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The technical parameters shall be subject to order contract or technical appendix of the contract.

RefComp

Reciprocating Compressor

SP Series Semi-hermetic Reciprocating Compressor



Commercial Reciprocating Advanced Technology

Originated from Italy, advanced screw & reciprocating compressor technologies.

Global Service Hotline
400-109-6660

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Structural Diagram of RefComp SP Series Semi-hermetic Reciprocating Compressor

The SP series reciprocating compressors are widely used series compressors, available in 2/4/6/8 cylinder models with a power range of 3~70HP. They are extensively applied in various commercial and industrial refrigeration fields as well as air conditioning fields. With novel concepts and designs, SP series compressors are compatible with green refrigerants such as R290. In both modern construction sector where high efficiency and energy conservation are pursued and other sectors with strict requirement for refrigeration quality, SP series are ultimate choices regarding their.

Safety valve

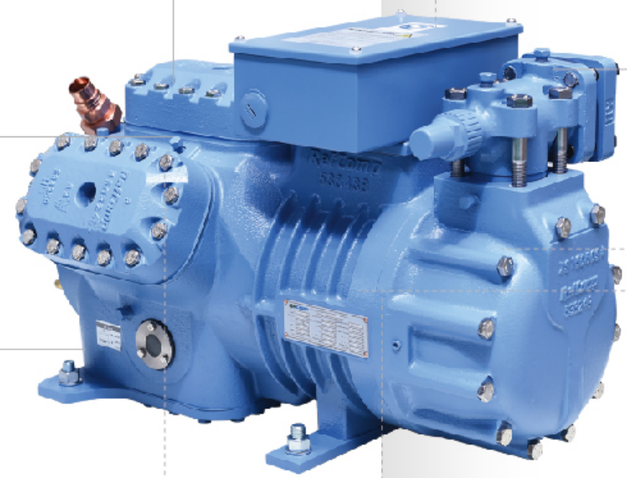
- The built-in safety valve connects high pressure and low pressure sides, ensuring smooth operation of the compressors;
- The high-specification safety valve is designed with reliable sealing and sensitive operation.



Cooling capacity control

- Control cooling capacity according to the load;
- The refrigeration capacity control range is divided as follows: for the 4-cylinder model, 50% refrigeration capacity; for the 6-cylinder model, 66% to 33% refrigeration capacity; and for the 8-cylinder model, 75% to 50% refrigeration capacity. This design maximizes the ability to meet the system's refrigeration capacity.





Compressor body

- The designated pressure is as high as 30 bar;
- The design of low pressure drop intake air flow path enables sufficient cooling of motor;
- The direct air flow path in the middle reduces the pressure loss along the way;
- low exhaust loss and low energy consumption;
- The components such as the highly integrated temperature sensor, stop valve, and suction filter are designed in a compact structure, effectively enhancing the reliability of the equipment.



Crankshaft, connecting rods, and piston

- The balanced crankshaft, designed based on rotor dynamics, ensures rigidity while reducing vibration;
- High efficiency, high strength, low air flow pulsation and low noise, the adoption of new technologies has achieved a leading level among similar products;
- Optimized design improves the compress efficiency, widely used in low and medium temperature refrigeration condition;
- The connecting rod and piston are connected through a piston pin. The small end of the connecting rod is equipped with wear-resistant bearing shells, which can extend service life.



Motor protection

- Equipped with INT79B2 motor protection model which enables dynamic monitoring thus guaranteeing the safe operation of the compressor.



Shut-off valve

- The suction/discharge shut-off valve can be rotated, offering simple, compact, and flexible installation.



Suction filter

- The integrated delicate suction filter enables filter impurities from refrigeration gases effectively while offering protection;
- Located at the utmost end of the motor with compact structure and easy replacement.



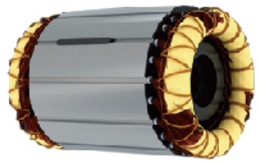
Bearings

- The combination of slide bearings (bearing shells) thrust washers enables high load capacity, high wear resistance, low noise thus extend the service life of the products;
- High wear resistance and appropriate lubrication ensure the service life of 50~80 thousand hours.



Motor

- The high efficiency PW model motor with low starting current resulting in high energy efficiency;
- Designed for various operating voltages and frequencies according to different regional voltage requirements, to meet a wide range of voltage needs;
- Special customized materials enable compatibility with multiple refrigerants, including R22, R407C, R134a, R404A, and R507A;
- A unique structural design and spatial layout utilize the suction refrigerant to effectively cool the dr.



Model Description

Compressor	SP	4	H	N	2000
	SP	4	L	F	080E

Series	
SP	Semi-hermetic reciprocating piston

Cylinder
SP Series: 2, 4, 6, 8

Motor type	
H	High temperature compressor motor
L	Cryogenic compressor motor

Lubrication method (for SP series only)	
F	Forced lubrication (with oil pump)
N	Splash lubrication (without oil pump)

Nominal power of the motor HP X 100(2)

(1) For the 4-cylinder models only: 10~20 [HP] high-temperature compressors and 6~12 [HP] low-temperature compressors.

(2) Models with the letter "E" at the end indicate compressors using POE oil.

Technical parameters

Model SP		H (high temperature compressor)																
		SP2H				SP4HF/SP4HN				SP4H				SP6H			SP8H	
		0500	0600	0800	0900	1000	1200	1500	2000	2200	2500	3000	3500	3700	4000	5000	6000	7000
		050E	060E	080E	090E	100E	120E	150E	200E	220E	250E	300E	350E	370E	400E	500E	600E	700E
Rated power	HP/kW	5/3.7	6/4.4	8/5.9	9/6.6	10/7.5	12/8.9	15/ 11.2	20/ 14.9	22/ 16.4	25/ 18.7	30/ 22.4	35/ 26.1	37/ 27.6	40/ 29.9	50/ 37.3	60/45	70/52
Displacement 50/60[Hz]	m^3/hr	17.5/ 21	21/ 25.2	24.5/ 29.4	28/ 33.6	35/42	42/ 50.4	49/ 58.8	56/ 67.2	64.7/ 77.6	75/90	86.1/ 103.3	102.9/ 123.5	112.5/ 135	129.1/ 154.9	154.4/ 185.3	186/ 224	222/ 268
Cylinder number		2				4								6			8	
Weight	kg	86	87	87	91	143	146	152	155	193	206	209	238	241	246	250	345	350
Oil charge	dm^3	1.8	1.8	1.8	1.8	2.6	2.6	2.6	2.6	3.7	3.7	3.7	3.7	4.2	4.2	4.2	5	5
Crankcase heater electrical parameters		230V-120W-50/60Hz -PTC				230V-200W-50/60Hz -PTC				230V-150W-50/60Hz							230V-200W 50/60Hz	
Discharge pipe inner diameterΦ	mm/ inch	16/ 5/8"	16/ 5/8"	22/ 7/8"	22/ 7/8"	22/ 7/8"	28/ 1 1/8"	28/ 1 1/8"	28/ 1 1/8"	28/ 1 1/8"	28/ 1 1/8"	28/ 1 1/8"	35/ 1 3/8"	35/ 1 3/8"	35/ 1 3/8"	42/ 1 5/8"	54/ 2 1/8"	54/ 2 1/8"
Suction pipe inner diameterΦ	mm/ inch	28/ 1 1/8"	28/ 1 1/8"	28/ 1 1/8"	28/ 1 1/8"	28/ 1 1/8"	35/ 1 3/8"	42/ 1 5/8"	42/ 1 5/8"	42/ 1 5/8"	54/ 2 1/8"	54/ 2 1/8"	54/ 2 1/8"	54/ 2 1/8"	54/ 2 1/8"	54/ 2 1/8"	67/ 2 5/8"	67/ 2 5/8"
Capacity regulation		-	-	-	-	100%,50%				100%,50%				100%,66%,33%			100%,75%,50%	
Standard motor		230V/3/50Hz Y/D (230V-D/400V/Y)				400V/3/50Hz - 460V/3/60Hz(1) PW												
Starting current PW/DOL	A	54/94	60/104	85/148	97/169	71/ 110	75/ 125	86/ 144	106/ 168	102/ 170	123/ 201	150/ 243	178/ 290	178/ 290	201/ 330	233/ 394	271/ 361	329/ 439
Maximum operating current	A	12/21	14/24	16/28	20/35	24	27	33	40	37	43	52	56	60	75	93	115	140

Model SP		L (Low temperature compressor)																
		SP2L				SP4LF/SP4LN				SP4L				SP6L			SP8L	
		0300	0400	0500	0600	0600	0800	1000	1200	1500	1800	2200	2500	2700	3000	4000	5000	6000
		030E	040E	050E	060E	060E	080E	100E	120E	150E	180E	220E	250E	270E	300E	400E	500E	600E
Rated power	HP/kW	3/2	4/3	5/3.7	6/4.4	6/4.5	8/5.9	10/ 7.5	12/ 8.9	15/ 11.2	18/ 13.3	22/ 16.4	25/ 18.7	27/ 20.2	30/ 22.4	40/ 29.9	50/37	60/45
Displacement 50/60[Hz]	m^3/hr	17.5/ 21	21/ 25.2	24.5/ 29.4	28/ 33.6	35/42	42/ 50.4	49/ 58.8	56/ 67.2	64.7/ 77.6	75/90	86.1/ 103.3	102.9/ 123.5	112.5/ 135	129.1/ 154.9	154.4/ 185.3	186/ 224	222/ 268
Cylinder number		2				4								6			8	
Weight	kg	84	85	85	86	134	139	144	146	182	186	195	220	230	236	247	340	345
Oil charge	dm^3	1.8	1.8	1.8	1.8	2.6	2.6	2.6	2.6	3.7	3.7	3.7	3.7	4.2	4.2	4.2	5	5
Crankcase heater electrical parameters		230V-120W-50/60Hz -PTC				230V-200W-50/60Hz -PTC				230V-200W-50/60Hz							230V-200W 50/60Hz	
Discharge pipe inner diameterΦ	mm/ inch	16/ 5/8"	16/ 5/8"	22/ 7/8"	22/ 7/8"	22/ 7/8"	28/ 1 1/8"	28/ 1 1/8"	28/ 1 1/8"	28/ 1 1/8"	28/ 1 1/8"	28/ 1 1/8"	35/ 1 3/8"	35/ 1 3/8"	35/ 1 3/8"	42/ 1 5/8"	54/ 2 1/8"	54/ 2 1/8"
Suction pipe inner diameterΦ	mm/ inch	28/ 1 1/8"	28/ 1 1/8"	28/ 1 1/8"	28/ 1 1/8"	28/ 1 1/8"	35/ 1 3/8"	35/ 1 3/8"	35/ 1 3/8"	42/ 1 5/8"	42/ 1 5/8"	54/ 2 1/8"	54/ 2 1/8"	54/ 2 1/8"	54/ 2 1/8"	54/ 2 1/8"	67/ 2 5/8"	67/ 2 5/8"
Capacity regulation		-	-	-		100%, 50%				100%, 50%				100%, 66%, 33%			100%,75%,50%	
Standard motor		△230V/3/50Hz Y400V/3/50Hz				400V/3/50Hz - 460V/3/60Hz(1) PW												
Starting current PW/DOL	A	35/61	49/85	54/94	60/104	43/70	54/88	71/ 110	75/ 125	88/ 146	102/ 170	102/ 170	123/ 201	123/ 201	150/ 243	201/ 330	237/ 316	271/ 361
Maximum operating current	A	9/16	10/17	12/21	14/24	16	19	24	27	29	33	39	43	48	54	75	97	115

(1) Voltage variation range: ±10%

Product features

Strong compatibility of the refrigeration

Compatible with R22, R407C, R134a, R404A, and R507A HFC refrigerants.

High energy efficiency

Equipped with a motor protection module for safe operation. Efficient suction cooling of the motor to reduce energy consumption and improve efficiency;
Adjustable refrigeration capacity levels based on load;
Optimized low compression ratio for enhanced energy efficiency.

