

# R-507/R-404A

水冷式螺旋/往復冷凝機組

雙段螺旋 Two-stage screw

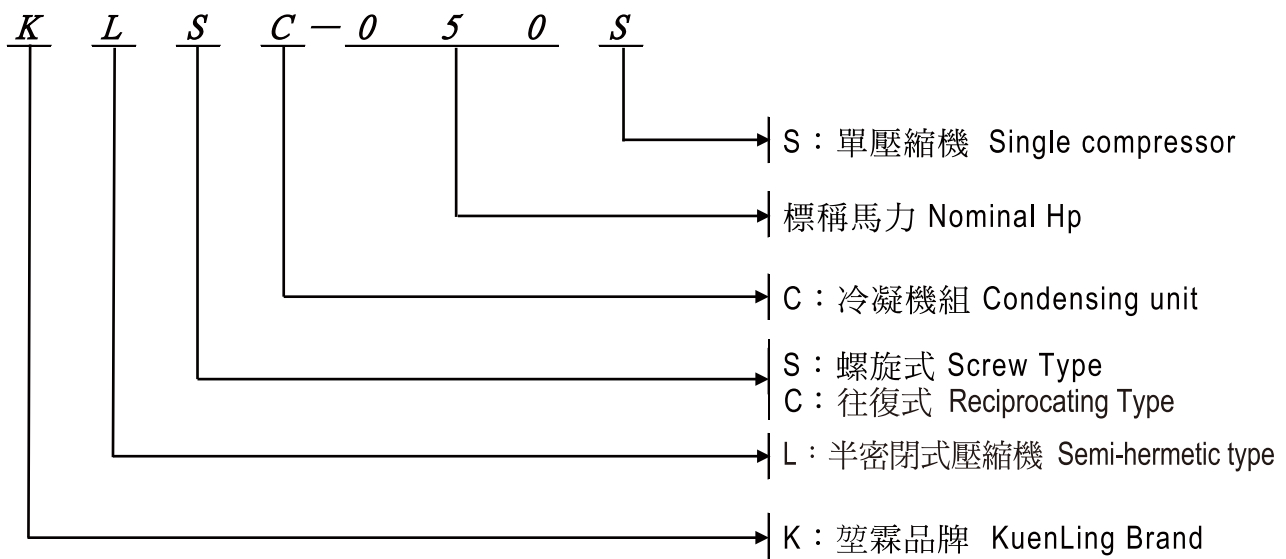
雙段往復 Two-stage Reciprocating

-25°C~-60°C



## 命名說明 Nomenclature

冷凝機組型號命名規則 Condensing unit code:

