE	ZF34KQE	ZF41KQE	ZF49KQE	ZF54KQE		
1	Mounting Kits for Single Unit	527-0116-00	Mounting for single, 35-45 durometer, 1.45"OD, 0.44"ID, 0.75"Height	std.	std.	std.	std.	std.	std.	std.	std.	std.	std.	std.	-	-	Suzhou or Thailand	
	Mounting Kits for Single Unit	527-0210-00	Mounting for single, 55-65 durometer, 1.62"OD, 0.44"ID, 1.75"Height	-	-	-	-	-	-	-	-	-	-	-	std.	std.	Suzhou or Thailand	
	Mounting Kits for Rack Unit	527-0157-00	High Durometer(60-70) Mounting for Rack, 1.62"OD, 0.44"ID, 1.16"Height	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-	-	-	-	Suzhou	
	Mounting Kits for Rack Unit	998-0178-00	Hard Mounting for Rack, 1.87"OD, 0.69"ID, 0.31"Height	-	-	-	-	-	-	-	-	-	-/1	-/1	-/1	-/1	US	
2	Crankcase Heater	018-0095-04	Crankcase Heater, 240V, 70W, 48"(120cm) Lead length, 48"(120cm) Ground wire	1/-	1/-	1/-	1/-	1/-	1/-	1/-	1/-	1/-	-	-	-	-	US	
	Crankcase Heater	018-0095-05	Crankcase Heater, 480V, 70W, 48"(120cm) Lead length, 48"(120cm) Ground wire	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-	-	-	-	US	
	Crankcase Heater	018-0091-22	Crankcase Heater, 240V, 90W, 48"(120cm) Lead length, 48"(120cm) Ground wire	-	-	-	-	-	-	-	-	-	1/-	1/-	1/-	1/-	US	
	Crankcase Heater	018-0091-23	Crankcase Heater, 480V, 90W, 48"(120cm) Lead length, 48"(120cm) Ground wire	-	-	-	-	-	-	-	-	-	-/1	-/1	-/1	-/1	US	
3	DTC Kits	510-0875-01	DTC Valve 120°C, 11/16", Liquid line Ø9.52mm (ALCO 802504)	1/-	1/-	1/-	1/-	1/-	1/-	1/-	1/-	1/-	-	-	-	-	EUR	
	DTC Kits	510-0875-02	DTC Valve 120°C, 11/16" with 70° Outlet, Liquid line Ø9.52mm (ALCO 802506)	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-	-	-	-	EUR	
	DTC Kits	510-0875-00	DTC Valve 120°C, 1", Liquid line Ø9.52mm (ALCO 802505)	-	-	-	-	-	-	-	-	-	1	1	1	1	EUR	
	DTC Kits	510-0989-00	DTC Valve 90°C, 11/16", Liquid line Ø9.6mm Braze	1/-	1/-	1/-	1/-	1/-	1/-	1/-	1/-	1/-	-	-	-	-	Suzhou	
	DTC Kits	510-0997-00	DTC Valve 121°C, 11/16", Liquid line Ø9.6mm Braze	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-	-	-	-	Suzhou	
	DTC Kits	510-0993-00	DTC Valve 121°C, 1", Liquid line Ø9.6mm Braze	-	-	-	-	-	-	-	-	-	-	1	1	1	1	Suzhou
4	Discharge Line Thermostat	085-0248-00	Discharge line thermostat with clip (8409496), 130°C, 5/8" clip	1	1	1	1	1	1	1	1	1	1	-	-	-	-	EUR
	Discharge Line Thermostat	085-0227-00	Discharge Line Thermostat with clip (8615262), 130°C, 7/8" clip	-	-	-	-	-	-	-	-	-	-	1	1	1	1	EUR
5	Suction & Discharge Valve Kits	998-5100-48	Suction & Discharge Valve with Seal (1 1/4"-12 Thread to 7/8" Sweat Suction Valve, 1'-14 Thread to 1/2" Sweat Discharge Valve)	1	1	1	1	1	1	1	1	-	-	-	-	-	US	
	Suction & Discharge Valve Kits	998-5100-62	Suction & Discharge Valve with Seal (1 1/4"-12 Thread to 7/8" Sweat Suction Valve, 1 1/4"-12 Thread to 3/4" Sweat Discharge Valve)	-	-	-	-	-	-	-	-	1	1	-	-	-	-	US
	Suction & Discharge Valve Kits	998-5100-27	Suction & Discharge Valve with Seal (1 3/4"-12 Thread to 1 3/8" Sweat Suction Valve, 1 1/4"-12 Thread to 7/8" Sweat Discharge Valve)	-	-	-	-	-	-	-	-	-	-	1	1	1	1	US
6	Adapter Injection Rotalock to Stub	534-0072-00	Adapter Injection Rotalock to Stub (11/16" Thread to 1/2" ID Sweat)	1	1	1	1	1	1	1	1	1	1	-	-	-	-	Suzhou
	Adapter Suction Rotalock to Stub	998-0034-13	Adapter Suction Rotalock to Stub (1 3/4"-12 Thread to 1 3/8" Sweat)	-	-	-	-	-	-	-	-	-	-	1	1	1	1	US
	Adapter Discharge Rotalock to Stub	998-0034-08	Adapter Discharge Rotalock to Stub (1 1/4"-12 Thread to 7/8" Sweat)	-	-	-	-	-	-	-	-	-	-	1	1	1	1	US
	Adapter Injection Rotalock to Stub	998-0034-18	Adapter Injection Rotalock to Stub (1'-14 Thread to 1/2" ID Sweat)	-	-	-	-	-	-	-	-	-	-	1	1	1	1	US