Optimized lubrication system

Compact structure

Compact design with high-quality casting materials;
The unit features a compact size, integrating a filter, stop valve, and temperature sensor into a single assembly.

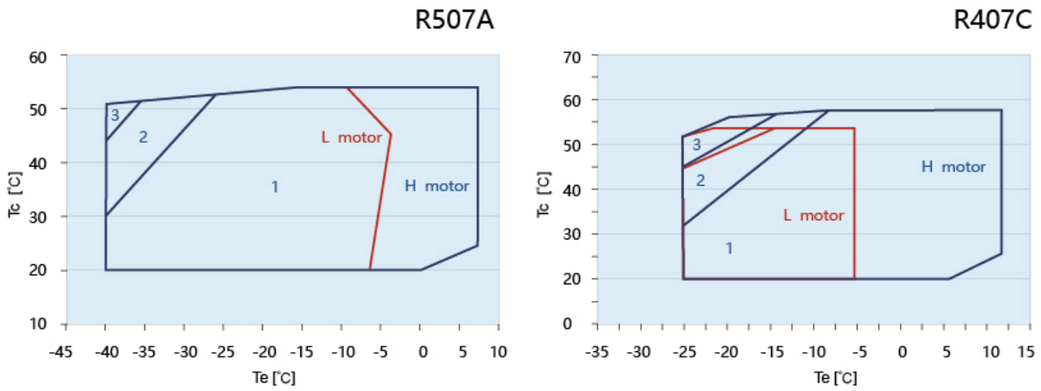
Smooth operation and low noise

Equipped with a crankshaft designed by RefComp with counterweight, taking a leading position among similar products.

Easy installation and high maintainability

Meet the demand of various high-efficiency and high-performance water-cooled, air-cooled, and heat pump units.

Application Range



1=Standard application range ([25℃] suction temperature)
2=Application range with additional cooling
3=Application range with additional cooling and maximum 10K suction superheat.
4=Application range with additional cooling and liquid injection cooling (LCM) (not applicable for 8-cylinder models SP8H...SP8L)

Performance parameters (SP*H, refrigerant R407C)

SP2H050E

Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	4.3	1.8	3.4	1.9	2.8	1.9	-	-
-20	5.7	2.2	4.6	2.3	3.7	2.4	-	-
-15	7.5	2.5	6.2	2.7	5.1	2.9	-	-
-10	9.6	2.8	8.2	3.1	6.8	3.3	-	-
-5	12.2	3.0	10.6	3.4	8.9	3.7	7.6	3.9
0	15.3	3.1	13.3	3.6	11.4	4.0	9.8	4.4
5	18.7	3.2	16.5	3.8	14.2	4.4	12.3	4.8
10	22.5	3.3	20.1	4.0	17.5	4.7	15.3	5.1

SP2H060E

Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	5.2	2.2	4.1	2.3	3.4	2.3	-	-
-20	6.8	2.6	5.5	2.8	4.5	2.9	-	-
-15	6.9	3.0	7.4	3.3	6.4	3.4	-	-
-10	11.6	3.3	9.8	3.7	8.2	3.9	-	-
-5	14.7	3.5	12.7	4.0	10.7	4.4	9.1	4.7
0	18.3	3.7	16.0	4.3	13.7	4.8	11.7	5.2
5	22.4	3.9	19.8	4.6	17.1	5.2	14.8	5.7
10	27.0	3.9	24.1	4.8	21.0	5.5	18.3	6.1

SP2H080E

Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	6.0	2.5	4.7	2.6	3.9	2.6	-	-
-20	7.9	3.0	6.4	3.2	5.2	3.3	-	-
-15	10.4	3.5	8.6	3.8	7.1	4.0	-	-
-10	13.5	3.8	11.4	4.2	9.5	4.6	-	-
-5	17.1	4.1	14.8	4.7	12.4	5.1	10.6	5.4
0	21.4	4.3	18.7	5.0	15.9	5.6	13.7	6.0
5	26.2	4.5	23.1	5.3	19.9	6.0	17.3	6.6
10	31.5	4.6	28.2	5.6	24.5	6.4	21.4	7.1

SP2H090E

Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	6.9	2.9	5.4	3.0	4.5	3.0	-	-
-20	9.1	3.5	7.3	3.7	6.0	3.8	-	-
-15	11.9	3.9	9.9	4.3	8.1	4.5	-	-
-10	15.4	4.4	13.1	4.8	10.9	5.2	-	-
-5	19.6	4.7	16.9	5.3	14.2	5.8	12.1	6.2
0	24.4	4.9	21.4	5.7	18.2	6.4	15.6	6.9
5	29.9	5.1	26.5	6.0	22.8	6.9	19.7	7.5
10	36.0	5.2	32.2	6.3	28.0	7.3	24.4	8.1

SP4HF100E/SP4HN100E

Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	8.6	3.6	6.8	3.7	5.6	3.8	-	-
-20	11.4	4.3	9.2	4.6	7.5	4.8	-	-
-15	14.9	4.9	12.4	5.4	10.2	5.7	-	-
-10	19.3	5.4	16.3	6.0	13.6	6.5	-	-
-5	24.5	5.8	21.1	6.6	17.8	7.3	15.2	7.7
0	30.5	6.2	26.7	7.1	22.8	7.9	19.5	8.6
5	37.4	6.4	33.1	7.5	28.5	8.6	24.7	9.4
10	45.0	6.5	40.2	7.9	35.0	9.2	30.5	10.1

SP4HF120E/SP4HN120E

Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	10.3	4.3	8.1	4.5	6.7	4.5	-	-
-20	13.6	5.2	11.0	5.5	9.0	5.7	-	-
-15	17.9	5.9	14.8	6.4	12.2	6.8	-	-
-10	23.1	6.5	19.6	7.2	16.3	7.8	-	-
-5	29.4	7.0	25.3	7.9	21.3	8.7	18.2	9.3
0	36.6	7.4	32.0	8.5	27.3	9.5	23.4	10.3
5	44.8	7.6	39.7	9.0	34.2	10.3	29 6	11.2
10	54.1	7.8	48.3	9.5	42.0	11.0	36.7	12.2

SP4HF150E/SP4HN150E

Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	12.1	5.0	9.5	5.2	7.8	5.3	-	-
-20	15.9	6.0	12.9	6.4	10.5	6.7	-	-
-15	20.9	6.9	17.3	7.5	14.2	7.9	-	-
-10	27.0	7.6	22.9	8.4	19.0	9.1	-	-
-5	34.3	8.2	29.6	9.3	24.9	10.2	21.2	10.8
0	42.7	8.6	37.4	9.9	31.9	11.1	27.3	12.0
5	52.3	8.9	46.3	10.5	39.9	12.0	34.5	13.1
10	63.1	9.1	56.3	11.0	49.0	12.8	42.8	14.2

SP4HF200E/SP4HN200E

Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	13.8	5.7	10.9	6.0	9.0	6.0	-	-
-20	18.2	6.9	14.7	7.4	12.0	7.6	-	-
-15	23.9	7.9	19.8	8.6	16.3	9.1	-	-
-10	30.9	8.7	26.2	9.6	21.7	10.4	-	-
-5	39.2	9.3	33.8	10.6	28.5	11.6	24.2	12.4
0	48.8	9.8	42.7	11.4	36.4	12.7	31.3	13.7
5	59.8	10.2	52.9	12.0	45.6	13.7	39.5	15.0
10	72.1	10.4	64.4	12.6	56.0	14.7	48.9	16.2

SP4H220E

Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	15.9	7.2	12.5	8.2	10.3	9.0	-	-
-20	21.0	8.1	17.0	9.4	13.9	10.4	-	-
-15	27.6	9.0	22.9	10.4	18.8	11.8	-	-
-10	35.7	9.7	30.2	11.4	25.1	13.0	-	-
-5	45.3	10.3	39.0	12.2	32.9	14.2	28.0	15.9
0	56.4	10.9	49.3	13.0	42.1	15.3	36.1	17.2
5	69.1	11.3	61.1	13.6	52.7	16.2	45.6	18.5
10	83.3	11.6	74.4	14.1	64.7	17.0	56.5	19.7

SP4H250E

Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	18.5	8.4	14.6	9.5	12.0	10.4	-	-
-20	24.3	9.4	19.7	10.9	16.1	12.1	-	-
-15	32.0	10.4	26.5	12.1	21.8	13.7	-	-
-10	41.4	11.3	35.0	13.2	29.1	15.1	-	-
-5	52.5	12.0	45.3	14.2	38.1	16.5	32.5	18.4
0	65.4	12.6	57.2	15.0	48.8	17.7	41.9	20.0
5	80.1	13.1	70.9	15.8	61.1	18.8	52.9	21.4
10	96.6	13.5	86.3	16.4	75.1	19.8	65.5	22.8

Performance Parameters (SP*H, Refrigerant R407C)

SP4H300E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	21.2	9.6	16.7	10.9	13.8	6.5	-	-
-20	27.9	10.8	22.6	12.5	18.4	8.5	-	-
-15	36.7	11.9	30.4	13.9	25.0	10.5	-	-
-10	47.4	12.9	40.2	15.1	33.4	12.5	-	-
-5	60.2	13.8	51.9	16.2	43.7	14.6	37.3	21.1
0	75.0	14.5	65.6	17.2	55.9	16.6	48.0	22.9
5	91.9	15.0	81.3	18.1	70.1	18.6	60.6	24.6
10	110.7	15.4	98.9	18.8	86.1	22.7	75.1	26.1

SP4H350E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	25.3	11.4	20.0	13.1	16.5	14.3	-	-
-20	33.4	12.9	27.0	14.9	22.0	16.6	-	-
-15	43.8	14.3	36.3	16.6	29.9	18.7	-	-
-10	56.7	15.5	48.0	18.1	39.9	20.7	-	-
-5	72.0	16.5	62.1	19.4	52.3	22.6	44.5	25.2
0	89.7	17.3	78.4	20.6	66.9	24.3	57.4	27.4
5	109.8	17.9	97.2	21.6	83.8	25.8	72.5	29.4
10	132.4	18.4	118.3	22.5	102.9	27.1	89.8	31.3

SP6H370E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	27.7	12.5	21.8	14.3	18.0	15.6	-	-
-20	36.5	14.2	29.5	16.3	24.1	18.2	-	-
-15	48.0	15.6	39.8	18.1	32.7	20.5	-	-
-10	62.0	16.9	52.6	19.8	43.7	22.7	-	-
-5	78.8	18.0	67.9	21.3	57.2	24.7	48.7	27.6
0	98.1	18.9	85.8	22.5	73.2	26.5	62.8	30.0
5	120.2	19.6	106.3	23.7	91.7	28.2	79.3	32.2
10	144.9	20.2	129.4	24.6	112.6	29.7	98.3	34.2

SP6H400E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	31.9	14.4	26.1	16.4	20.7	17.9	-	-
-20	42.1	16.3	33.9	18.7	27.7	20.9	-	-
-15	55.1	18.0	45.7	20.8	37.5	23.6	-	-
-10	71.3	19.4	60.4	22.7	50.2	26.1	-	-
-5	90.5	20.7	78.1	24.4	65.8	28.4	56.0	31.7
0	112.8	21.7	98.7	25.9	84.1	30.5	72.2	34.4
5	138.1	22.6	122.2	27.2	105.4	32.4	94.2	37.0
10	166.5	23.2	148.8	28.2	129.4	34.1	112.9	39.3

SP6H500E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	38.1	17.2	30.0	19.6	24.7	21.4	-	-
-20	50.2	19.5	40.6	22.4	33.1	24.9	-	-
-15	65.9	21.5	54.6	24.9	44.9	28.2	-	-
-10	85.2	23.2	72.2	27.2	60.0	31.2	-	-
-5	108.2	24.7	93.3	29.2	78.6	33.9	67.0	37.9
0	134.8	26.0	117.9	31.0	100.5	36.5	86.3	41.2
5	165.1	27.0	146.1	32.5	125.9	38.7	109.0	44.2
10	199.0	27.7	177.8	33.8	154.7	40.7	135.0	47.0

SP8H600E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	46.7	20.3	41.5	21.5	33.0	21.8	-	-
-20	62.6	23.4	55.7	25.2	45.9	26.2	-	-
-15	81.1	26.1	72.3	28.6	60.7	30.4	-	-
-10	102.7	28.5	91.6	31.8	77.9	34.4	-	-
-5	127.9	30.6	114.1	34.7	98.2	38.2	85.0	40.6
0	157.1	32.3	140.5	37.3	121.9	41.9	106.8	45.1
5	191.0	33.7	171.2	39.7	149.6	45.4	132.3	49.5
10	230.0	34.7	206.6	41.9	181.8	48.6	162.1	53.8

SP8H700E								
Tc	30		40		50		58	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	55.7	24.2	49.5	25.6	39.4	26.0	-	-
-20	74.7	27.9	66.5	30.0	54.7	31.3	-	-
-15	96.8	31.2	86.3	34.1	72.4	36.3	-	-
-10	122.6	34.1	109.3	37.9	93.0	41.1	-	-
-5	152.6	36.5	136.2	41.4	117.2	45.7	101.5	48.5
0	187.5	38.6	167.7	44.6	145.5	50.0	127.5	53.9
5	228.0	40.2	204.3	47.4	178.6	54.1	157.9	59.1
10	274.5	41.4	246.7	50.0	217.0	58.1	193.5	64.2

Key:

Pf = Refrigerant capacity (kW)

Pa = Input power (kW)

Te =Evaporating temperature (℃)

Tc =Condensing temperature(℃)

50Hz = Frequency

Liquid sub cooling 5K

Suction superheat 10K

The grey area indicates the need for additional cooling (refer to application limits).