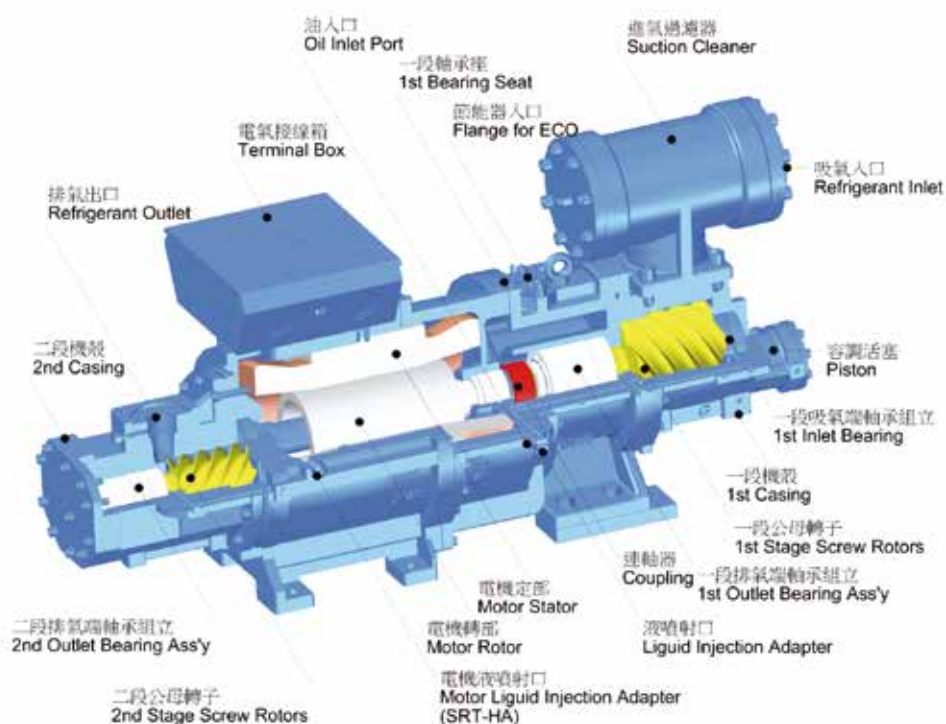


## 主機特色 Characteristics

### 機組特色 Characteristics :

- > 壓縮機：採用高效率雙段壓縮機，提供大排氣量，多種機型選擇。  
**Compressor:** With high efficiency 2-stage compressor.
- > 節能器：增加機組冷凍能力，降低排氣溫度。  
**Energy saver:** Increase cooling capacity, reduce exhaust air temp.
- > 油冷卻器：有效保持壓縮機冷凍油運轉油溫，確保壓縮機穩定運轉。  
**Oil cooler:** Efficiently keep refrigerant oil running temp. to insure compressor running stably.
- > 環保：採用R-507 / R-404A 環保冷媒。  
**Environmental friendly:** Using R-507 / R-404A refrigerant.

## 壓縮機機體結構圖 Compressor structure



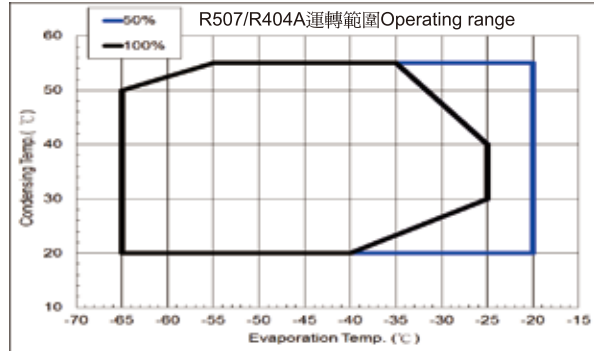
# 雙段螺旋式冷媒壓縮機 (SRT系列)

## Two-stage screw type Refrigerant Compressor(SRT series)

### 產品特色 Characteristics

- 可並聯使用，滿足大冷量需求。
- 理想之壓縮原理，設備操作維護方便。
- 雙段壓縮結構原理簡單，提升可靠度並縮小主機空間，可大幅降低控制成本。
- 低噪音，震動小。
- Can be parallel expanded to meet large cooling requirement.
- Ideal compression principles for easy operation and maintenance.
- Simple 2-stage compression principles to raise liability, size smaller and lower cost.
- Low noise and vibration.

低溫冷凍專用機型 Special design for Low temp. application

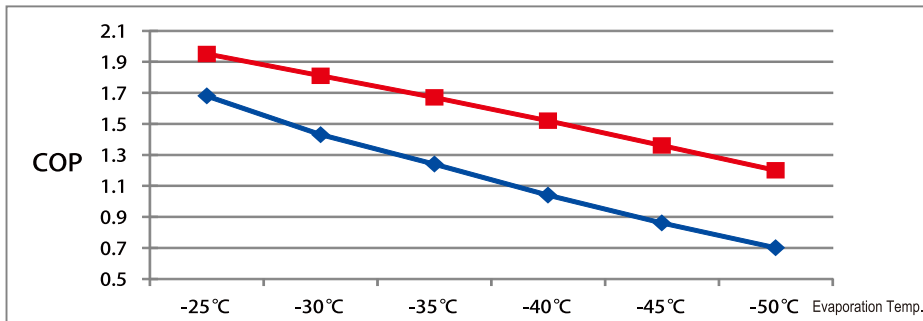


- 圖表(一)為R507/R404A運轉範圍
- Chart (一) Operating range of R507 / R404A

### 雙段螺旋機與單段螺旋機於R507/R404A冷媒條件下之效率(COP) Efficiency of using refrigerant R507/R404A for single / 2-stage screw compressor unit