Notes:

1 or -/1 : Option to choose either one

Standard: Included in the compressor

ZFI09-30KNE,ZF35-58KNE, ZFI51-82KNE Accessory list

Item	Part No.	Description	ZFI09-30KNE Liquid/Vapor								ZF35-58KNE Liquid				ZFI51-82KNE Vapor				Source
			ZFI09KNE	ZFI11KNE	ZFI13KNE	ZFI16KNE	ZFI19KNE	ZFI23KNE	ZFI26KNE	ZFI30KNE	ZF35KNE	ZF42KNE	ZF52KNE	ZF58KNE	ZFI51KNE	ZFI60KNE	ZFI72KNE	ZFI82KNE	
1	527-0044-15	Mounting for single, 30-35 durometer, 1.45"OD, 0.44"ID, 0.75"Height	std.	std.	std.	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	527-0116-00	Mounting for single, 35-45 durometer, 1.45"OD, 0.44"ID, 0.75"Height	-	-	-	std.	std.	std.	std.	std.	-	-	-	-	-	-	-	-	Suzhou or Thailand
	527-0210-00	Mounting for single, 55-65 durometer, 1.62"OD, 0.44"ID, 1.75"Height	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou or Thailand
	527-0255-00	Mounting for single, 30-40 durometer, 2.17"OD, 0.45"ID, 0.75"Height	-	-	-	-	-	-	-	-	std.	std.	std.	std.	std.	std.	std.	std.	Suzhou
	527-0175-02	Mounting for single, 40 durometer, 2.17"OD, 0.50"ID, 0.75"Height	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	527-0157-00	High Durometer(60-70) Mounting for Rack,1.62"OD, 0.44"ID, 1.16"Height	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	998-0178-00	Hard Mounting for Rack,1.87"OD, 0.69"ID, 0.31"Height	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	US
2	018-0112-02	Crankcase Heater, 240V, 33W, 80cm Lead length, 43cm Ground wire	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	018-0112-01	Crankcase Heater, 240V, 40W, 130cm Lead length, 51.2cm Ground wire	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	Suzhou
	018-0112-00	Crankcase Heater, 240V, 40W, 130cm Lead length, 57.2cm Ground wire	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	Suzhou
	018-0095-04	Crankcase Heater, 240V, 70W, 48"(120cm Lead length, 48"(120cm) Ground wire	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	US
	018-0095-05	Crankcase Heater, 480V, 70W, 48"(120cm) Lead length, 48"(120cm) Ground wire	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	US
	018-0091-22	Crankcase Heater, 240V, 90W, 48"(120cm)Lead length, 48"(120cm) Ground wire	-	-	-	-	-	-	-	-	1/-	1/-	1/-	1/-	1/-	1/-	1/-	1/-	US
	018-0091-23	Crankcase Heater, 480V, 90W, 48"(120cm)Lead length, 48"(120cm) Ground wire	-	-	-	-	-	-	-	-	-1	-1	-1	-1	-1	-1	-1	-1	US
3	014-0064-25	Run capacitor for PFZ/PFV, PSC start, 45µF/370V	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	014-0064-34	Run capacitor for PFZ/PFV, PSC start, 70µF/370V	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
4	529-0060-04	Molded plug cable for ZFI×KNE BOM657, IP54, 44"(112cm) length, 10GA size	1	1	1	1	1	1	1	1									Suzhou
5	067-0098-00	Plate Heat Exchanger BX4TH x10	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	067-0091-00	Plate Heat Exchanger BX4TH x14	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	Suzhou
	067-0092-00	Plate Heat Exchanger BX4TH x20	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	Suzhou
	067-0093-00	Plate Heat Exchanger BX4TH x24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	Suzhou
	067-0067-00	Plate Heat Exchanger B10TH x40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	067-0119-00	Plate Heat Exchanger BX4TH x46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
6	562-0471-00	Liquid Injection Control Kits with Smart Module Plus 4, Ø1.3mm EXV valve, 1.8m wire	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	Suzhou
	562-0613-02	Liquid Injection Control Kits, Ø1.3mm EXV valve, 1.8m wire	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	Suzhou
	562-0613-00	Liquid Injection Control Kits, Ø1.65mm EXV valve, 1.8m wire	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	Suzhou
	562-0471-01	EVI Control Kits with Smart Module Plus 4, Ø1.3mm EXV valve, 1.8m wire	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	Suzhou
	562-0471-02	EVI Control Kits with Smart Module Plus 4, Ø1.3mm EXV valve, 4.5m wire	-1	-1	-1	-1	-1	-1	-1	-1	-	-	-	-	-	-	-	-	Suzhou
	562-0471-03	EVI Control Kits with Smart Module Plus 4, Ø1.65mm EXV valve, 1.8m wire	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	562-0471-04	EVI Control Kits with Smart Module Plus 4, Ø1.65mm EXV valve, 4.5m wire	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	562-0471-05	EVI Control Kits with Smart Module Plus 4, Ø1.65mm EXV valve, 1.8m wire	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	562-0471-06	EVI Control Kits with Smart Module Plus 4, Ø1.65mm EXV valve, 4.5m wire	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	562-0471-07	EVI Control Kits with Smart Module Plus 4, Ø1.8mm EXV valve, 1.8m wire	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	562-0471-08	EVI Control Kits with Smart Module Plus 4, Ø1.8mm EXV valve, 4.5m wire	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	562-0613-06	EVI Control Kits, Ø1.65mm EXV valve, 1.8m wire	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	Suzhou
	562-0613-07	EVI Control Kits, Ø1.65mm EXV valve, 4.5m wire	-	-	-	-	-	-	-	-	-	-	-	-	-1	-1	-	-	Suzhou
	562-0613-04	EVI Control Kits, Ø1.8mm EXV valve, 1.8m wire	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	Suzhou
	562-0613-05	EVI Control Kits, Ø1.8mm EXV valve, 4.5m wire	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-1	-1	Suzhou
	562-0460-00	EVI Control Kits, Ø2.4mm EXV valve, 1.8m wire	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	562-0460-01	EVI Control Kits, Ø2.4mm EXV valve, 4.5m wire	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	562-0680-00	EVI Control Kits, Ø3.0mm EXV valve, 1.8m wire	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	562-0680-01	EVI Control Kits, Ø3.0mm EXV valve, 4.5m wire	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou

Notes:
1 or -1 : Option to choose either one
Standard: Included in the compressor

ZFI09-30KNE,ZF35-58KNE, ZFI51-82KNE Accessory list

Item	Part No.	Description	ZFI09-30KNE Liquid/Vapor								ZF35-58KNE Liquid				ZFI51-82KNE Vapor				Source
			ZFI09KNE	ZFI11KNE	ZFI13KNE	ZFI16KNE	ZFI19KNE	ZFI23KNE	ZFI26KNE	ZFI30KNE	ZF35KNE	ZF42KNE	ZF52KNE	ZF58KNE	ZFI51KNE	ZFI60KNE	ZFI72KNE	ZFI82KNE	
7	543-0317-00	DLT Sensor, 1800mm wire length	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	Suzhou
	543-0317-01	DLT Sensor, 4500mm wire length	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-	-	-	-	-	-	-	-	Suzhou
8	043-0285-00	Vapor In/out Sensor, 1800mm wire length	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	Suzhou
	043-0285-01	Vapor In/out Sensor, 4500mm wire length	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-	-	-	-	-	-	-	-	Suzhou
9	013-0212-00	EXV Filter, Liquid In Ø8.65mm ID, Liquid Out Ø6.5mm ID, 100 mesh	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	Suzhou
	013-0304-00	EXV Filter, Liquid In Ø8.65mm ID, Liquid Out Ø8.65mm ID, 100 mesh	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
10	023-0111-00	EXV-Coil, 1796mm wire length	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	Suzhou
	023-0111-01	EXV-Coil, 4500mm wire length	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-	-	-	-	-	-	-	-	Suzhou
11	010-0240-00	EXV valve, Ø1.3mm orifice size(TS113C0x), 2*Ø6.35mm OD	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	Suzhou
	010-0240-01	EXV valve, Ø1.65mm orifice size(TS116C0x),2*Ø6.35mm OD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	010-0240-02	EXV valve, Ø1.8mm orifice size(TS118C0x), 2*Ø6.35mm OD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	010-0240-03	EXV valve, Ø2.4mm orifice size(TS124C0x), 2*Ø6.35mm OD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	010-0380-00	EXV valve, Ø3.0mm orifice size(TS130C0x), 2*Ø7.94mm OD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
12	036-1868-01	Cable Gland - Single hole (for OW4 or EXV cable)	-	-	-	-	-	-	-	-	2	2	2	2	-	-	-	-	Suzhou
	036-1868-00	Cable Gland - Single hole	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	Suzhou
	036-1869-00	Cable Gland - 7 holes	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	Suzhou
13	028-3998-00	Tube for sensor	3	3	3	3	3	3	3	3	-	-	-	-	3	3	3	3	Suzhou
14	032-0962-00	Spring clip	3	3	3	3	3	3	3	3	-	-	-	-	3	3	3	3	Suzhou
15	521-0355-00	Bolts, 3pcs	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	Suzhou
16	571-0107-00	Smart Control Module, Plus 4 For Standard Scroll	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	Suzhou
	571-0106-00	Smart Control Module, Plus 5 For Large Scroll	-	-	-	-	-	-	-	-	std.	std.	std.	std.	std.	std.	std.	std.	Suzhou
17	074-1855-00	Module Bracket	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	Suzhou
18	521-0398-00	Pin Connector Group	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	Suzhou
19	562-0528-00	Oil level control kits,1-3/4" adapter , 0.8m power cable	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	Suzhou
	562-0527-00	Oil level control kits,1-1/4" adapter , 0.8m power cable	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	562-0527-01	Oil level control kits,1-1/4" adapter , 3.0m power cable	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	010-0132-00	OW4-12VDC sensor , OW4-12VDC, IP54	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	Suzhou
	043-0323-00	OW4 power cable, 0.8m wire length	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	Suzhou
	043-0323-01	OW4 power cable, 3.0m wire length	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	034-0337-00	Adapter of sight glass, 1-1/4"-12UNF connection	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	034-0338-00	Adapter of sight glass, 1-3/4"-12UNF connection	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	Suzhou
20	082001	Oil return solenoid valve, 7/16"-20UNF (1/4 SAE), 220-230VAC, 50/60Hz, IP65	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	Suzhou
	067230	Oil return solenoid valve - body	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	Suzhou
	098056	Oil return solenoid valve - coil	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	Suzhou
	098401	Oil return solenoid valve - coil plug	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	Suzhou
21	543-0378-00	DPT to DLT control kits (for service , TR* motor)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
22	505-1501-02	Sound Jacket Kits for ZFI50KQE, ZFI59KQE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	505-1501-00	Sound Jacket Kits for ZFI68KQE, ZFI81KQE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	505-1512-02	Sound Jacket Kits for ZFI96KQE, ZFI122KQE, ZFI140KQE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	505-1512-04	Sound Jacket Kits for ZFI180KQE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou

Notes:
1 or -/1 : Option to choose either one
Standard: Included in the compressor