Refer to the full-load operating limits at 50Hz.

Performance data under different operating conditions can be found in the LEONARD0 selection software by

Performance Parameters (SP*L, Refrigerant R407C)

SP2L030E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	4.3	1.7	3.4	1.8	2.8	1.8	-	-
-20	5.7	2.1	4.6	2.2	3.7	2.3	3.5	2.3
-15	7.5	2.4	6.2	2.6	5.1	2.7	4.7	2.8
-10	9.6	2.6	8.2	2.9	6.8	3.1	6.3	3.2
-5	12.2	2.8	10.6	3.2	6.9	3.5	8.2	3.6

SP2L040E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	5.2	2.0	4.1	2.1	3.4	2.1	-	-
-20	6.8	2.5	5.5	2.6	4.5	2.7	4.2	2.7
-15	8.9	2.8	7.4	3.1	6.1	3.2	5.6	3.3
-10	11.6	3.1	9.8	3.4	8.2	3.7	7.5	3.8
-5	14.7	3.3	12.7	3.8	10.7	4.1	9.9	4.3

SP2L050E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	6.0	2.4	4.7	2.5	3.9	2.5	-	-
-20	7.9	2.9	6.4	3.0	5.2	3.1	4.9	3.2
-15	10.4	3.3	8.6	3.5	7.1	3.8	6.5	3.8
-10	13.5	3.6	11.4	4.0	9.5	4.3	8.8	4.4
-5	17.1	3.9	14.8	4.4	12.4	4.8	11.5	5.0

SP2L060E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	6.9	2.7	5.4	2.8	4.5	2.8	-	-
-20	9.1	3.2	7.3	3.5	6.0	3.6	5.5	3.6
-15	11.9	3.7	9.9	4.0	8.1	4.3	7.5	4.3
-10	15.4	4.1	13.1	4.5	10.9	4.9	10.0	5.0
-5	19.6	4.4	16.9	5.0	14.2	5.5	13.2	5.6

SP4LF060E/SP4LN060E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	8.6	3.9	6.8	4.4	5.6	4.9	-	-
-20	11.4	4.4	9.2	5.1	7.5	5.6	7.0	5.8
-15	14.9	4.9	12.4	5.6	10.2	6.4	9.4	6.7
-10	19.3	5.3	16.3	6.2	13.6	7.1	12.5	7.4
-5	24.5	5.6	21.1	6.6	17.8	7.7	16.5	8.1

SP4LF080E/SP4LN080E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	10.3	4.7	8.1	5.3	6.7	5.8	-	-
-20	13.6	5.3	11.0	6.1	9.0	6.8	8.4	7.0
-15	17.9	5.8	14.8	6.8	12.2	7.7	11.2	8.0
-10	23.1	6.3	19.6	7.4	16.3	8.5	15.0	8.9
-5	29.4	6.7	25.3	7.9	21.3	9.2	19.8	9.7

SP4LF100E/SP4LN100E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	12.1	5.5	9.5	6.2	7.8	6.8	7.4	7.0
-20	15.9	6.2	12.9	7.1	10.5	7.9	9.7	8.2
-15	20.9	6.8	17.3	7.9	14.2	8.9	13.1	9.3
-10	27.0	7.4	22.9	8.6	19.0	9.9	17.6	10.4
-5	34.3	7.8	29.6	9.3	24.9	10.8	23.1	11.4

SP4LF120E/SP4LN120E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	13.8	6.2	10.9	7.1	9.0	7.8	-	-
-20	18.2	7.0	14.7	8.1	12.0	9.0	11.1	9.4
-15	23.9	7.8	19.8	9.0	16.3	10.2	15.0	10.7
-10	30.9	8.4	26.2	9.8	21.7	11.3	20.1	11.9
-5	39.2	9.0	33.8	10.6	28.5	12.3	26.3	13.0

SP4L150E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	15.9	7.2	12.5	8.2	10.3	9.0	-	-
-20	21.0	8.1	17.0	9.4	13.9	10.4	12.9	10.8
-15	27.6	9.0	22.9	10.4	18.8	11.8	17.3	12.3
-10	35.7	9.7	30.2	11.4	25.1	13.0	23.2	13.7
-5	45.3	10.3	39.0	12.2	32.9	14.2	30.4	15.0

SP4L180E								
Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	18.5	8.4	14.6	9.5	12.0	10.4	-	-
-20	24.3	9.4	19.7	10.9	16.1	12.1	14.9	12.5
-15	32.0	10.4	26.5	12.1	21.8	13.7	20.1	14.3
-10	41.4	11.3	35.0	13.2	29.1	15.1	26.9	15.9
-5	52.5	12.0	45.3	14.2	38.1	16.5	35.3	17.4

Performance Parameters (SP*L, Refrigerant R407C)

SP4L220E

Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	21.2	9.6	16.7	10.9	13.8	11.9	-	-
-20	27.9	10.8	22.6	12.5	18.4	13.9	17.1	14.4
-15	36.7	11.9	30.4	13.9	25.0	15.7	23.0	16.4
-10	47.4	12.9	40.2	15.1	33.4	17.4	30.8	18.2
-5	60.2	13.8	51.9	16.2	43.7	18.9	40.5	20.0

SP4L250E

Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	25.5	11.5	20.1	13.2	16.6	14.4	-	-
-20	33.6	13.0	27.2	15.0	22.2	16.7	20.6	17.3
-15	44.1	14.4	36.6	16.7	30.0	18.9	27.7	19.7
-10	57.1	15.5	48.3	18.2	40.2	20.9	37.1	21.9
-5	72 4	16.6	62.5	19.5	52.6	22.7	48.7	24.0

SP6L270E

Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	27.7	12.5	21.8	14.3	18.0	15.6	-	-
-20	36.5	14.2	29.5	16.3	24.1	18.2	22.4	18.8
-15	48.0	15.6	39.8	18.1	32.7	20.5	30.1	21.4
-10	62.0	16.9	52.6	19.8	43.7	22.7	40.3	23.9
-5	78.8	18.0	67.9	21.3	57.2	24.7	53.0	26.1

SP6L300E

Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	31.9	14.4	25.1	16.4	20.7	17.9	-	-
-20	42.0	16.3	33.9	18.7	27.7	20.9	25.7	21.6
-15	55.1	18.0	45.7	20.8	37.5	23.6	34.6	24.6
-10	71.3	19.4	60.4	22.7	50.2	26.1	46.4	27.4
-5	90.5	20.7	78.1	24.4	65.8	28.4	60.9	30.0

SP6L400E

Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	38.2	17.3	30.1	19.7	24.8	21.5	-	-
-20	50.4	19.5	40.7	22.5	33.2	25.0	30.9	25.9
-15	66.2	21.6	54.9	25.0	45.1	28.3	41.6	29.5
-10	85.6	23.3	72.5	27.3	60.3	31.3	55.6	32.9
-5	108.6	24.8	93.7	29.3	78.9	34.1	73.0	36.0

SP8L500E

Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	46.7	20.3	41.5	21.5	33.0	21.8	-	-
-20	62.6	23.4	55.7	25.2	45.9	26.2	41.5	26.4
-15	81.1	26.1	72.3	28.6	60.7	30.4	55.7	30.9
-10	102.7	28.5	91.6	31.8	77.9	34.4	72.2	35.3
-5	127.9	30.6	114.1	34.7	98.2	38.2	91.6	39.5

SP8L600E

Tc	30		40		50		54	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	55.7	24.2	49.5	25.6	39.4	26.0	-	-
-20	74.7	27.9	66.5	30.0	54.7	31.3	49.5	31.5
-15	96.8	31.2	86.3	34.1	72.4	36.3	66.4	36.9
-10	122.6	34.1	109.3	37.9	93.0	41.1	86.2	42.1
-5	152.6	36.5	136.2	41.4	117.2	45.7	109.3	47.1

Key:

Pf = Refrigerant capacity (kW)

Pa = Input power (kW)

Te =Evaporating temperature (℃)

Tc =Condensing temperature(℃)

50Hz = Frequency

Liquid sub cooling 5K

Suction superheat 10K

The grey area indicates the need for additional cooling (refer to application limits).

Refer to the full-load operating limits at 50Hz.

Performance data under different operating conditions can be found in the LEONARD0 selection software by

Performance Parameters (SP*H, Refrigerant R507A)

SP2H050E

Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	6.1	3.0	4.9	3.0	3.6	2.9	-	-
-20	7.8	3.2	6.3	3.4	4.8	3.4	-	-
-15	9.7	3.5	8.0	3.7	6.2	3.8	5.2	3.8
-10	11.9	3.6	10.0	4.0	7.9	4.2	6.7	4.2
-5	14.5	3.8	12.3	4.2	9.9	4.5	8.6	4.6
0	17.4	3.9	15.0	4.4	12.2	4.8	10.7	4.9
5	20.7	3.9	17.9	4.6	14.8	5.1	13.1	5.3

SP2H060E

Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	7.3	3.5	5.9	3.6	4.4	3.5	-	-
-20	9.3	3.9	7.6	4.1	5.7	4.1	-	-
-15	11.6	4.1	9.6	4.4	7.4	4.6	6.3	4.5
-10	14.3	4.4	12.0	4.8	9.4	5.0	8.1	5.0
-5	17.4	4.5	14.8	5.1	11.8	5.4	10.3	5.5
0	20.9	4.6	17.9	5.3	14.6	5.8	12.8	5.9
5	24.8	4.7	21.5	5.5	17.8	6.1	15.8	6.3

SP2H080E

Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	8.6	4.1	6.9	4.2	5.1	4.1	-	-
-20	10.9	4.5	8.8	4.7	6.7	4.7	-	-
-15	13.6	4.8	11.2	5.2	8.6	5.3	7.3	5.3
-10	16.7	5.1	14.0	5.6	11.0	5.8	9.4	5.9
-5	20.3	5.3	17.2	5.9	13.8	6.3	12	6.4
0	24.4	5.4	20.9	6.2	17.0	6.7	15	6.9
5	28.9	5.5	25.1	6.4	20.7	7.1	18.4	7.4

SP2H090E

Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	9.3	4.6	7.6	4.8	6.0	5.0	-	-
-20	12.1	5.0	9.9	5.4	7.8	5.7	-	-
-15	15.6	5.4	12.9	5.9	10.2	6.4	8.8	6.6
-10	19.8	5.7	16.6	6.4	13.3	7.0	11.6	7.3
-5	24.9	5.9	21.0	6.8	17.1	7.6	15.0	7.9
0	30.6	6.0	26.1	7.1	21.5	8.1	19.0	8.5
5	37.0	6.1	31.8	7.3	26.4	8.5	23.6	9.0