冷凝溫度 Condensing Temp. 40°C	蒸發溫度 Evaporation Temp.					
	-25°C	-30°C	-35°C	-40°C	-45°C	-50°C
■ 雙段螺旋機 2-stage screw compressor	1.95	1.81	1.67	1.52	1.36	1.2
■ 單段螺旋機 single-stage compressor	1.68	1.43	1.24	1.04	0.86	0.7
差異 difference	16%	27%	35%	46%	58%	71%

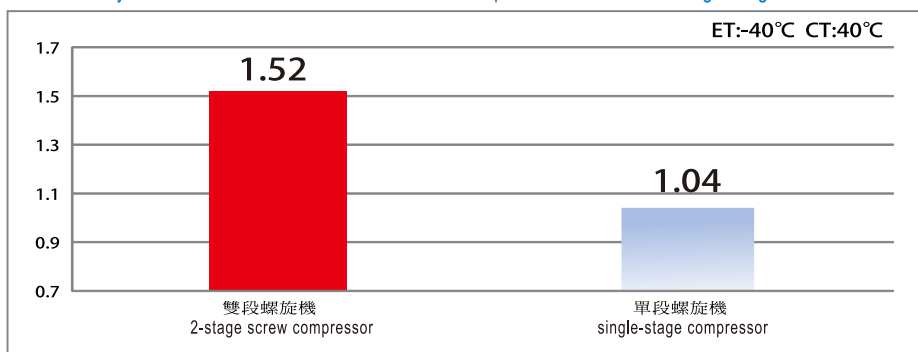
- 雙段螺旋比單段螺旋差異
- Comparison Table of using single and 2-stage compressor



- -25°C~-50°C低溫應用時，比單段螺旋壓縮機效率高(參考左圖)
- The efficiency is higher than single stage compressor unit in application at -25°C~-50°C condition. (See chart 二)
- 蒸發溫度最低可達-65°C。(R507/R404A) (如圖表二、三)
- The evaporating temp. can reach -65°C.

圖表(二)

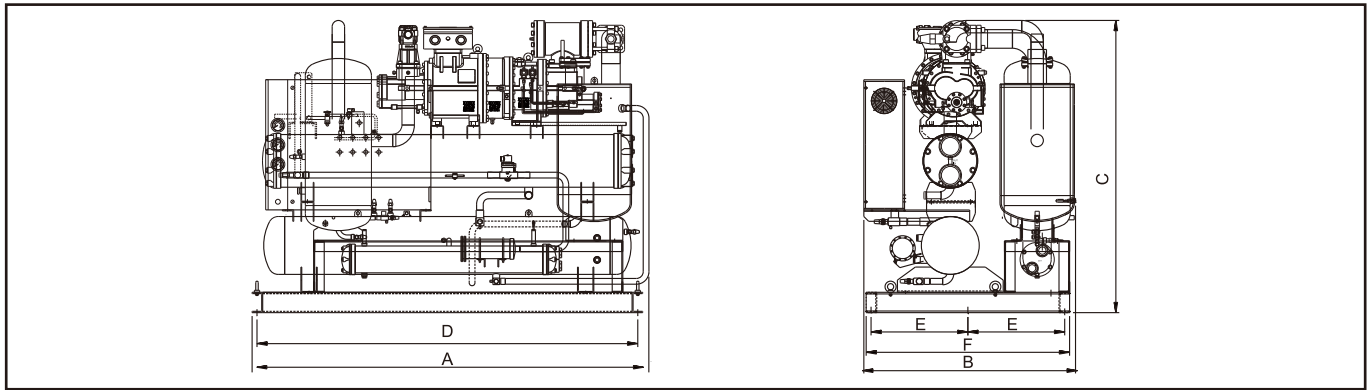
### 不同低溫冷凍機於R507/R404A冷媒條件下之效率(COP) The efficiency of Brine Chiller under different low temp. condition when using refrigerant R507/R404A



- 雙段螺旋機效率明顯高於單段螺旋機45%以上
- The efficiency is obviously 45% higher for unit with 2-stage screw compressor compared with single-stage unit.

