



INVOTECH

YF/YSF/YIF Series
Scroll Compressors

**Special Design For
Low Temperature
Application**

50Hz





Suzhou Invotech Scroll Technologies Co., Ltd.

is a high-tech company.

Our company is founded by a group of engineers who formerly worked for the world's largest manufacturer of scroll compressors. We are a team of passionate and highly qualified professionals with more than 25 years of experience in this industry. Our company's products in addition to impressive sales performance in the domestic market, also sales to Asia, Africa, Europe, South America, North America and other more than 40 countries and regions.

Our company provides specialized scroll compressors and related technical consulting services for heat pump water heaters, refrigeration and air conditioning, chillers and other applications. We are willing to provide our customers with jointly developed or Turn-Key solutions to meet their needs.

Our mission: To become a leading global provider of climate and energy solutions, building an energy-saving and low-carbon ecological environment together!

For more information please visit:

www.invotech.cn

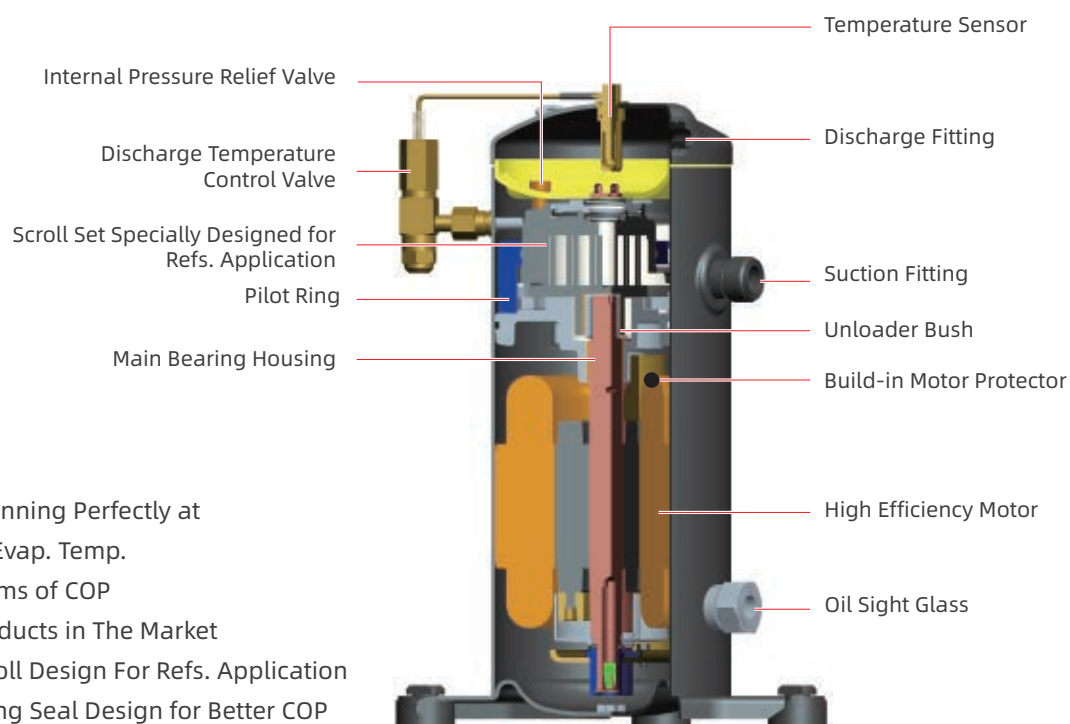


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YF Series

Scroll Compressors With Dual-Compliance For Low. Temp. Application

- Specific Design For Refs. Application, Not Only The Scroll Set But Also The Unit, Precise Product-Definition Based On Customer's Need
- Both Build-in Radius and Axial Compliance Design, Improved Floating Seal Design for Better Energy Efficiency
- Excellent Discharge Temperature Management to Stretch Operation Envelope
- Accurate Calculation of Load and Sealing Force for Running Sound Optimization
- High Efficiency Motor Design



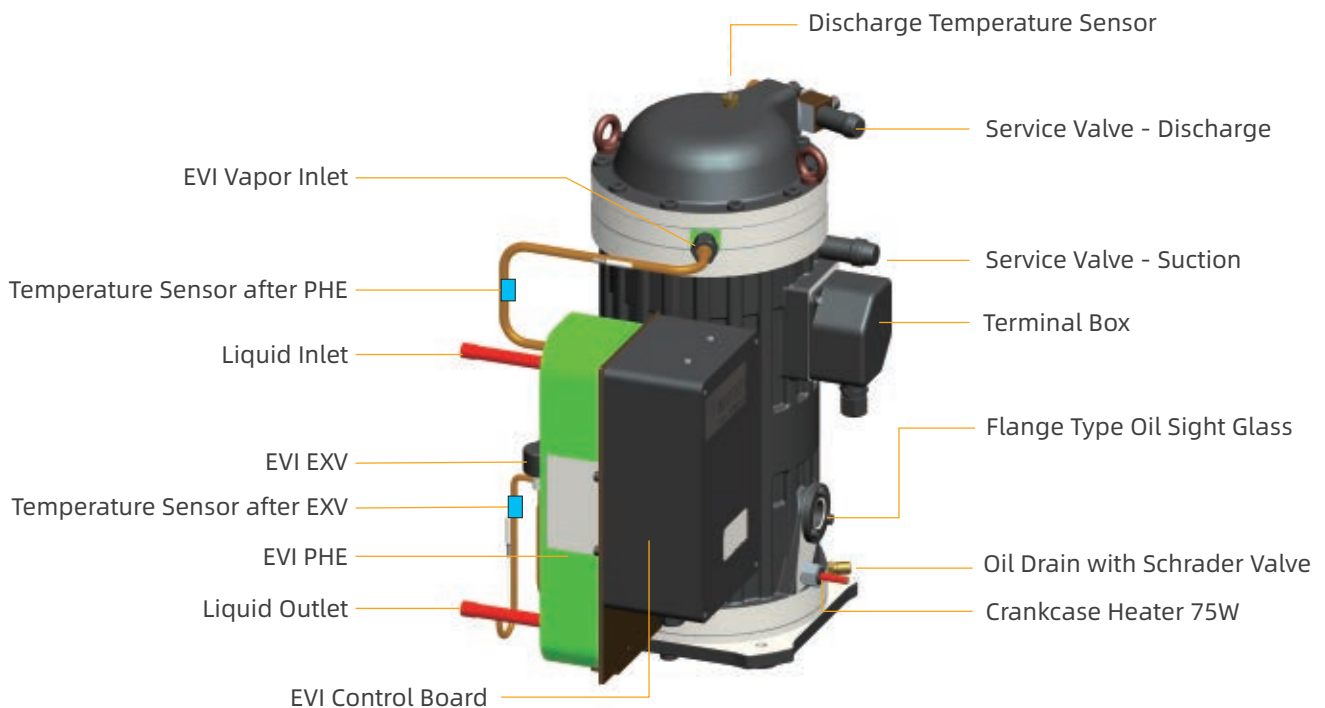
Features

- Be Capable of Running Perfectly at as low as -40°C Evap. Temp.
- 20% Better in Terms of COP Than Similar Products in The Market
- Truly Specific Scroll Design For Refs. Application
- Optimized Floating Seal Design for Better COP
- Multiple Internal Protections
 - High Pressure Protection
 - Overload Protection

YSF Series

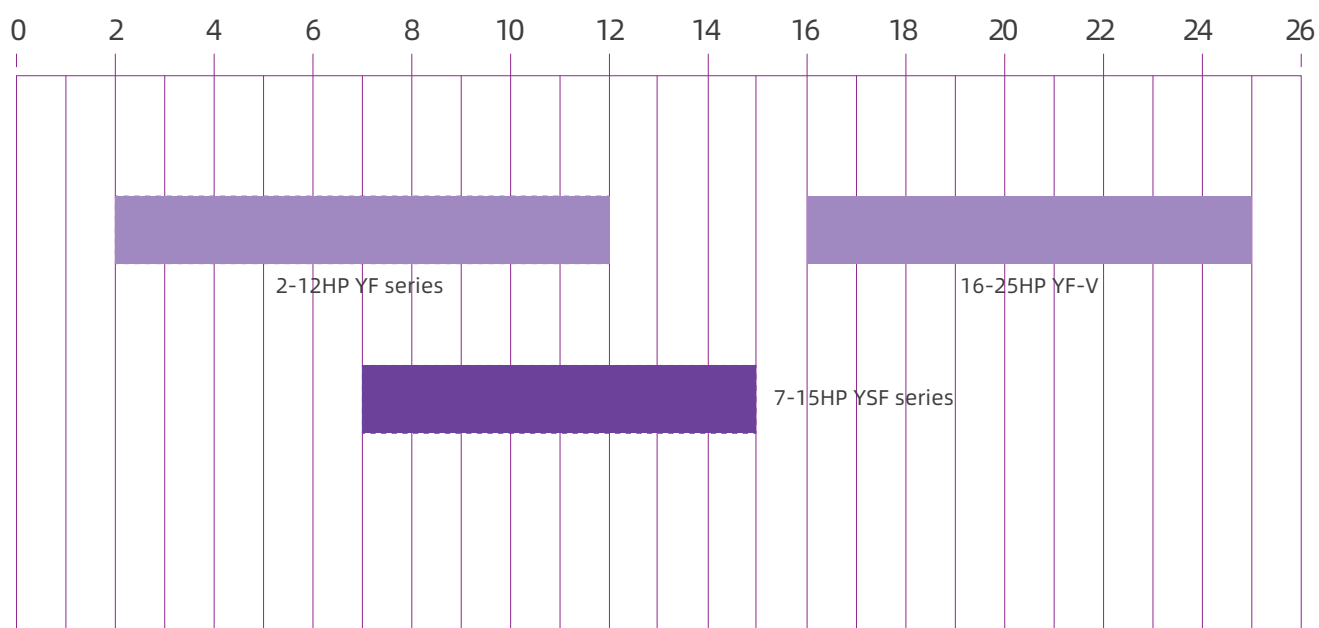
Semi-Hermetic Scroll Compressors With Dual-Compliance For Low. Temp. Application

- Specific Design for Refs. Application, Not Only the Scroll Set But Also the Unit, Precise Product-Definition Based on Customer's
- Both Build-in Radius and Axial Compliance Design, Improved Floating Seal Design for Better Energy Efficiency
- Excellent Discharge Temperature Management to Stretch Operation Envelope
- Accurate Calculation of Load and Sealing Force for Running Sound Optimization
- High Efficiency Motor Design
- Integrated Vapor Injection and Controller
- Evaporating Temperature can be Lower to -40°C
- Repairable



