

## LB-PLUS Series Screw Compressor

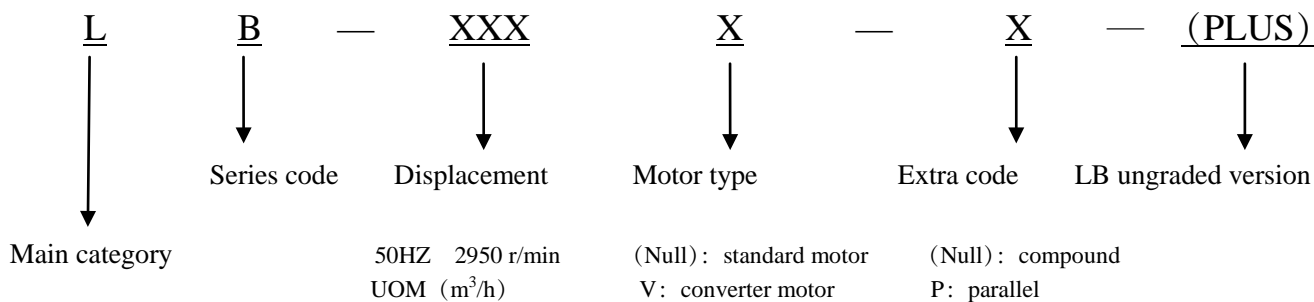


## LB-PLUS Series Semi-closed Screw Refrigeration Compressor

### Product Description

HANBELL specially developed LB-PLUS series screw refrigeration compressor is for low temperature use, which integrates the low-temperature market application experience and customer demands in the recent years. With the features of excellent performance, simple structure, and easy to use, this series of products is especially in line with the application requirements of the field of low temperature, so it is widely used in agriculture, fisheries, meat, food industry, process cooling, ship refrigeration, freeze drying and other industries.

### Nomenclature



- Compressor rated power: 380V/50Hz, if customers need other special voltage and frequency, please contact HANBELL.
- The standard motor of LB-PLUS product is PWS partial winding starting motor.
- Compound——compressor with built-in oil separator, hereinafter referred to as "compound type".
- Parallel——compressor without built-in oil separator, hereinafter referred to as "parallel type".
- If the compressor belongs to compound type, the extra-code is omitted.

## Features

### High efficiency and economic

The energy efficiency of LB-PLUS increases by 5% comparing to LB series and 25% comparing to the traditional slide valve capacity regulation structure.

### Introduce electronic expansion valve to optimize the structure, ensuing stable operation

LB-PLUS uses electronic expansion valve to replace the current limiting joint of LB in controlling the motor temperature; the electronic expansion valve is controlled by the compressor's own controller. Through a special algorithm, the motor temperature is controlled at about 60°C . Meanwhile, the intake control valve and its solenoid valve are cancelled to optimize the structure at suction side and the control system of the package.



### Intelligent control system of motor, simplifying the development difficulty of the package

LB-PLUS uses original design thinking to develop the built in controller for electronic expansion valve used in motor cooling. The controller is specially developed on the basis of the characteristics of the LB motor cooling system. It can

ensure that the compressor is in good operating conditions under all load conditions, which simplifies the application cost and improves the reliability of the system.



## Features

Two design types: compound and parallel connection

The compressor has two structures: with oil separator and without oil separator. It is suitable for various application fields, and the customer can choose different suction and discharge outlet directions.

The wiring part is far away from the suction port to reduce frosting and avoid damaging electrical insulation.



High efficiency oil separator, minimum oil throwing rate

LB-PLUS compressor has its own oil separator. Even under low temperature working conditions, the oil throwing rate can still be kept lower than 0.5%, which enables the package cancel the external oil separator, lowering the cost of the whole package.

#### Optional variable frequency motor

The use of variable frequency motor (frequency: 30HZ to 70HZ) can achieve higher energy control range, more stable temperature control, especially in low temperature conditions, the performance of partial load is more than 30% higher than that of traditional sliding valve.

## Specification

Model (PLUS)	Compressor			Motor				Oil filling volume	Oil heater	Strength test	Quality
	Displacement 50Hz m <sup>3</sup> /h	Rotation speed 50Hz r/min	Lubrication method	Type	Starting type	Voltage (V) 50Hz	Insulation grade				
LB-100/ LB-100-P	106	2950	Pressure differential oil supply	3 phase 2 pole squirrel-cage inductor motor	Partial winding starting	380	Level F  PTC + NTC	300	35	370	248/233
LB-140/ LB-140-P	139										290/275
LB-180/ LB-180-P	179										310/295
LB-200/ LB-200-P	198										440/420
LB-230/ LB-230-P	224										460/440
LB-250/ LB-250-P	257										464/446
LB-280/ LB-280-P	275										474/454
LB-360-P	366										370
LB-410-P	416										416

Note: Oil filling volume doesn't include -P products.

Model (PLUS)	Frequency conversion parameter	
	Displacement m <sup>3</sup> /h(70Hz)	Range
LB-100-V/LB-100-V-P	148	30 HZ ~70HZ
LB-140-V/LB-140-V-P	195	
LB-180-V/LB-180-V-P	251	
LB-200-V/LB-200-V-P	280	
LB-230-V/LB-230-V-P	314	
LB-250-V/LB-250-V-P	360	
LB-280-V/LB-280-V-P	385	
LB-360-V-P	521	
LB-410-V-P	582	

### Note:

1. Please confirm the rated current of the compressor under designed conditions according to the HANBELL model selection software, and select the contactor, power cord and fuse protection element according to the maximum operating current value determined by the initial temperature.
2. Regarding the technical data for variable frequency compressors, please contact HANBELL.