圖表(三)

# 水冷式冷凍用冷凝機組 Water-cooled condensing unit for refrigeration



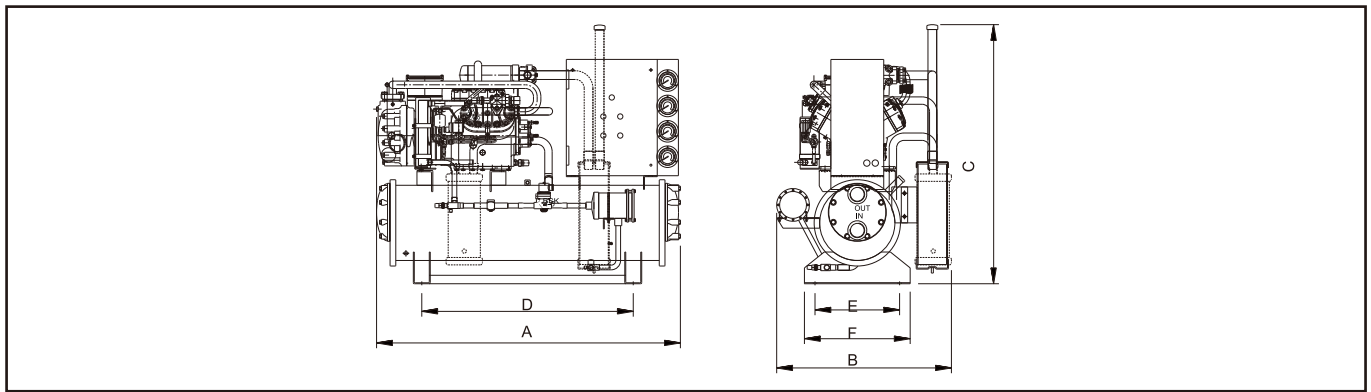
## 規格表 Specifications

機型 Model		KLSC-040S	KLSC-075S	KLSC-100S	KLSC-125S	KLSC-175S	KLSC-200S	
電源 Power source	V	3 $\Phi$ 50 HZ / 60HZ						
蒸發溫度 Evaporation temperature	$^{\circ}$ C	- 45 $^{\circ}$ C						
冷卻能力 Cooling capacity	kcal/hr	21,500 / 26,000	41,000 / 50,000	60,000 / 73,000	82,000 / 99,000	101,000 / 122,000	121,000 / 145,000	
消耗電力 Power consumption	kW	18.5 / 22.3	32.6 / 39.1	47.7 / 57.2	64.7 / 77.6	79.7 / 95.6	94.7 / 113.7	
220V運轉電流Running ampere	A	57 / 68	100 / 120	146 / 175	—	—	—	
380V運轉電流Running ampere	A	33 / 40	58 / 69	85 / 101	115 / 137	141 / 169	168 / 201	
壓縮機 Compressor	型式 Type	雙段半密閉螺旋式 Two-stage semi-hermetic screw						
	機數 Quantity	1						
	起動方式 Start method	Y- Direct starting						
	回轉數 Revolution	r. p. m	2900 / 3550					
油加熱器 Oil heater	W	300						
冷凍油 Refrig. oil	種類 Type	FS 035R						
	充填量 Charge quantity	L	19	20	21	27	28	29
冷媒 Refrigerant	種類 Type	R-507 / R-404A						
	型式 Type	殼管式 Shell and tube						
冷凝器 Condenser	管徑 Pipe size	inch	PT3	PT3	PT4	PT4	5B	5B
	冷卻水量 Water flow rate	m <sup>3</sup> /hr	25.1 / 30.2	47.1 / 56.7	62.7 / 75.6	78.4 / 94.5	109.8 / 132.3	125.5 / 151.2
配管尺寸 Piping dim	液管 Liquid line	inch	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 5/8"	1 5/8"
	低壓管 Suction line	mm	2 1/2"	2 1/2"	4"	4"	4"	4"
油冷卻器 Oil cooling	型式 Type	殼管式 Shell and tube						
	管徑 Pipe size	inch	PT 1 1/2	PT 1 1/2	PT 1 1/2	PT 2	PT 2	PT 2
	冷卻水量 Water flow rate	m <sup>3</sup> /hr	1.5 / 1.8	2.5 / 3	3.7 / 4.5	5 / 6	6.3 / 7.6	7.6 / 9.1
附屬配件 Accessories		視窗、乾燥器、液管電磁閥、節能器、電氣控制箱 Sight glass, Dryer, Economiser, Electrical control panel						
保護裝置 Protection devices		高低壓開關、過載保護裝置、線圈過熱保護 High / low pressure switch, Overload protective device, Coil overheated protection						
外型尺寸 Dimension	A	mm	1850	2400	2438	2700	3000	3000
	B	mm	1200	1300	1350	1350	1450	1550
	C	mm	1550	1700	1850	1950	2150	2150
	D	mm	1740	2340	2340	2540	2540	2540
	E	mm	450	570	595	620	645	670
	F	mm	1000	1200	1250	1300	1350	1400
機組重量 Operating weight	kg	1100	1300	1900	2100	2500	2800	