YF/YSF/YIF Series

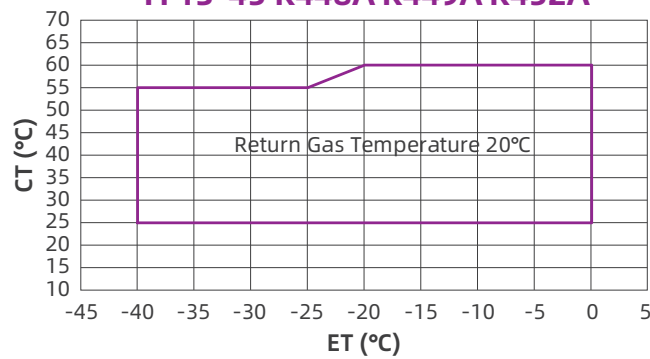
Models



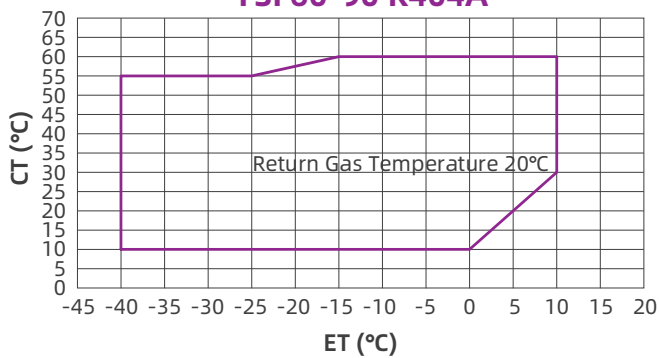
YF/YSF/YIF Series

Operating Envelope

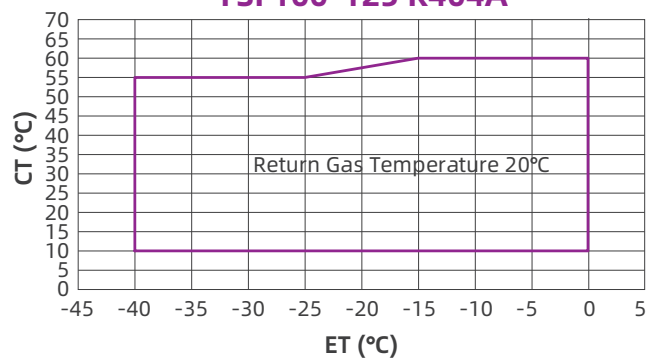
YF13-80 R404A
YF13-45 R448A R449A R452A



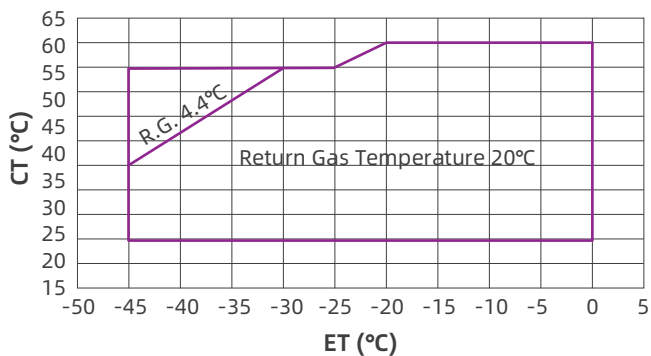
YSF60-90 R404A



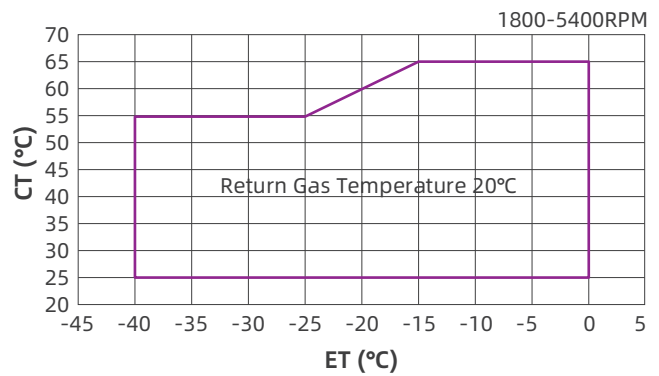
YSF100-125 R404A



YF135-200 R404A

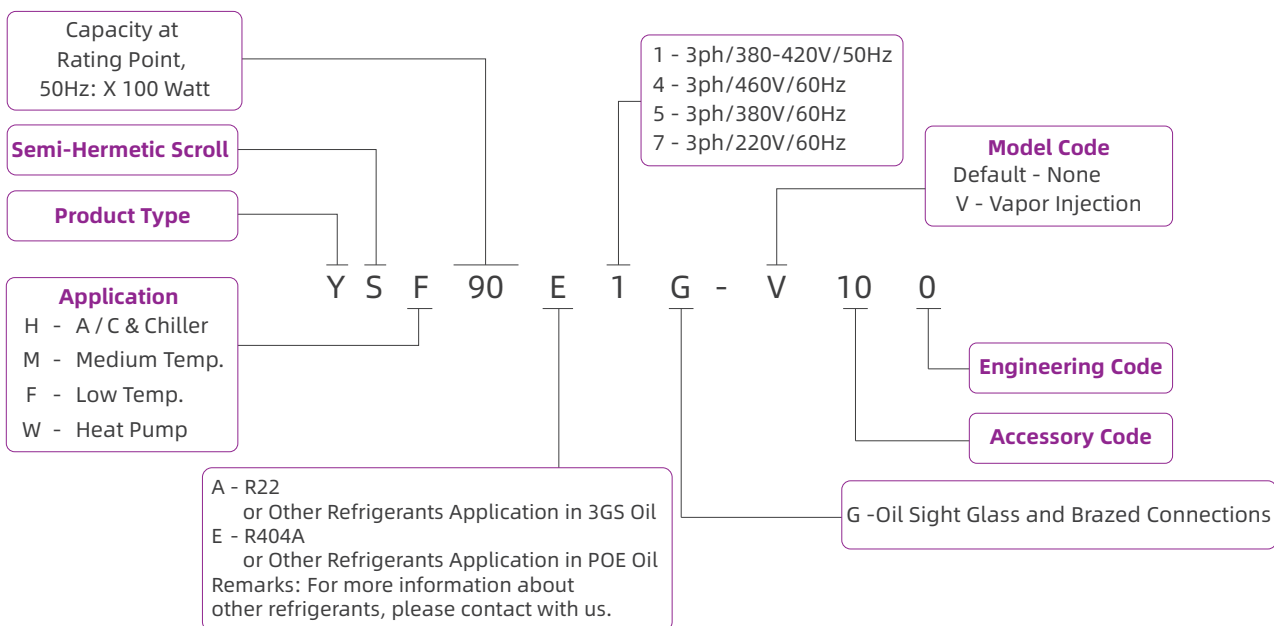
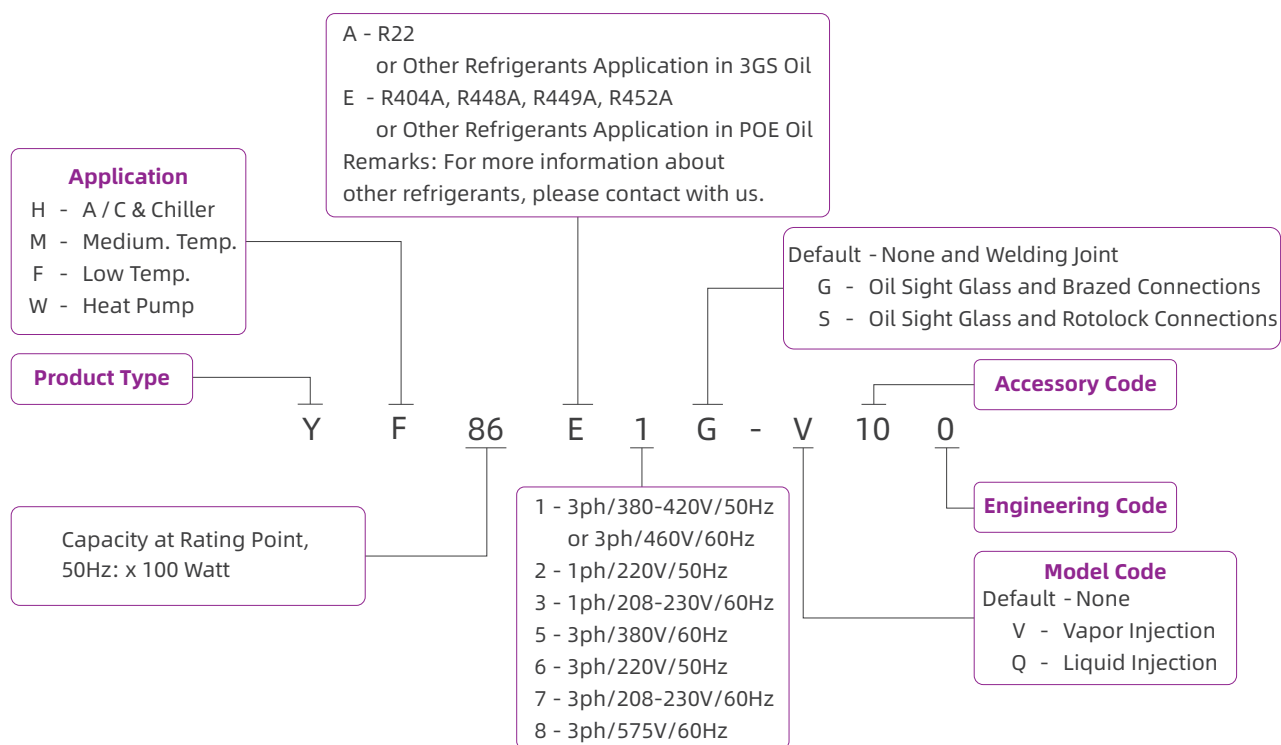


YIF38-72 R404A



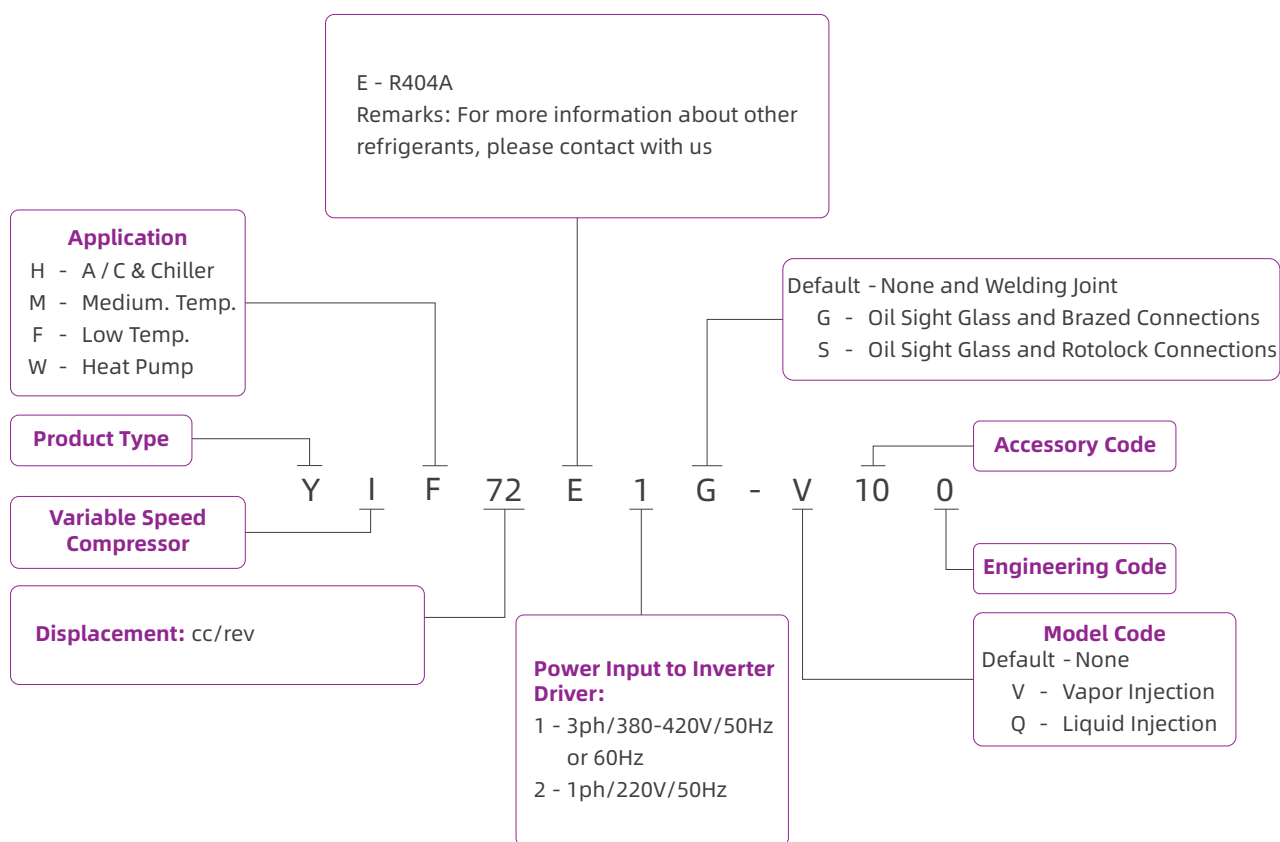
YF/YSF Series

Nomenclature



YIF Series

Nomenclature



YF Series

Specifications

50Hz
R404A

Model	YF13E2G-Q102	YF17E2G-Q102	YF20E2G-Q102	YF25E2G-Q100	YF29E2G-Q100	YF35E2G-Q100	YF13E1G-Q100	YF17E1G-Q100	YF20E1G-Q100	YF25E1G-Q100	YF29E1G-Q100
Electricity	220V/1~/50Hz						380-420V/3~/50Hz				
Power in Horse Power (HP)	2	2.5	3	3.5	4	5	2	2.5	3	3.5	4
Displacement (cc/rev)	33.3	42	46.6	58	67.8	83.3	33.3	42	46.6	58	67.8
Refrigerant	R404A										
Cooling Capacity (W)	1386	1770	2079	2695	3145	3731	1386	1770	2079	2695	3145
Power in Watt (W)	1247	1599	1866	2324	2569	3004	1237	1567	1823	2324	2516
COP (W/W)	1.1	1.11	1.11	1.16	1.22	1.24	1.12	1.13	1.14	1.16	1.25
Running Current (A)	6.1	7.8	9.1	10.5	11.9	14.4	2.5	2.9	4.5	5	5.3
LRA (A)	76	76	76	109	109	140	22	22	45	60	60
MOC (A)	13.4	14.2	16.2	20	23.3	26.2	3.8	4.4	5.8	7.5	8.8
Crankcase Heater (W)	70										
Fitting Dimensions (mm)											
Discharge Tube (ID)	12.87-12.97										
Suction Tube(ID)	22.35-22.45										
Product Dimensions (mm)											
Length (L)	239										
Width (W)	239										
Height (H)	418					463	418				
Feet Dimensions (Hole)	190.5×190.5(8.8)										
Oil Type	POE										
Initial Charge Volume (L)	1.4										
Recharge Volume (L)	1.25										
Max Pressure (MPa)											
High Side	3.2										
Low Side	2										
Weight (kg)	31	31	31	33	33	38	29	29	30	31	31

E.T. -31.6°C, C.T. 40.6°C, R.G. 4.4°C, No Subcooling

YF Series

Specifications

50Hz
R404A

Model	YF35E1G-Q100	YF41E1G-Q100	YF45E1G-Q100	YF56E1G-Q100	YF65E1G-Q100	YF72E1G-Q100	YF80E1G-Q100	YF135E1G-V100	YF170E1G-V100	YF200E1G-V100
Electricity	380-420V/3~/50Hz									
Power in Horse Power (HP)	5	6	7	8	9	10	12	16	22	25
Displacement (cc/rev)	83.3	98.3	108	123	145.4	167.2	189.1	265.5	332.8	392
Refrigerant	R404A									
Cooling Capacity (W)	3731	4371	5083	5560	6751	7621	8657	18000	21430	25242
Power in Watt (W)	2889	3358	3704	4560	5193	5862	6614	10800	12309	14499
COP (W/W)	1.29	1.3	1.37	1.22	1.3	1.3	1.31	1.67	1.74	1.74
Running Current (A)	6.6	7	7.3	9.7	10.5	11	12.4	17.9	22.4	26.4
LRA (A)	60	65	85	85	117	117	121	216	266	266
MOC (A)	10.3	12.1	13.2	18	20.1	22.7	25.6	40.2	47.4	57
Crankcase Heater (W)	70			90				120		
Fitting Dimensions (mm)										
Discharge Tube (ID)	12.87-12.97			22.35-22.45				28.80-28.90		
Suction Tube(ID)	22.35-22.45			28.83-28.93				41.56-41.66		
Product Dimensions (mm)										
Length (L)	239			272				359.8		
Width (W)	239			248				326.2		
Height (H)	463			507				671.2		
Feet Dimensions (Hole)	190.5×190.5(8.8)							232×232(8.8)		
Oil Type	POE									
Initial Charge Volume (L)	1.6			2.7		3		6		
Recharge Volume (L)	1.45			2.55		2.85		5.8		
Max Pressure (MPa)										
High Side	3.2							2.9		
Low Side	2							0.6		
Weight (kg)	32	33	38	53	53	54	54	104	106	106

E.T. -31.6°C, C.T. 40.6°C, R.G. 4.4°C, No Subcooling

YSF Series

Specifications

50Hz
R404A

Model	YSF60E1G-V100	YSF65E1G-V100	YSF75E1G-V100	YSF85E1G-V100	YSF90E1G-V100	YSF100E1G-V100	YSF125E1G-V100
Electricity	380-420V/3~/50Hz						
Power in Horse Power (HP)	7	8	9	10	12	13	15
Displacement (cc/rev)	115.5	123	145.4	167.2	189.1	197.1	243.7
Refrigerant	R404A						
Cooling Capacity (W)	6910	7360	8704	10010	11320	11800	13500
Power in Watt (W)	4369	4660	5440	6256	6988	7284	9507
COP (W/W)	1.58	1.58	1.6	1.6	1.62	1.62	1.42
Running Current (A)	9.5	10	10.8	11.9	12.9	13.3	18
LRA (A)	117	117	117	121	121	121	148.5
MOC (A)	17.9	19.1	22.3	25.7	28.8	27	33.4
Crankcase Heater (W)	75						
Fitting Dimensions (mm)							
Discharge Tube (ID)	22.50-22.60						
Suction Tube(ID)	28.65-28.75						35.20-35.30
Product Dimensions (mm)							
Length (L)	488						
Width (W)	361						
Height (H)	574						581
Feet Dimensions (Hole)	190.5×190.5(10.2)						
Oil Type	POE						
Initial Charge Volume (L)	3.4						
Recharge Volume (L)	3.25						
Max Pressure (MPa)							
High Side	3.2						
Low Side	2						
Weight (kg)	90	90	91	91	91	91	92