## LB-100-PLUS, R22, without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	12.1	16.0	20.9	26.7	33.6	41.6	50.9	61.5
	Power (kW)	12.70	13.38	14.08	14.98	15.90	16.92	17.96	19.10
	Current (A)	22.66	23.63	24.72	26.00	27.40	29.01	30.67	32.40
	COP	0.953	1.196	1.484	1.782	2.114	2.459	2.834	3.220
35	Refrigerating capacity (kW)	11.1	14.9	19.5	25.0	31.6	39.2	48.0	58.0
	Power (kW)	13.98	14.58	15.39	16.21	17.23	18.26	19.31	20.48
	Current (A)	24.49	25.47	26.58	27.97	29.39	31.02	32.68	34.57
	COP	0.794	1.022	1.267	1.543	1.834	2.147	2.485	2.832
40	Refrigerating capacity (kW)	10.1	13.7	18.1	23.4	29.5	36.7	45.0	54.4
	Power (kW)	15.36	15.97	16.79	17.71	18.65	19.69	20.86	21.93
	Current (A)	26.50	27.50	28.72	30.13	31.66	33.31	35.19	36.99
	COP	0.658	0.858	1.078	1.321	1.582	1.864	2.158	2.480
45	Refrigerating capacity (kW)	9.1	12.6	16.7	21.6	27.4	34.2	41.9	50.7
	Power (kW)	16.73	17.45	18.28	19.31	20.30	21.41	22.59	23.78
	Current (A)	28.59	29.70	31.04	32.56	34.28	36.08	37.98	40.00
	COP	0.544	0.722	0.914	1.119	1.350	1.597	1.855	2.132

## Oil cooling load (Discharge Temp. set point 80°C), without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	8.51	7.77	6.97	6.10	5.16	4.16	3.09	1.67
35	Oil cooling load (kW)	10.25	9.54	8.79	8.00	7.15	4.02	5.3	4.02
40	Oil cooling load (kW)	12.08	11.44	10.77	10.08	9.36	8.61	7.81	6.7
45	Oil cooling load (kW)	14.02	13.48	12.93	12.39	11.83	11.25	10.65	9.76

## LB-100-PLUS, R22, with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	16.0	21.0	26.9	34.0	42.1	51.4	61.8	73.3
	Power (kW)	13.64	15.09	16.57	17.59	18.72	19.87	21.04	22.20
	Current (A)	24.07	26.19	28.45	30.06	31.69	33.54	35.43	37.40
	COP	1.173	1.392	1.623	1.933	2.248	2.587	2.937	3.302
35	Refrigerating capacity (kW)	15.1	20.0	25.9	32.8	40.7	49.7	59.8	71.1
	Power (kW)	14.73	16.29	17.97	19.39	20.53	21.70	22.88	24.18
	Current (A)	25.52	27.94	30.59	32.80	34.65	36.62	38.63	40.66
	COP	1.025	1.228	1.441	1.692	1.982	2.291	2.614	2.941
40	Refrigerating capacity (kW)	14.2	19.0	24.7	31.4	39.2	47.9	57.8	68.7
	Power (kW)	15.73	17.58	19.46	21.37	22.63	23.81	25.11	26.42
	Current (A)	27.06	29.86	32.82	36.00	38.07	40.17	42.40	44.67
	COP	0.903	1.081	1.269	1.469	1.732	2.012	2.302	2.600
45	Refrigerating capacity (kW)	13.2	18.0	23.6	30.1	37.6	46.1	55.6	66.2
	Power (kW)	16.82	18.86	20.85	22.96	25.06	26.30	27.72	29.05
	Current (A)	28.69	31.87	35.22	38.71	42.25	44.49	46.95	49.45
	COP	0.785	0.954	1.132	1.311	1.501	1.753	2.006	2.279

## Oil cooling load ( Discharge Temp. set point 80°C ), with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	4.56	4.59	4.48	3.94	3.26	2.43	1.74	0.72
35	Oil cooling load (kW)	5.3	5.46	5.56	5.33	4.71	6.25	3.6	2.66
40	Oil cooling load (kW)	5.99	6.34	6.57	6.7	6.28	6.11	5.63	4.91
45	Oil cooling load (kW)	6.65	7.12	7.50	8.05	8.31	8.11	7.88	7.45



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★For ECO load data, please download the HANBELL model selection software, and select according to design conditions.

## LB-140-PLUS, R22, without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	17.2	22.8	29.7	38.0	47.8	59.2	72.4	87.5
	Power (kW)	17.40	18.22	19.26	20.40	21.65	23.11	24.61	26.10
	Current (A)	34.14	35.30	36.79	38.37	40.28	42.19	44.36	46.60
	COP	0.989	1.251	1.542	1.863	2.208	2.561	2.942	3.352
35	Refrigerating capacity (kW)	15.8	21.2	27.8	35.6	44.9	55.8	68.3	82.5
	Power (kW)	19.05	19.98	21.03	22.19	23.45	24.84	26.34	27.87
	Current (A)	36.32	37.60	39.10	40.80	42.63	44.67	46.85	49.15
	COP	0.829	1.061	1.322	1.605	1.914	2.246	2.593	2.960
40	Refrigerating capacity (kW)	14.4	19.5	25.8	33.2	42.0	52.2	64.0	77.4
	Power (kW)	20.88	21.83	22.90	24.16	25.45	26.94	28.47	30.01
	Current (A)	38.77	40.07	41.69	43.41	45.45	47.52	49.82	52.14
	COP	0.690	0.893	1.127	1.374	1.651	1.937	2.248	2.579
45	Refrigerating capacity (kW)	13.0	17.9	23.8	30.8	39.0	48.6	59.6	72.2
	Power (kW)	22.89	23.86	25.04	26.32	27.78	29.24	30.78	32.44
	Current (A)	41.39	42.81	44.55	46.49	48.66	50.85	53.27	55.72
	COP	0.568	0.750	0.951	1.170	1.404	1.662	1.937	2.226

## Oil cooling load (Discharge Temp. set point 80°C), without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	11.33	10.24	9.06	7.78	6.4	4.92	3.34	1.26
35	Oil cooling load (kW)	13.72	12.68	11.57	10.4	9.15	7.82	6.41	4.53
40	Oil cooling load (kW)	16.24	15.29	14.31	13.28	8.92	11.08	9.89	8.25

45	Oil cooling load (kW)	18.91	10.08	17.29	16.46	15.61	14.74	13.83	12.4 9
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## LB-140-PLUS, R22, with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	23.0	30.1	38.8	49.1	61.0	74.7	90.1	107.3
	Power (kW)	19.18	21.64	21.75	23.59	25.55	27.44	32.95	35.10
	Current (A)	36.49	39.86	40.14	42.72	45.54	48.29	56.57	59.80
	COP	1.199	1.391	1.784	2.082	2.387	2.722	2.735	3.057
35	Refrigerating capacity (kW)	21.7	28.8	37.3	47.3	58.9	72.2	87.2	103.9
	Power (kW)	20.64	23.01	25.53	27.11	29.10	31.32	33.48	34.17
	Current (A)	38.38	41.76	45.31	47.65	50.61	53.90	57.25	58.44
	COP	1.051	1.252	1.461	1.745	2.024	2.305	2.605	3.041
40	Refrigerating capacity (kW)	20.3	27.3	35.6	45.4	56.7	69.6	84.1	100.3
	Power (kW)	22.10	24.66	27.48	29.84	31.76	33.61	35.68	37.79
	Current (A)	40.36	44.04	48.08	51.69	54.48	57.51	60.69	64.01
	COP	0.919	1.107	1.296	1.521	1.785	2.071	2.357	2.654
45	Refrigerating capacity (kW)	18.9	25.8	33.9	43.4	54.3	66.8	80.8	96.5
	Power (kW)	23.55	26.40	29.51	32.95	35.06	37.06	39.26	41.59
	Current (A)	42.33	46.58	51.03	56.29	59.63	62.77	66.38	70.05
	COP	0.803	0.977	1.149	1.317	1.549	1.803	2.058	2.320