註：1. 以上規格係依冷卻水入口溫度30 $^{\circ}$ C，出口溫度35 $^{\circ}$ C，蒸發溫度-45 $^{\circ}$ C。  
2. 以上規格如有變更，恕不另行通知。  
3. 如有特殊要求，訂貨前請提出要求規範。

Note: 1. Nominal cooling capacity conditions : Cooling water Inlet/Outlet and room temperature is 30/35 $^{\circ}$ C and -45 $^{\circ}$ C Evaporation temperature.  
2. Specifications are subject to change without notice for further improvement.  
3. If you have any special requirement ,please inform us before placing order .

# 水冷式冷凍用冷凝機組 Water-cooled condensing unit for refrigeration



## 規格表 Specifications

機型 Model			KLCC-015S	KLCC-020S	KLCC-025S	KLCC-030S
電源 Power source	V		3 Φ 50 HZ / 60HZ			
蒸發溫度 Evaporation temperature	°C		-45°C			
冷卻能力 Cooling capacity	kcal/hr		11,500 / 13,500	13,000 / 15,500	15,000 / 18,000	18,000 / 21,500
消耗電力 Power consumption	kW		9.8 / 12.2	11.7 / 14.1	13.4 / 16.2	16.1 / 19.4
380V運轉電流 Running ampere	A		18 / 22	21 / 25	24 / 24	29 / 35
壓縮機 Compressor	型式 Type		雙段半密往復式 Two-stage Semi-hermetic Reciprocating			
	機數 Quantity		1			
	起動方式 Start method		直接起動 Direct starting			
	回轉數 Revolution	r. p. m	2900 / 3550			
	油加熱器 Oil heater	W	140			
冷凍油 Refrig. oil	種類 Type		BSE 32			
	充填量 Charge quantity	L	4.8	4.8	4.8	4.8
冷媒 Refrigerant	種類 Type		R-507 / R-404A			
冷凝器 Condenser	型式 Type		殼管式 Shell and tube			
	管徑 Pipe size	inch	2 "	2 "	2 1/2"	2 1/2"
	冷卻水量 Water flow rate	m <sup>3</sup> /hr	9.4 / 11.3	12.5 / 15.1	15.7 / 18.9	18.8 / 22.7
配管尺寸 Piping dim	液管 Liquid line	inch	5/8"	7/8"	7/8"	7/8"
	低壓管 Suction line	mm	1 5/8"	1 5/8"	1 5/8"	1 5/8"
附屬配件 Accessories			視窗、乾燥器、液管電磁閥、節能器、電氣控制箱 Sight glass, Dryer, Economiser, Electrical control panel			
保護裝置 Protection devices			高低壓開關、過載保護裝置、線圈過熱保護 High / low pressure switch, Overload protective device, Coil overheated protection			
外型尺寸 Dimension	A	mm	1650	1650	1500	1500
	B	mm	800	800	850	850
	C	mm	1250	1250	1250	1250
	D	mm	1000	1000	1000	1000
	E	mm	400	400	400	400
	F	mm	500	500	500	500
機組重量 Operating weight	kg		380	450	500	550

註：1. 以上規格係依冷卻水入口溫度30°C，出口溫度35°C，蒸發溫度-45°C。  
2. 以上規格如有變更，恕不另行通知。  
3. 如有特殊要求，訂貨前請提出要求規範。

Note: 1. Nominal cooling capacity conditions: Cooling water Inlet/Outlet and room temperature is 30/35°C and -45°C Evaporation temperature.  
2. Specifications are subject to change without notice for further improvement.  
3. If you have any special requirement, please inform us before placing order.