E.T. -31.6°C, C.T. 40.6°C, R.G. 4.4°C, No Subcooling
With vapor injection kits

YF Series

Specifications

50Hz

R448A R449A

Model	YF13E2G-Q102	YF17E2G-Q102	YF20E2G-Q100	YF25E2G-Q100	YF29E2G-Q100	YF35E2G-Q100	YF13E1G-Q100
Electricity	220V/1~/50Hz						380-420V/3~/50Hz
Power in Horse Power (HP)	2	2.5	3	3.5	4	5	2
Displacement (cc/rev)	33.3	42	46.6	58	67.8	83.3	33.3
Refrigerant	R448A R449A						
Cooling Capacity (W)	1315	1679	1972	2556	2915	3458	1311
Power in Watt (W)	1211	1553	1812	2257	2395	2800	1220
COP (W/W)	1.09	1.08	1.09	1.13	1.22	1.24	1.07
Running Current (A)	5.6	7.2	8.4	10.5	11.1	13	2.6
LRA (A)	76	76	76	109	109	140	22
MOC (A)	10.8	13.9	16.2	20.2	23.9	27.9	4.4
Crankcase Heater (W)	70						
Fitting Dimensions (mm)							
Discharge Tube (ID)	12.87-12.97						
Suction Tube(ID)	22.35-22.45						
Product Dimensions (mm)							
Length (L)	239						
Width (W)	239						
Height (H)	418					463	418
Feet Dimensions (Hole)	190.5×190.5(8.8)						
Oil Type	POE						
Initial Charge Volume (L)	1.4						
Recharge Volume (L)	1.25						
Max Pressure (MPa)							
High Side	3.2						
Low Side	2						
Weight (kg)	31	31	31	33	33	38	29

E.T. -31.6°C, C.T. 40.6°C, R.G. 4.4°C, No Subcooling

YF Series

Specifications

50Hz

R448A R449A

Model	YF17E1G-Q100	YF20E1G-Q100	YF25E1G-Q100	YF29E1G-Q100	YF35E1G-Q100	YF41E1G-Q100	YF45E1G-Q100
Electricity	380-420V/3~/50Hz						
Power in Horse Power (HP)	2.5	3	3.5	4	5	6	7
Displacement (cc/rev)	42	46.6	58	67.8	83.3	98.3	108
Refrigerant	R448A R449A						
Cooling Capacity (W)	1675	1967	2550	2915	3458	4051	4480
Power in Watt (W)	1546	17.98	2292	2417	2775	3225	3475
COP (W/W)	1.08	1.09	1.11	1.21	1.25	1.26	1.29
Running Current (A)	3.4	3.9	4.6	5.2	5.8	6.4	7
LRA (A)	22	45	60	60	60	65	65
MOC (A)	5.6	6.5	8.3	9.2	10.6	11.8	12.6
Crankcase Heater (W)	70						
Fitting Dimensions (mm)							
Discharge Tube (ID)	12.87-12.97						
Suction Tube(ID)	22.35-22.45						
Product Dimensions (mm)							
Length (L)	239						
Width (W)	239						
Height (H)	418				463		
Feet Dimensions (Hole)	190.5x190.5(8.8)						
Oil Type	POE						
Initial Charge Volume (L)	1.4				1.6		
Recharge Volume (L)	1.25				1.45		
Max Pressure (MPa)							
High Side	3.2						
Low Side	2						
Weight (kg)	29	30	31	31	32	32	33

E.T. -31.6°C, C.T. 40.6°C, R.G. 4.4°C, No Subcooling

YF Series

Specifications

50Hz
R452A

Model	YF13E2G-Q102	YF17E2G-Q102	YF20E2G-Q100	YF25E2G-Q100	YF29E2G-Q100	YF35E2G-Q100	YF13E1G-Q100
Electricity	220V/1~/50Hz						380-420V/3~/50Hz
Power in Horse Power (HP)	2	2.5	3	3.5	4	5	2
Displacement (cc/rev)	33.3	42	46.6	58	67.8	83.3	33.3
Refrigerant	R452A						
Cooling Capacity (W)	1386	1770	2079	2695	3145	3731	1386
Power in Watt (W)	1247	1599	1866	2324	2569	3004	1237
COP (W/W)	1.1	1.11	1.11	1.16	1.22	1.24	1.12
Running Current (A)	6.1	7.8	9.1	10.5	11.9	14.4	2.5
LRA (A)	76	76	76	109	109	140	22
MOC (A)	13.4	14.2	16.2	20	23.3	26.2	3.8
Crankcase Heater (W)	70						
Fitting Dimensions (mm)							
Discharge Tube (ID)	12.87-12.97						
Suction Tube(ID)	22.35-22.45						
Product Dimensions (mm)							
Length (L)	239						
Width (W)	239						
Height (H)	418					463	418
Feet Dimensions (Hole)	190.5×190.5(8.8)						
Oil Type	POE						
Initial Charge Volume (L)	1.4						
Recharge Volume (L)	1.25						
Max Pressure (MPa)							
High Side	3.2						
Low Side	2						
Weight (kg)	31	31	31	33	33	38	29

E.T. -31.6°C, C.T. 40.6°C, R.G. 4.4°C, No Subcooling

YF Series

Specifications

50Hz
R452A

Model	YF17E1G-Q100	YF20E1G-Q100	YF25E1G-Q100	YF29E1G-Q100	YF35E1G-Q100	YF41E1G-Q100	YF45E1G-Q100
Electricity	380-420V/3~/50Hz						
Power in Horse Power (HP)	2.5	3	3.5	4	5	6	7
Displacement (cc/rev)	42	46.6	58	67.8	83.3	98.3	108
Refrigerant	R452A						
Cooling Capacity (W)	1770	2079	2695	3145	3731	4371	5083
Power in Watt (W)	1567	1823	2324	2516	2889	3358	3704
COP (W/W)	1.13	1.14	1.16	1.25	1.29	1.3	1.37
Running Current (A)	2.9	4.5	5	5.3	6.6	7	7.3
LRA (A)	22	45	60	60	60	65	85
MOC (A)	4.4	5.8	7.5	8.8	10.3	12.1	13.2
Crankcase Heater (W)	70						
Fitting Dimensions (mm)							
Discharge Tube (ID)	12.87-12.97						
Suction Tube(ID)	22.35-22.45						
Product Dimensions (mm)							
Length (L)	239						
Width (W)	239						
Height (H)	418				463		
Feet Dimensions (Hole)	190.5x190.5(8.8)						
Oil Type	POE						
Initial Charge Volume (L)	1.4				1.6		
Recharge Volume (L)	1.25				1.45		
Max Pressure (MPa)							
High Side	3.2						
Low Side	2						
Weight (kg)	29	30	31	31	32	32	33

E.T. -31.6°C, C.T. 40.6°C, R.G. 4.4°C, No Subcooling

YIF Series

Specifications

Variable Speed

R404A

Model	YIF38E1G-Q100	YIF42E1G-Q100	YIF50E1G-Q100	YIF60E1G-Q100	YIF72E1G-Q100
Power Input to Inverter Driver	380-420V/3~/50Hz or 60Hz				
Displacement (cc/rev)	38	42	50	60	72
Refrigerant	R404A				
Cooling Capacity (W)	2616	2792	3488	4003	4813
Power in Watt (W)	2454	2533	3440	3955	4746
COP (W/W)	1.07	1.10	1.01	1.01	1.01
Running current (A)	4.2	4.6	5.5	6.1	7.3
MOC (A)	8.7	9.6	11.5	13.7	16.5
Rated Motor Speed (RPM)	4500				
Running Speed (RPM)	1800-5400				
Crankcase Heater (W)	70				
Fitting Dimensions (mm)					
Discharge Tube(ID)	12.87-12.97				
Suction Tube(ID)	22.35-22.45				
Product Dimensions (mm)					
Length (L)	239				
Width (W)	239				
Height (H)	419				
Feet Dimensions (hole)	190.5x190.5(8.8)				
Oil Type	POE				
Initial Charge Volume (L)	1.4				
Recharge Volume (L)	1.25				
Max Pressure (MPa)					
High Side	3.2				
Low Side	2				
Weight (kg)	29.0	29.0	29.0	29.0	31.0

E.T. -31.6°C, C.T. 40.6°C, R.G. 4.4°C, No Subcooling @4500 RPM

Model	YIF38E1G-Q100	YIF42E1G-Q100	YIF50E1G-Q100	YIF60E1G-Q100	YIF72E1G-Q100
Motor Speed (RPM)	1800				
Cooling Capacity (W)	971	1036	1294	1485	1786
Power in Watt (W)	1134	1170	1589	1827	2193
Motor Speed (RPM)	3600				
Cooling Capacity (W)	2093	2234	2790	3202	3850
Power in Watt (W)	1963	2026	2752	3164	3797
Motor Speed (RPM)	5400				
Cooling Capacity (W)	3134	3345	4179	4796	5766
Power in Watt (W)	2908	3002	4076	4687	5624

E.T. -31.6°C, C.T. 40.6°C, R.G. 4.4°C, No Subcooling @1800 RPM, 3600 RPM & 5400 RPM

YF Series

Capacity

50Hz

R404A

Model	C.T. (°C)	E.T. (°C)									
		-40	-35	-30	-25	-20	-15	-10	-5	0	
YF13E2G-Q102	Capacity (W)	50	860	1074	1334	1645	2010	2433	2918	3469	4089
		40	1007	1264	1577	1949	2386	2889	3464	4113	4842
		30	1150	1439	1793	2216	2712	3285	3938	4675	5500
	Power (W)	50	1381	1450	1522	1595	1670	1747	1826	1908	1992
		40	1147	1211	1276	1344	1413	1485	1559	1635	1714
		30	982	1037	1094	1153	1214	1277	1343	1411	1482
YF17E2G-Q102	Capacity (W)	50	1099	1371	1704	2101	2567	3107	3726	4429	5221
		40	1285	1614	2013	2489	3046	3689	4423	5252	6182
		30	1468	1837	2289	2830	3463	4194	5028	5969	7023
	Power (W)	50	1747	1835	1926	2018	2113	2211	2311	2414	2520
		40	1451	1532	1615	1701	1789	1879	1973	2069	2169
		30	1243	1313	1385	1459	1536	1617	1700	1786	1876
YF20E2G-Q102	Capacity (W)	50	1290	1611	2002	2468	3015	3650	4377	5203	6133
		40	1510	1896	2365	2924	3578	4334	5196	6170	7262
		30	1725	2158	2689	3324	4068	4927	5906	7012	8250
	Power (W)	50	2052	2156	2262	2371	2483	2597	2715	2836	2960
		40	1705	1800	1897	1998	2101	2208	2317	2431	2548
		30	1460	1542	1627	1714	1805	1899	1997	2098	2204
YF25E2G-Q100	Capacity (W)	50	1721	2148	2669	3290	4021	4867	5837	6938	8178
		40	2013	2527	3153	3899	4771	5778	6927	8227	9683
		30	2300	2878	3586	4432	5424	6569	7875	9350	11000
	Power (W)	50	2490	2616	2744	2876	3012	3151	3293	3440	3591
		40	2068	2184	2302	2424	2549	2679	2811	2949	3091
		30	1772	1871	1973	2079	2190	2304	2422	2545	2673
YF29E2G-Q100	Capacity (W)	50	1952	2437	3028	3733	4562	5522	6622	7872	9278
		40	2284	2868	3578	4423	5413	6556	7860	9334	10987
		30	2609	3265	4068	5029	6154	7454	8935	10608	12481
	Power (W)	50	2825	2968	3114	3264	3417	3575	3737	3903	4075
		40	2347	2478	2612	2750	2892	3039	3190	3346	3507
		30	2010	2123	2239	2359	2484	2614	2748	2888	3033
YF35E2G-Q100	Capacity (W)	50	2316	2892	3593	4429	5412	6551	7857	9339	11008
		40	2710	3402	4245	5248	6423	7778	9325	11074	13035
		30	3096	3874	4827	5966	7302	8843	10601	12586	14808
	Power (W)	50	3297	3464	3635	3810	3989	4173	4362	4556	4756
		40	2739	2892	3049	3210	3376	3547	3723	3906	4094
		30	2346	2478	2614	2754	2900	3051	3208	3371	3540

Remark: Suction Temperature 20°C, No Subcooling

YF Series

Capacity

50Hz
R404A

Model	C.T. (°C)	E.T. (°C)								
		-40	-35	-30	-25	-20	-15	-10	-5	0
YF13E1G-Q100	Capacity (W)	50	860	1074	1334	1645	2010	2433	2918	3469
		40	1007	1264	1577	1949	2386	2889	3464	4113
		30	1150	1439	1793	2216	2712	3285	3938	4675
	Power (W)	50	1342	1414	1486	1561	1638	1717	1797	1881
		40	1102	1167	1234	1303	1374	1447	1523	1601
		30	932	988	1047	1107	1169	1234	1301	1371
YF17E1G-Q100	Capacity (W)	50	1099	1371	1704	2101	2567	3107	3726	4429
		40	1285	1614	2013	2489	3046	3689	4423	5252
		30	1468	1837	2289	2830	3463	4194	5028	5969
	Power (W)	50	1699	1789	1881	1976	2073	2172	2275	2380
		40	1394	1477	1562	1649	1739	1832	1927	2026
		30	1180	1251	1325	1401	1480	1561	1646	1735
YF20E1G-Q100	Capacity (W)	50	1290	1611	2002	2468	3015	3650	4377	5203
		40	1510	1896	2365	2924	3578	4334	5196	6170
		30	1725	2158	2689	3324	4068	4927	5906	7012
	Power (W)	50	1978	2083	2191	2301	2414	2530	2649	2771
		40	1624	1720	1819	1920	2025	2133	2244	2359
		30	1374	1457	1542	1631	1723	1818	1917	2020
YF25E1G-Q100	Capacity (W)	50	1721	2148	2669	3290	4021	4867	5837	6938
		40	2013	2527	3153	3899	4771	5778	6927	8227
		30	2300	2878	3586	4432	5424	6569	7875	9350
	Power (W)	50	2592	2730	2870	3015	3163	3315	3471	3631
		40	2127	2254	2383	2516	2653	2795	2940	3091
		30	1800	1909	2021	2137	2257	2382	2512	2647
YF29E1G-Q100	Capacity (W)	50	1952	2437	3028	3733	4562	5522	6622	7872
		40	2284	2868	3578	4423	5413	6556	7860	9334
		30	2609	3265	4068	5029	6154	7454	8935	10608
	Power (W)	50	2729	2874	3022	3174	3330	3490	3655	3824
		40	2240	2373	2509	2649	2794	2942	3096	3254
		30	1895	2010	2128	2250	2377	2508	2645	2787
YF35E1G-Q100	Capacity (W)	50	2316	2892	3593	4429	5412	6551	7857	9339
		40	2710	3402	4245	5248	6423	7778	9325	11074
		30	3096	3874	4827	5966	7302	8843	10601	12586
	Power (W)	50	3137	3304	3475	3649	3829	4012	4201	4396
		40	2575	2728	2885	3046	3212	3383	3559	3741
		30	2179	2310	2446	2587	2733	2884	3041	3204