ZFI20-180KQE Accessory list

Item	Part No.	Description	ZFI20-180KQE Vapor												Source	
			ZFI20KQE	ZFI23KQE	ZFI26KQE	ZFI36KQE	ZFI39KQE	ZFI50KQE	ZFI59KQE	ZFI68KQE	ZFI81KQE	ZFI96KQE	ZFI122KQE	ZFI140KQE		ZFI180KQE
1	527-0044-15	Mounting for single, 30-35 durometer, 1.45"OD, 0.44"ID, 0.75"Height	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	527-0116-00	Mounting for single, 35-45 durometer, 1.45"OD, 0.44"ID, 0.75"Height	std.	std.	std.	std.	std.	std.	std.	-	-	-	-	-	-	Suzhou or Thailand
	527-0210-00	Mounting for single, 55-65 durometer, 1.62"OD, 0.44"ID, 1.75"Height	-	-	-	-	-	-	-	-	std.	std.	-	-	-	Suzhou or Thailand
	527-0255-00	Mounting for single, 30-40 durometer, 2.17"OD, 0.45"ID, 0.75"Height	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	527-0175-02	Mounting for single, 40 durometer, 2.17"OD, 0.50"ID, 0.75"Height	-	-	-	-	-	-	-	-	-	std.	std.	std.	std.	Suzhou
	527-0157-00	High Durometer(60-70) Mounting for Rack, 1.62"OD, 0.44"ID, 1.16"Height	-/1	-/1	-/1	-/1	-/1	-	-	-	-	-	-	-	-	Suzhou
	998-0178-00	Hard Mounting for Rack, 1.87"OD, 0.69"ID, 0.31"Height	-	-	-	-	-	-/1	-/1	-/1	-/1	-	-	-	-	US
2	018-0112-02	Crankcase Heater, 240V, 33W, 80cm Lead length, 43cm Ground wire	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	018-0112-01	Crankcase Heater, 240V, 40W, 130cm Lead length, 51.2cm Ground wire	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	018-0112-00	Crankcase Heater, 240V, 40W, 130cm Lead length, 57.2cm Ground wire	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	018-0095-04	Crankcase Heater, 240V, 70W, 48"(120cm) Lead length, 48"(120cm) Ground wire	1/-	1/-	1/-	1/-	1/-	-	-	-	-	-	-	-	-	US
	018-0095-05	Crankcase Heater, 480V, 70W, 48"(120cm) Lead length, 48"(120cm) Ground wire	-/1	-/1	-/1	-/1	-/1	-	-	-	-	-	-	-	-	US
	018-0091-22	Crankcase Heater, 240V, 90W, 48"(120cm)Lead length, 48"(120cm) Ground wire	-	-	-	-	-	1/-	1/-	1/-	1/-	-	-	-	-	US
	018-0091-23	Crankcase Heater, 480V, 90W, 48"(120cm)Lead length, 48"(120cm) Ground wire	-	-	-	-	-	-/1	-/1	-/1	-/1	-	-	-	-	US
	018-0091-09	Crankcase Heater, 240V, 140W,71cm Lead length, 71cm Ground wire	-	-	-	-	-	-	-	-	-	1	1	1	1	US
3	014-0064-25	Run capacitor for PFZ/PFV, PSC start, 45µF/370V	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	014-0064-34	Run capacitor for PFZ/PFV, PSC start, 70µF/370V	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	4	529-0060-04	Molded plug cable for ZFI*KNE BOM657, IP54, 44"(112cm) length, 10GA size	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
