

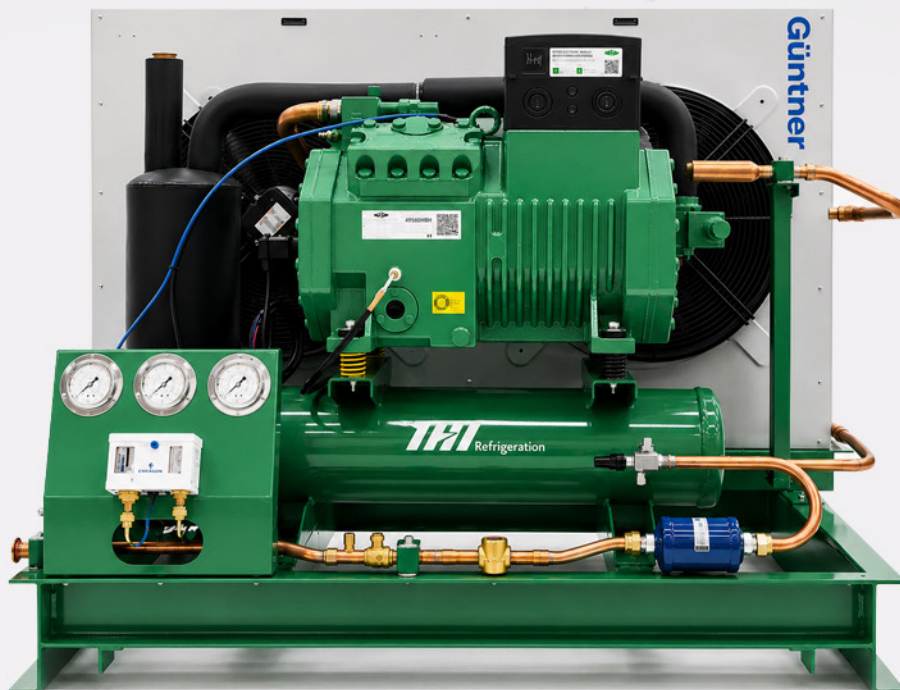
RELIABLE COOLING PERFORMANCE

SEMI HERMETIC RECIPROCATING

CONDENSING UNIT

BITZER COMPRESSOR

LOW AND MEDIUM TEMPERATURE APPLICATION



AVAILABLE MODELS

Single Stage • Two Stage



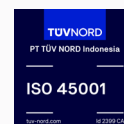
ENGINEERED
FOR RELIABILITY



BUILT FOR
PERFORMANCE



SERVICE
FRIENDLY DESIGN



CONDENSING UNIT

BITZER COMPRESSOR SINGLE STAGE

LOW AND MEDIUM TEMPERATURE APPLICATION



CONDENSING UNITS ARE AVAILABLE IN THE FOLLOWING CONFIGURATIONS:

Without condenser

With remote condenser

With condenser integrated within the base frame

Semi Hermetic CDU Bitzer – Single Stage

The semi-hermetic design of the ECOLINE Bitzer compressor allows easy maintenance and repair, enhancing the sustainability and operational cost efficiency of the SH Condensing Unit. In addition, all components are easily accessible for simplified commissioning and faster maintenance.

Standard Refrigerant : R404A

*R448A is available upon request



Efficient condensers :

- Condenser in reliable fin-tube design
- One condenser for low and high ambient temperatures

Bitzer Ecoline Compressor :

- Proven High Efficient
- Well Proven and Reliable
- Low pulsation cylinder head



IQ Module :

- Compressor Family CE3 .. BE6
- Protection Mode



COMPONENTS (BILL OF MATERIAL)



Compressor



Oil Separator



Accumulator



Receiver Tank



Filter Drier



Sight Glass



Pressure Gauge



Pressure Switch



Oil Control



Ball Valve

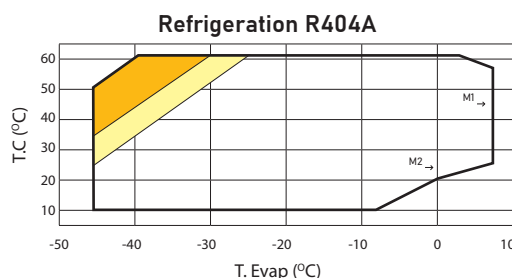


Solenoid Valve (Optional)