Remark: Suction Temperature 20°C, No Subcooling

YF Series

Capacity

50Hz

R404A

Model		C.T. (°C)	E.T. (°C)								
			-40	-35	-30	-25	-20	-15	-10	-5	0
YF41E1G-Q100	Capacity (W)	50	2713	3387	4209	5189	6340	7674	9204	10940	12895
		40	3175	3986	4973	6148	7524	9112	10924	12973	15270
		30	3627	4538	5655	6989	8553	10359	12419	14744	17346
	Power (W)	50	3647	3841	4039	4242	4450	4664	4884	5110	5343
		40	2994	3171	3353	3540	3733	3932	4137	4349	4568
		30	2533	2686	2844	3007	3176	3352	3535	3724	3921
YF45E1G-Q100	Capacity (W)	50	2978	3718	4619	5695	6959	8423	10102	12007	14153
		40	3485	4374	5458	6748	8258	10001	11990	14238	16759
		30	3980	4980	6206	7671	9388	11370	13630	16182	19039
	Power (W)	50	3798	4000	4207	4418	4635	4858	5086	5322	5564
		40	3118	3302	3492	3687	3888	4095	4309	4530	4757
		30	2638	2797	2962	3132	3308	3491	3681	3878	4083
YF56E1G-Q100	Capacity (W)	50	3476	4340	5392	6648	8123	9833	11793	14017	16523
		40	4068	5107	6371	7877	9640	11675	13997	16622	19565
		30	4647	5814	7245	8955	10959	13273	15912	18891	22226
	Power (W)	50	4996	5261	5533	5811	6096	6389	6690	7000	7318
		40	4101	4344	4593	4850	5114	5386	5667	5958	6257
		30	3470	3679	3895	4119	4351	4592	4842	5101	5371
YF65E1G-Q100	Capacity (W)	50	4079	5093	6327	7801	9532	11538	13837	16448	19388
		40	4773	5992	7476	9243	11311	13699	16424	19504	22957
		30	5452	6822	8501	10508	12859	15574	18671	22167	26080
	Power (W)	50	5640	5940	6246	6560	6882	7213	7553	7902	8262
		40	4629	4904	5185	5475	5773	6081	6398	6726	7064
		30	3917	4153	4397	4650	4912	5184	5466	5759	6063
YF72E1G-Q100	Capacity (W)	50	4731	5906	7338	9048	11055	13382	16049	19076	22486
		40	5536	6950	8671	10720	13119	15888	19048	22621	26626
		30	6324	7912	9860	12187	14914	18063	21654	25709	30247
	Power (W)	50	6366	6705	7051	7405	7769	8142	8525	8920	9326
		40	5226	5535	5853	6180	6517	6864	7222	7592	7974
		30	4422	4688	4964	5249	5545	5852	6170	6501	6844
YF80E1G-Q100	Capacity (W)	50	5206	6547	8182	10133	12424	15080	18124	21579	25471
		40	6125	7738	9702	12042	14780	17940	21547	25625	30196
		30	7024	8837	11060	13716	16829	20423	24522	29149	34329
	Power (W)	50	7185	7566	7957	8357	8767	9189	9621	10067	10525
		40	5897	6247	6606	6975	7355	7746	8151	8568	8999
		30	4990	5291	5602	5924	6258	6604	6963	7336	7724

Remark: Suction Temperature 20°C, No Subcooling

YF Series

Capacity

50Hz
R404A

Model		C.T. (°C)	E.T. (°C)								
			-40	-35	-30	-25	-20	-15	-10	-5	0
YF135E1G-V100	Capacity (W)	50	9900	12731	15801	21509	26875	32044	37161	42371	47819
		40	11930	16431	20864	25375	30108	35209	40822	47093	54166
		30	15263	18461	22157	26494	31618	37674	44808	53163	62886
	Power (W)	50	12330	13021	13709	15519	16911	17870	18381	18426	17992
		40	9763	10978	12052	12969	13714	14271	14625	14759	14659
		30	9123	9458	9897	10425	11026	11684	12385	13111	13848
YF170E1G-V100	Capacity (W)	50	13589	16757	21137	25585	30537	36031	42107	48805	56164
		40	15139	18761	22887	27555	32806	38678	45211	52445	60418
		30	16038	19763	24069	28998	34587	40877	47907	55716	64344
	Power (W)	50	13532	14306	14765	15564	16524	17499	18346	18919	19074
		40	11801	11878	12388	13187	14131	15074	15872	16381	16456
		30	9776	9964	10569	11447	12453	13443	14273	14797	14871
YF200E1G-V100	Capacity (W)	50	16006	19738	24896	30136	35969	42440	49597	57487	66155
		40	17832	22099	26958	32457	38641	45558	53253	61774	71166
		30	18891	23278	28351	34156	40739	48148	56428	65627	75790
	Power (W)	50	15939	16851	17391	18333	19464	20612	21609	22284	22467
		40	13900	13991	14592	15533	16644	17755	18696	19295	19384
		30	11515	11736	12449	13483	14668	15835	16811	17429	17516

Remark:

	RG 4.4°C, No Subcooling
	RG 20°C, No Subcooling

YSF Series

Capacity Vapor Injection

50Hz

R404A

Model	C.T. (°C)	E.T. (°C)												
		-40	-35	-30	-25	-20	-15	-10	-5	0	5	10		
YSF60E1G-V100	Capacity (W)	60						9439	11041	12843	14878	17178	19774	
		55	3794	4908	6083	7352	8746	10298	12038	13999	16213	18711	21525	
		50	4204	5358	6593	7941	9435	11105	12984	15104	17495	20192	23224	
		45	4572	5765	7060	8487	10079	11868	13886	16163	18733	21626	24876	
		40	4906	6138	7491	8997	10688	12595	14750	17185	19932	23023	26489	
		35	5212	6483	7895	9479	11268	13292	15585	18177	21101	24388	28071	
		30	5498	6808	8277	9939	11825	13967	16397	19146	22246	25730	29628	
		25	5772	7119	8646	10385	12368	14627	17193	20099	23375	27054	31168	
	Power (W)	60								8079	8467	8910	9411	
		55	5908	6025	6160	6317	6499	6712	6960	7248	7579	7958	8391	
		50	5306	5414	5532	5666	5821	5999	6207	6448	6726	7047	7414	
		45	4727	4829	4936	5052	5182	5331	5502	5700	5930	6196	6502	
		40	4193	4293	4392	4495	4605	4727	4866	5026	5212	5427	5677	
		35	3724	3827	3923	4016	4110	4211	4322	4448	4593	4762	4960	
		30	3343	3453	3549	3637	3720	3803	3890	3986	4096	4223	4372	
		25	3071	3192	3293	3379	3455	3525	3593	3663	3741	3830	3935	
	YSF65E1G-V100	Capacity (W)	60						10050	11755	13673	15840	18289	21053
			55	4039	5225	6477	7828	9312	10964	12817	14905	17261	19921	22917
50			4476	5704	7019	8455	10045	11823	13824	16080	18627	21497	24726	
45			4868	6138	7516	9036	10731	12636	14784	17209	19944	23025	26485	
40			5223	6535	7976	9579	11379	13410	15704	18297	21221	24512	28202	
35			5549	6903	8406	10092	11996	14152	16593	19353	22466	25966	29886	
30			5854	7248	8813	10582	12590	14871	17457	20384	23685	27394	31545	
25			6145	7579	9205	11057	13168	15573	18305	21399	24887	28804	33184	
Power (W)		60								8601	9015	9486	10020	
		55	6290	6415	6559	6725	6919	7146	7410	7716	8069	8473	8933	
		50	5650	5764	5890	6033	6197	6387	6608	6865	7161	7502	7893	
		45	5033	5141	5255	5379	5517	5675	5858	6069	6313	6596	6923	
	40	4464	4571	4676	4785	4903	5033	5181	5351	5549	5778	6044		
	35	3965	4075	4177	4275	4376	4483	4601	4736	4890	5070	5280		
	30	3559	3676	3779	3872	3960	4049	4142	4244	4361	4496	4655		
	25	3269	3398	3506	3598	3679	3753	3825	3900	3983	4078	4189		
YSF75E1G-V100	Capacity (W)	60						11881	13897	16165	18727	21622	24889	
		55	4775	6177	7657	9254	11009	12962	15152	17621	20407	23552	27094	
		50	5291	6744	8298	9996	11875	13978	16343	19011	22022	25415	29232	
		45	5755	7257	8886	10683	12687	14939	17478	20345	23579	27221	31311	
		40	6175	7726	9430	11325	13453	15853	18566	21631	25089	28979	33342	
		35	6561	8160	9937	11931	14183	16731	19617	22880	26560	30698	35333	
		30	6921	8569	10419	12511	14885	17581	20639	24099	28001	32386	37293	
		25	7265	8961	10883	13072	15568	18411	21641	25298	29422	34054	39232	
	Power (W)	60								10068	10552	11104	11728	
		55	7363	7509	7677	7872	8099	8365	8674	9032	9445	9918	10457	
		50	6613	6747	6895	7062	7254	7477	7735	8035	8382	8782	9239	
		45	5892	6018	6151	6296	6458	6643	6856	7104	7390	7721	8103	
40		5226	5350	5474	5601	5739	5891	6065	6264	6495	6764	7075		
35		4642	4770	4889	5005	5122	5248	5386	5543	5724	5935	6181		
30		4166	4303	4423	4532	4636	4739	4848	4968	5104	5263	5448		
25		3827	3977	4104	4211	4306	4393	4477	4565	4662	4773	4904		

Remark: Suction Temperature 20°C, No Subcooling

YSF Series

Capacity Vapor Injection

50Hz
R404A

Model	C.T. (°C)	E.T. (°C)											
		-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	
YSF85E1G-V100	Capacity (W)	60						13666	15984	18593	21540	24869	28628
		55	5493	7105	8807	10644	12663	14909	17428	20267	23472	27089	31163
		50	6086	7757	9545	11497	13659	16077	18798	21866	25329	29232	33622
		45	6619	8347	10221	12287	14593	17182	20103	23400	27121	31310	36014
		40	7102	8887	10846	13026	15474	18235	21355	24880	28857	33332	38350
		35	7546	9386	11430	13723	16313	19244	22563	26316	30549	35309	40640
		30	7960	9856	11984	14390	17120	20221	23739	27719	32207	37251	42895
		25	8356	10306	12518	15036	17907	21177	24892	29098	33842	39168	45124
	Power (W)	60								11580	12137	12771	13490
		55	8469	8637	8830	9054	9316	9621	9977	10389	10864	11408	12027
		50	7606	7760	7930	8123	8344	8600	8897	9242	9641	10101	10627
		45	6776	6922	7075	7242	7428	7641	7886	8171	8500	8881	9320
		40	6010	6154	6296	6443	6601	6776	6975	7205	7471	7779	8137
		35	5339	5486	5623	5756	5892	6036	6195	6376	6584	6826	7109
		30	4792	4949	5088	5213	5332	5451	5576	5714	5871	6053	6267
		25	4402	4575	4720	4844	4953	5052	5150	5251	5362	5490	5640
YSF90E1G-V100	Capacity (W)	60						15450	18071	21021	24352	28117	32366
		55	6210	8033	9957	12034	14316	16855	19704	22914	26537	30626	35233
		50	6881	8769	10791	12998	15443	18177	21252	24722	28637	33050	38013
		45	7484	9437	11556	13892	16498	19426	22728	26456	30662	35399	40717
		40	8030	10047	12262	14727	17494	20616	24143	28129	32626	37684	43358
		35	8531	10612	12922	15516	18443	21757	25509	29753	34539	39919	45947
		30	9000	11143	13549	16269	19356	22862	26838	31338	36413	42115	48496
		25	9447	11652	14152	16999	20245	23942	28142	32898	38261	44283	51017
	Power (W)	60								12963	13586	14296	15101
		55	9480	9668	9884	10135	10428	10770	11168	11629	12161	12770	13463
		50	8514	8687	8877	9092	9340	9626	9959	10346	10792	11307	11896
		45	7586	7749	7920	8106	8315	8553	8828	9146	9515	9942	10433
		40	6728	6889	7048	7212	7389	7585	7808	8065	8363	8708	9109
		35	5976	6141	6294	6443	6595	6757	6935	7137	7370	7641	7958
		30	5364	5540	5695	5835	5969	6102	6242	6396	6572	6776	7015
		25	4927	5121	5284	5422	5544	5656	5765	5878	6002	6145	6314

Remark: Suction Temperature 20°C, No Subcooling

YSF Series

Capacity Vapor Injection

50Hz

R404A

Model	C.T. (°C)	E.T. (°C)										
		-40	-35	-30	-25	-20	-15	-10	-5	0	5	10
YSF100E1G-V100	Capacity (W)	60						16108	18840	21916	25389	
		55	6474	8375	10381	12546	14925	17573	20542	23889	27667	
		50	7174	9143	11250	13551	16100	18950	22157	25774	29855	
		45	7802	9838	12047	14483	17200	20253	23695	27582	31967	
		40	8372	10475	12784	15354	18239	21493	25171	29326	34014	
		35	8894	11063	13472	16176	19228	22683	26595	31019	36008	
		30	9383	11617	14125	16961	20180	23835	27981	32672	37962	
		25	9849	12148	14754	17722	21106	24961	29340	34298	39889	
	Power (W)	60									13514	14164
		55	9883	10080	10305	10567	10872	11228	11643	12124	12678	
		50	8877	9056	9255	9479	9737	10036	10383	10786	11252	
		45	7908	8078	8257	8451	8669	8917	9204	9535	9920	
		40	7014	7182	7347	7519	7703	7908	8140	8408	8719	
		35	6230	6402	6562	6718	6876	7044	7230	7441	7684	
		30	5593	5776	5937	6084	6223	6362	6508	6669	6852	
		25	5137	5339	5509	5653	5780	5896	6010	6128	6258	
YSF125E1G-V100	Capacity (W)	60						19918	23297	27099	31394	
		55	8006	10356	12836	15513	18455	21729	25401	29539	34211	
		50	8871	11305	13911	16757	19908	23432	27397	31870	36917	
		45	9648	12165	14897	17909	21269	25043	29300	34106	39528	
		40	10352	12952	15808	18985	22553	26577	31124	36263	42059	
		35	10998	13680	16659	20002	23776	28048	32885	38355	44525	
		30	11602	14365	17466	20973	24953	29472	34599	40400	46942	
		25	12179	15022	18244	21914	26099	30865	36279	42410	49324	
	Power (W)	60									16711	17514
		55	12221	12464	12742	13066	13443	13884	14397	14992	15677	
		50	10976	11198	11444	11721	12040	12410	12839	13337	13913	
		45	9779	9989	10210	10450	10719	11026	11380	11791	12266	
		40	8673	8880	9085	9297	9525	9778	10066	10397	10781	
		35	7704	7917	8114	8307	8502	8710	8940	9201	9501	
		30	6915	7142	7342	7523	7695	7866	8047	8246	8472	
		25	6352	6602	6811	6990	7147	7291	7431	7577	7738	