5	067-0098-00	Plate Heat Exchanger BX4TH x10	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	067-0091-00	Plate Heat Exchanger BX4TH x14	1	1	1	1	1	-	-	-	-	-	-	-	-	Suzhou
	067-0092-00	Plate Heat Exchanger BX4TH x20	-	-	-	-	-	1	1	-	-	-	-	-	-	Suzhou
	067-0093-00	Plate Heat Exchanger BX4TH x24	-	-	-	-	-	-	-	1	1	-	-	-	-	Suzhou
	067-0067-00	Plate Heat Exchanger B10TH x40	-	-	-	-	-	-	-	-	-	1	1	1	-	Suzhou
	067-0119-00	Plate Heat Exchanger BX4TH x46	-	-	-	-	-	-	-	-	-	-	-	-	1	Suzhou
6	562-0471-00	Liquid Injection Control Kits with Smart Module Plus 4, Ø1.3mm EXV valve, 1.8m wire	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	562-0613-02	Liquid Injection Control Kits, Ø1.3mm EXV valve, 1.8m wire										-	-	-	-	Suzhou
	562-0613-00	Liquid Injection Control Kits, Ø1.65mm EXV valve, 1.8m wire										-	-	-	-	Suzhou
	562-0471-01	EVI Control Kits with Smart Module Plus 4, Ø1.3mm EXV valve, 1.8m wire	1	1	1	-	-	-	-	-	-	-	-	-	-	Suzhou
	562-0471-02	EVI Control Kits with Smart Module Plus 4, Ø1.3mm EXV valve, 4.5m wire	-/1	-/1	-/1	-	-	-	-	-	-	-	-	-	-	Suzhou
	562-0471-03	EVI Control Kits with Smart Module Plus 4, Ø1.65mm EXV valve, 1.8m wire	-	-	-	1	1	-	-	-	-	-	-	-	-	Suzhou
	562-0471-04	EVI Control Kits with Smart Module Plus 4, Ø1.65mm EXV valve, 4.5m wire	-	-	-	-/1	-/1	-	-	-	-	-	-	-	-	Suzhou
	562-0471-05	EVI Control Kits with Smart Module Plus 4, Ø1.65mm EXV valve, 1.8m wire	-	-	-	-	-	1	1	-	-	-	-	-	-	Suzhou
	562-0471-06	EVI Control Kits with Smart Module Plus 4, Ø1.65mm EXV valve, 4.5m wire	-	-	-	-	-	-/1	-/1	-	-	-	-	-	-	Suzhou
	562-0471-07	EVI Control Kits with Smart Module Plus 4, Ø1.8mm EXV valve, 1.8m wire	-	-	-	-	-	-	-	1	1	-	-	-	-	Suzhou
	562-0471-08	EVI Control Kits with Smart Module Plus 4, Ø1.8mm EXV valve, 4.5m wire	-	-	-	-	-	-	-	-/1	-/1	-	-	-	-	Suzhou
	562-0613-06	EVI Control Kits, Ø1.65mm EXV valve, 1.8m wire	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	562-0613-07	EVI Control Kits, Ø1.65mm EXV valve, 4.5m wire	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	562-0613-04	EVI Control Kits, Ø1.8mm EXV valve, 1.8m wire	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	562-0613-05	EVI Control Kits, Ø1.8mm EXV valve, 4.5m wire	-	-	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	562-0460-00	EVI Control Kits, Ø2.4mm EXV valve, 1.8m wire	-	-	-	-	-	-	-	-	-	1	1	1	-	Suzhou
	562-0460-01	EVI Control Kits, Ø2.4mm EXV valve, 4.5m wire	-	-	-	-	-	-	-	-	-	-/1	-/1	-/1	-	Suzhou
	562-0680-00	EVI Control Kits, Ø3.0mm EXV valve, 1.8m wire	-	-	-	-	-	-	-	-	-	-	-	-	1	Suzhou
	562-0680-01	EVI Control Kits, Ø3.0mm EXV valve, 4.5m wire	-	-	-	-	-	-	-	-	-	-	-	-	-/1	Suzhou