Oil cooling load (Discharge Temp. set point 80°C), with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	6.44	6.73	5.43	4.84	4.09	3.22	4.96	0.78
35	Oil cooling load (kW)	7.43	7.74	7.93	7.36	6.88	6.60	5.74	1.61
40	Oil cooling load (kW)	8.42	8.93	9.39	9.42	12.21	8.25	8.02	7.15
45	Oil cooling load (kW)	9.35	18.10	10.73	11.45	11.23	11.34	11.18	10.68

★ For ECO load data, please download the HANBELL model selection software, and select according to design conditions.

## LB-180-PLUS, R22, without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	20.6	27.3	35.5	45.5	57.2	70.9	86.7	104.7
	Power (kW)	20.69	21.64	22.90	24.26	25.84	27.44	29.28	31.00
	Current (A)	38.46	39.86	41.67	43.69	45.93	48.39	51.01	53.70
	COP	0.996	1.262	1.550	1.875	2.213	2.584	2.961	3.377
35	Refrigerating capacity (kW)	18.9	25.4	33.2	42.7	53.8	66.8	81.7	98.7
	Power (kW)	22.71	23.77	24.95	26.33	27.93	29.55	31.40	33.17
	Current (A)	41.20	42.71	44.55	46.69	48.95	51.45	54.08	56.94
	COP	0.832	1.069	1.331	1.622	1.926	2.260	2.602	2.976
40	Refrigerating capacity (kW)	17.2	23.4	30.9	39.8	50.3	62.5	76.6	92.6
	Power (kW)	24.91	25.99	27.28	28.69	30.30	32.04	33.80	35.69
	Current (A)	44.29	45.93	47.80	49.96	52.44	55.06	57.82	60.72
	COP	0.691	0.900	1.133	1.387	1.660	1.951	2.266	2.594
45	Refrigerating capacity (kW)	15.6	21.4	28.5	36.9	46.7	58.2	71.3	86.4
	Power (kW)	27.19	28.38	29.70	31.32	33.02	34.71	36.60	38.51
	Current (A)	47.56	49.32	51.41	53.79	56.52	59.16	62.14	65.27
	COP	0.574	0.754	0.960	1.178	1.414	1.677	1.948	2.244

Oil cooling load (Discharge Temp. set point 80°C), without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	13.42	12.12	10.70	9.16	7.50	5.72	3.82	1.32
35	Oil cooling load (kW)	16.27	15.02	13.69	12.28	10.77	9.17	7.48	5.21
40	Oil cooling load (kW)	19.28	18.14	16.95	15.71	14.42	13.06	11.63	9.66
45	Oil cooling load (kW)	22.45	21.48	20.50	19.50	18.48	17.42	16.32	14.71

## LB-180-PLUS, R22, with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	27.3	35.7	45.9	58.0	71.9	87.7	105.5	125.3
	Power (kW)	22.66	25.05	27.02	28.71	30.52	32.36	34.24	36.30
	Current (A)	41.19	44.70	47.52	49.97	52.76	55.57	58.55	61.70
	COP	1.205	1.425	1.699	2.020	2.356	2.710	3.081	3.452
35	Refrigerating capacity (kW)	25.8	34.1	44.1	55.9	69.5	84.9	102.2	121.5
	Power (kW)	24.30	27.08	29.83	31.54	33.48	35.44	37.44	39.46
	Current (A)	43.54	47.44	51.62	54.21	57.13	60.18	63.39	66.63
	COP	1.062	1.259	1.479	1.772	2.076	2.395	2.730	3.079
40	Refrigerating capacity (kW)	24.1	32.4	42.2	53.7	66.9	81.9	98.7	117.4
	Power (kW)	26.03	29.11	32.25	34.85	36.81	38.90	41.02	43.17
	Current (A)	45.98	50.37	55.14	59.20	62.35	65.74	69.19	72.78
	COP	0.926	1.113	1.309	1.541	1.818	2.106	2.406	2.719
45	Refrigerating capacity (kW)	22.5	30.6	40.2	51.4	64.1	78.6	94.9	113.1
	Power (kW)	27.75	31.12	34.65	38.42	40.69	42.83	45.18	47.56
	Current (A)	48.40	53.47	58.93	64.94	68.66	72.26	76.15	80.20
	COP	0.811	0.983	1.160	1.338	1.575	1.835	2.101	2.378

Oil cooling load (Discharge Temp. set point 80°C), with ECO



Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	7.43	7.45	6.87	5.86	4.72	3.18	1.52	0.09
35	Oil cooling load (kW)	8.63	8.90	8.99	8.18	7.10	5.83	4.98	3.35
40	Oil cooling load (kW)	9.82	10.34	10.71	10.50	9.68	9.30	8.41	7.14
45	Oil cooling load (kW)	10.89	11.66	12.31	12.94	13.06	12.64	12.21	11.38

★For ECO load data, please download the HANBELL model selection software, and select according to design conditions.

## LB-200-PLUS, R22, without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	23.8	31.6	41.1	52.5	66.1	81.9	100.2	121.0
	Power (kW)	23.70	24.86	26.25	27.84	29.65	31.47	33.54	35.60
	Current (A)	40.44	42.42	44.83	47.56	50.52	53.80	57.26	60.80
	COP	1.004	1.271	1.566	1.886	2.230	2.602	2.987	3.399
35	Refrigerating capacity (kW)	21.9	29.3	38.4	49.3	62.2	77.2	94.4	114.1
	Power (kW)	26.09	27.27	28.68	30.29	32.02	33.97	35.95	38.06
	Current (A)	44.48	46.50	48.95	51.70	54.69	57.93	61.40	64.94
	COP	0.839	1.074	1.339	1.628	1.943	2.273	2.626	2.998
40	Refrigerating capacity (kW)	19.9	27.0	35.7	46.0	58.1	72.2	88.5	107.0
	Power (kW)	28.56	29.77	31.29	32.92	34.77	36.74	38.75	40.88
	Current (A)	48.79	50.84	53.42	56.22	59.34	62.71	66.22	69.89
	COP	0.697	0.907	1.141	1.397	1.671	1.965	2.284	2.618
45	Refrigerating capacity (kW)	18.0	24.8	32.9	42.6	54.0	67.2	82.5	99.8
	Power (kW)	31.21	32.53	34.08	35.83	37.88	39.89	42.02	44.28
	Current (A)	53.26	55.54	58.26	61.29	64.68	68.05	71.71	75.52
	COP	0.577	0.762	0.965	1.189	1.426	1.684	1.963	2.254