Check Valve

Application Envelope



Legend:

T.C - Condenser Temperature

T. Evap - Evaporator Temperature

■ Additional cooling or suction gas superheat ≤20K

□ Additional cooling or max toh <0°C

— M1 : Motor 1

--- M2 : Motor 2

Nomenclature

SH

SEMI HERMETIC COMPRESSOR

— 090 —

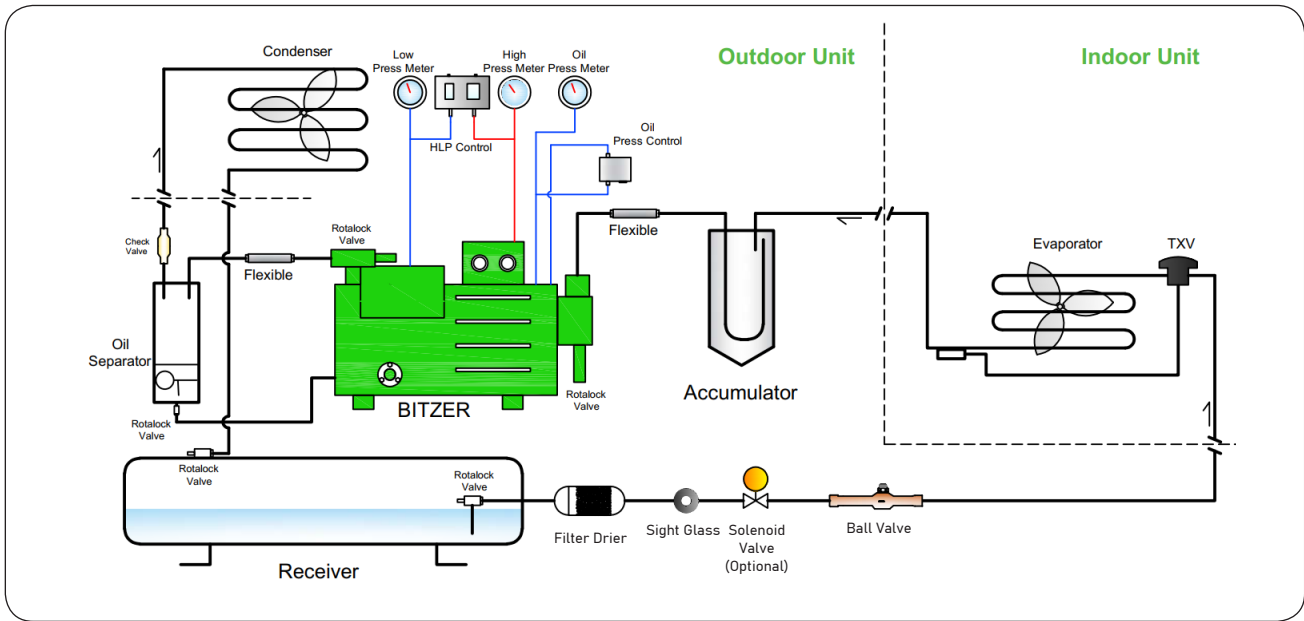
HORSE POWER

— 4CES-9Y —

COMPRESSOR TYPE

Note : Specification and design are subject to change without prior notice.