Notes:
 1 or -/1 : Option to choose either one
 Standard: Included in the compressor

ZFI20-180KQE Accessory list

Item	Part No.	Description	ZF120-180KQE Vapor												Source		
			ZF120KQE	ZF123KQE	ZF126KQE	ZF136KQE	ZF139KQE	ZF150KQE	ZF159KQE	ZF168KQE	ZF181KQE	ZF196KQE	ZF1122KQE	ZF1140KQE		ZF1180KQE	
7	543-0317-00	DLT Sensor, 1800mm wire length	1	1	1	1	1	1	1	1	1	-	-	-	-	Suzhou	
	543-0317-01	DLT Sensor, 4500mm wire length	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-	-	-	-	Suzhou	
8	043-0285-00	Vapor In/out Sensor, 1800mm wire length	1	1	1	1	1	1	1	1	1	1	1	1	1	Suzhou	
	043-0285-01	Vapor In/out Sensor, 4500mm wire length	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	Suzhou	
9	013-0212-00	EXV Filter, Liquid In Ø8.65mm ID, Liquid Out Ø6.5mm ID, 100 mesh	1	1	1	1	1	1	1	1	1	1	1	1	-	Suzhou	
	013-0304-00	EXV Filter, Liquid In Ø8.65mm ID, Liquid Out Ø8.65mm ID, 100 mesh											-	-	-	1	Suzhou
10	023-0111-00	EXV-Coil, 1796mm wire length	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Suzhou
	023-0111-01	EXV-Coil, 4500mm wire length	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	-/1	Suzhou
11	010-0240-00	EXV valve, Ø1.3mm orifice size(TS113C0x), 2*Ø6.35mm OD	1	1	1	-	-	-	-	-	-	-	-	-	-	-	Suzhou
	010-0240-01	EXV valve, Ø1.65mm orifice size(TS116C0x),2*Ø6.35mm OD	-	-	-	1	1	1	1	-	-	-	-	-	-	-	Suzhou
	010-0240-02	EXV valve, Ø1.8mm orifice size(TS118C0x), 2*Ø6.35mm OD	-	-	-	-	-	-	-	1	1	-	-	-	-	-	Suzhou
	010-0240-03	EXV valve, Ø2.4mm orifice size(TS124C0x), 2*Ø6.35mm OD	-	-	-	-	-	-	-	-	-	-	1	1	1	-	Suzhou
	010-0380-00	EXV valve, Ø3.0mm orifice size(TS130C0x), 2*Ø7.94mm OD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
12	036-1868-01	Cable Gland - Single hole (for OW4 or EXV cable)	-	-	-	-	-	-	-	-	-						Suzhou
	036-1868-00	Cable Gland - Single hole	-	-	-	-	-	1	1	1	1	1	1	1	1	1	Suzhou
	036-1869-00	Cable Gland - 7 holes	-	-	-	-	-	1	1	1	1	1	1	1	1	1	Suzhou
13	028-3998-00	Tube for sensor	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Suzhou
14	032-0962-00	Spring clip	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Suzhou
15	521-0355-00	Bolts, 3pcs	1	1	1	1	1	-	-	-	-	-	-	-	-	-	Suzhou
16	571-0107-00	Smart Control Module, Plus 4 For Standard Scroll	1	1	1	1	1	1	1	1	1	1	-	-	-	-	Suzhou
	571-0106-00	Smart Control Module, Plus 5 For Large Scroll	-	-	-	-	-	-	-	-	-	-	std.	std.	std.	std.	Suzhou
17	074-1855-00	Module Bracket	1	1	1	1	1	-	-	-	-	-	-	-	-	-	Suzhou
18	521-0398-00	Pin Connector Group	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Suzhou
19	562-0528-00	Oil level control kits, 1-3/4" adapter , 0.8m power cable	-	-	-	-	-	-	-	-	-	1	1	1	1		Suzhou
	562-0527-00	Oil level control kits, 1-1/4" adapter , 0.8m power cable	-	-	-	-	-	1	1	1	1	-	-	-	-		Suzhou
	562-0527-01	Oil level control kits, 1-1/4" adapter , 3.0m power cable	-	-	-	-	-	-/1	-/1	-/1	-/1	-	-	-	-		Suzhou
	010-0132-00	OW4-12VDC sensor , OW4-12VDC, IP54	-	-	-	-	-	1	1	1	1	1	1	1	1	1	Suzhou
	043-0323-00	OW4 power cable, 0.8m wire length	-	-	-	-	-	-	-	-	-	1	1	1	1		Suzhou
	043-0323-01	OW4 power cable, 3.0m wire length	-	-	-	-	-	1	1	1	1	1	-	-	-	-	Suzhou
	034-0337-00	Adapter of sight glass, 1-1/4"-12UNF connection	-	-	-	-	-	1	1	1	1	1	-	-	-	-	Suzhou
	034-0338-00	Adapter of sight glass, 1-3/4"-12UNF connection	-	-	-	-	-	-	-	-	-	-	1	1	1	1	Suzhou
20	082001	Oil return solenoid valve, 7/16"-20UNF (1/4 SAE), 220-230VAC, 50/60Hz, IP65	-	-	-	-	-	1	1	1	1	1	1	1	1	1	Suzhou
	067230	Oil return solenoid valve - body	-	-	-	-	-	1	1	1	1	1	1	1	1	1	Suzhou
	098056	Oil return solenoid valve - coil	-	-	-	-	-	1	1	1	1	1	1	1	1	1	Suzhou
	098401	Oil return solenoid valve - coil plug	-	-	-	-	-	1	1	1	1	1	1	1	1	1	Suzhou
21	543-0378-00	DPT to DLT control kits (for service , TR* motor)	-	-	-	-	-	-	-	-	-	1	1	1	1		Suzhou
22	505-1501-02	Sound Jacket Kits for ZFI50KQE, ZFI59KQE	-	-	-	-	-	1	1	-	-	-	-	-	-	-	Suzhou
	505-1501-00	Sound Jacket Kits for ZFI68KQE, ZFI81KQE	-	-	-	-	-	-	-	1	1	-	-	-	-	-	Suzhou
	505-1512-02	Sound Jacket Kits for ZFI96KQE, ZFI122KQE, ZFI140KQE	-	-	-	-	-	-	-	-	-	-	1	1	1	-	Suzhou
	505-1512-04	Sound Jacket Kits for ZFI180KQE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