Oil cooling load (Discharge Temp. set point 80°C), without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	15.32	13.81	12.16	6.62	8.44	6.37	4.16	1.26
35	Oil cooling load (kW)	18.60	17.15	15.60	13.95	12.20	10.34	8.38	5.74
40	Oil cooling load (kW)	22.05	20.72	19.35	17.91	16.40	14.81	13.14	10.85
45	Oil cooling load (kW)	25.7	24.56	23.42	22.26	21.07	19.83	18.54	16.67

## LB-200-PLUS, R22, with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	31.6	41.3	53.1	67.0	83.1	101.4	122.0	144.8
	Power (kW)	26.05	28.85	30.94	32.86	35.01	37.08	39.30	41.70
	Current (A)	44.48	49.25	52.88	56.16	59.78	63.34	67.19	71.10
	COP	1.213	1.432	1.716	2.039	2.374	2.735	3.104	3.472
35	Refrigerating capacity (kW)	29.8	39.4	51.0	64.6	80.3	98.1	118.2	140.5
	Power (kW)	27.96	31.16	34.22	36.17	38.34	40.65	42.88	45.25
	Current (A)	47.76	53.13	58.41	61.83	65.50	69.32	73.29	77.22
	COP	1.066	1.265	1.490	1.786	2.094	2.413	2.756	3.105
40	Refrigerating capacity (kW)	27.9	37.4	48.8	62.0	77.3	94.6	114.0	135.7
	Power (kW)	29.96	33.45	37.11	39.95	42.15	44.68	47.05	49.55
	Current (A)	51.22	57.08	63.25	68.15	72.06	76.23	80.36	84.65
	COP	0.931	1.118	1.315	1.552	1.834	2.117	2.423	2.739
45	Refrigerating capacity (kW)	26.0	35.4	46.5	59.4	74.1	90.9	109.7	130.7
	Power (kW)	31.96	35.83	39.89	44.09	46.71	49.18	51.79	54.53
	Current (A)	54.57	61.20	68.07	75.31	79.74	83.99	88.48	93.13
	COP	0.814	0.988	1.166	1.347	1.586	1.848	2.118	2.397

## Oil cooling load (Discharge Temp. set point 80°C), with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	8.51	8.53	7.80	10.37	5.26	3.47	1.52	--
35	Oil cooling load (kW)	9.9	10.21	10.23	9.27	8.04	6.54	5.52	3.59
40	Oil cooling load (kW)	11.26	11.87	12.30	11.96	11.00	10.55	9.49	8.02
45	Oil cooling load (kW)	12.05	13.38	14.13	14.78	14.87	14.38	13.83	12.87

★ For ECO load data, please download the HANBELL model selection software, and select according to design conditions.

## LB-230-PLUS, R22, without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	27.5	36.5	47.5	60.7	76.4	94.7	115.8	139.8
	Power (kW)	26.99	28.28	29.89	31.70	33.64	35.80	38.11	40.50
	Current (A)	51.06	52.95	55.28	57.80	60.75	63.83	67.28	70.80
	COP	1.019	1.291	1.589	1.915	2.271	2.645	3.039	3.452
35	Refrigerating capacity (kW)	25.3	33.9	44.4	57.0	71.8	89.2	109.1	131.9
	Power (kW)	29.65	30.97	32.60	34.44	36.40	38.58	40.90	43.26
	Current (A)	54.61	56.63	58.99	61.64	64.62	67.84	71.31	74.83
	COP	0.853	1.095	1.362	1.655	1.973	2.312	2.667	3.049
40	Refrigerating capacity (kW)	23.0	31.2	41.2	53.1	67.1	83.5	102.2	123.7
	Power (kW)	32.49	33.93	35.58	37.45	39.53	41.74	44.08	46.56
	Current (A)	58.53	60.57	63.15	65.94	69.05	72.41	76.01	79.76
	COP	0.708	0.920	1.158	1.418	1.698	2.001	2.318	2.657
45	Refrigerating capacity (kW)	20.8	28.6	38.0	49.2	62.4	77.7	95.3	115.4
	Power (kW)	35.51	36.97	38.84	40.83	43.12	45.37	47.74	50.35
	Current (A)	62.70	65.07	67.78	70.80	74.30	77.74	81.58	85.47
	COP	0.586	0.774	0.978	1.205	1.447	1.713	1.996	2.292

## Oil cooling load (Discharge Temp. set point 80°C), without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	17.25	15.49	13.56	11.46	9.21	6.79	4.21	0.82
35	Oil cooling load (kW)	20.99	19.30	17.49	15.56	13.51	11.33	9.03	5.95
40	Oil cooling load (kW)	24.94	23.38	21.77	20.08	12.05	16.44	14.49	11.81
45	Oil cooling load (kW)	29.10	27.77	26.42	25.05	23.64	22.18	20.66	18.47

## LB-230-PLUS, R22, with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	36.2	47.3	60.7	76.4	94.6	115.2	138.3	163.8
	Power (kW)	29.53	32.93	34.68	36.73	38.91	41.21	43.47	45.60
	Current (A)	54.54	59.22	61.98	64.96	68.17	71.60	75.03	78.40
	COP	1.226	1.436	1.750	2.080	2.431	2.796	3.182	3.592
35	Refrigerating capacity (kW)	34.2	45.2	58.3	73.8	91.5	111.6	134.0	158.9
	Power (kW)	31.72	35.23	38.34	40.51	42.72	45.06	47.44	49.75
	Current (A)	57.52	62.50	67.11	70.32	73.77	77.37	81.01	84.72
	COP	1.078	1.283	1.521	1.822	2.142	2.476	2.825	3.194
40	Refrigerating capacity (kW)	32.0	42.9	55.8	70.8	88.1	107.6	129.4	153.6
	Power (kW)	33.99	37.80	42.45	44.66	47.01	49.48	51.99	54.54
	Current (A)	60.68	66.24	73.08	76.62	80.32	84.16	88.17	92.12
	COP	0.941	1.135	1.314	1.585	1.874	2.175	2.489	2.816
45	Refrigerating capacity (kW)	29.9	40.6	53.2	67.8	84.6	103.5	124.6	148.0
	Power (kW)	36.25	40.55	45.03	49.37	52.06	54.66	57.41	60.00
	Current (A)	63.82	70.25	77.02	83.86	88.18	92.30	96.77	101.09
	COP	0.825	1.001	1.181	1.373	1.625	1.894	2.170	2.467

## Oil cooling load (Discharge Temp. set point 80°C), with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	9.41	9.46	8.22	6.74	4.74	2.92	0.66	--
35	Oil cooling load (kW)	11.01	11.24	10.96	9.63	7.96	6.69	4.84	2.17
40	Oil cooling load (kW)	12.58	13.12	13.72	12.69	18.30	10.79	9.38	7.24



45	Oil cooling load (kW)	13.94	14.84	15.91	16.58	15.99	15.28	14.36	12.8 0
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★For ECO load data, please download the HANBELL model selection software, and select according to design conditions.