Schematic Single Stage



Performance Data

R404a | 50 Hz

Single Stage Semi-Hermetic Condensing Unit

Model CDU	Horse Power	Condensing Temperature	Capacity	Evaporating Temperature (°C)									
	HP	°C	kW	-40	-35	-30	-25	-20	-15	-10	-5	0	5
SH090/4CES-9Y	9	45	Q	2.61	3.76	5.22	7.04	9.27	11.98	15.25	19.15	23.80	29.30
			P	3.2	3.89	4.61	5.36	6.10	6.82	7.51	8.13	8.67	9.11
		50	Q	2.14	3.14	4.43	6.05	8.05	10.52	13.50	17.07	21.30	26.40
			P	3.17	3.90	4.67	5.47	6.27	7.07	7.83	8.55	9.19	9.75
SH120/4TES-12Y	12	45	Q	3	4.44	6.28	8.59	11.44	14.91	19.12	24.20	30.20	37.30
			P	3.62	4.44	5.32	6.25	7.19	8.13	9.02	9.86	10.60	11.23
		50	Q	2.41	3.65	5.26	7.31	9.85	12.99	16.81	21.40	26.90	33.40
			P	3.61	4.46	5.39	6.38	7.39	8.41	9.41	10.35	11.20	11.90
SH150/4PES-15Y	15	45	Q	3.02	4.66	6.76	9.41	12.70	16.74	21.60	27.50	34.50	42.90
			P	3.68	4.66	5.73	6.84	7.97	9.09	10.17	11.17	12.07	12.83
		50	Q	2.36	3.75	5.58	7.91	10.85	14.48	18.91	24.30	30.70	38.30
			P	3.56	4.59	5.71	6.90	8.11	9.33	10.53	11.67	12.72	13.65
SH200/4NES-20Y	20	45	Q	4.17	6.12	8.62	11.75	15.62	20.40	26.10	33.00	41.10	50.80
			P	5.01	6.09	7.26	8.49	9.75	11.00	12.20	13.32	14.32	15.16
		50	Q	3.37	5.05	7.24	10.01	13.48	17.75	22.90	29.20	36.70	45.60
			P	5.02	6.13	7.36	8.67	10.03	11.39	12.72	13.99	15.16	16.19
SH250/4HE-25Y	25	45	Q	5.78	8.51	11.93	16.13	21.20	27.40	34.80	43.50	53.80	65.90
			P	6.9	8.40	9.96	11.55	13.14	14.70	16.19	17.59	18.87	19.98
		50	Q	4.66	7.03	10.03	13.78	18.37	23.90	30.60	38.60	48.10	59.20
			P	6.76	8.34	10.00	11.71	13.44	15.15	16.82	18.41	19.89	21.20
SH300/4GE-30Y	30	45	Q	6.92	10.04	13.93	18.72	24.50	31.60	39.90	49.90	61.60	75.40
			P	8.07	9.78	11.56	13.38	15.20	16.99	18.71	20.30	21.80	23.10
		50	Q	5.65	8.35	11.77	16.03	21.30	27.60	35.20	44.20	54.90	67.60
			P	7.96	9.75	11.64	13.59	15.56	17.52	19.42	21.20	22.90	24.50

Notes: Suction superheat 10 K; Subcooling 0 K

Q = Cooling Capacity ; P = Electric Power

**Cooling capacity based on design condition followed bitzer compressor capacity.*

CONDENSING UNIT

BITZER COMPRESSOR TWO STAGE

LOW TEMPERATURE AND ABF APPLICATION



CONDENSING UNITS ARE AVAILABLE IN THE FOLLOWING CONFIGURATIONS:

Without condenser

With remote condenser

With condenser integrated within the base frame

The Two Stage CDU with Semi-Hermetic Compressor

For extended low-temperature applications, the condensing units can be equipped with BITZER two-stage compressors, providing outstanding reliability, optimized operating efficiency, and dependable performance under demanding refrigeration conditions.



FOR 2-STAGE UNITS

// Liquid subcooler

// Mounted complete with TXV and solenoid valve

COMPONENTS (BILL OF MATERIAL)



Compressor



Oil Separator



Accumulator



Receiver Tank



Filter Drier



Sight Glass



Pressure Gauge



Pressure Switch



Oil Control



Ball Valve

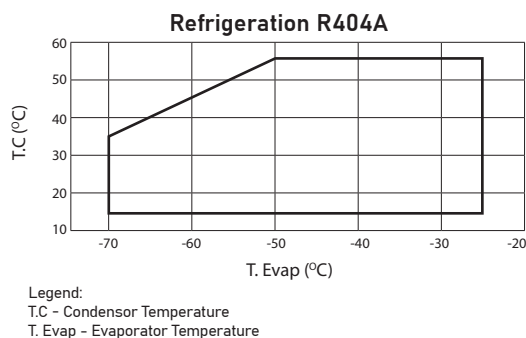


Solenoid Valve (Optional)