SP4HF100E/SP4HN100E

Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	11.8	5.4	9.6	5.6	7.2	5.6	-	-
-20	15.1	6.0	12.4	6.3	9.5	6.5	-	-
-15	18.9	6.5	15.8	7.0	12.3	7.3	10.4	7.4
-10	23.5	6.9	19.8	7.7	15.7	8.1	13.5	8.3
-5	28.6	7.3	24.4	8.2	19.6	8.9	17.1	9.1
0	34.5	7.6	29.7	8.7	24.3	9.5	21.3	9.8
5	41.2	7.8	35.7	9.1	29.5	10.1	26.2	10.5

SP4HF120E/SP4HN120E

Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	14.2	6.4	11.5	6.7	8.6	6.7	-	-
-20	18.1	7.2	14.9	7.6	11.4	7.8	-	-
-15	22.7	7.8	18.9	8.4	14.7	8.8	12.5	8.9
-10	28.1	8.3	23.7	9.2	18.8	9.8	16.2	9.9
-5	34.4	8.8	29.3	9.9	23.6	10.6	20.5	10.9
0	41.4	9.1	35.6	10.4	29.1	11.4	25.6	11.8
5	49.4	9.4	42.8	10.9	35.4	12.1	31.5	12.6

SP4HF150E/SP4HN150E

Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	16.6	7.5	13.5	7.8	10.1	7.8	-	-
-20	21.1	8.4	17.4	8.9	13.3	9.1	-	-
-15	26.5	9.1	22.1	9.8	17.2	10.3	14.6	10.4
-10	32.8	9.7	27.7	10.7	21.9	11.4	18.9	11.6
-5	40.1	10.2	34.1	11.5	27.5	12.4	24.0	12.7
0	48.3	10.7	41.6	12.2	34.0	13.3	29.9	13.8
5	57.6	11.0	49.9	12.8	41.4	14.2	36.7	14.7

SP4HF200E/SP4HN200E

Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	19.0	8.6	15.4	8.9	11.5	8.9	-	-
-20	24.1	9.5	19.8	10.1	15.1	10.4	-	-
-15	30.3	10.4	25.3	11.3	19.6	11.8	16.7	11.9
-10	37.5	11.1	31.6	12.3	25.1	13.0	21.6	13.2
-5	45.8	11.7	39.0	13.1	31.4	14.2	27.4	14.5
0	55.2	12.2	47.5	13.9	38.8	15.2	34.2	15.7
5	65.8	12.5	57.1	14.6	47.3	16.2	42.0	16.8

SP4H220E

Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	21.8	9.8	17.7	10.4	13.5	10.9	-	-
-20	27.5	10.9	22.8	11.8	17.9	12.5	-	-
-15	34.5	11.9	29.1	13.0	23.2	14.0	20.2	14.5
-10	42.8	12.7	36.5	14.1	29.6	15.3	25.9	16.0
-5	52.4	13.3	45.1	15.0	37.0	16.6	32.7	17.4
0	63.5	13.9	55.1	15.9	45.6	17.8	40.5	18.7
5	76.1	14.3	66.3	16.6	55.4	18.8	49.5	19.9

SP4H250E

Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	25.3	11.4	20.5	12.1	15.7	12.7	-	-
-20	31.9	12.7	26.5	13.7	20.8	14.5	-	-
-15	40.0	13.8	33.7	15.0	26.9	16.2	23.4	16.8
-10	49.6	14.7	42.3	16.3	34.3	17.8	30.1	18.5
-5	60.8	15.5	52.4	17.4	43.0	19.2	37.9	20.1
0	73.7	16.1	63.9	18.4	52.9	20.6	47.0	21.7
5	88.3	16.5	76.9	19.3	64.2	21.8	57.4	23.1

Performance Parameters (SP*H, Refrigerant R507A)

SP4H300E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	29.0	13.1	23.5	13.9	18.0	14.6	-	-
-20	36.6	14.5	30.4	15.7	23.8	16.7	-	-
-15	45.9	15.8	38.7	17.3	30.9	18.6	26.8	19.3
-10	56.9	16.9	48.5	18.7	39.4	20.4	34.5	21.2
-5	69.7	17.7	60.0	20.0	49.3	22.1	43.5	23.1
0	84.5	18.4	73.2	21.1	60.7	23.6	53.9	24.9
5	101.2	19.0	88.2	22.1	73.7	25.0	65.8	26.5

SP4H350E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	35.0	15.8	28.4	16.7	21.6	17.5	-	-
-20	44.1	17.5	36.6	18.8	28.6	20.0	-	-
-15	55.2	19.0	46.5	20.8	37.1	22.3	32.2	23.1
-10	68.3	20.2	58.3	22.4	47.2	24.5	41.3	25.5
-5	83.6	21.3	72.0	23.9	59.0	26.4	52.1	27.7
0	101.2	22.1	87.7	25.3	72.6	28.3	64.5	29.7
5	121.1	22.7	105.6	26.4	88.1	30.0	78.7	31.7

SP6H370E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	37.9	17.1	30.8	18.1	23.6	19.1	-	-
-20	47.9	19.0	39.7	20.5	31.1	21.8	-	-
-15	60.0	20.7	50.6	22.6	40.4	24.3	35.1	25.2
-10	74.4	22.0	63.5	24.4	51.5	26.7	45.1	27.8
-5	91.2	23.2	78.5	26.1	64.4	28.9	56.9	30.2
0	110.5	24.1	95.8	27.6	79.4	30.9	70.5	32.5
5	132.4	24.8	115.4	28.9	96.4	32.8	86.1	34.7

SP6H400E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	43.6	19.7	35.4	20.9	27.1	21.9	-	-
-20	55.0	21.9	45.6	23.5	35.8	25.1	-	-
-15	69.0	23.7	58.1	26.0	46.5	28.0	40.3	29.0
-10	85.5	25.3	73.0	28.1	59.2	30.7	51.9	32.0
-5	104.9	26.7	90.3	30.0	74.1	33.2	65.4	34.7
0	127.1	27.7	110.1	31.7	91.2	35.5	81.1	37.4
5	152.2	28.5	132.7	33.2	110.8	37.7	99.0	39.9

SP6H500E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	52.4	23.6	42.5	25.0	32.5	26.2	-	-
-20	66.1	26.3	54.8	28.3	42.9	30	-	-
-15	82.7	28.5	69.8	31.1	55.7	33.5	48.3	34.7
-10	102.5	30.4	87.5	33.7	70.9	36.7	62.1	38.2
-5	125.6	31.9	108.1	36.0	88.6	39.7	78.2	41.6
0	152.0	33.2	131.8	38.0	109.1	42.5	96.9	44.7
5	182.0	34.1	158.6	39.7	132.4	45.0	118.3	47.6

SP8H600E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	68.0	29.0	49.5	29.5	37.4	29.2	-	-
-20	83.6	31.8	64.1	33.3	50.1	33.9	-	-
-15	102.2	34.5	81.3	37.0	64.9	38.7	56.9	38.9
-10	124.2	36.8	101.5	40.6	82.4	43.4	72.6	44.2
-5	150.1	38.9	125.0	43.9	102.7	48.0	91.1	49.5
0	180.1	40.4	152.3	46.9	126.4	52.4	112.6	54.7
5	214.7	41.5	183.7	49.5	153.8	56.7	137.7	59.7

SP8H700E								
Tc	30		40		50		55	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-25	81.1	34.6	59.1	35.3	44.6	34.8	-	-
-20	99.7	38.0	76.5	39.8	59.8	40.5	-	-
-15	122.0	41.2	97.0	44.2	77.5	46.1	67.9	46.5
-10	148.3	44.0	121.1	48.4	98.3	51.8	86.7	52.8
-5	179.1	46.4	149.2	52.4	122.6	57.3	108.7	59.1
0	215.0	48.3	181.8	56.0	150.9	62.6	134.4	65.3
5	256.3	49.6	219.3	59.1	183.6	67.6	164.4	71.3

Key:

Pf = Refrigerant capacity (kW)

Pa = Input power (kW)

Te =Evaporating temperature (℃)

Tc =Condensing temperature(℃)

50Hz = Frequency

Liquid sub cooling 5K

Suction superheat 10K

The grey area indicates the need for additional cooling (refer to application limits).

Refer to the full-load operating limits at 50Hz.

Performance data under different operating conditions can be found in the LEONARD0 selection software by

Performance Parameters (SP*L, Refrigerant R507A)

SP2L030E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	2.5	1.9	1.9	1.9	1.4	1.8	-	-
-35	3.5	2.3	2.8	2.3	2.1	2.3	-	-
-30	4.7	2.6	3.8	2.6	2.9	2.7	2.7	2.7
-25	6.1	2.9	4.9	3	3.8	3.2	3.6	3.2
-20	7.7	3.2	6.3	3.4	5	3.6	4.7	3.6
-15	9.6	3.4	8	3.8	6.4	4	6.1	4.1
-10	11.9	3.6	10	4.1	8.2	4.5	7.8	4.6
-6	14.1	3.8	12	4.3	9.9	4.8	-	-

SP2L040E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	3	2.3	2.2	2.2	1.6	2.2	-	-
-35	4.3	2.7	3.3	2.7	2.5	2.7	-	-
-30	5.7	3.1	4.5	3.2	3.5	3.2	3.3	3.2
-25	7.3	3.5	5.9	3.6	4.6	3.8	4.4	3.8
-20	9.2	3.8	7.5	4.1	6	4.3	5.7	4.3
-15	11.5	4.1	9.5	4.5	7.7	4.8	7.3	4.9
-10	14.2	4.4	12	4.9	9.8	5.3	9.3	5.4
-6	16.9	4.5	14.3	5.2	11.8	5.8	-	-

SP2L050E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	3.5	2.6	2.6	2.6	1.9	2.5	-	-
-35	5	3.1	3.9	3.1	2.9	3.1	-	-
-30	6.6	3.6	5.3	3.7	4.1	3.7	3.8	3.8
-25	8.5	4	6.9	4.2	5.4	4.4	5.1	4.4
-20	10.7	4.4	8.8	4.7	7	5	6.6	5
-15	13.4	4.7	11.1	5.2	8.9	5.6	8.5	5.7
-10	16.6	5.1	14	5.7	11.4	6.2	10.9	6.3
-6	19.7	5.3	16.7	6	13.8	6.7	-	-

SP2L060E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	4	3	3	2.9	2.2	2.9	-	-
-35	5.7	3.6	4.4	3.6	3.4	3.6	-	-
-30	7.6	4.1	6	4.2	4.6	4.3	4.4	4.3
-25	9.7	4.6	7.9	4.8	6.1	5	5.8	5
-20	12.3	5	10.1	5.4	8	5.7	7.5	5.7
-15	15.3	5.4	12.7	5.9	10.2	6.4	9.7	6.5
-10	19	5.7	16	6.4	13	7.1	12.5	7.2
-6	22.5	6	19.1	6.8	15.8	7.6	-	-

SP4LF060E/SP4LN060E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	5.2	3.4	4.0	3.4	2.7	3.3	-	-
-35	6.9	4.0	5.4	4.1	3.8	4.2	-	-
-30	9.2	4.6	7.3	4.9	5.3	5.1	5.0	5.1
-25	11.9	5.2	9.7	5.6	7.4	6.0	6.9	6.1
-20	15.1	5.8	12.5	6.3	9.9	6.8	9.4	6.9
-15	18.8	6.4	15.9	7.0	12.9	7.7	12.3	7.8
-10	23.0	6.9	19.8	7.7	16.4	8.5	15.7	8.7
-6	26.8	7.3	23.2	8.2	19.5	9.1	-	-