# R-507 / R-404A

TC(°C)	機型	項目	50Hz	低壓飽和溫度									
				-65°C	-60°C	-55°C	-50°C	-45°C	-40°C	-35°C	-30°C	-25°C	
35	KLSC-040S	冷凍能力 (kW)	冷凝溫度	35°C	8.9	11.9	15.5	19.8	25	31.1	38.3	46.5	55.9
40				40°C	8.8	11.7	15.3	19.5	24.6	30.6	37.6	45.7	54.9
45				45°C	8.5	11.4	14.9	19.1	24.1	30	36.8	44.8	---
50				50°C	---	11.1	14.6	18.7	23.6	29.4	36.1	---	---
55				55°C	---	---	14.2	18.3	23.1	28.8	35.3	---	---
35		耗電 (kW)		35°C	12.8	13.8	15.2	16.7	18.4	20.3	22.6	24.9	27.6
40				40°C	13.3	14.5	16	17.8	19.8	22.1	24.7	27.5	30.6
45				45°C	14	15.4	17.2	19.3	21.7	24.4	27.4	30.7	---
50				50°C	---	16.8	18.9	21.4	24.3	27.4	31	---	---
55				55°C	---	---	21.3	24.3	27.7	31.4	35.6	---	---
35	KLSC-075S	冷凍能力 (kW)	冷凝溫度	35°C	17.1	22.8	29.7	38	47.8	59.5	73.2	88.9	107
40				40°C	16.7	22.3	29.1	37.3	47	58.4	71.8	87.3	104.9
45				45°C	16.3	21.8	28.5	36.5	46.1	57.3	70.5	85.6	---
50				50°C	---	21.3	27.8	35.8	45.2	56.2	69.1	---	---
55				55°C	---	---	27.1	34.9	44.2	55	67.6	---	---
35		耗電 (kW)		35°C	22.4	24.3	26.7	29.3	32.3	35.8	39.7	43.8	48.5
40				40°C	23.3	25.5	28.2	31.3	34.8	38.9	43.4	48.3	53.8
45				45°C	24.7	27.2	30.3	34	38.2	42.9	48.3	54	---
50				50°C	---	29.6	33.3	37.7	42.7	48.3	54.5	---	---
55				55°C	---	---	37.6	42.8	48.8	55.4	62.8	---	---
35	KLSC-100S	冷凍能力 (kW)	冷凝溫度	35°C	24.9	33.3	43.3	55.3	69.8	86.8	106.6	129.6	155.9
40				40°C	24.3	32.5	42.4	54.3	68.5	85.2	104.7	127.2	152.9
45				45°C	23.8	31.8	41.5	53.3	67.2	83.6	102.7	124.8	---
50				50°C	---	30.9	40.6	52.1	65.8	81.8	100.7	---	---
55				55°C	---	---	39.5	50.8	64.3	80.1	98.5	---	---
35		耗電 (kW)		35°C	32.8	35.6	38.9	42.8	47.3	52.3	57.9	64.1	70.8
40				40°C	34.2	37.3	41.2	45.8	50.9	56.8	63.4	70.7	78.5
45				45°C	36	39.8	44.3	49.7	55.8	62.8	70.4	78.9	---
50				50°C	---	43.3	48.7	55.1	62.3	70.6	79.7	---	---
55				55°C	---	---	54.9	62.6	71.3	81	91.7	---	---