## LB-250-PLUS, R22, without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	33.2	44.0	57.2	73.2	92.1	114.2	139.6	168.6
	Power (kW)	31.22	32.74	34.58	36.73	39.01	41.50	44.16	46.90
	Current (A)	59.43	61.69	64.47	67.57	71.09	74.84	78.90	83.10
	COP	1.063	1.344	1.654	1.993	2.361	2.752	3.161	3.595
35	Refrigerating capacity (kW)	30.5	40.9	53.5	68.7	86.6	107.5	131.6	159.0
	Power (kW)	34.35	35.89	37.76	39.84	42.24	44.77	47.44	50.15
	Current (A)	63.81	66.10	68.93	72.15	75.71	79.62	83.69	88.01
	COP	0.888	1.140	1.417	1.724	2.050	2.401	2.774	3.171
40	Refrigerating capacity (kW)	27.7	37.7	49.7	64.1	81.0	100.6	123.3	149.1
	Power (kW)	37.64	39.31	41.21	43.41	45.84	48.40	51.10	53.94
	Current (A)	68.45	70.97	74.03	77.39	81.10	85.14	89.35	93.82
	COP	0.736	0.959	1.206	1.477	1.767	2.078	2.413	2.764
45	Refrigerating capacity (kW)	25.1	34.5	45.9	59.4	75.2	93.7	114.9	139.1
	Power (kW)	41.11	42.91	44.93	47.26	49.92	52.51	55.34	58.31
	Current (A)	73.54	76.29	79.59	83.19	87.41	91.42	95.88	100.59
	COP	0.611	0.804	1.021	1.257	1.506	1.784	2.076	2.386

## Oil cooling load (Discharge Temp. set point 80°C), without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	19.45	17.27	14.88	12.28	9.47	6.46	3.25	--
35	Oil cooling load (kW)	23.82	21.72	19.48	17.08	14.52	11.81	8.93	5.13
40	Oil cooling load (kW)	28.43	26.50	24.49	22.37	20.15	17.81	15.36	12.03

45	Oil cooling load (kW)	33.30	31.63	29.94	28.20	17.57	24.56	22.63	19.8 8
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## LB-250-PLUS, R22, with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	43.5	56.8	72.9	91.7	113.4	138.0	165.4	195.8
	Power (kW)	34.61	37.87	39.95	42.24	44.66	47.21	49.72	52.30
	Current (A)	64.23	69.09	72.23	75.68	79.38	83.30	87.33	91.30
	COP	1.257	1.500	1.825	2.171	2.539	2.923	3.327	3.744
35	Refrigerating capacity (kW)	41.1	54.3	70.0	88.5	109.7	133.7	160.4	190.0
	Power (kW)	37.25	41.19	44.17	46.49	49.15	51.74	54.27	56.94
	Current (A)	67.94	73.96	78.49	82.09	86.13	90.23	94.29	98.50
	COP	1.103	1.318	1.585	1.903	2.232	2.584	2.955	3.337
40	Refrigerating capacity (kW)	38.5	51.6	67.0	85.0	105.7	129.0	155.0	183.7
	Power (kW)	39.80	44.32	48.94	51.40	54.10	56.83	59.60	62.31
	Current (A)	71.73	78.53	85.57	89.52	93.72	98.18	102.50	106.88
	COP	0.967	1.164	1.369	1.654	1.954	2.270	2.601	2.948
45	Refrigerating capacity (kW)	35.9	48.8	63.9	81.4	101.4	124.0	149.2	177.1
	Power (kW)	42.52	47.53	52.74	56.87	59.92	62.77	65.69	68.66
	Current (A)	75.69	83.46	91.49	97.98	102.95	107.46	112.15	116.81
	COP	0.844	1.027	1.212	1.431	1.692	1.975	2.271	2.580

## Oil cooling load (Discharge Temp. set point 80°C), with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	10.69	10.31	8.73	6.67	4.14	1.81	--	--
35	Oil cooling load (kW)	12.67	12.81	11.90	10.10	8.52	6.32	3.78	0.39
40	Oil cooling load (kW)	14.50	15.01	15.16	14.28	12.85	11.22	9.27	6.43

	load (kW)								
45	Oil cooling load (kW)	16.13	17.09	18.31	18.41	26.41	16.49	15.10	13.0 8

★ For ECO load data, please download the HANBELL model selection software, and select according to design conditions.

## LB-280-PLUS, R22, without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	37.9	50.2	65.4	83.6	105.2	130.4	159.4	192.5
	Power (kW)	33.76	35.40	37.36	39.63	42.23	44.95	47.83	50.70
	Current (A)	63.01	65.48	68.50	71.92	75.77	79.86	84.35	88.90
	COP	1.123	1.418	1.750	2.109	2.491	2.901	3.332	3.797
35	Refrigerating capacity (kW)	34.8	46.6	61.1	78.4	98.9	122.8	150.2	181.6
	Power (kW)	37.16	38.83	40.82	43.12	45.64	48.40	51.30	54.25
	Current (A)	67.85	70.36	73.52	76.98	80.87	85.12	89.63	94.31
	COP	0.936	1.200	1.497	1.818	2.167	2.537	2.928	3.348
40	Refrigerating capacity (kW)	31.7	43.0	56.7	73.1	92.5	114.9	140.8	170.3
	Power (kW)	40.73	42.43	44.55	46.97	49.53	52.32	55.25	58.32
	Current (A)	73.04	75.79	78.99	82.69	86.83	91.12	95.78	100.60
	COP	0.778	1.013	1.273	1.556	1.868	2.196	2.548	2.920
45	Refrigerating capacity (kW)	28.6	39.4	52.4	67.8	85.9	107.0	131.2	158.8
	Power (kW)	44.48	46.40	48.65	51.10	54.00	56.81	59.87	63.08
	Current (A)	78.58	81.57	85.20	89.14	93.62	98.07	102.98	108.06
	COP	0.643	0.849	1.077	1.327	1.591	1.883	2.191	2.517