SP4LF080E/SP4LN080E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	6.2	4.1	4.8	4.0	3.3	4.0	-	-
-35	8.3	4.8	6.5	4.9	4.6	5.1	-	-
-30	11.0	5.6	8.7	5.8	6.4	6.1	5.9	6.2
-25	14.3	6.3	11.6	6.7	8.9	7.2	8.3	7.3
-20	18.1	7.0	15.0	7.6	11.9	8.2	11.2	8.3
-15	22.6	7.7	19.1	8.4	15.5	9.2	14.8	9.4
-10	27.7	8.3	23.7	9.2	19.7	10.2	18.8	10.4
-6	32.1	8.8	27.8	9.9	23.4	11.0	-	-

SP4LF100E/SP4LN100E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	7.3	4.7	5.6	4.7	3.8	4.6	-	-
-35	9.7	5.6	7.5	5.8	5.3	5.9	-	-
-30	12.8	6.5	10.2	6.8	7.5	7.1	6.9	7.2
-25	16.6	7.3	13.5	7.8	10.3	8.4	9.7	8.5
-20	21.1	8.1	17.5	8.8	13.9	9.6	13.1	9.7
-15	26.4	8.9	22.3	9.8	18.1	10.7	17.2	10.9
-10	32.3	9.7	27.7	10.8	22.9	11.9	22.0	12.1
-6	37.5	10.3	32.5	11.5	27.3	12.8	-	-

SP4LF120E/SP4LN120E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	8.3	5.4	6.4	5.4	4.4	5.3	-	-
-35	11.1	6.4	8.6	6.6	6.1	6.7	-	-
-30	14.6	7.4	11.6	7.8	8.6	8.2	7.9	8.2
-25	19.0	8.4	15.5	9.0	11.8	9.6	11.1	9.7
-20	24.2	9.3	20.1	10.1	15.8	10.9	15.0	11.1
-15	30.1	10.2	25.4	11.2	20.6	12.3	19.7	12.5
-10	36.9	11.1	31.6	12.3	26.2	13.6	25.1	13.9
-6	42.9	11.7	37.1	13.2	31.2	14.6	-	-

SP4L150E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	9.6	6.2	7.4	6.2	5.0	6.1	-	-
-35	12.8	7.4	10.0	7.6	7.0	7.8	-	-
-30	16.9	8.6	13.5	9.0	9.9	9.4	9.2	9.5
-25	22.0	9.7	17.9	10.4	13.6	11.0	12.8	11.2
-20	27.9	10.8	23.2	11.7	18.3	12.6	17.3	12.8
-15	34.8	11.8	29.4	13.0	23.9	14.2	22.7	14.4
-10	42.6	12.8	36.5	14.2	32.3	15.7	29.0	16.0
-6	49.5	13.6	42.9	15.2	36.1	16.9	-	-

SP4L180E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	11.1	7.2	8.6	7.2	5.8	7.1	-	-
-35	14.8	8.6	11.6	8.8	8.1	9.0	-	-
-30	19.6	9.9	15.6	10.4	11.5	10.9	10.6	11.0
-25	25.5	11.2	20.7	12.0	15.8	12.8	14.8	13.0
-20	32.4	12.5	26.9	13.5	21.2	14.7	20.1	14.9
-15	40.4	13.7	34.1	15.0	27.7	16.5	26.4	16.7
-10	49.4	14.8	42.4	16.5	35.1	18.2	33.7	18.6
-6	57.4	15.7	49.7	17.6	41.9	19.6	-	-

Performance Parameters (SP*L, Refrigerant R507A)

SP4L220E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	12.8	8.3	9.8	8.2	6.7	8.1	-	-
-35	17.0	9.9	13.3	10.1	9.3	10.4	-	-
-30	22.5	11.4	17.9	12.0	13.1	12.5	12.2	12.7
-25	29.2	12.9	23.8	13.8	18.1	14.7	17.0	14.9
-20	37.1	14.3	30.8	15.5	24.3	16.8	23.0	17.1
-15	46.3	15.7	39.1	17.2	31.7	18.9	30.2	19.2
-10	56.7	17.0	48.6	18.9	40.3	20.9	38.6	21.3
-6	65.9	18.0	57.0	20.2	48.0	22.5	-	-

SP4L250E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	15.4	10.0	11.8	9.9	8.1	9.8	-	-
-35	20.5	11.9	15.9	12.2	11.2	12.5	-	-
-30	27.1	13.7	21.5	14.4	15.8	15.1	14.6	15.2
-25	35.1	15.5	28.6	16.6	21.8	17.7	20.5	17.9
-20	44.7	17.2	37.1	18.7	29.3	20.2	27.7	20.5
-15	55.7	18.9	47.0	20.7	38.2	22.7	36.4	23.1
-10	68.2	20.5	58.4	22.8	48.5	25.1	46.5	25.6
-6	79.2	21.7	68.6	24.3	57.8	27.1	-	-

SP6L270E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	16.7	10.9	12.8	10.8	8.8	10.6	-	-
-35	22.3	12.9	17.3	13.3	12.2	13.5	-	-
-30	29.4	14.9	23.4	15.7	17.2	16.4	15.9	16.6
-25	38.2	16.9	31.1	18.0	23.7	19.2	22.3	19.5
-20	48.6	18.7	40.3	20.3	31.8	22.0	30.1	22.3
-15	60.6	20.5	51.1	22.6	41.5	24.7	39.5	25.1
-10	74.1	22.3	63.5	24.7	52.7	27.3	50.5	27.9
-6	86.2	23.6	74.6	26.4	62.8	29.4	-	-

SP6L300E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	19.2	12.5	14.8	12.4	10.1	12.2	-	-
-35	25.6	14.9	19.9	15.2	14.0	15.6	-	-
-30	33.8	17.2	26.9	18.0	19.8	18.9	18.3	19.0
-25	43.9	19.4	35.7	20.7	27.3	22.1	25.6	22.4
-20	55.8	21.5	46.3	23.4	36.6	25.3	34.6	25.7
-15	69.6	23.6	58.8	25.9	47.7	28.4	45.5	28.9
-10	85.2	25.6	73.0	28.4	60.6	31.4	58.1	32.0
-6	99.0	27.1	85.8	30.4	72.2	33.8	-	-

SP6L400E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	23.1	15.0	17.7	14.9	12.1	14.7	-	-
-35	30.7	17.8	23.9	18.3	16.8	18.7	-	-
-30	40.6	20.6	32.3	21.6	23.7	22.6	22.0	22.8
-25	52.7	23.2	42.9	24.9	32.8	26.5	30.7	26.9
-20	67.0	25.8	55.6	28.0	43.9	30.3	41.6	30.8
-15	83.5	28.3	70.5	31.1	57.2	34.1	54.6	34.7
-10	102.3	30.7	87.7	34.1	72.7	37.7	69.7	38.4
-6	118.8	32.5	102.9	36.5	86.6	40.6	-	-

SP8L500E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	34.8	20.6	17.6	18.5	9.2	15.8	-	-
-35	43.8	22.8	26.6	21.6	17.3	19.7	-	-
-30	54.7	25.5	37.1	25.2	26.5	24.2	24.8	23.6
-25	67.8	28.4	49.4	29.1	37.2	29.1	35.0	28.8
-20	83.4	31.4	63.9	33.2	49.7	34.3	47.1	34.2
-15	101.9	34.2	81.0	37.3	64.5	39.6	61.3	39.7
-10	123.7	36.8	101.0	41.2	81.8	44.8	78.0	45.1
-6	143.8	38.5	119.4	44.0	97.8	48.7	-	-

SP8L600E								
Tc	30		40		50		52	
Te	Pf	Pa	Pf	Pa	Pf	Pa	Pf	Pa
-40	41.6	24.5	21.1	22.1	11.0	18.9	-	-
-35	52.3	27.2	31.8	25.8	20.7	23.5	-	-
-30	65.3	30.4	44.3	30.0	31.6	28.9	29.6	28.2
-25	80.9	33.9	59.0	34.7	44.4	34.8	41.8	34.4
-20	99.5	37.4	76.3	39.6	59.3	41.0	56.2	40.8
-15	121.6	40.9	96.7	44.5	76.9	47.3	73.1	47.4
-10	147.7	43.9	120.6	49.1	97.7	53.4	93.1	53.9
-6	171.7	46.0	142.6	52.5	116.7	58.2	-	-

Key:

Pf = Refrigerant capacity (kW)

Pa = Input power (kW)

Te =Evaporating temperature (℃)

Tc =Condensing temperature(℃)

50Hz = Frequency

Liquid sub cooling 5K

Suction superheat 10K

The grey area indicates the need for additional cooling (refer to application limits).

Refer to the full-load operating limits at 50Hz.

Performance data under different operating conditions can be found in the LEONARD0 selection software by

Product Supply

Standard accessories items:

- SP2 Star-connected motors (400V / 3 / 50Hz) or Delta-connected motors (230V / 3 / 50Hz);
- Part-winding start motors (400V / 3 / 50Hz or 460V / 3 / 60Hz);
- Crankcase Heater;
- Discharge shut-off valve;
- Suction shut-off valve;
- Spring vibration damper (Rubber vibration damper for SP2 and SP8);
- Direct on-line (DOL);
- Safety valve;
- Oil sight glass;
- Oil filter (for compressors with oil pump only);
- Oil charge;
- PTC Protective Thermistor;
- INT69 protection module (230V / 1 / 50 or 60Hz) (except for SP2);
- INT69B2 protection module (230V / 1 / 50 or 60Hz) (for models other than SP2);
- IP54 terminal box.

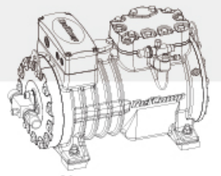
Optional accessories:

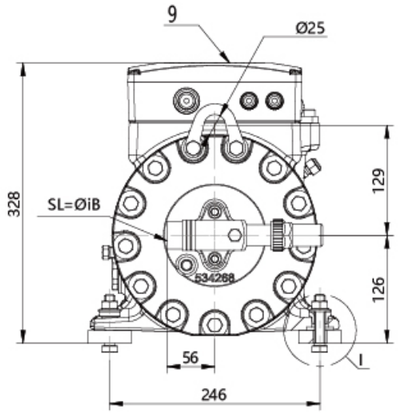
- SP2 Star-connected motors (400V / 3 / 50Hz) or Delta-connected motors (230V / 3 / 50Hz);
- Star-Delta started motors (400V / 3 / 50Hz or 460V / 3 / 60Hz);
- Special voltages motor;
- Oil pressure differential switch assembly (for forced lubricated compressors only);
- Photoelectric oil level switch assembly (for splash lubricated compressors only);
- CR capacity regulation assembly;
- SU start unloading assembly;
- Liquid spray kit (except SP2);
- Fan assembly (except SP8);
- Discharge temperature probe assembly;
- Oil charging valve;
- Compressor parallel connection connection;
- Special packaging.

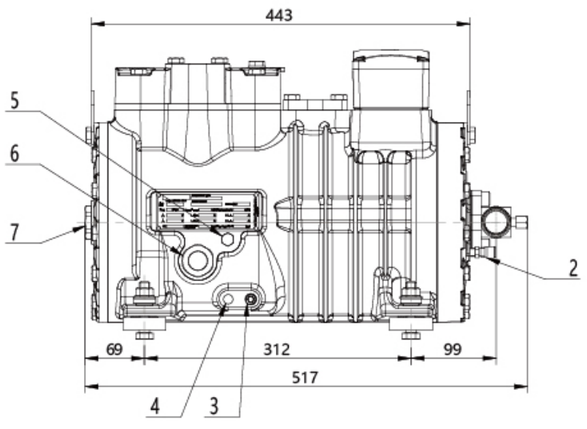
Compressor Type	Energy Regulation Stage	Energy Regulation Point	Energy Regulation Stage	Energy Regulation Point
2缸	-	-	-	-
4缸	1	50%	-	-
6缸	1	66%	2	66%-33%
8缸	1	75%	2	75%-50%

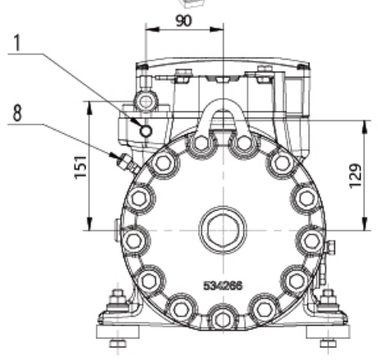
The standard electrical specifications for the compressor's electronic accessories (electronic protection module, crankcase heater, CR, SU solenoid valve coil) are 230V AC 50/60Hz. For special voltage requirements, please consult RefComp.