35	KLSC-125S	冷凍能力 (kW)	冷凝溫度	35°C	33.9	45.2	58.8	75.2	94.7	117.8	144.8	176	211.8
40				40°C	33.1	44.2	57.6	73.8	93	115.7	142.2	172.8	207.8
45				45°C	32.3	43.2	56.4	72.3	91.3	113.5	139.4	169.4	---
50				50°C	---	42.1	55.1	70.8	89.3	111.2	136.7	---	---
55				55°C	---	---	53.7	69.1	87.3	108.8	133.8	---	---
35		耗電 (kW)		35°C	44.4	48.3	52.8	58.2	64.2	71.1	78.7	87	96.2
40				40°C	46.3	50.6	55.9	62.1	69.2	77.2	86	95.8	106.6
45				45°C	48.9	53.9	60.1	67.3	75.7	85.2	95.6	107.2	---
50				50°C	---	58.7	66	74.8	84.7	95.8	108.1	---	---
55				55°C	---	---	74.6	85	96.8	109.9	124.4	---	---
35	KLSC-175S	冷凍能力 (kW)	冷凝溫度	35°C	41.8	55.7	72.4	92.7	116.7	145.3	178.5	216.9	261
40				40°C	40.8	54.4	71	90.9	114.7	142.6	175.2	212.9	256
45				45°C	39.7	53.3	69.5	89.1	112.4	139.9	171.9	208.8	---
50				50°C	---	51.8	67.9	87.3	110.1	122.1	168.5	---	---
55				55°C	---	---	66.2	85.2	107.7	134.1	164.9	---	---
35		耗電 (kW)		35°C	54.8	59.5	65.1	71.7	79.1	87.6	96.9	107.3	118.5
40				40°C	57.1	62.4	68.9	76.5	85.3	95.1	106	118.2	131.3
45				45°C	60.3	66.5	74	83	93.3	104.9	117.8	132.1	---
50				50°C	---	72.3	81.4	92.1	104.3	118	133.3	---	---
55				55°C	---	---	91.8	104.8	119.3	135.5	153.3	---	---
35	KLSC-200S	冷凍能力 (kW)	冷凝溫度	35°C	49.7	66.2	86.1	110.1	138.8	172.6	212.2	257.8	310.3
40				40°C	48.4	64.7	84.4	108.1	136.3	169.5	208.3	253.1	304.3
45				45°C	47.2	63.3	82.6	105.9	133.7	166.3	204.3	248.3	---
50				50°C	---	61.6	80.7	103.7	130.9	162.9	200.3	---	---
55				55°C	---	---	78.6	101.2	128	159.4	196	---	---
35		耗電 (kW)		35°C	65.1	70.8	77.4	85.2	94.1	104.1	115.3	127.5	140.8
40				40°C	67.8	74.2	81.9	90.9	101.3	113	126	140.4	156.2
45				45°C	71.6	79	88	98.7	110.9	124.8	140.1	156.9	---
50				50°C	---	85.9	96.8	109.5	124	140.3	158.3	---	---
55				55°C	---	---	109.2	124.5	141.8	161	182.3	---	---