Remark: Suction Temperature 20°C, No Subcooling

YF Series

Capacity

50Hz

R448 R449A

Model		C.T. (°C)	E.T. (°C)								
			-40	-35	-30	-25	-20	-15	-10	-5	0
YF13E2G-Q102	Capacity (W)	50	863	1127	1429	1782	2196	2686	3263	3939	4726
		40	997	1276	1605	1997	2463	3017	3670	4435	5324
		30	1106	1397	1750	2179	2695	3311	4038	4889	5877
	Power (W)	50	1554	1577	1599	1622	1647	1676	1710	1751	1800
		40	1161	1209	1253	1294	1333	1372	1412	1455	1503
		30	944	997	1041	1079	1110	1138	1163	1187	1212
YF17E2G-Q102	Capacity (W)	50	1089	1422	1803	2247	2770	3388	4115	4968	5961
		40	1257	1609	2024	2518	3107	3805	4629	5594	6715
		30	1395	1762	2208	2748	3399	4176	5093	6167	7412
	Power (W)	50	1959	1989	2017	2046	2078	2114	2157	2208	2271
		40	1464	1525	1581	1632	1681	1730	1781	1835	1895
		30	1190	1257	1314	1361	1400	1435	1467	1498	1529
YF20E2G-Q102	Capacity (W)	50	1208	1577	2000	2493	3074	3759	4566	5512	6614
		40	1395	1785	2246	2794	3447	4222	5136	6206	7450
		30	1547	1954	2449	3049	3772	4633	5651	6842	8224
	Power (W)	50	2174	2207	2238	2270	2305	2346	2393	2450	2519
		40	1624	1693	1754	1811	1865	1920	1976	2036	2103
		30	1321	1395	1457	1510	1554	1592	1628	1662	1697
YF25E2G-Q100	Capacity (W)	50	1503	1963	2489	3103	3825	4678	5683	6860	8232
		40	1736	2222	2795	3477	4290	5255	6393	7725	9273
		30	1926	2433	3049	3795	4694	5766	7033	8516	10236
	Power (W)	50	2706	2747	2786	2826	2869	2919	2979	3050	3136
		40	2021	2107	2183	2254	2322	2389	2459	2534	2617
		30	1644	1736	1814	1879	1934	1982	2026	2068	2112
YF29E2G-Q100	Capacity (W)	50	1885	2326	2860	3509	4295	5241	6369	7700	9258
		40	2027	2565	3203	3964	4869	5941	7203	8675	10381
		30	2066	2719	3479	4369	5411	6627	8039	9670	11542
	Power (W)	50	2603	2696	2806	2930	3064	3204	3347	3490	3630
		40	2096	2192	2300	2418	2543	2670	2797	2920	3035
		30	1766	1857	1956	2062	2170	2278	2381	2476	2561
YF35E2G-Q100	Capacity (W)	50	2316	2858	3514	4311	5277	6439	7824	9461	11375
		40	2490	3152	3936	4870	5983	7300	8849	10659	12755
		30	2538	3340	4274	5368	6648	8142	9877	11881	14180
	Power (W)	50	3198	3313	3448	3600	3764	3936	4112	4288	4460
		40	2576	2693	2826	2971	3124	3281	3436	3587	3729
		30	2170	2281	2404	2534	2667	2799	2925	3042	3146
YF13E1G-Q100	Capacity (W)	50	858	1125	1424	1770	2176	2658	3228	3901	4691
		40	996	1276	1602	1988	2449	2998	3650	4418	5318
		30	1119	1409	1759	2183	2695	3309	4040	4901	5907
	Power (W)	50	1434	1547	1631	1694	1739	1775	1805	1836	1874
		40	1100	1205	1284	1343	1388	1424	1456	1492	1536
		30	874	970	1041	1094	1134	1168	1201	1239	1287

Remark: Suction Temperature 20°C, No Subcooling

YF Series

Capacity

50Hz

R448 R449A

Model	C.T. (°C)	E.T. (°C)									
		-40	-35	-30	-25	-20	-15	-10	-5	0	
YF17E1G-Q100	Capacity (W)	50	1082	1419	1796	2233	2745	3352	4071	4920	5916
		40	1256	1609	2020	2507	3088	3781	4603	5573	6707
		30	1411	1777	2218	2753	3399	4174	5095	6182	7450
	Power (W)	50	1808	1951	2057	2136	2194	2238	2277	2316	2364
		40	1388	1520	1620	1694	1750	1795	1837	1882	1938
		30	1103	1223	1313	1379	1430	1473	1515	1562	1623
YF20E1G-Q100	Capacity (W)	50	1201	1574	1993	2477	3046	3719	4517	5458	6564
		40	1393	1785	2241	2782	3427	4195	5107	6183	7442
		30	1566	1972	2461	3055	3771	4631	5653	6859	8266
	Power (W)	50	2006	2164	2283	2370	2434	2483	2526	2570	2623
		40	1540	1687	1797	1880	1942	1992	2038	2088	2150
		30	1224	1357	1456	1531	1587	1634	1680	1733	1801
YF25E1G-Q100	Capacity (W)	50	1495	1960	2481	3083	3791	4629	5622	6794	8170
		40	1734	2222	2790	3463	4265	5222	6357	7696	9262
		30	1949	2454	3064	3802	4694	5764	7036	8536	10288
	Power (W)	50	2497	2694	2841	2950	3030	3091	3144	3198	3264
		40	1916	2099	2237	2340	2417	2479	2537	2599	2676
		30	1523	1689	1813	1905	1975	2034	2092	2157	2242
YF29E1G-Q100	Capacity (W)	50	1698	2237	2832	3514	4315	5267	6403	7754	9352
		40	1972	2559	3221	3990	4897	5975	7255	8770	10552
		30	2231	2839	3542	4371	5357	6534	7932	9585	11523
	Power (W)	50	2930	2884	2909	2986	3099	3230	3360	3473	3551
		40	2212	2214	2274	2374	2496	2623	2736	2819	2853
		30	1756	1788	1864	1967	2079	2183	2260	2293	2265
YF35E1G-Q100	Capacity (W)	50	2086	2749	3479	4317	5301	6472	7867	9527	11490
		40	2423	3144	3958	4902	6017	7341	8914	10775	12964
		30	2741	3489	4352	5370	6582	8028	9746	11776	14157
	Power (W)	50	3600	3543	3574	3669	3807	3968	4128	4267	4363
		40	2717	2721	2794	2917	3067	3222	3361	3463	3505
		30	2157	2197	2291	2417	2555	2682	2777	2817	2782
YF41E1G-Q100	Capacity (W)	50	2462	3244	4106	5094	6256	7637	9283	11242	13559
		40	2859	3711	4670	5785	7100	8663	10519	12715	15299
		30	3234	4117	5136	6337	7767	9473	11501	13896	16707
	Power (W)	50	4248	4181	4217	4329	4493	4682	4872	5036	5149
		40	3207	3211	3298	3442	3619	3802	3967	4087	4136
		30	2545	2592	2703	2852	3015	3165	3276	3325	3284
YF45E1G-Q100	Capacity (W)	50	2705	3564	4511	5597	6873	8390	10200	12352	14897
		40	3141	4077	5131	6356	7801	9517	11557	13970	16808
		30	3553	4523	5642	6962	8534	10408	12636	15268	18355
	Power (W)	50	4667	4594	4633	4757	4936	5144	5353	5533	5657
		40	3523	3527	3623	3782	3976	4178	4358	4490	4544
		30	2796	2848	2970	3134	3312	3477	3600	3653	3608

Remark: Suction Temperature 20°C, No Subcooling

YF Series

Capacity

50Hz
R452A

Model		C.T. (°C)	E.T. (°C)								
			-40	-35	-30	-25	-20	-15	-10	-5	0
YF13E2G-Q102	Capacity (W)	50	860	1074	1334	1645	2010	2433	2918	3469	4089
		40	1007	1264	1577	1949	2386	2889	3464	4113	4842
		30	1150	1439	1793	2216	2712	3285	3938	4675	5500
	Power (W)	50	1381	1451	1522	1595	1670	1747	1826	1908	1992
		40	1147	1211	1277	1344	1414	1485	1559	1635	1714
		30	982	1037	1094	1153	1214	1278	1343	1411	1482
YF17E2G-Q102	Capacity (W)	50	1099	1371	1704	2101	2567	3107	3726	4429	5221
		40	1285	1614	2013	2489	3046	3689	4423	5252	6182
		30	1468	1837	2289	2830	3463	4194	5028	5969	7023
	Power (W)	50	1747	1835	1926	2018	2113	2211	2311	2414	2520
		40	1451	1532	1615	1701	1789	1879	1973	2069	2169
		30	1243	1313	1385	1459	1536	1617	1700	1786	1876
YF20E2G-Q102	Capacity (W)	50	1290	1611	2002	2468	3015	3650	4377	5203	6133
		40	1510	1896	2365	2924	3578	4334	5196	6170	7262
		30	1725	2158	2689	3324	4068	4927	5906	7012	8250
	Power (W)	50	2052	2156	2262	2371	2483	2597	2715	2836	2960
		40	1705	1800	1898	1998	2101	2208	2318	2431	2548
		30	1460	1542	1627	1714	1805	1899	1997	2098	2204
YF25E2G-Q100	Capacity (W)	50	1721	2148	2669	3290	4021	4867	5837	6938	8178
		40	2013	2527	3153	3899	4771	5778	6927	8227	9683
		30	2300	2878	3586	4432	5424	6569	7875	9350	11000
	Power (W)	50	2490	2616	2744	2876	3012	3151	3293	3440	3591
		40	2068	2184	2302	2424	2549	2678	2811	2949	3091
		30	1772	1871	1973	2079	2190	2304	2422	2545	2673
YF29E2G-Q100	Capacity (W)	50	1952	2437	3028	3733	4562	5522	6622	7872	9278
		40	2284	2868	3578	4423	5413	6556	7860	9334	10987
		30	2609	3265	4069	5029	6154	7454	8935	10608	12481
	Power (W)	50	2825	2968	3114	3264	3417	3575	3737	3903	4075
		40	2347	2478	2612	2750	2892	3039	3190	3346	3507
		30	2010	2123	2239	2359	2484	2614	2748	2888	3033
YF35E2G-Q100	Capacity (W)	50	2316	2892	3593	4429	5412	6551	7857	9339	11008
		40	2710	3402	4245	5248	6423	7778	9325	11074	13035
		30	3096	3874	4827	5966	7302	8843	10601	12586	14808
	Power (W)	50	3297	3464	3635	3810	3989	4173	4362	4556	4756
		40	2739	2892	3049	3210	3376	3547	3723	3906	4094
		30	2346	2478	2614	2754	2900	3051	3208	3371	3540
YF13E1G-Q100	Capacity (W)	50	860	1074	1334	1645	2010	2433	2918	3469	4089
		40	1007	1264	1577	1949	2386	2889	3464	4113	4842
		30	1150	1439	1793	2216	2712	3285	3938	4675	5500
	Power (W)	50	1342	1414	1487	1561	1638	1717	1797	1881	1966
		40	1102	1167	1234	1303	1374	1447	1523	1601	1681
		30	932	988	1047	1107	1169	1234	1301	1371	1443

Remark: Suction Temperature 20°C, No Subcooling

YF Series

Capacity

50Hz

R452A

Model	C.T. (°C)	E.T. (°C)									
		-40	-35	-30	-25	-20	-15	-10	-5	0	
YF17E1G-Q100	Capacity (W)	50	1099	1371	1704	2101	2567	3107	3726	4429	5221
		40	1285	1614	2013	2489	3046	3689	4423	5252	6182
		30	1468	1837	2289	2830	3463	4194	5028	5969	7023
	Power (W)	50	1699	1789	1881	1976	2073	2173	2275	2380	2489
		40	1394	1477	1562	1649	1739	1832	1927	2026	2128
		30	1180	1251	1324	1401	1480	1561	1646	1735	1826
YF20E1G-Q100	Capacity (W)	50	1290	1611	2002	2468	3015	3650	4377	5203	6133
		40	1510	1896	2365	2924	3578	4334	5196	6170	7262
		30	1725	2158	2689	3324	4068	4927	5906	7012	8250
	Power (W)	50	1978	2083	2191	2301	2414	2530	2649	2771	2898
		40	1624	1720	1819	1920	2025	2133	2244	2359	2478
		30	1374	1457	1542	1631	1723	1818	1917	2020	2127
YF25E1G-Q100	Capacity (W)	50	1721	2148	2669	3291	4021	4867	5837	6938	8178
		40	2013	2527	3153	3899	4771	5778	6927	8227	9683
		30	2300	2878	3586	4432	5424	6569	7875	9350	11000
	Power (W)	50	2592	2730	2870	3015	3163	3315	3471	3631	3797
		40	2128	2254	2383	2516	2653	2794	2940	3091	3246
		30	1800	1909	2021	2137	2257	2382	2512	2647	2786
YF29E1G-Q100	Capacity (W)	50	1952	2437	3028	3733	4562	5522	6622	7872	9278
		40	2284	2868	3578	4423	5413	6556	7860	9334	10987
		30	2609	3265	4069	5029	6154	7454	8935	10608	12481
	Power (W)	50	2729	2874	3022	3174	3330	3490	3655	3824	3998
		40	2240	2373	2509	2649	2794	2942	3096	3254	3418
		30	1895	2010	2128	2250	2377	2508	2645	2787	2934
YF35E1G-Q100	Capacity (W)	50	2316	2892	3593	4429	5412	6551	7857	9339	11008
		40	2710	3402	4245	5248	6423	7778	9325	11074	13035
		30	3096	3874	4827	5966	7302	8843	10601	12586	14808
	Power (W)	50	3137	3304	3475	3649	3828	4012	4201	4396	4596
		40	2575	2728	2885	3046	3212	3383	3559	3741	3930
		30	2179	2310	2446	2587	2733	2884	3041	3204	3373
YF41E1G-Q100	Capacity (W)	50	2713	3387	4209	5189	6340	7674	9204	10940	12895
		40	3175	3986	4973	6148	7524	9112	10924	12973	15270
		30	3627	4538	5655	6989	8553	10359	12419	14744	17346
	Power (W)	50	3647	3841	4039	4242	4450	4664	4884	5110	5343
		40	2994	3171	3353	3540	3733	3932	4137	4349	4568
		30	2533	2686	2844	3007	3176	3352	3535	3724	3921
YF45E1G-Q100	Capacity (W)	50	2978	3718	4619	5695	6959	8423	10102	12007	14153
		40	3485	4374	5458	6748	8258	10001	11990	14238	16759
		30	3980	4980	6206	7671	9388	11370	13630	16182	19039
	Power (W)	50	3798	4000	4207	4418	4635	4858	5086	5322	5564
		40	3118	3302	3492	3687	3888	4095	4309	4530	4757
		30	2638	2797	2962	3132	3308	3491	3681	3878	4083