SP2L0300/SP2L030E、SP2L0400/SP2L040E、SP2L(H)0500/SP2L050E、SP2L(H)0600/SP2L060E





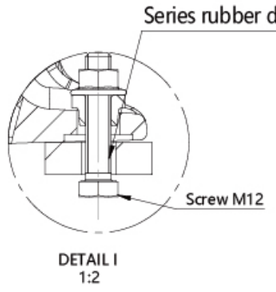


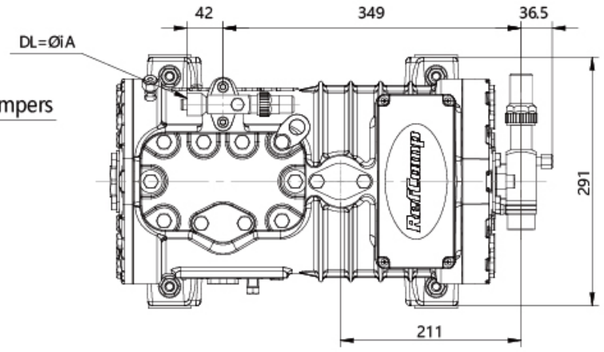


	Serie/Type					
	SP2L0300/030E	SP2L0400/040E	SP2L0500/050E	SP2L0600/060E	SP2H0500/050E	SP2H0600/060E
Ø iA	16-5/8"	16-5/8"	22-7/8"	22-7/8"	16-5/8"	16-5/8"
Ø iB	28-1 1/8"	28-1 1/8"	28-1 1/8"	28-1 1/8"	28-1 1/8"	28-1 1/8"

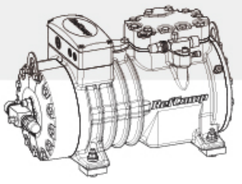
Key

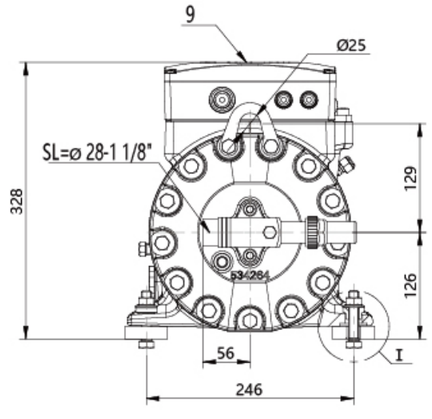
1	High pressure 1/4"SAE-FLARE Discharge temperature sensor 1/8"NPT(optional
2	Low pressure 1/4"SAE-FLARE
3	0il drain 1/4"NPT
4	Crankcase heater
5	0il charging 1/4"NPT
6	0il sight glass
7	Plug 1 1/8"-18UNEF Oil level sensor(optional)
8	Low pressure 1/4"SAE-FLARE
9	Electrical box
DL) Discharge shut-of value	
SL) Suction shut-off value	

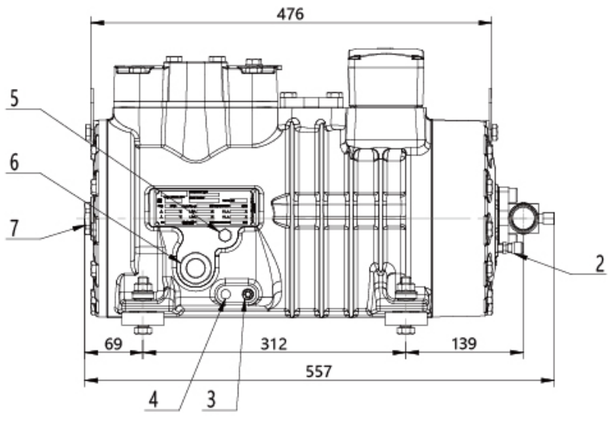


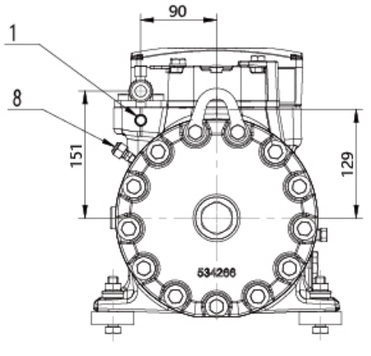


SP2H0800/SP2H080E、SP2H0900/SP2H090E



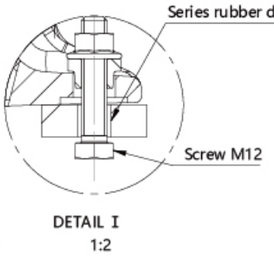


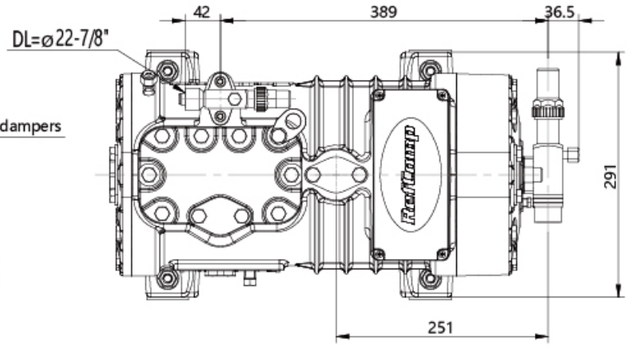




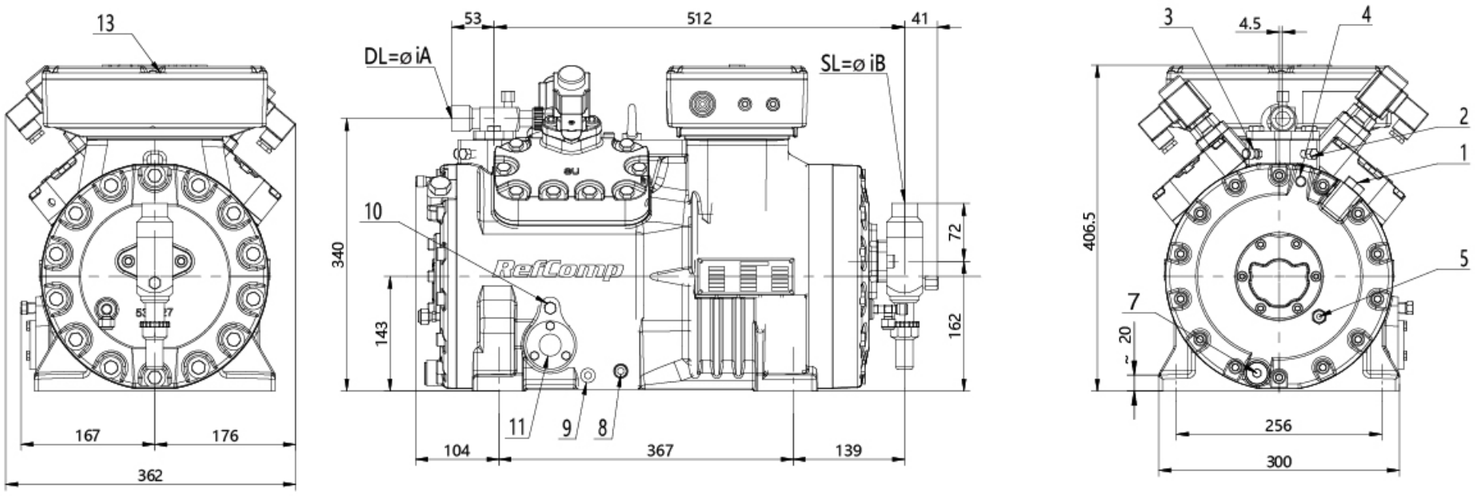
Key

1	High pressure 1/4"SAE-FLARE Discharge temperature sensor 1/8"NPT(optional
2	Low pressure 1/4"SAE-FLARE
3	0il drain 1/4"NPT
4	Crankcase heater
5	0il charging 1/4"NPT
6	0il sight glass
7	Plug 1 1/8"-18UNEF Oil level sensor(optional)
8	Low pressure 1/4"SAE-FLARE
9	Electrical box
DL) Discharge shut-of value	
SL) Suction shut-off value	





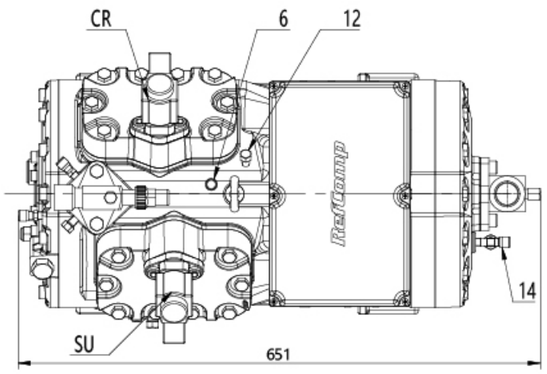
SP4LF0600/SP4LF060E、SP4LF0800/SP4LF080E、SP4L(H)F1000/SP4L(H)F100E、SP4L(H)F1200/SP4L(H)F120E



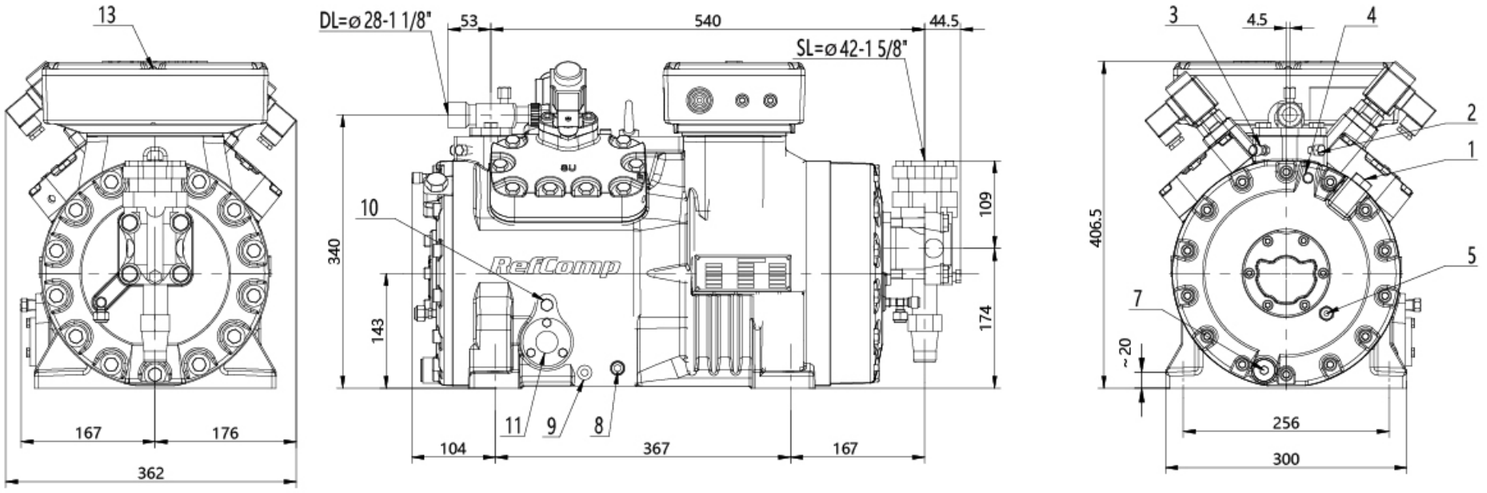
Key

1	Electronic oil pressure switch connection
2	Discharge temperature sensor 1/8"NPT
3	High pressure 1/8"NPT
4	0il high pressure 1/4"SAE-FLARE
5	Oi low pressure 1/4"SAE-FLARE
6	Low pressure 1/8"NPT
7	Oil strainer plug M22x1.5
8	0il drain 3/8"NPT
9	Crankcase heater
10	Oil charging 1/4"NPT
11	Oil sight glass
12	LCM injection connection 1/8"NPT
13	Elecinical box
14	Low pressure 1/4"SAE-FLARE
DL) Discharge shut-off value	
SL) Suction shutoff value	
CR) Capacity regulator	
SU) Start unloader	