# R-507 / R-404A

TC(°C)	機型	項目	60Hz	低壓飽和溫度									
				-65°C	-60°C	-55°C	-50°C	-45°C	-40°C	-35°C	-30°C	-25°C	
35	KLSC-040S	冷凍能力 (kW)	冷凝溫度	35°C	10.7	14.3	18.6	23.8	30	37.3	45.9	55.8	67.1
40				40°C	10.5	14	18.3	23.4	29.5	36.7	45.1	54.8	65.9
45				45°C	10.2	13.7	17.9	22.9	28.9	36	44.2	53.7	---
50				50°C	---	13.3	17.5	22.4	28.3	35.3	43.3	---	---
55				55°C	---	---	17	21.9	27.7	34.5	42.4	---	---
35		耗電 (kW)		35°C	15.3	16.6	18.2	20	22.1	24.4	27.1	29.9	33.1
40				40°C	15.9	17.4	19.2	21.3	23.8	26.5	29.6	33	36.7
45				45°C	16.8	18.5	20.6	23.1	26	29.3	32.9	36.8	---
50				50°C	---	20.1	22.7	25.7	29.1	32.9	37.2	---	---
55				55°C	---	---	25.6	29.2	33.2	37.7	42.7	---	---
35	KLSC-075S	冷凍能力 (kW)	冷凝溫度	35°C	20.5	27.4	35.6	45.6	57.4	71.4	87.8	106.7	128.4
40				40°C	20	26.8	34.9	44.7	56.4	70.1	86.2	104.7	125.9
45				45°C	19.5	26.2	34.2	43.8	55.3	68.8	84.6	102.7	---
50				50°C	---	25.5	33.4	42.9	54.2	67.4	82.9	---	---
55				55°C	---	---	32.5	41.9	53	66	81.1	---	---
35		耗電 (kW)		35°C	26.9	29.2	32	35.2	38.8	43	47.6	52.6	58.2
40				40°C	28	30.6	33.8	37.6	41.8	46.7	52.1	58	64.5
45				45°C	29.6	32.6	36.3	40.8	45.8	51.5	57.9	64.8	---
50				50°C	---	35.5	40	45.2	51.2	57.9	65.4	---	---
55				55°C	---	---	45.1	51.4	58.6	66.5	75.3	---	---
35	KLSC-100S	冷凍能力 (kW)	冷凝溫度	35°C	29.9	39.9	51.9	66.4	83.7	104.1	127.9	155.5	187.1
40				40°C	29.2	39	50.9	65.2	82.2	102.2	125.6	152.6	183.5
45				45°C	28.5	38.1	49.8	63.9	80.6	100.3	123.2	149.7	---
50				50°C	---	37.1	48.7	62.5	78.9	98.2	120.8	---	---
55				55°C	---	---	47.4	61	77.1	96.1	118.2	---	---
35		耗電 (kW)		35°C	39.3	42.7	46.7	51.4	56.8	62.8	69.5	76.9	85
40				40°C	41	44.8	49.4	54.9	61.1	68.2	76.1	84.8	94.2
45				45°C	43.2	47.7	53.1	59.6	67	75.3	84.5	94.7	---
50				50°C	---	51.9	58.4	66.1	74.8	84.7	95.6	---	---
55				55°C	---	---	65.9	75.1	85.6	97.2	110	---	---
35	KLSC-125S	冷凍能力 (kW)	冷凝溫度	35°C	40.7	54.2	70.5	90.2	113.6	141.4	173.8	211.2	254.1
40				40°C	39.7	53	69.1	88.5	111.6	138.8	170.6	207.3	249.3
45				45°C	38.7	51.8	67.7	86.8	109.5	136.2	167.3	203.3	---
50				50°C	---	50.5	66.1	84.9	107.2	133.4	164	---	---
55				55°C	---	---	64.4	82.9	104.8	130.6	160.5	---	---
35		耗電 (kW)		35°C	53.3	58	63.4	69.8	77	85.3	94.4	104.4	115.4
40				40°C	55.6	60.7	67.1	74.5	83	92.6	103.2	115	127.9
45				45°C	58.7	64.7	72.1	80.8	90.8	102.2	114.7	128.6	---
50				50°C	---	70.4	79.2	89.7	101.6	114.9	129.7	---	---
55				55°C	---	---	89.5	102	116.1	131.9	149.3	---	---
35	KLSC-175S	冷凍能力 (kW)	冷凝溫度	35°C	50.1	66.8	86.9	111.2	140	174.3	214.2	260.3	313.2
40				40°C	48.9	65.3	85.2	109.1	137.6	171.1	210.2	255.5	307.2
45				45°C	47.6	63.9	83.4	106.9	134.9	167.9	206.3	250.6	---
50				50°C	---	62.2	81.5	104.7	132.1	146.5	202.2	---	---
55				55°C	---	---	79.4	102.2	129.2	160.9	197.9	---	---
35		耗電 (kW)		35°C	65.7	71.4	78.1	86	94.9	105.1	116.3	128.7	142.2
40				40°C	68.5	74.9	82.7	91.8	102.3	114.1	127.2	141.8	157.6
45				45°C	72.3	79.8	88.8	99.6	112	125.9	141.4	158.5	---
50				50°C	---	86.8	97.7	110.5	125.2	141.6	159.9	---	---
55				55°C	---	---	110.2	125.7	143.1	162.6	184	---	---
35	KLSC-200S	冷凍能力 (kW)	冷凝溫度	35°C	59.6	79.4	103.3	132.1	166.5	207.1	254.6	309.4	372.3
40				40°C	58.1	77.6	101.3	129.7	163.5	203.4	249.9	303.7	365.2
45				45°C	56.6	75.9	99.1	127.1	160.4	199.6	245.2	297.9	---
50				50°C	---	73.9	96.8	124.4	157.1	195.5	240.3	---	---
55				55°C	---	---	94.3	121.4	153.6	191.3	235.2	---	---
35		耗電 (kW)		35°C	78.1	84.9	92.9	102.2	112.9	124.9	138.3	153	169
40				40°C	81.4	89	98.3	109.1	121.5	135.6	151.2	168.5	187.4
45				45°C	85.9	94.8	105.6	118.4	133.1	149.7	168.1	188.3	---
50				50°C	---	103.1	116.1	131.4	148.8	168.3	190	---	---
55				55°C	---	---	131	149.4	170.1	193.2	218.7	---	---

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