Remark: Suction Temperature 20°C, No Subcooling

YIF Series

Capacity

Variable Speed R404A

Model		C.T. (°C)	E.T. (°C)								
			-40	-35	-30	-25	-20	-15	-10	-5	0
YIF38E1G-Q100	Capacity (W)	50	1702	2149	2495	3289	4016	4870	5868	7027	8363
		40	1951	2445	2840	3764	4622	5635	6820	8194	9773
		30	2208	2741	3178	4221	5202	6366	7729	9309	11123
	Power (W)	50	3267	3262	3272	3317	3367	3426	3488	3549	3603
		40	2586	2600	2622	2687	2750	2819	2888	2954	3010
		30	2062	2085	2111	2181	2245	2312	2377	2436	2484
YIF42E1G-Q100	Capacity (W)	50	1881	2375	2953	3635	4439	5383	6486	7766	9243
		40	2157	2703	3364	4160	5109	6228	7538	9056	10801
		30	2441	3030	3765	4666	5750	7036	8543	10289	12294
	Power (W)	50	3611	3605	3625	3666	3721	3786	3855	3922	3982
		40	2858	2874	2913	2970	3040	3115	3192	3265	3327
		30	2279	2304	2350	2411	2481	2555	2627	2693	2745
YIF50E1G-Q100	Capacity (W)	50	2240	2827	3283	4327	5284	6408	7721	9245	11003
		40	2568	3218	3737	4953	6082	7415	8974	10781	12859
		30	2906	3607	4182	5554	6845	8376	10170	12249	14635
	Power (W)	50	4298	4292	4305	4364	4430	4508	4589	4669	4740
		40	3402	3421	3451	3536	3619	3709	3800	3887	3961
		30	2713	2743	2778	2870	2954	3042	3128	3206	3268
YIF60E1G-Q100	Capacity (W)	50	2688	3393	3940	5193	6341	7689	9265	11094	13204
		40	3081	3861	4484	5943	7298	8898	10769	12937	15430
		30	3487	4328	5018	6665	8214	10051	12204	14699	17562
	Power (W)	50	5158	5150	5166	5237	5316	5409	5507	5603	5688
		40	4083	4106	4141	4243	4342	4451	4561	4664	4753
		30	3256	3292	3334	3444	3544	3650	3754	3847	3922
YIF72E1G-Q100	Capacity (W)	50	3225	4071	4728	6232	7609	9227	11118	13313	15845
		40	3697	4633	5381	7132	8758	10677	12922	15525	18517
		30	4184	5194	6022	7998	9857	12062	14645	17639	21075
	Power (W)	50	6190	6180	6199	6284	6380	6491	6609	6724	6826
		40	4899	4927	4969	5092	5211	5341	5473	5597	5704
		30	3907	3950	4000	4133	4253	4380	4504	4616	4706

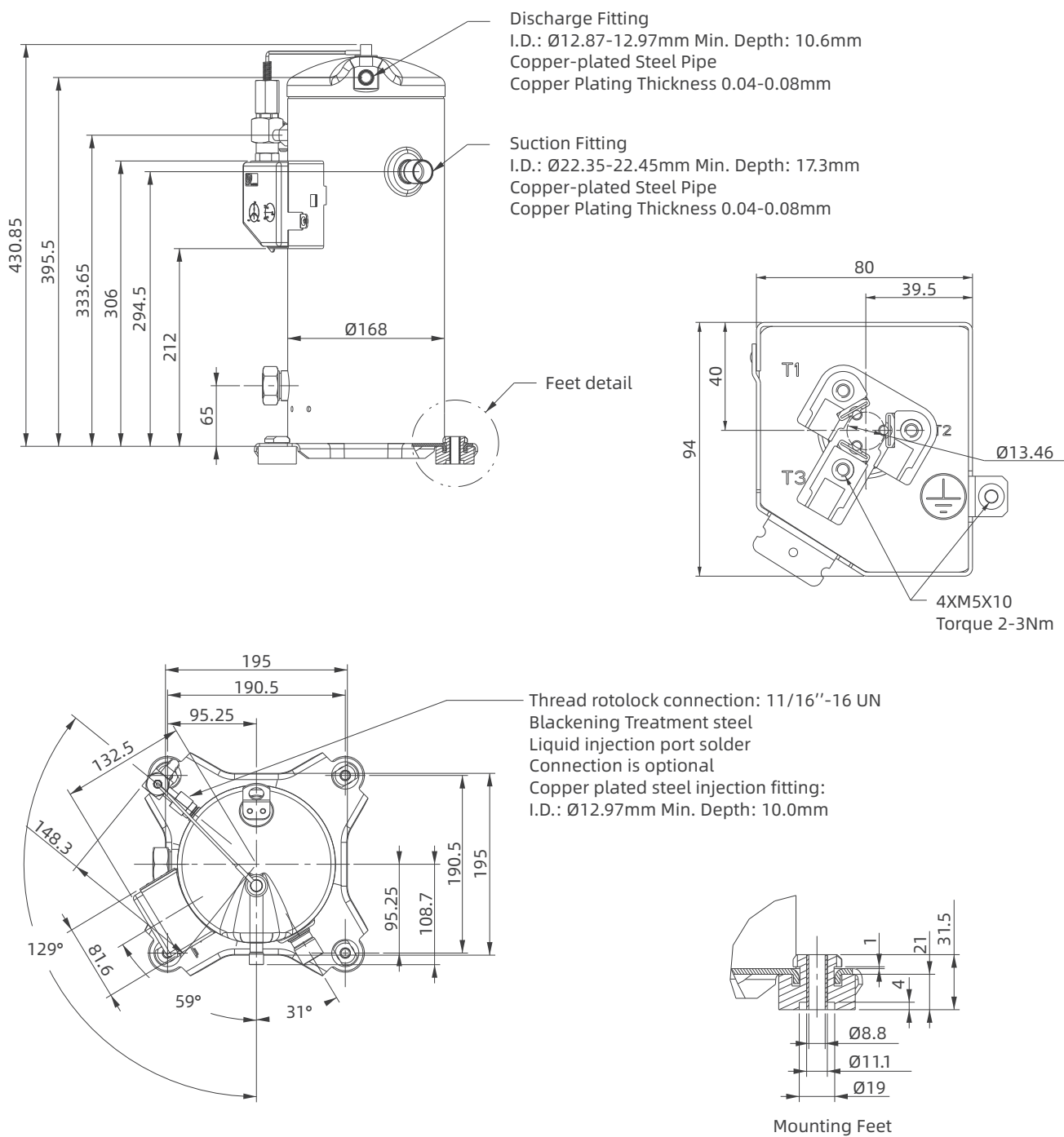
Remark: Capacity @4500RPM, please check with INVOTECH for more information.
Suction Temperature 20 °C, No Subcooling

YF Series

Dimensions

Liquid Injection

2-4HP(1Ph),2-4HP(3Ph)

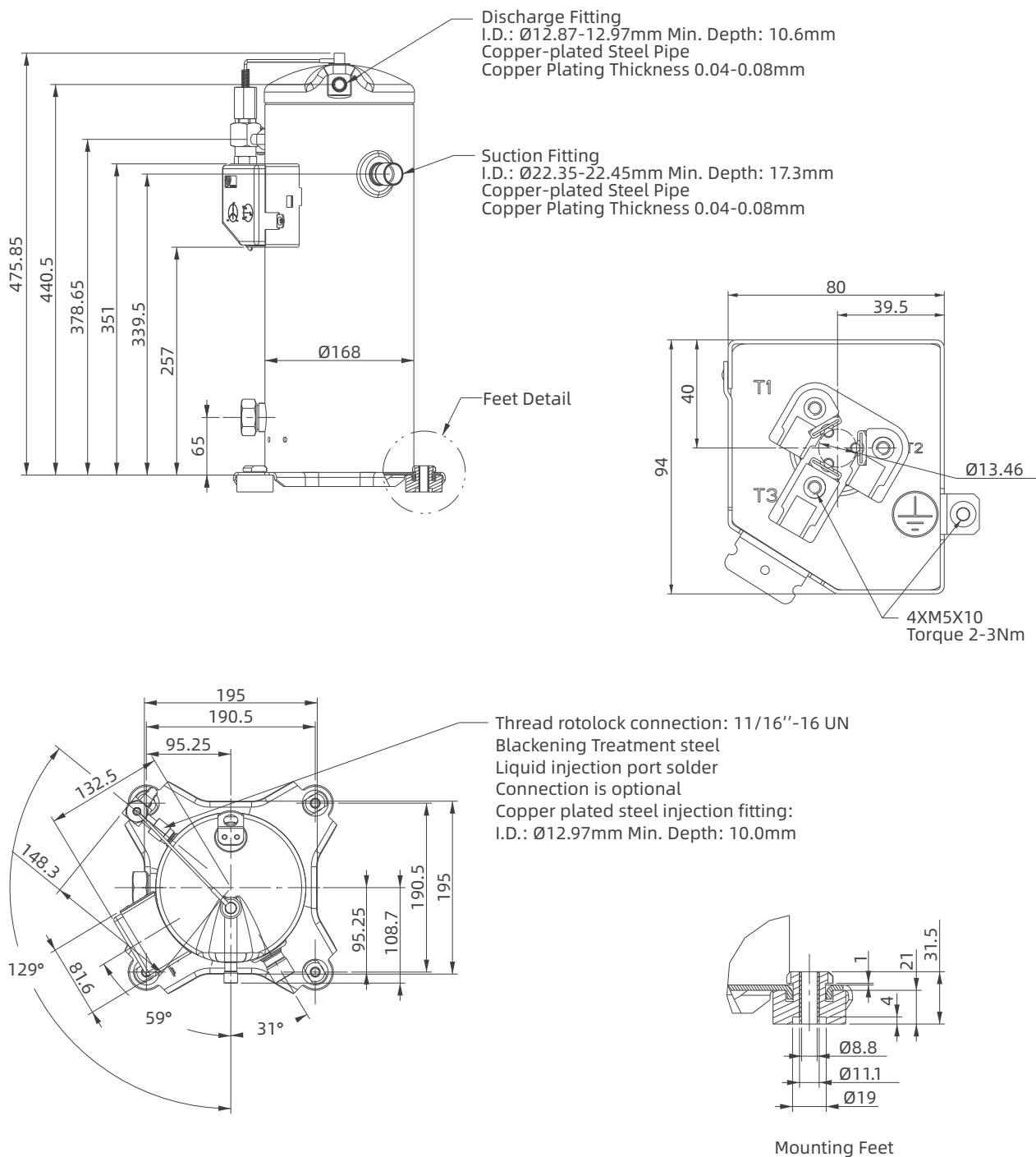


YF Series

Dimensions

Liquid Injection

5HP(1Ph),5-7HP(3Ph)

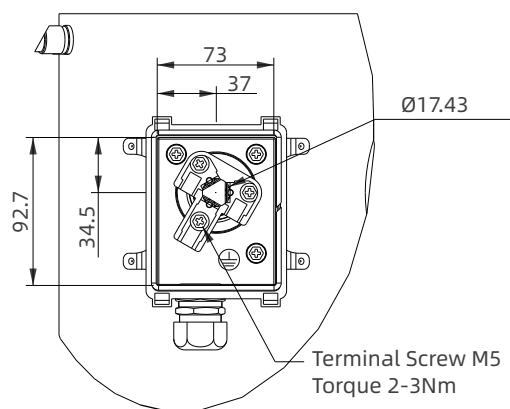
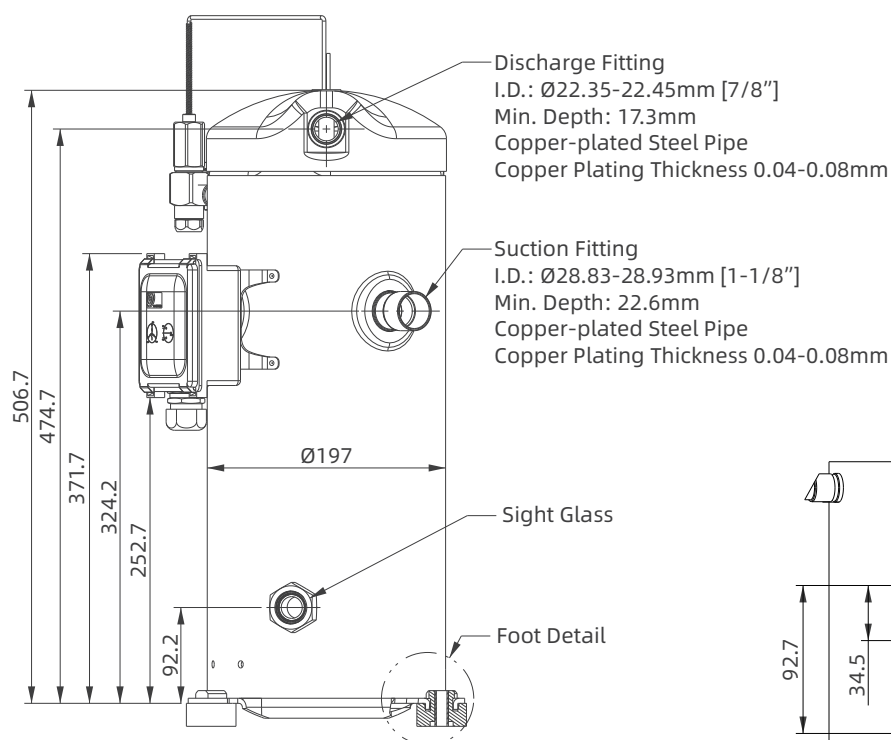


YF Series

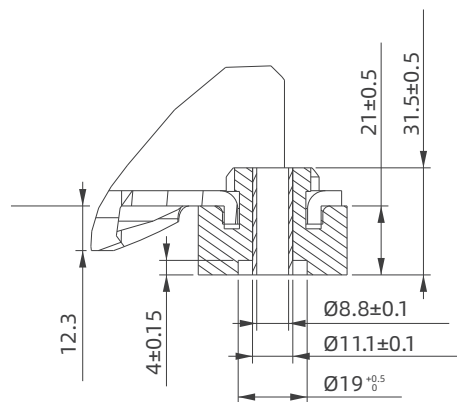
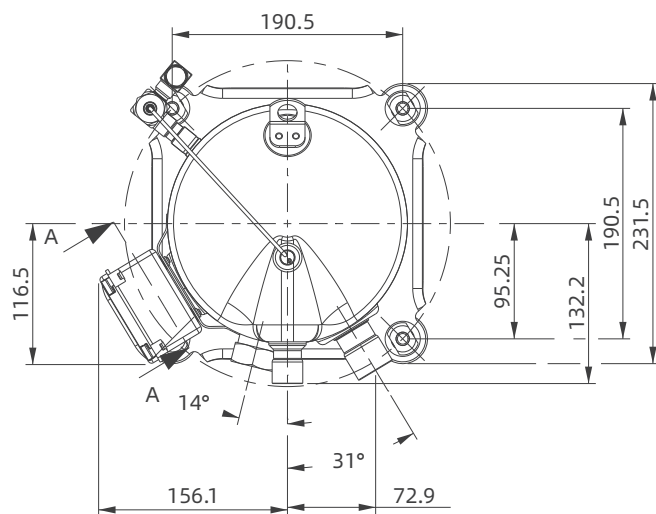
Dimensions

Liquid Injection

8-12HP(3Ph)