Check Valve

Application Envelope



Nomenclature

SHT

SEMI HERMETIC COMPRESSOR

300

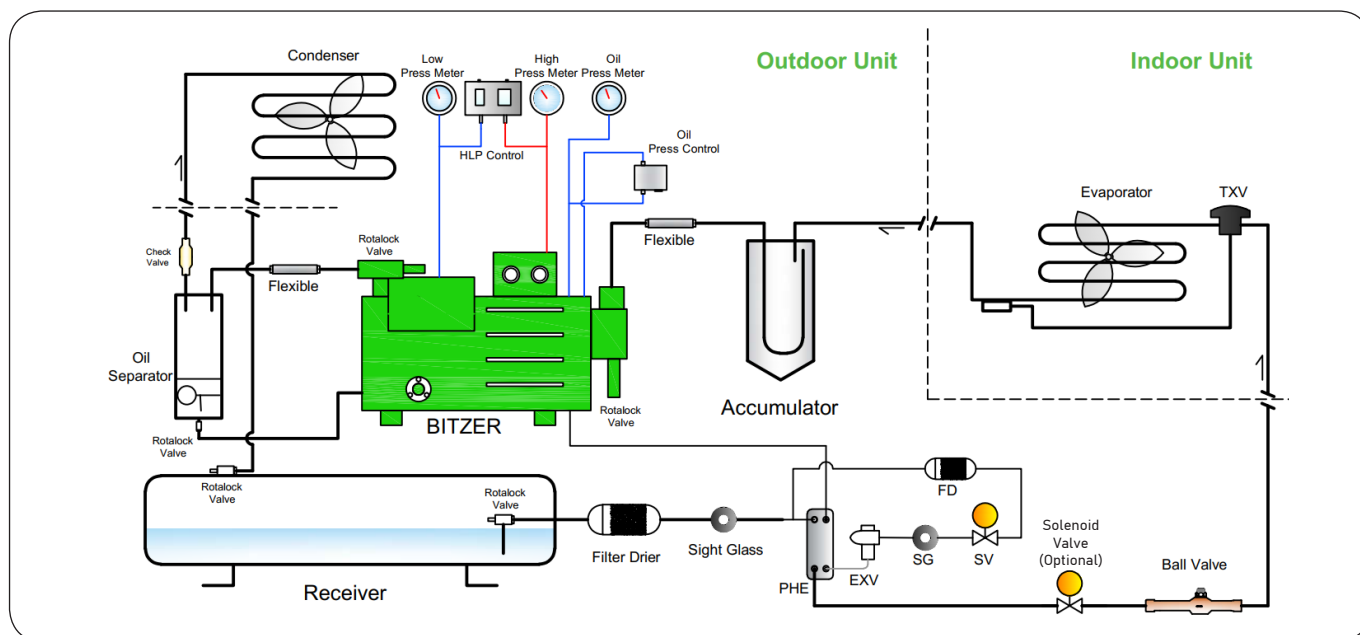
HORSE POWER

S6F-30.2Y

COMPRESSOR TYPE

Note : Specification and design are subject to change without prior notice.

Schematic Two Stage



Performance Data

R404a | 50 Hz

Two Stage Semi-Hermetic Condensing Unit

Model CDU	Horse Power	Condensing Temperature	Capacity	Evaporating Temperature (°C)						
	HP	°C	kW	-55	-50	-45	-40	-35	-30	-25
SHT300/S6F-30.2Y	30	40	Q	11.68	14.99	18.79	23.10	28.10	33.60	39.70
			P	13.14	15.00	16.95	18.96	21.00	23.10	25.20
		45	Q	11.27	14.51	18.20	22.40	27.20	32.50	38.50
			P	13.83	15.80	17.85	19.98	22.20	24.40	26.60
		50	Q	10.79	14.01	17.61	21.70	26.30	31.50	37.40
			P	14.49	16.57	18.75	21.00	23.30	25.70	28.10

Notes: Suct. superheat 10 K; Subcooling 0 K

Q = Cooling Capacity ; P = Electric Power

*Cooling capacity based on design condition followed bitzer compressor capacity.