## Oil cooling load (Discharge Temp. set point 80°C), without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	20.21	17.64	14.81	11.73	8.40	4.83	1.03	--
35	Oil cooling load (kW)	24.99	22.52	19.86	17.01	13.96	10.73	7.31	2.83
40	Oil cooling load (kW)	30.04	27.75	25.35	22.82	20.16	17.36	14.42	10.4

	load (kW)								7
45	Oil cooling load (kW)	35.37	33.37	31.33	29.23	27.06	24.80	22.45	19.1 7

## LB-280-PLUS, R22, with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	49.7	64.9	83.2	104.7	129.5	157.5	188.9	223.5
	Power (kW)	38.18	41.00	43.21	45.72	48.27	51.04	53.79	56.50
	Current (A)	69.40	73.55	77.02	80.81	84.94	89.20	93.58	97.80
	COP	1.302	1.583	1.926	2.290	2.683	3.086	3.512	3.956
35	Refrigerating capacity (kW)	46.9	62.0	80.0	101.0	125.2	152.6	183.2	217.0
	Power (kW)	41.10	45.46	47.80	50.35	53.14	55.96	58.73	61.54
	Current (A)	73.66	80.31	83.94	87.88	92.26	96.71	101.12	105.69
	COP	1.141	1.364	1.674	2.006	2.356	2.727	3.119	3.526
40	Refrigerating capacity (kW)	44.0	58.9	76.5	97.1	120.6	147.2	176.9	209.8
	Power (kW)	43.92	48.95	52.85	55.54	58.47	61.43	64.44	67.40
	Current (A)	77.91	85.62	91.77	95.97	100.62	105.43	110.21	114.95
	COP	1.002	1.203	1.447	1.748	2.063	2.396	2.745	3.113
45	Refrigerating capacity (kW)	41.0	55.7	73.0	93.0	115.8	141.6	170.3	202.2
	Power (kW)	46.91	52.53	58.45	61.48	64.78	67.86	71.02	74.23
	Current (A)	82.23	91.09	100.44	105.28	110.62	115.58	120.64	125.87
	COP	0.874	1.060	1.249	1.513	1.788	2.087	2.398	2.724

## Oil cooling load (Discharge Temp. set point 80°C), with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	11.49	10.43	8.52	6.05	2.98	0.18	--	--
35	Oil cooling load (kW)	13.70	13.74	12.06	9.85	7.94	5.27	2.19	--



40	Oil cooling load (kW)	15.77	16.24	15.76	14.51	12.74	10.70	8.33	4.90
45	Oil cooling load (kW)	17.58	18.59	19.98	19.10	18.01	16.55	14.86	12.33

★ For ECO load data, please download the HANBELL model selection software, and select according to design conditions.

## LB-360-PLUS, R22, 无 ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	47.6	63.0	82.0	104.9	131.9	163.5	199.9	241.5
	Power (kW)	40.25	42.23	44.55	47.27	50.22	53.50	56.96	60.40
	Current (A)	73.54	76.49	80.18	84.29	88.94	93.92	99.34	104.80
	COP	1.183	1.492	1.841	2.219	2.626	3.056	3.509	3.998
35	Refrigerating capacity (kW)	43.7	58.5	76.6	98.4	124.1	154.0	188.4	227.7
	Power (kW)	44.29	46.21	48.66	51.41	54.40	57.63	61.11	64.64
	Current (A)	79.39	82.48	86.23	90.48	95.18	100.24	105.68	111.29
	COP	0.987	1.266	1.574	1.914	2.281	2.672	3.083	3.523
40	Refrigerating capacity (kW)	39.7	53.9	71.2	91.7	116.0	144.1	176.6	213.6
	Power (kW)	48.51	50.56	53.14	55.93	59.05	62.32	65.83	69.49
	Current (A)	85.68	89.02	93.02	97.42	102.27	107.58	113.17	118.94
	COP	0.818	1.066	1.340	1.640	1.964	2.312	2.683	3.074
45	Refrigerating capacity (kW)	35.9	49.4	65.7	85.0	107.8	134.2	164.6	199.2
	Power (kW)	52.98	55.26	57.98	60.90	64.29	67.66	71.32	75.12
	Current (A)	92.51	96.09	100.44	105.19	110.52	115.87	121.82	127.86
	COP	0.678	0.894	1.133	1.396	1.677	1.983	2.308	2.652

## Oil cooling load (Discharge Temp. set point 80°C), without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	23.08	19.77	16.11	12.12	7.81	3.18	--	--
35	Oil cooling	28.85	25.66	22.22	18.52	14.56	10.36	5.91	0.13

	load (kW)								
40	Oil cooling load (kW)	34.94	31.98	28.85	25.55	22.07	18.40	14.56	9.45
45	Oil cooling load (kW)	41.36	38.76	36.08	33.31	30.44	27.44	24.33	20.0 5

## LB-360-PLUS, R22, with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	62.3	81.3	104.3	131.2	162.2	197.3	236.6	279.9
	Power (kW)	46.55	48.78	51.44	54.32	57.44	60.58	64.01	67.10
	Current (A)	82.85	86.36	90.44	95.02	99.96	104.94	110.35	115.10
	COP	1.338	1.667	2.027	2.415	2.824	3.257	3.696	4.171
35	Refrigerating capacity (kW)	58.8	77.7	100.2	126.6	156.9	191.2	229.4	271.7
	Power (kW)	49.92	54.17	56.88	59.90	63.16	66.47	69.72	73.13
	Current (A)	87.93	94.51	98.85	103.60	108.80	114.09	119.24	124.68
	COP	1.178	1.434	1.762	2.113	2.484	2.877	3.290	3.715
40	Refrigerating capacity (kW)	55.1	73.8	95.9	121.7	151.1	184.5	221.6	262.7
	Power (kW)	53.37	59.91	62.87	66.13	69.54	73.09	76.60	80.06
	Current (A)	93.17	103.48	108.18	113.30	118.78	124.53	130.17	135.79
	COP	1.032	1.232	1.525	1.840	2.173	2.524	2.893	3.281
45	Refrigerating capacity (kW)	51.5	69.9	91.5	116.5	145.1	177.4	213.3	253.2
	Power (kW)	56.81	63.75	69.59	73.20	77.02	80.67	84.63	88.36
	Current (A)	98.49	109.39	118.81	124.49	130.72	136.79	143.23	149.55
	COP	0.907	1.097	1.315	1.592	1.884	2.199	2.520	2.866

## Oil cooling load (Discharge Temp. set point 80°C), with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	13.61	11.56	8.99	5.77	1.74	--	--	--
35	Oil cooling	16.26	15.57	13.37	10.45	3.64	4.25	0.18	--

	load (kW)								
40	Oil cooling load (kW)	18.86	19.96	17.69	16.16	13.76	10.92	7.70	3.18
45	Oil cooling load (kW)	21.06	22.16	23.01	21.75	20.08	18.21	15.92	12.53

★For ECO load data, please download the HANBELL model selection software, and select according to design conditions.