Serie/Type	Ø iA	Ø iB
SP4LF0600/060E	22-7/8"	28-1 1/8"
SP4LF0800/080E	28-1 1/8"	35-1 3/8"
SP4LF1000/100E	28-1 1/8"	35-1 3/8"
SP4LF1200/120E	28-1 1/8"	35-1 3/8"
SP4HF1000/100E	22-7/8"	28-1 1/8"
SP4HF1200/120E	28-1 1/8"	35-1 3/8"

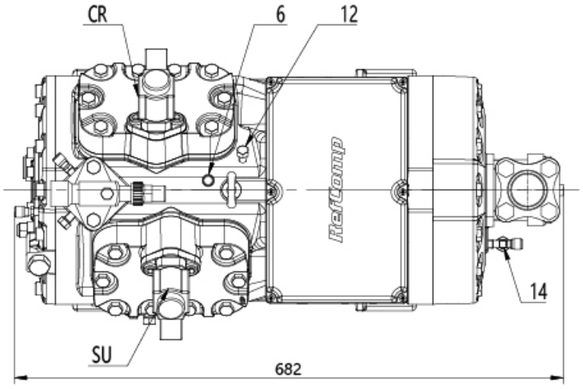


SP4HF1500/SP4HF150E、SP4HF2000/SP4HF200E

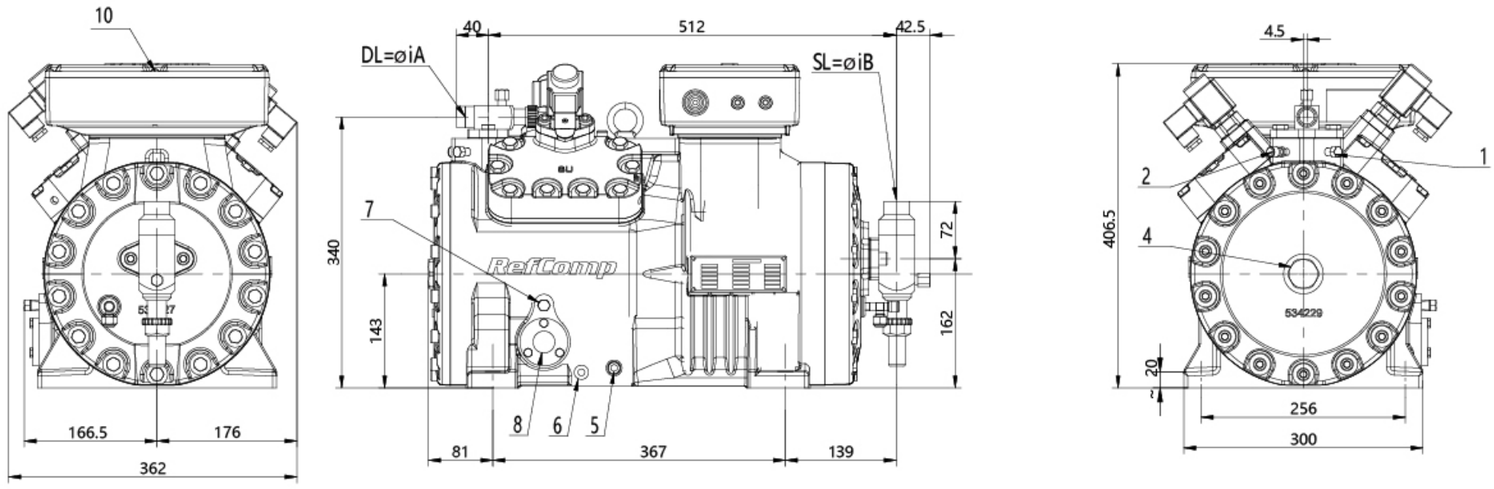


Key

1	Electronic oil pressure switch connection
2	Discharge temperature sensor 1/8"NPT
3	High pressure 1/8"NPT
4	0il high pressure 1/4"SAE-FLARE
5	Oi low pressure 1/4"SAE-FLARE
6	Low pressure 1/8"NPT
7	Oil strainer plug M22x1.5
8	0il drain 3/8"NPT
9	Crankcase heater
10	Oil charging 1/4"NPT
11	Oil sight glass
12	LCM injection connection 1/8"NPT
13	Elecinical box
14	Low pressure 1/4"SAE-FLARE
DL) Discharge shut-off value	
SL) Suction shutoff value	
CR) Capacity regulator	
SU) Start unloader	



SP4LN0600/SP4LN060E、SP4LN0800/SP4LN080E、SP4L(H)N1000/SP4L(H)N100E、SP4L(H)N1200/SP4L(H)N120E

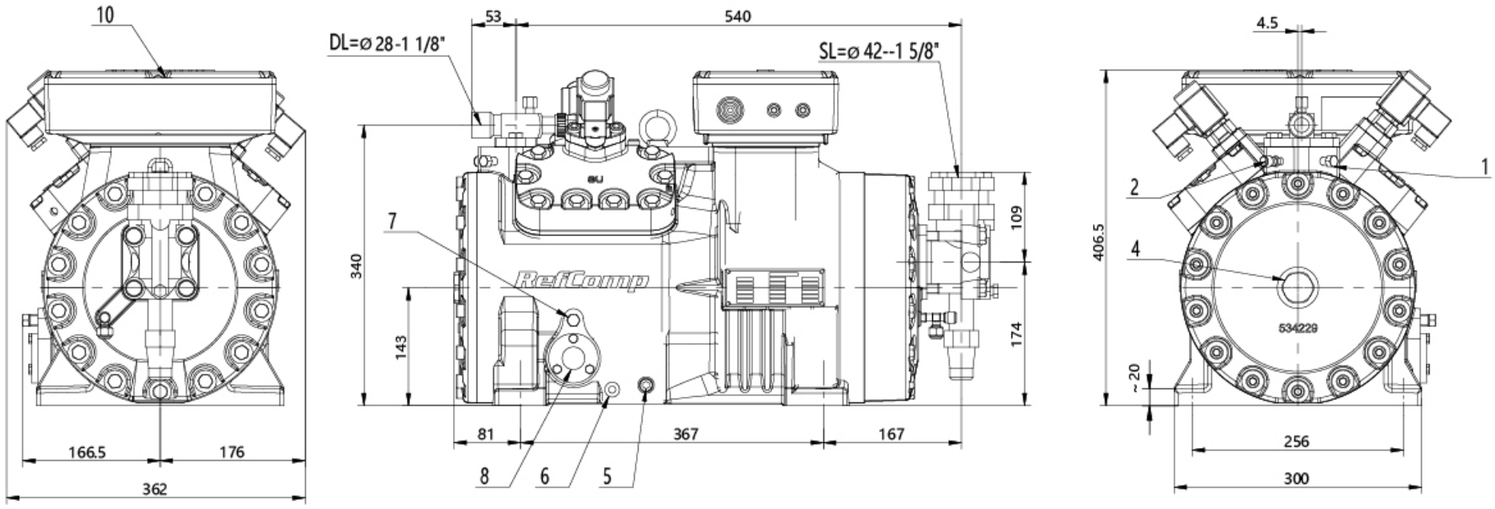


Kev

1	Discharge temperature sensor 1/8"NPT
2	High pressure 1/8'NPT
3	Low pressure 1/8"NPT
4	PUg 1 1/8-18UNEF0il level sensor(optional
5	Oil drain 3/8 'NPT
6	Crankcase heater
7	0il charging 1/4"NPT
8	Oil sight glass
9	LCM injection connection 1/8"NPT
10	Electrical box
11	Low pressure 1/4"SAE-FLARE
DL) Discharge shut-off walue	
SL) Suction shut-off value	
CR) Capacity regulator	
SU) Start unloader	

Serie/Type	Ø iA	Ø iB
SP4LN0600/060E	22-7/8"	28-1 1/8"
SP4LN0800/080E	28-1 1/8"	35-1 3/8"
SP4LN1000/100E	28-1 1/8"	35-1 3/8"
SP4LN1200/120E	28-1 1/8"	35-1 3/8"
SP4HN1000/100E	22-7/8"	28-1 1/8"
SP4HN1200/120E	28-1 1/8"	35-1 3/8"

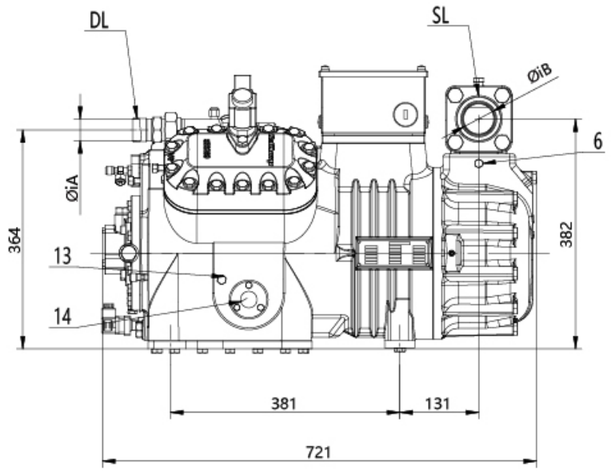
SP4HN1500/SP4HN150E、SP4HN2000/SP4HN200E

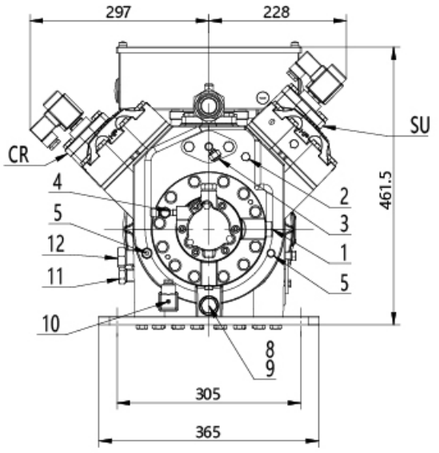


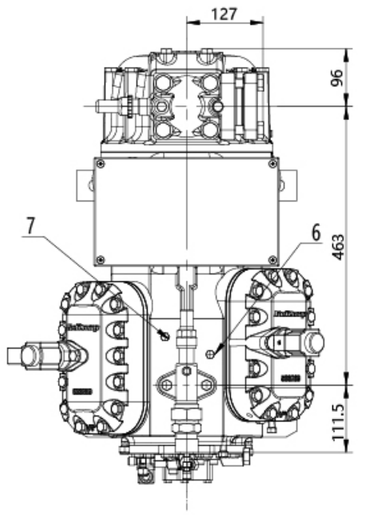
Key

1	Discharge temperature sensor 1/8"NPT
2	High pressure 1/8"NPT
3	Low pressure 1/8'NPT
4	Plug 1 1/8--18UNEF Oil level sensorioptional)
5	Oil drain 38"NPT
6	Crankcase heate
7	Oil charging 1/4"NPT
8	Oil sight glass
9	LCM injection connection 1/8" NPT
10	Elecincal box
11	Low pressure 1/4"SAE-FLARE
DL) Discharge shut-off value	
SL) Suction shut-off value	
CR) Capacity regulator	
SU) Start unloader	