Standard Technical Specification Reference for SH Series Condensing Unit

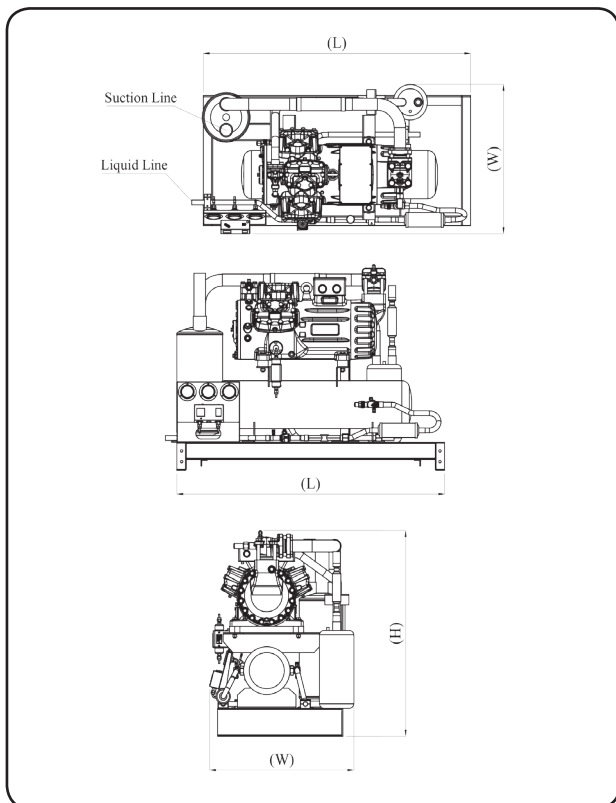
Model Name		SH90 /4CES-9Y	SH120 /4TES-12Y	SH150 /4PES-15Y	SH200 /4NES-20Y	SH250 /4HE-25Y	SH300 /4GE-30Y	SHT300 /S6F-30.2Y
Horse Power	HP	9	12	15	20	25	30	30
Voltage	V/Ph/Hz	380-420V/3Ph/50Hz	380-420V/3Ph/50Hz	380-420V/3Ph/50Hz	380-420V/3Ph/50Hz	380-420V/3Ph/50Hz	380-420V/3Ph/50Hz	380-420V/3Ph/50Hz
Maximum Operating Current	A	20.2	25.1	28.2	33.2	44	51.2	51
Starting Current (Rotor Locked)	A	82.4	69Y / 113YY	81Y / 132YY	97Y / 158YY	125Y / 211YY	141Y / 233YY	135Y / 220YY
Maximum Power Input	kW	11.3	14	16	19	25	28	31.9
Maximum Pressur (LP/HP)	Bar	19 / 32	19 / 32	19 / 32	19 / 32	19 / 32	19 / 32	19 / 28
Oil Type		POE						
Receiver Capacity	Litre	10	15	20	30	30	40	40
Suction Line	Inch	1 1/8	1 3/8	1 5/8	1 5/8	2 1/8	2 1/8	2 1/8
Liquid Line	Inch	5/8	5/8	7/8	7/8	7/8	7/8	7/8
Weight (Without Condenser)	Kg	173	225	240	255	315	322	362