T-Box Layout
View A-A



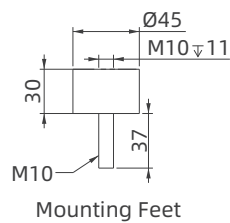
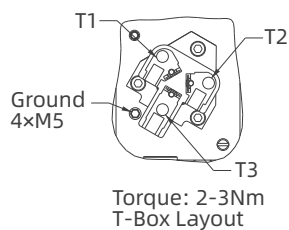
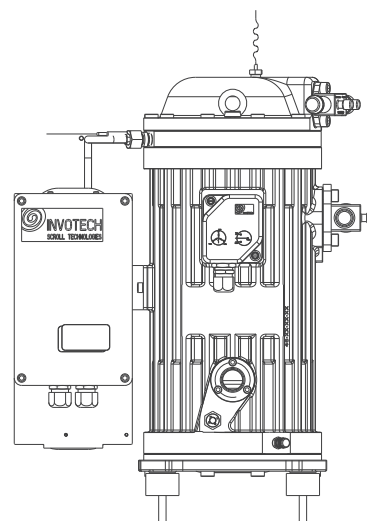
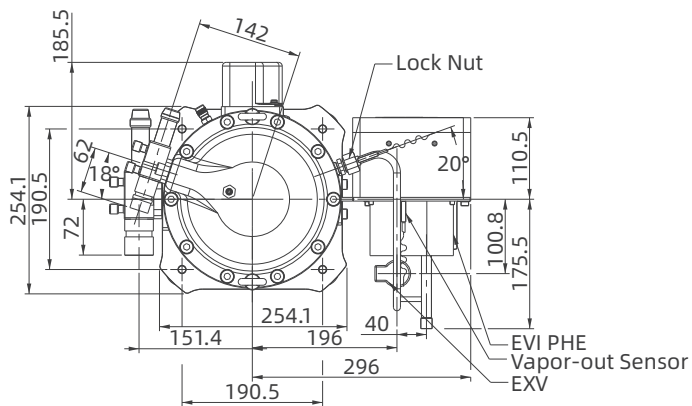
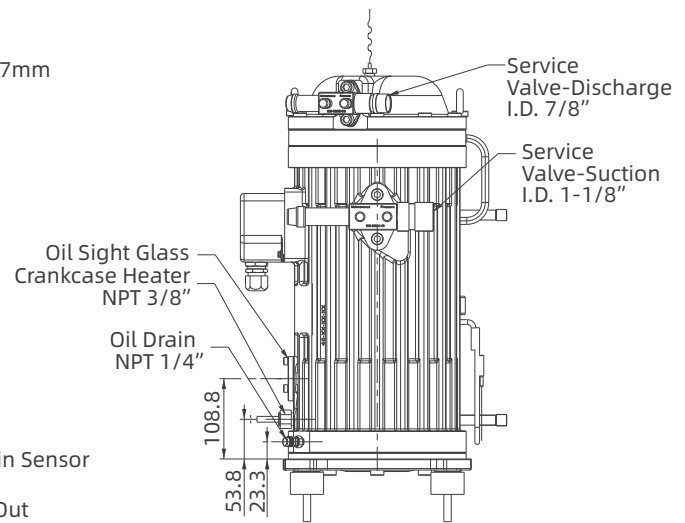
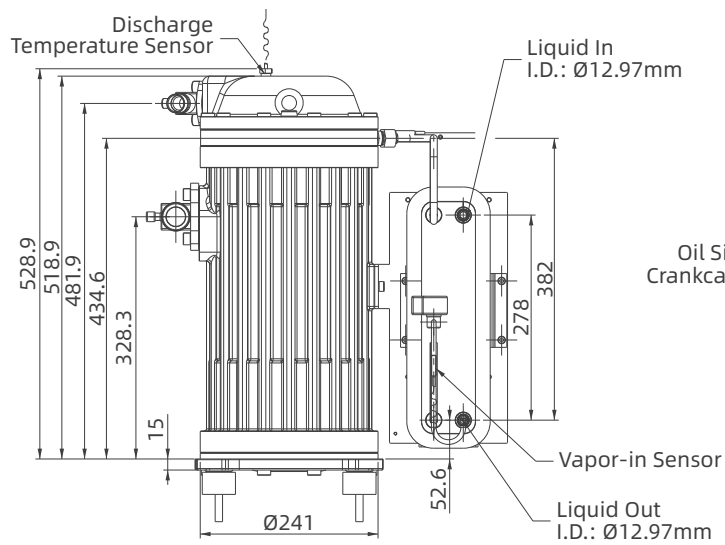
Foot Detail

YSF Series

Dimensions

Vapor Injection

YSF60-YSF100

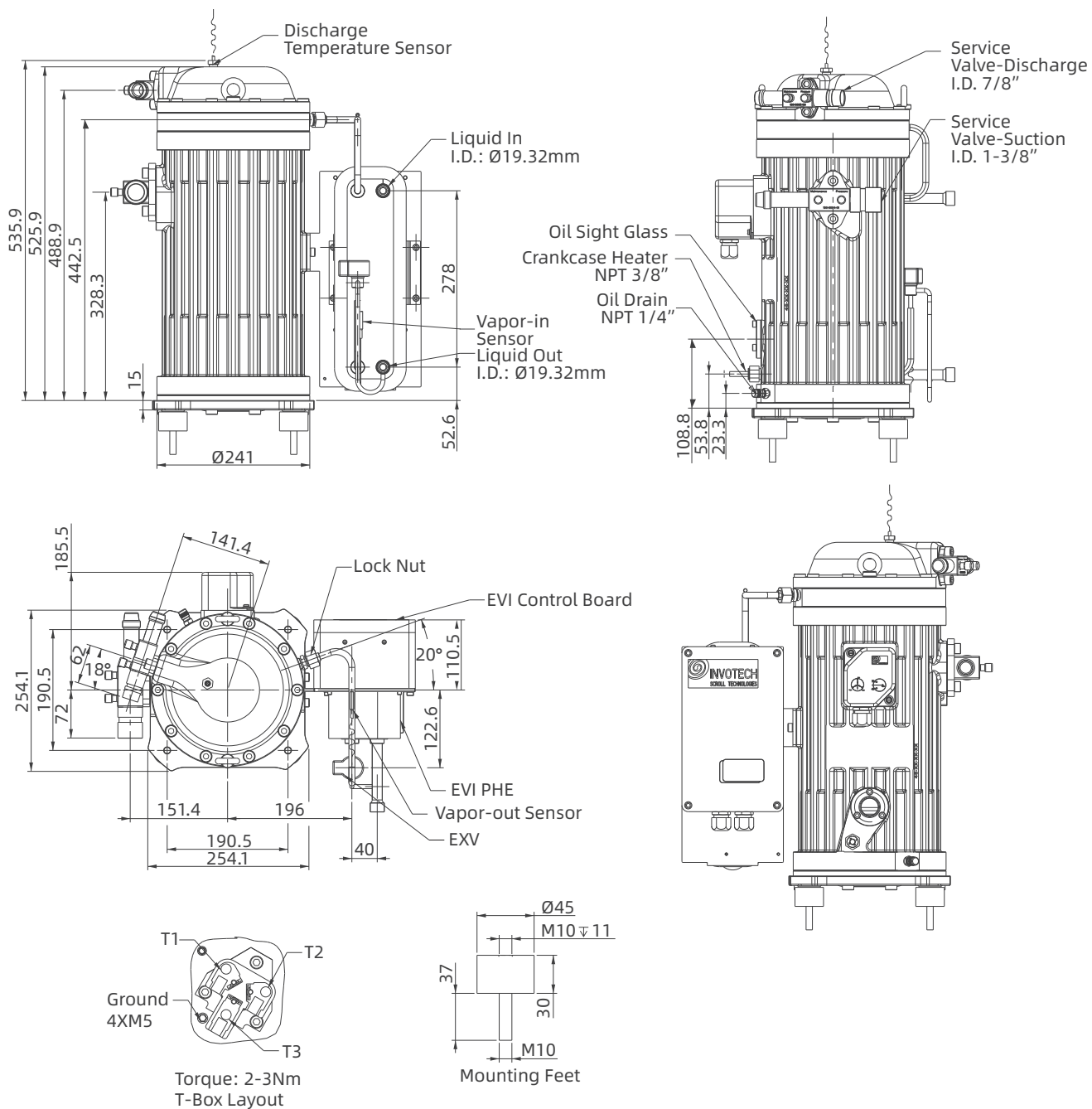


YSF Series

Dimensions

Vapor Injection

YSF125

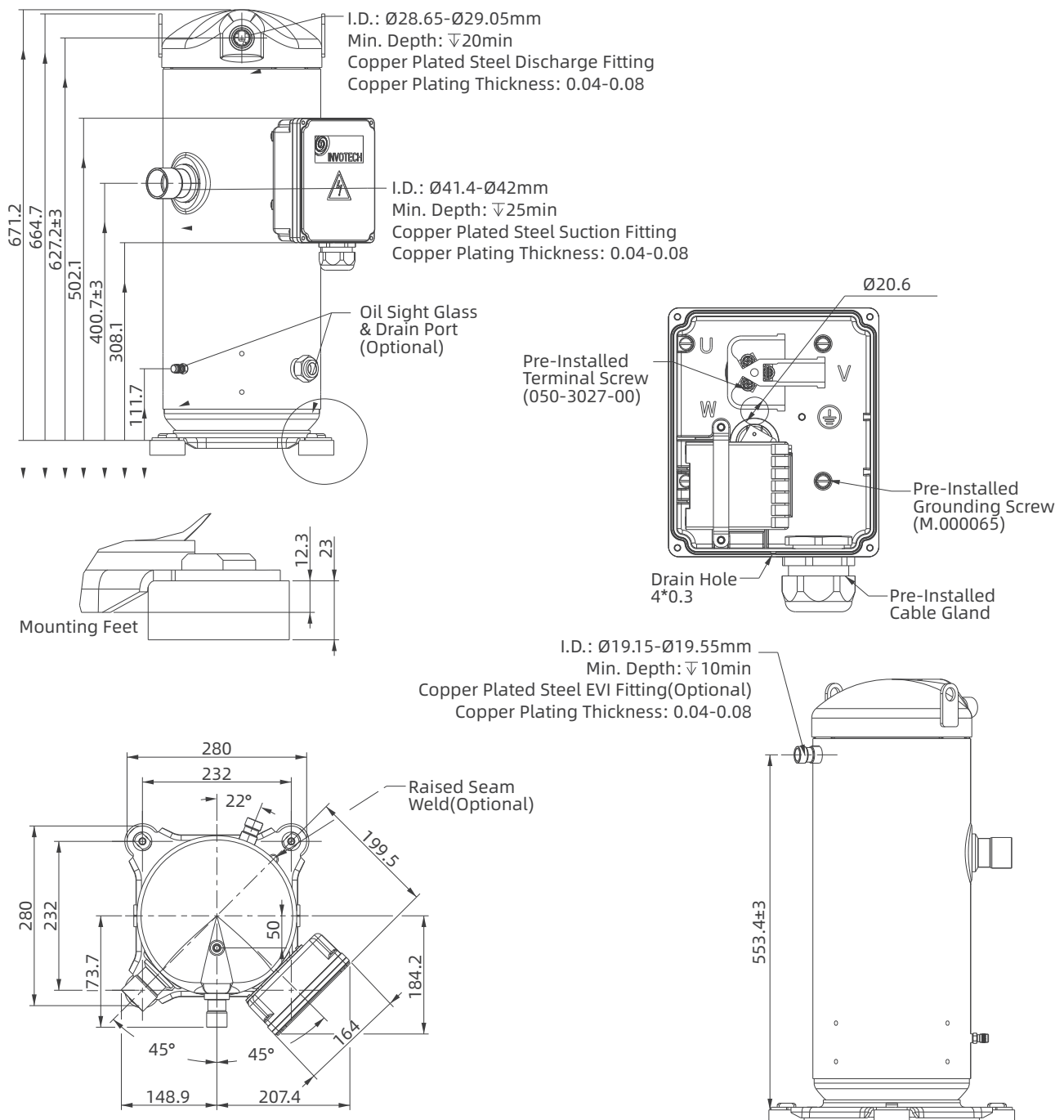


YF Series

Vapor Injection

Dimensions

16-25HP

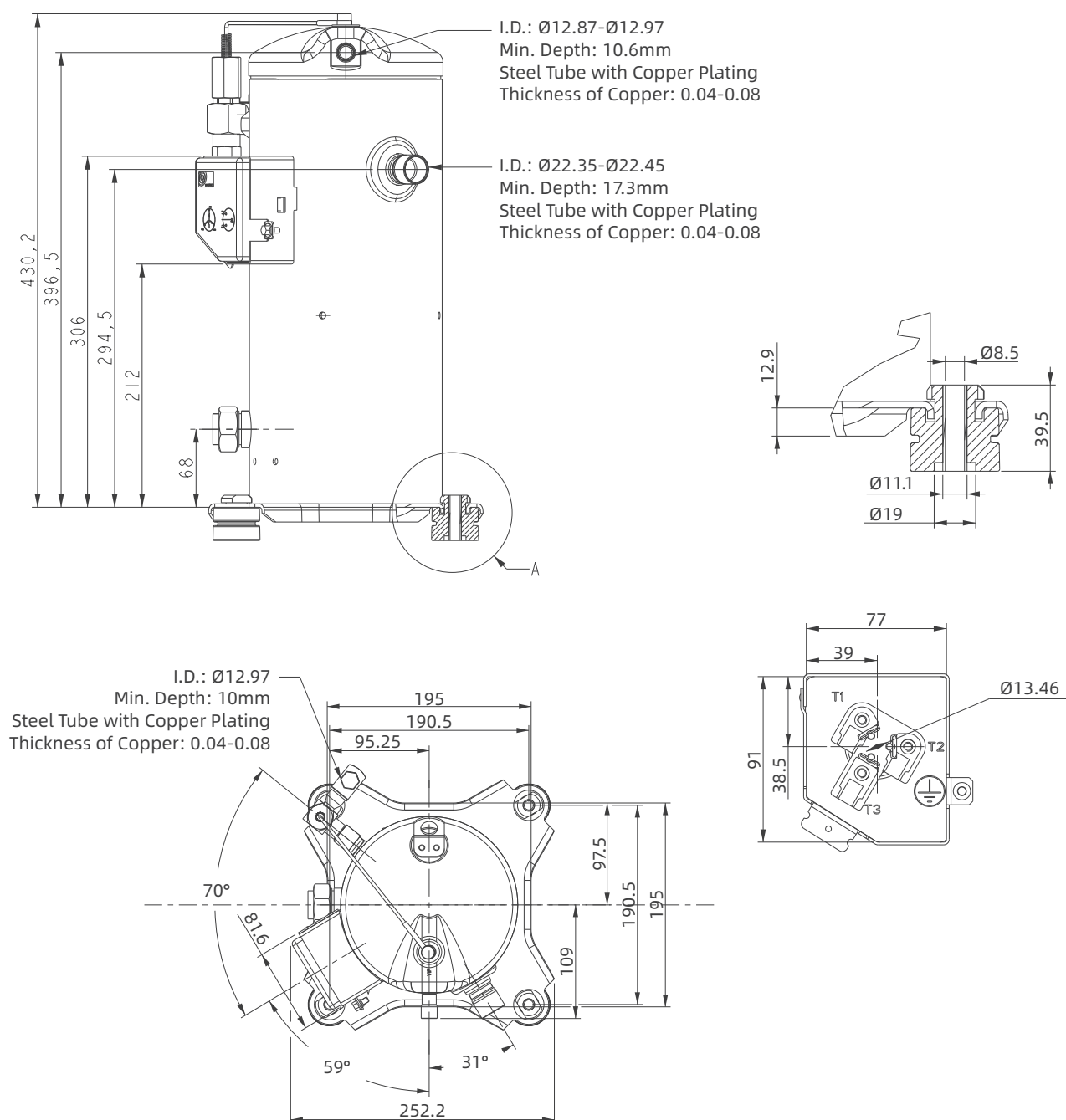


YIF Series

Dimensions

Liquid Injection

YIF38-72



YSF Series

Application instruction

Main Features of YSF Series:

- Classic vertical design
- Maintainability
 - Semi-hermetic design, all the parts can be removed and replaced
- Higher reliability
 - Dual compliances design
 - Strong capability to tolerate liquid flood back and impurities
- Less vibration and noise
- Wide operating range
 - Integrated EVI technologies
 - The evaporating temperature can be lower to -40°C
- Higher energy efficiency
 - High compression ratio is specially designed for refrigeration
 - Efficient economizer cycle
- More intelligent design
 - Control of EVI

1. Safety Instructions:

YSF series Semi-hermetic scroll compressors are produced in strict accordance with international safety standards. This section focuses on safe use of a user. Before carrying out any operation, this safety instruction should be carefully read. Please reserve it for reference at any time. The compressor should be installed, tested and maintained by specialized technicians only; electrical connections must be operated by authorized and trained personnel.