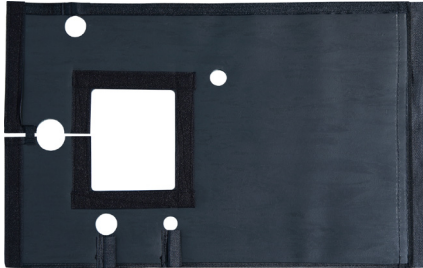
Notes:
1 or -/1 : Option to choose either one
Standard: Included in the compressor

Sound jacket

Copeland has developed a new sound jacket for noise sensitive applications. It is designed to be factory mounted by the equipment manufacturers or to be easily installed on site.

The sound jacket perfectly fits Copeland scroll refrigeration compressors from 7 to 40 HP including "Summit" and "Large Refrigeration Scroll" series compressors. The sound jacket provides an overall sound attenuation of 6 to 8 dB(A) making Copeland scroll compressors the lowest noise solution currently available in the market.

It contains 3 pieces in one carton box, including shell cover, top cap cover and terminal box cover.



Shell cover



Top cap cover



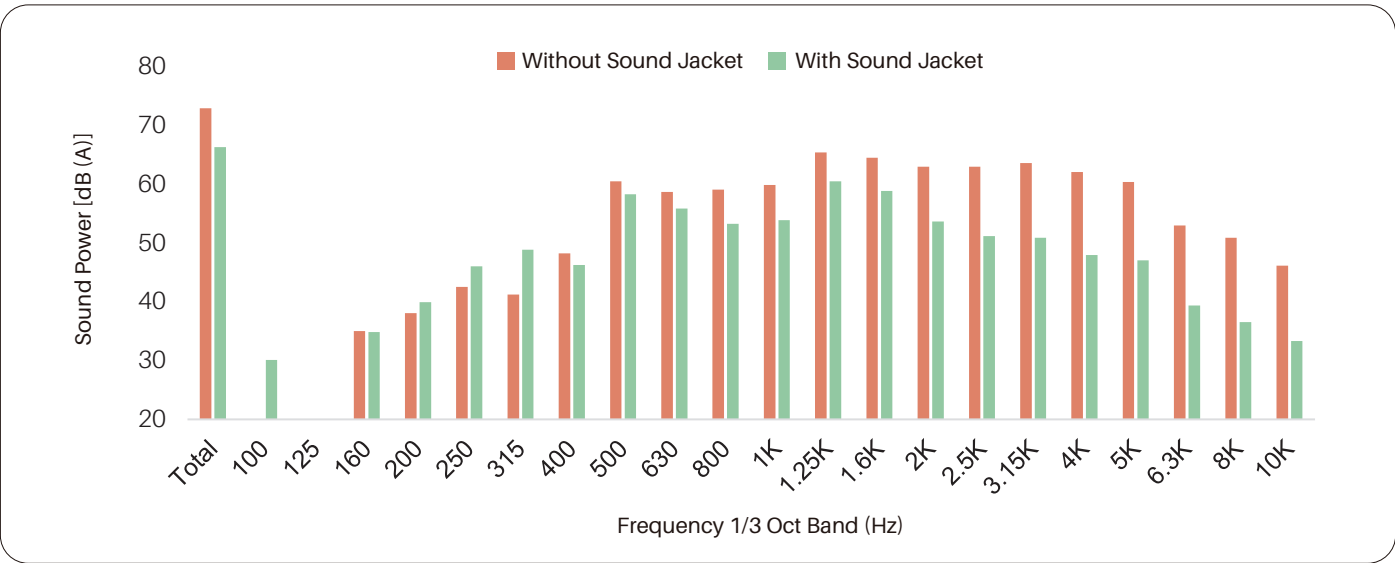
Terminal box cover



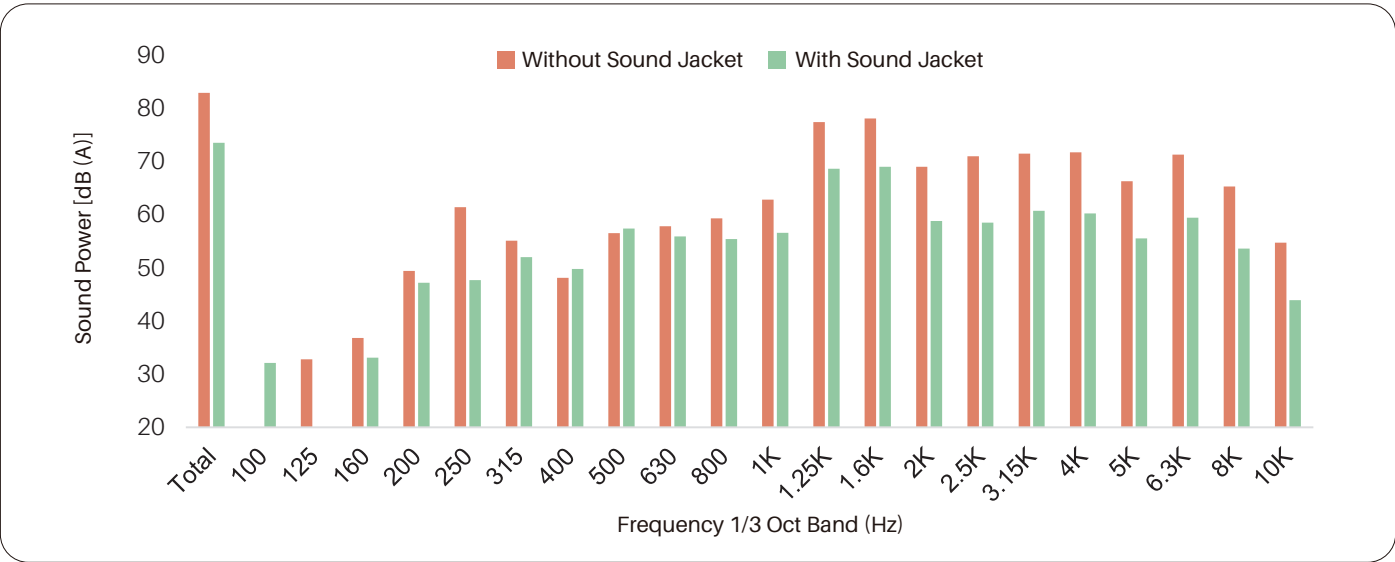
Scroll compressor with and without sound jacket

Example: Sound power with and without sound jacket

ZB88 Medium temp scroll example



ZFI68 Low temp scroll example



Platform	Part number	Applied models	Source
Summit	505-1501-04	ZB58KQ/E	Suzhou
	505-1501-03	ZB66KQ/E, ZB76KQ/E, ZB88KQ	
	505-1501-01	ZB95KQ/E, ZB114KQ/E (TW* motor)	
	505-1501-06	ZB95KQ/E, ZB114KQ/E (TF* motor)	
	505-1501-05	ZB130KQ/E	
	505-1501-02	ZFI50KQE, ZFI59KQE	
	505-1501-00	ZFI68KQE, ZFI81KQE	
Large Refrigeration Scroll	505-1512-00	ZB150KQ/E	
	505-1512-01	ZB190KQ/E, ZB220KQ/E	
	505-1512-02	ZFI96KQE, ZFI122KQE, ZFI140KQE	
	505-1512-03	ZB250KQE, ZB300KQE	
	505-1512-04	ZFI180KQE	

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 stating clearly 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.



About Copeland

Copeland is a global leader in sustainable heating, cooling, refrigeration 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 50 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

25470 EN CG HV ZF/ZFI Compressor (09/25)
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