*All information is subject to change without notice

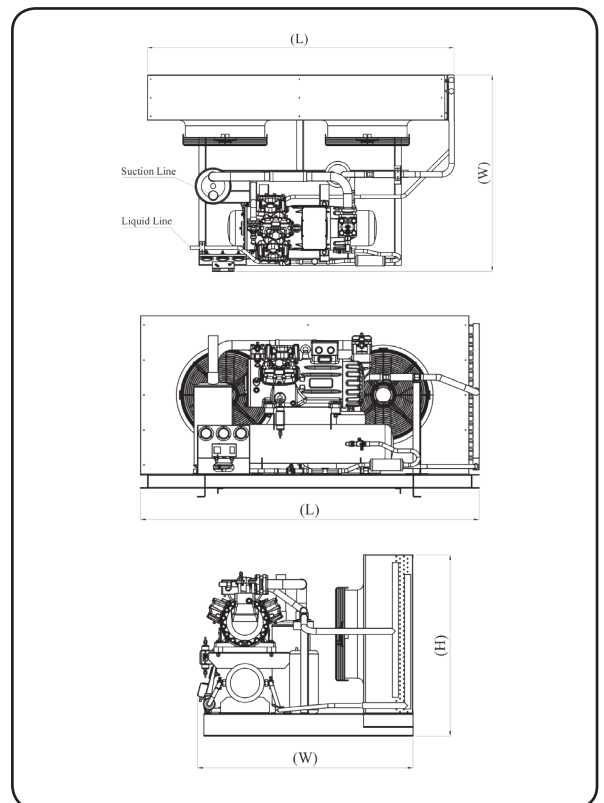
Dimension Condensing Unit

TYPE		With Condenser			Without Condenser			Piping Line	
		L	W	H	L	W	H	Suction	Liquid
SINGLE STAGE	SH-090/4CES-9Y-IC G75	1075	1075	1037	1075	507	812	1 1/8"	5/8"
	SH-090/4CES-9Y-IC G100	1640	1075	1037				1 1/8"	5/8"
	SH-090/4CES-9Y-IC G120	1640	1075	1037				1 1/8"	5/8"
	SH-120/4TES-12Y-IC G100	1640	1240	1037	1180	663	860	1 3/8"	5/8"
	SH-120/4TES-12Y-IC G120	1640	1240	1037				1 3/8"	5/8"
	SH-120/4TES-12Y-IC G150	1640	1240	1037				1 3/8"	5/8"
	SH-150/4PES-15Y-IC G120	1640	1240	1037	1280	681	875	1 5/8"	7/8"
	SH-150/4PES-15Y-IC G150	1640	1240	1037				1 5/8"	7/8"
	SH-150/4PES-15Y-4S-IC G200	1940	1240	1037				1 5/8"	7/8"
	SH-200/4NES-20Y-IC G120	1640	1240	1037	1280	681	974	1 5/8"	7/8"
	SH-200/4NES-20Y-IC G150	1640	1240	1037				1 5/8"	7/8"
	SH-200/4NES-20Y-IC G200	1940	1240	1037				1 5/8"	7/8"
	SH-250/4HE-25Y IC G200	1940	1240	1037	1280	681	954	2 1/8"	7/8"
	SH-250/4HE-25Y IC G250	2450	1240	1037				2 1/8"	7/8"
	SH-250/4HE-25Y IC G300	2915	1240	1037				2 1/8"	7/8"
	SH-300/4GE-30Y IC G250	2450	1240	1037	1580	670	954	2 1/8"	7/8"
	SH-300/4GE-30Y IC G300	2915	1240	1037				2 1/8"	7/8"
2 STAGE	SHT-300/S6F-30.2Y IC G250	2450	1415	1159	1180	831	1045	2 1/8"	7/8"
	SHT-300/S6F-30.2Y IC G300	2915	1415	1159				2 1/8"	7/8"
	SHT-300/S6F-30.2Y IC G350	3210	1415	1159				2 1/8"	7/8"

Dimension Without Condenser

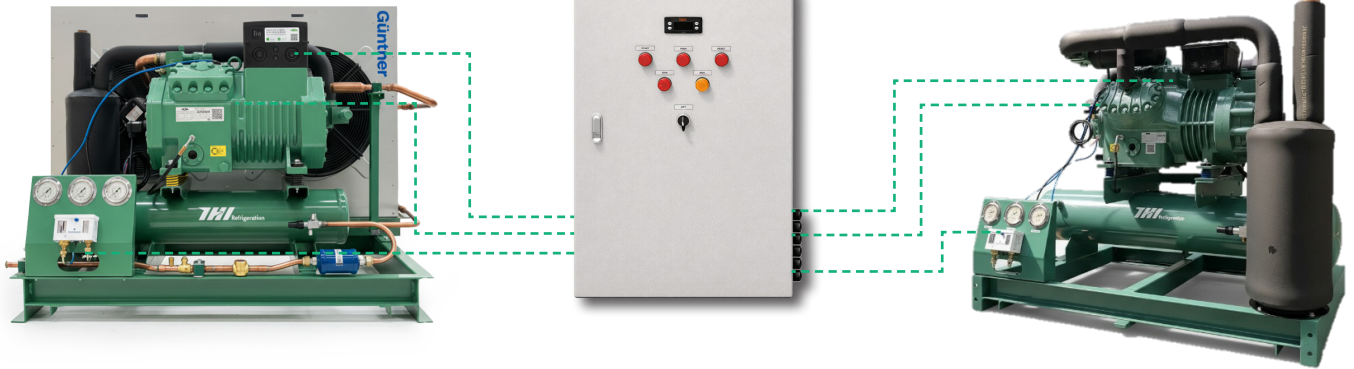


Dimension With Condenser



Control Panel – Bitzer Condensing Unit

Optional (By Request)