Attention:

- Avoid collision and fall down during the transportation
- Lubricant must be correctly chosen and be the same as indicated on the compressor's nameplate
- Ensure that the power supply can satisfy the specific parameter as is shown on the compressor's nameplate
- Release the internal pressure before operating, the compressor is filled with dry nitrogen while leaving the factory

Prohibition:

- Extract vacuum using the scroll compressors
- Run the compressor which is in vacuum status
- Apply power to the compressor which doesn't connect to system
- Run the compressor without charging refrigerant
- Run the compressor outside of the published envelope
- Discharge refrigerant directly into environment
- Hi-pot test in vacuum status

Warning:

- Strictly forbid the excess of pressure marked on the nameplate while running the compressor or checking the leakage of refrigerating system
- Strictly forbid running the compressor with air, for the mixture of air and oil may explode due to great heat contracted in the discharge port. It will cause damages to the compressor
- Completely open the suction and discharge valve before starting the compressor. It is very importance to open the discharge valve fully. If it is closed or partly closed, unacceptable high pressure and temperature will be produced inside the compressor
- Be sure to comply with relevant safety regulations

Avoid electric shock:

- Be sure to cut off power supply before operating
- The compressor can only be used after being connected to earth

YSF Series

Application instruction

2. Nameplate sample



3. Settings of pressure switches:

Attention: It is necessary to use a high pressure switch, the biggest cut out pressure should be below 28 bar(g). In order to protect the system as well as possible, the high pressure switch should possess the function of manual resetting whenever it is cut off. For all of the applications, the cut out set value of low pressure switch should not be lower than 0.1 bar(g). When setting the operating point of the low pressure switch, an accurate pressure gauge should be used because scales on the low pressure switch are for rough setting only. It is absolutely forbidden to run the compressor of YSF series in vacuum. Low pressure switch points must access to the connection port of low pressure switch on the compressor body.

4. Precaution of refrigerator oil

Don't mix up ester oil, mineral oil or alkyl benzene. The compressor has been filled with lubricant in advance before leaving the factory.

Compressors with POE oil are available for R404A. The initial amount of oil is marked on the nameplate and the re-charge amount on the field site can be around 100 ml less than the initial one.

YSF Series

Application instruction

5. Installation

5.1 Shipment

Check packing lists which are attached to cases of each batch of goods carefully to make sure that both accessories and compressors are received. Invotech Company should be immediately informed of missing items in written form.

Standard configurations

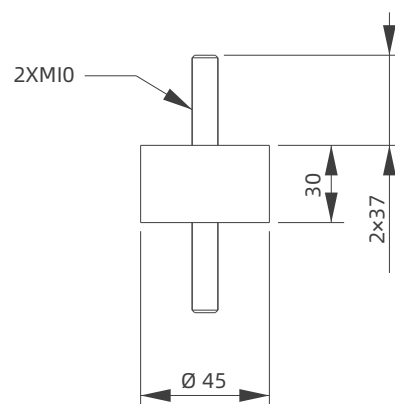
- Suction service valve and discharge service valve
- Economizer (PHE)
- Crankcase heater
- Refrigerating oil filling, oil level sight glass
- Electronic expansion valve
- Electronic control board
- Mounting kits

5.1.2 Packing

All the compressors of YSF series are individually packed. Accessories may be installed on the compressors or be placed inside the cases. Packages need keeping dry all the time.

5.1.3 Mounting Kits

Attention: In order to reduce vibration generated during starting and stopping cycle as much as possible, mounting kits should be used while installing the compressor. To maintain sufficient lubrication of moving parts, the compressor should be vertically installed.



Mounting Kit

5.2 Pipe welding and compressor installation

5.2.1 Welding

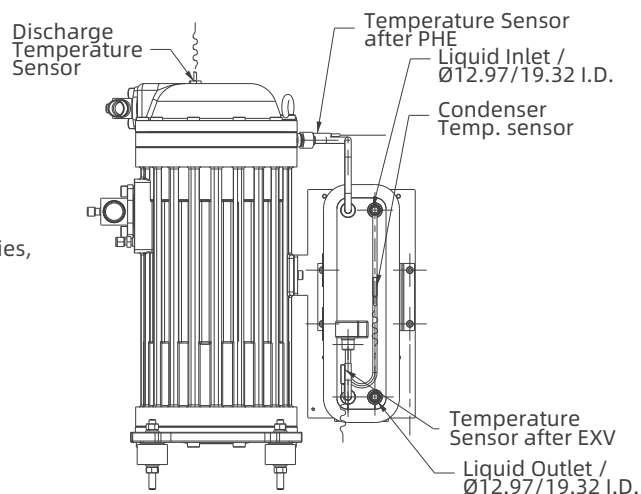
- While welding all the joints, be sure to protect the system by charging nitrogen for it can remove oxygen to prevent oxide skin inside the pipe wall.
- Welding material which is recommended: any Cu-Ag alloy can be used, and it is best to contain 45% silver solder.
- Wrap the suction and discharge service valves with wet cloth before welding.

5.2.2 Connection of the compressor

The liquid inlet of main line:
connect to outlet of condenser

The liquid outlet of main line:
connect to entrance of expansion valve

In order to prevent impurities from invading into suction side of the compressors, Invotech specially installs the suction filter at the intake port of semi-hermetic scroll compressors of YSF series, so users must connect the low pressure switch to the connection port on the compressor body.



YSF Series

Application instruction

5.2.3 Pipe connection

Compressors of YSF series have significant features of low vibration, so the discharge pipe and the suction pipe do not need extra vibration absorber. The layout of suction pipe and discharge pipe should try to be close to the compressor as possible and parallel to the axis so that torsion generated from starting and stopping of the compressor can be absorbed.

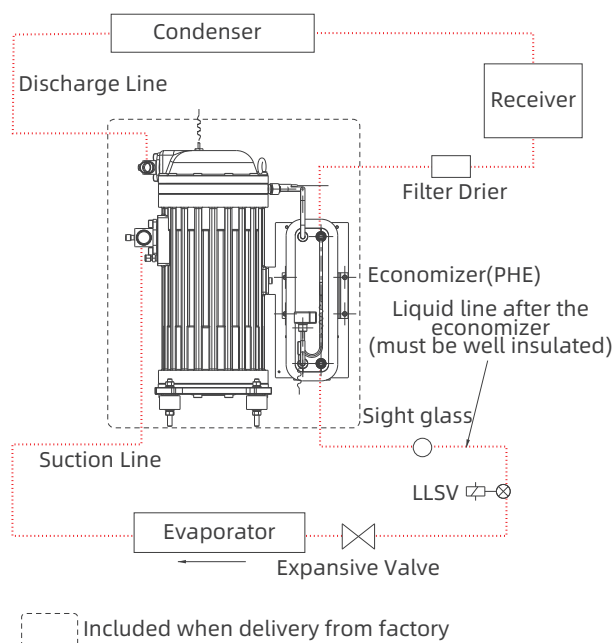
5.2.4 LLSV (Liquid Line Solenoid Valve)

LLSV contributes to separating liquid refrigerant to the low pressure side when the system is off. LLSV should be installed before the main expansion valve and try to approach it so that most of the liquid refrigerant can be reserved at the high pressure side. LLSV can prevent liquid migration on the off cycle. If the migration occurs during the off cycle, liquid is in the crankcase, when the compressor start next time, the explosion of the refrigerant out of the oil is a flood start. It is very dangerous to the compressor.

5.2.5 Insulation of liquid line

In the system of YSF series compressors, the liquid after the economizer is sub-cooled, and the sub-cooling of the liquid contribute to improve refrigerating capacity and efficiency of the system. No matter what makes the temperature of liquid rise, it will lead to the loss of capacity and efficiency of the system. So the liquid pipe after the economizer (PHE) must be well insulated and there is no need insulating the liquid pipe before the economizer.

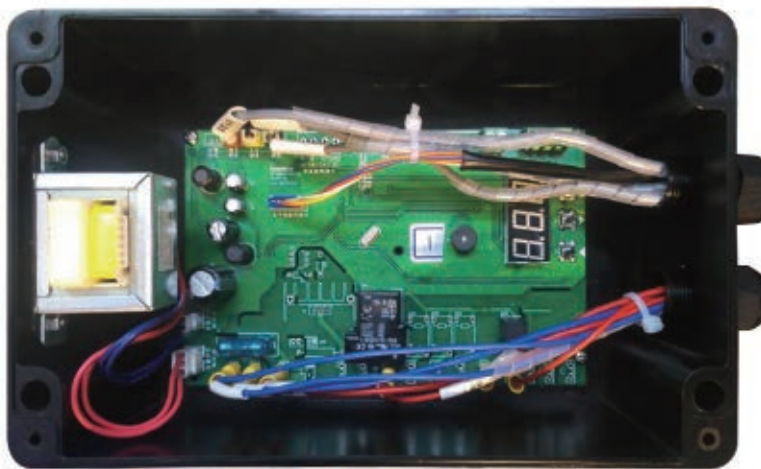
6. Casual loop diagram of compressors of YSF series



YSF Series

Application instruction

7. Electrical connection



7.1 Three-phase motor

All the compressors of YSF series are three-phase, which can be directly start.

7.2 Standard type control board

The control board is a dedicated one for EVI scroll compressors. It is used to detect temperatures and control the operation of both the compressor and electronic expansion valve.

Main technical index:

Supply voltage: AC220V $\pm$ 10%, 50/60Hz

Operating environment: temperature -10°C~50°C, humidity $\leq$ 85%, no condensation, no corrosion

Contact outle capacity: 2A/250VAC (pure resistant load)

Thermal sensor: NTC R25=5k Ω , B(25/50)=3470K

Main function:

Control of the compressor:

Start and stop the compressor according to switch signal (passive switching mode contact, no power)

Crankcase heater:

It works when the compressor stops and it ceases heating once the compressor works.

Control of electronic expansion valve for vapor injection

Warning of high discharge temperature:

Give an alarm when discharge temperature goes out of the upper limit and cancel the alarm when the temperature is down and less than the lower limit. If the alarm takes place more than three times in one hour, the compressor will be locked.

Warning output:

When the alarm appears, the control board will output a passive switch signal to warn.

YSF Series

Application instruction

The first start-up mode:

When the compressor meets starting requirements, it should immediately run for 3 seconds and then stop for 17 seconds; repeat for 3 times and then start the normal operation.

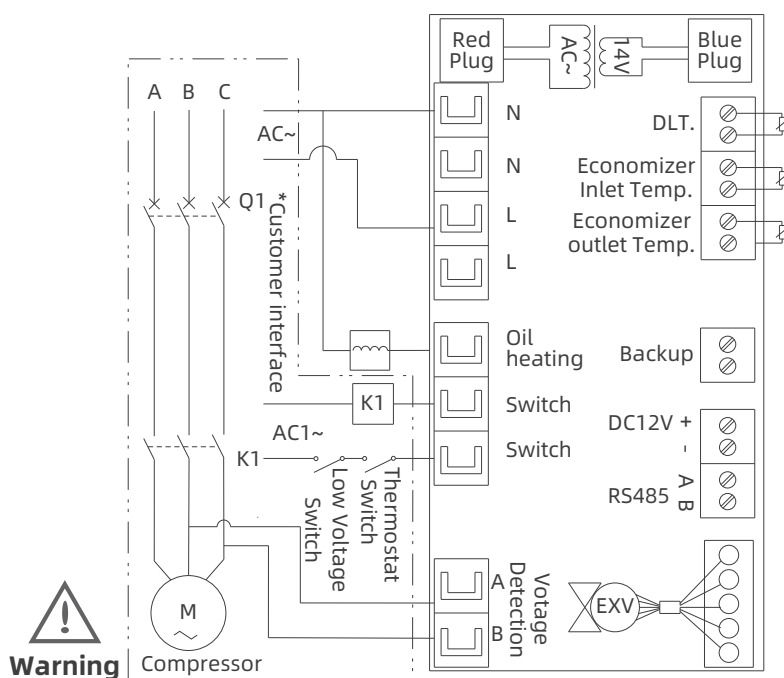
Required condition: Reapply power after switching off.

Process of start-up:

1. Apply power: check the signal of start/stop, if it is closed means under the start-up condition
2. Under the start-up condition, delay for 3 minutes, then entry the first start-up mode, and then to start the compressor

Process of shutting down:

Checking the signal of start- up and shutting down if it is open.



Code E07 DLT.exceeds the setting.
 Code E08 Discharge probe shorts out or disconnects (displaying "SHr" or "OPE")
 Code E12 Probe shorts out or disconnects at the economizer entry (displaying "SHr" or "OPE")
 Code E13 Probe shorts out or disconnects at the economizer exit (displaying "SHr" or "OPE")

NOTES:

1. AC: 1&5&7 220VAC
4 460VAC
2. AC1~: (250V,8A)max
3. K1 is Ac Contactor(Match by customer)
4. Operating Voltage:
1 380V/3PH/50Hz
4 460V/3PH/60Hz
5 380V/3PH/60Hz
7 220V/3PH/60Hz

! Only trained and qualified specialist may operate and maintain the described product

Note:



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