## LB-410-PLUS, R22, without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	55.8	73.9	96.2	123.0	154.8	191.9	234.6	283.3
	Power (kW)	46.83	49.06	51.83	55.00	58.51	62.26	66.19	70.30
	Current (A)	83.70	87.12	91.20	95.89	101.23	107.00	113.23	119.70
	COP	1.191	1.506	1.856	2.236	2.646	3.082	3.544	4.030
35	Refrigerating capacity (kW)	51.2	68.7	89.9	115.5	145.6	180.7	221.1	267.2
	Power (kW)	51.52	53.79	56.60	59.81	63.26	67.06	71.01	75.22
	Current (A)	90.37	93.85	98.09	103.02	108.51	114.38	120.83	127.47
	COP	0.994	1.277	1.588	1.931	2.302	2.695	3.114	3.552
40	Refrigerating capacity (kW)	46.6	63.3	83.5	107.7	136.1	169.1	207.2	250.7
	Power (kW)	56.37	58.87	61.82	65.07	68.66	72.51	76.60	80.86
	Current (A)	97.57	101.40	105.89	111.08	116.84	123.06	129.68	136.59
	COP	0.827	1.075	1.351	1.655	1.982	2.332	2.705	3.101
45	Refrigerating capacity (kW)	42.1	58.0	77.1	99.8	126.5	157.4	193.1	233.8
	Power (kW)	61.58	64.31	67.40	70.89	74.88	78.71	82.96	87.36
	Current (A)	105.49	109.67	114.72	120.27	126.74	133.08	140.17	147.46
	COP	0.684	0.902	1.144	1.408	1.689	2.000	2.328	2.676

## Oil cooling load (Discharge Temp. set point 80°C), without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	26.66	22.75	18.44	13.74	8.64	3.19	--	--
35	Oil cooling	33.38	29.62	25.56	21.19	16.52	11.56	6.32	--

	load (kW)								
40	Oil cooling load (kW)	40.48	36.99	33.30	29.41	25.29	20.96	16.41	10.3 9
45	Oil cooling load (kW)	47.97	44.89	41.73	38.46	35.05	31.51	27.83	22.7 7

## LB-410-PLUS, R22, with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	71.8	93.5	119.3	149.6	184.1	223.0	266.0	313.1
	Power (kW)	53.04	55.33	57.96	60.99	64.17	67.47	70.66	73.80
	Current (A)	92.54	96.13	100.21	104.88	109.81	114.97	120.18	125.30
	COP	1.354	1.690	2.058	2.453	2.869	3.305	3.765	4.243
35	Refrigerating capacity (kW)	67.9	89.3	114.9	144.5	178.3	216.3	258.2	304.2
	Power (kW)	57.15	61.46	64.24	67.23	70.56	73.93	77.15	80.32
	Current (A)	98.72	105.31	109.84	114.59	119.90	125.28	130.63	135.76
	COP	1.188	1.453	1.789	2.149	2.527	2.926	3.347	3.787
40	Refrigerating capacity (kW)	63.7	84.9	110.0	139.0	171.9	208.9	249.7	294.5
	Power (kW)	61.15	68.13	71.07	74.31	77.79	81.13	84.71	87.94
	Current (A)	104.69	115.76	120.59	125.91	131.50	137.07	142.92	148.35
	COP	1.042	1.246	1.548	1.870	2.210	2.575	2.948	3.349
45	Refrigerating capacity (kW)	59.5	80.5	105.0	133.2	165.2	201.0	240.5	284.1
	Power (kW)	65.13	72.80	78.73	82.23	86.15	89.76	93.41	96.91
	Current (A)	111.01	123.25	132.99	138.81	145.39	151.36	157.43	163.48
	COP	0.914	1.106	1.334	1.620	1.918	2.239	2.575	2.931

## Oil cooling load (Discharge Temp. set point 80°C), with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	14.71	12.09	8.61	5.06	0.52	--	--	--
35	Oil cooling	17.94	16.52	14.10	10.80	7.02	2.58	--	--



	load (kW)								
40	Oil cooling load (kW)	20.72	21.02	19.48	16.93	13.90	10.24	6.14	0.25
45	Oil cooling load (kW)	23.86	25.15	25.10	23.28	21.21	18.56	15.48	10.84

★ For ECO load data, please download the HANBELL model selection software, and select according to design conditions.

## LB-100-PLUS, R404A, without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	12.3	16.8	22.1	28.4	36.0	45.0	55.8	80.2
	Power (kW)	14.86	15.47	16.29	17.11	18.04	19.08	20.34	23.50
	Current (A)	25.77	26.76	27.97	29.19	30.72	32.36	34.34	39.60
	COP	0.828	1.086	1.357	1.660	1.995	2.359	2.743	3.413
35	Refrigerating capacity (kW)	11.4	15.6	20.5	26.4	33.6	42.1	52.4	79.5
	Power (kW)	15.95	16.76	17.59	18.42	19.46	20.52	21.69	25.67
	Current (A)	27.50	28.69	29.92	31.35	32.89	34.56	36.55	43.26
	COP	0.715	0.931	1.165	1.433	1.726	2.052	2.416	3.096
40	Refrigerating capacity (kW)	10.1	13.7	18.1	23.4	29.5	36.7	45.0	77.5
	Power (kW)	15.36	15.97	16.79	17.71	18.65	19.69	20.86	28.81
	Current (A)	26.50	27.50	28.72	30.13	31.66	33.31	35.19	48.95
	COP	0.658	0.858	1.078	1.321	1.582	1.864	2.158	2.690
45	Refrigerating capacity (kW)	9.1	12.6	16.7	21.6	27.4	34.2	41.9	73.6
	Power (kW)	16.73	17.45	18.28	19.31	20.30	21.41	22.59	33.13
	Current (A)	28.59	29.70	31.04	32.56	34.28	36.08	37.98	56.81
	COP	0.544	0.722	0.914	1.119	1.350	1.597	1.855	2.221