SINGLE STAGE WITH PANEL CONTROL

OR

TWO STAGE WITH PANEL CONTROL

Electrical Specification

- Power Supply : 380–415V / 3Ph / 50Hz
- Control Voltage : 230V AC
- Protection Class : IP54
- Standard : IEC / EN

Optional Components

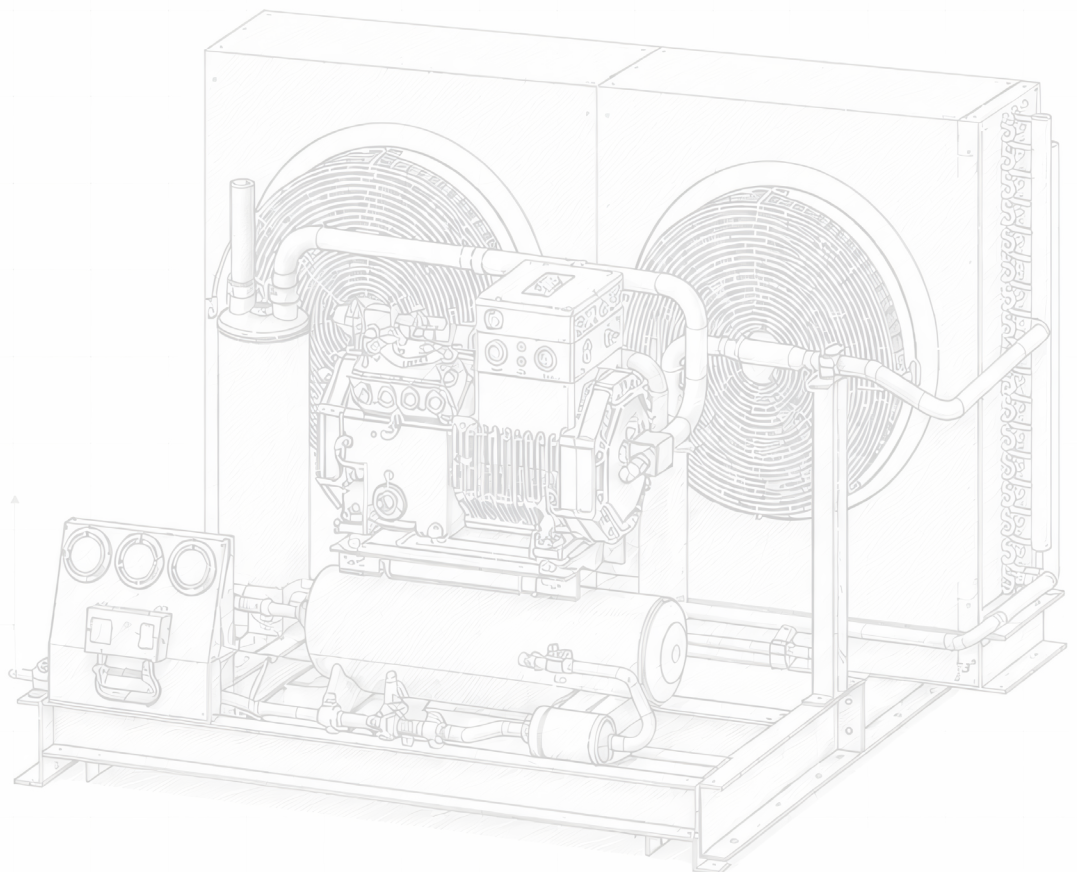
Controller / Thermostat
Inverter (Compressor or Condenser Fan)

Standard Components

- Circuit Breaker
- Magnetic Contactor
- Phase Failure Relay
- Terminal Block
- Alarm Indicator Lamp
- ON / OFF Selector Switch



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