SP4L1500—SP4L2500/SP4L150E—SP4L250E;
SP4H2200—SP4H3500/SP4H220E—SP4H350E







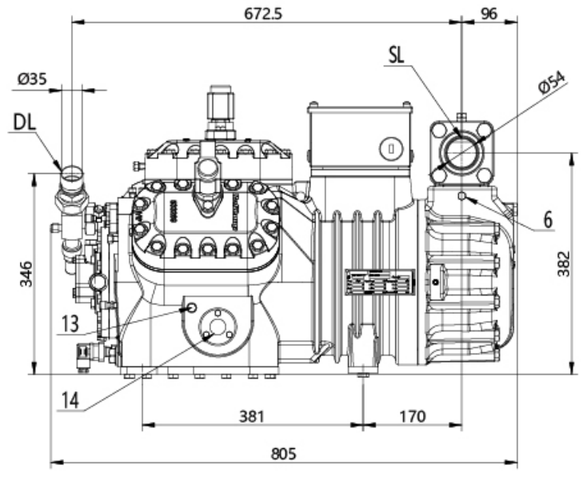
Key

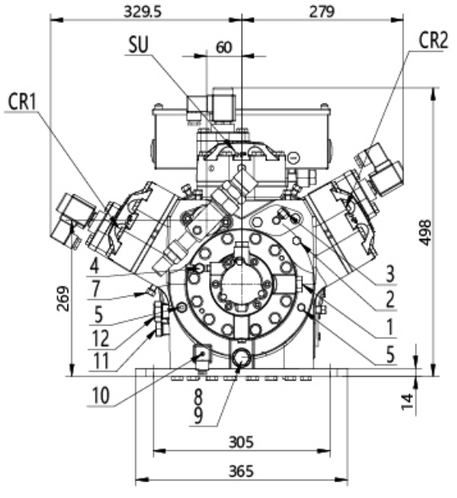
1	Electronic oil pressure switch connection
2	Discharge temperature sensor 1/8"NPT
3	Hioh pressure 1/4"SAE-FLARE
4	Oil high pressure 1/4"SAE-FLARE
5	Oil low pressure 1/4SAE-FLARE
6	Low pressure 1/8"NPT
7	Low pressure 1/8'NPT(liguid iniection)
8	Oil strainer plug
9	Oil drain 318"NPT
10	Crankcase heater
11	Oil equalization(parallel operation)1/2"NPT
12	Gas equalization(parallel operation)3/4"NPT
13	Oil charging 1/4'NPT

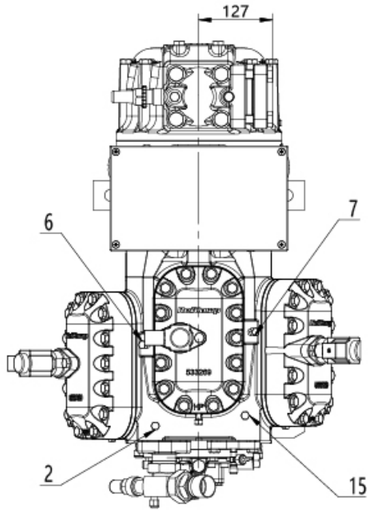
14	Oil sight glass
DL) Discharge shut-off value	
SL) Suction shutoff value	
CR) Capacity regulator	
SU) Start unloader	

Serie/Type	Φi A	Φi B
SP4H2200/220E	28	42
SP4L1500/150E	28	42
SP4H2500/250E	28	54
SP4L1800/180E	28	42
SP4H3000/300E	28	54
SP4L2200/220E	28	54
SP4H3500/350E	35	54
SP4L2500/250E	35	54

SP6L2700—SP6L3000/SP6L270E—SP6L300E;
SP6H3700—SP6H4000/SP6H370E—SP6L400E





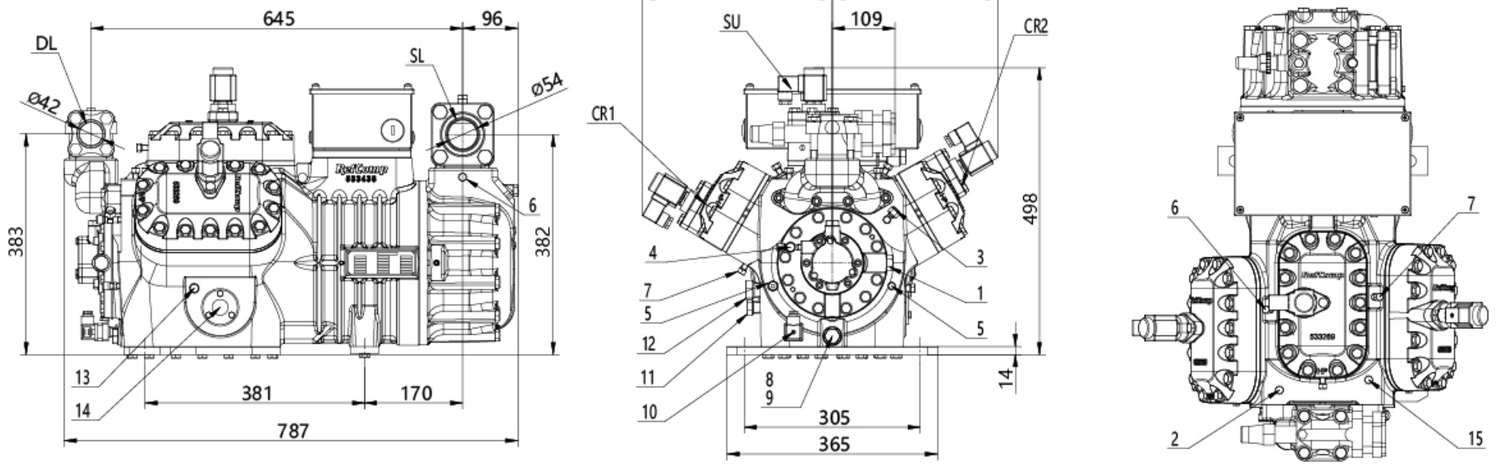


Key

1	Electronic oil pressure switch connection
2	Discharge temperature sensor 1/8"NPT
3	High pressure 1/4"SAE-FLARE
4	Oil high pressure 1/4"SAE-FLARE
5	Oil low pressure 1/4"SAE-FLARE
6	Low pressure 1/8"NPT
7	Low pressure 1/8"NPT(liquid injection)
8	Oil strainer plug
9	Oil drain 3/8"NPT
10	Crankcase heater
11	Oil equalization(parallel operation)1/2"NPT
12	Gas equalization(parallel operation)3/4"NPT
13	Oil charging 1/4"NPT

14	Oil sight glass
15	High pressure 1/4"NPT
DL) Discharge shut-off value	
SL) Suction shut-off value	
CR1) Capacity regulator 1st stepCR	
2) Capacity regulator 2st step	
SU) Start unloader	

SP6L4000/SP6L400E、SP6H5000/SP6H500E

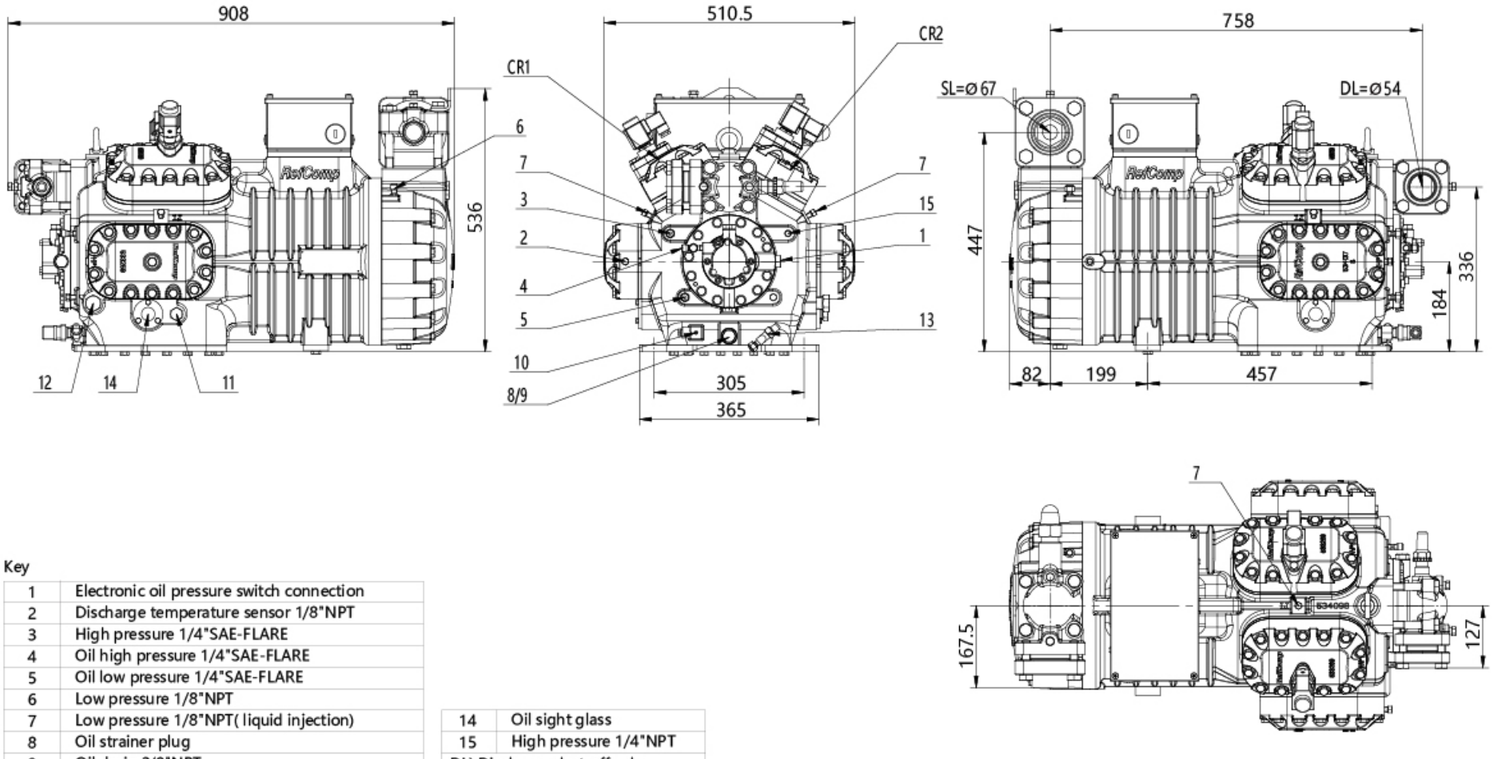


Key

1	Electronic oil pressure switch connection
2	Discharge temperature sensor 1/8"NPT
3	High pressure 1/4"SAE-FLARE
4	Oil high pressure 1/4"SAE-FLARE
5	Oil low pressure 1/4"SAE-FLARE
6	Low pressure 1/8"NPT
7	Low pressure 1/8"NPT(liquid injection)
8	Oil strainer plug
9	Oil drain 3/8"NPT
10	Crankcase heater
11	Oil equalization(parallel operation)1/2"NPT
12	Gas equalization(parallel operation)3/4"NPT
13	Oil charging 1/4"NPT

14	Oil sight glass
15	High pressure 1/4"NPT
DL) Discharge shut-off value	
SL) Suction shut-off value	
CR1) Capacity regulator 1st stepCR	
2) Capacity regulator 2st step	
SU) Start unloader	

SP8H6000/SP8H600E、SP8H7000/SP8H700E; SP8L5000/SP8L500E、SP8L6000/SP8L600E



Key

1	Electronic oil pressure switch connection
2	Discharge temperature sensor 1/8"NPT
3	High pressure 1/4"SAE-FLARE
4	Oil high pressure 1/4"SAE-FLARE
5	Oil low pressure 1/4"SAE-FLARE
6	Low pressure 1/8"NPT
7	Low pressure 1/8"NPT(liquid injection)
8	Oil strainer plug
9	Oil drain 3/8"NPT
10	Crankcase heater
11	Oil equalization(parallel operation)1/2"NPT
12	Gas equalization(parallel operation)3/4"NPT
13	Oil charging 1/4"NPT

14	Oil sight glass
15	High pressure 1/4"NPT
DL) Discharge shut-off value	
SL) Suction shut-off value	
CR1) Capacity regulator 1st stepCR	
2) Capacity regulator 2st step	
SU) Start unloader	