## Oil cooling load (Discharge Temp. set point 80°C), without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	5.66	3.46	1.14	--	--	--	--	--
35	Oil cooling load (kW)	7.25	5.21	3.04	0.7	--	--	--	--
40	Oil cooling load (kW)	9.16	7.44	5.58	3.52	1.21	--	--	--
45	Oil cooling load (kW)	11.92	10.69	9.29	7.66	5.74	3.55	1.07	--

## LB-100-PLUS, R404A, with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	18.5	24.5	31.2	38.8	47.3	57.1	68.0	80.2
	Power (kW)	17.49	18.51	19.45	20.20	20.87	21.64	22.43	23.50
	Current (A)	29.72	31.41	32.96	34.12	35.20	36.49	37.91	39.60
	COP	1.058	1.324	1.604	1.921	2.266	2.639	3.032	3.413
35	Refrigerating capacity (kW)	18.1	24.0	30.6	38.1	46.6	56.3	67.2	79.5
	Power (kW)	18.11	19.98	21.70	22.38	23.06	23.86	24.66	25.67
	Current (A)	30.69	33.71	36.52	37.72	38.93	40.25	41.60	43.26
	COP	0.999	1.201	1.410	1.703	2.020	2.360	2.725	3.096
40	Refrigerating capacity (kW)	17.4	23.1	29.4	36.6	45.0	54.5	65.3	77.5
	Power (kW)	19.66	21.92	23.85	25.12	26.13	26.94	27.77	28.81
	Current (A)	33.15	36.86	40.16	42.45	44.19	45.66	47.15	48.95
	COP	0.885	1.054	1.233	1.457	1.722	2.023	2.351	2.690
45	Refrigerating capacity (kW)	15.9	21.1	26.9	33.8	41.7	50.9	61.5	73.6
	Power (kW)	21.30	23.76	25.89	27.95	30.11	31.00	32.06	33.13
	Current (A)	35.88	39.98	43.79	47.55	51.38	53.09	54.94	56.81
	COP	0.746	0.888	1.039	1.209	1.385	1.642	1.918	2.221

## Oil cooling load (Discharge Temp. set point 80°C), with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	1.28	--	--	--	--	--	--	--
35	Oil cooling load (kW)	1.44	0.13	--	--	--	--	--	--
40	Oil cooling load (kW)	2.15	1.20	0.5	--	--	--	--	--
45	Oil cooling load (kW)	3.18	3.09	2.40	1.54	0.36	--	--	--

★ For ECO load data, please download the HANBELL model selection software, and select according to design conditions.

## LB-140-PLUS, R404A, without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	18.2	24.8	32.6	42.0	53.1	66.5	82.4	101.2
	Power (kW)	20.22	21.16	22.13	23.30	24.58	25.96	27.69	29.60
	Current (A)	37.80	39.19	40.72	42.34	44.18	46.32	48.83	51.60
	COP	0.900	1.172	1.473	1.803	2.161	2.561	2.976	3.419
35	Refrigerating capacity (kW)	16.8	23.0	30.3	39.0	49.6	62.2	77.3	95.2
	Power (kW)	21.77	22.82	24.00	25.18	26.47	27.88	29.51	31.47
	Current (A)	39.98	41.48	43.12	44.85	46.81	48.99	51.40	54.25
	COP	0.772	1.008	1.263	1.549	1.874	2.231	2.619	3.025
40	Refrigerating capacity (kW)	15.1	20.7	27.3	35.3	45.0	56.8	70.9	87.8
	Power (kW)	23.60	24.85	26.14	27.53	28.94	30.47	32.22	34.10
	Current (A)	42.42	44.32	46.27	48.32	50.41	52.71	55.35	58.32
	COP	0.640	0.833	1.044	1.282	1.555	1.864	2.200	2.575
45	Refrigerating capacity (kW)	12.8	17.6	23.3	30.4	39.1	49.7	62.7	78.3
	Power (kW)	25.88	27.44	29.04	30.55	32.24	33.93	35.81	37.81
	Current (A)	45.60	48.00	50.36	52.74	55.36	57.98	60.86	64.08
	COP	0.495	0.641	0.802	0.995	1.213	1.465	1.751	2.071

## Oil cooling load (Discharge Temp. set point 80°C), without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	6.56	3.25	--	--	--	--	--	--
35	Oil cooling load (kW)	8.76	5.67	2.39	--	--	--	--	--
40	Oil cooling load (kW)	11.41	8.78	5.94	2.8	--	--	--	--
45	Oil cooling load (kW)	15.27	13.34	11.17	8.64	5.69	2.33	--	--

## LB-140-PLUS, R404A, with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	27.4	36.2	46.0	57.2	69.8	84.3	100.3	118.3
	Power (kW)	24.54	26.00	26.54	27.55	28.48	29.51	30.57	32.00
	Current (A)	43.73	46.03	46.75	48.23	49.74	51.34	52.99	55.10
	COP	1.116	1.392	1.733	2.076	2.451	2.857	3.281	3.697
35	Refrigerating capacity (kW)	26.8	35.5	45.2	56.3	68.8	83.1	99.2	117.4
	Power (kW)	25.43	28.32	29.54	30.48	31.43	32.50	33.57	34.87
	Current (A)	45.04	49.34	51.15	52.67	54.11	55.77	57.54	59.54
	COP	1.054	1.254	1.530	1.847	2.189	2.557	2.955	3.367
40	Refrigerating capacity (kW)	25.7	34.1	43.5	54.1	66.4	80.4	96.3	114.5
	Power (kW)	27.62	30.81	33.10	34.27	35.55	36.74	37.86	39.28
	Current (A)	48.13	52.92	56.48	58.33	60.41	62.22	64.15	66.40
	COP	0.930	1.107	1.314	1.579	1.868	2.188	2.544	2.915
45	Refrigerating capacity (kW)	23.5	31.1	39.8	49.8	61.5	75.1	90.9	108.6
	Power (kW)	29.90	33.29	36.37	39.29	40.98	42.24	43.60	45.07
	Current (A)	51.49	56.77	61.59	66.38	69.05	71.18	73.49	75.92
	COP	0.786	0.934	1.094	1.268	1.501	1.778	2.085	2.409



## Oil cooling load (Discharge Temp. set point 80°C), with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	1.25	--	--	--	--	--	--	--
35	Oil cooling load (kW)	1.5	--	--	--	--	--	--	--
40	Oil cooling load (kW)	2.54	1.09	--	--	--	--	--	--
45	Oil cooling load (kW)	4.02	3.8	2.74	1.33	--	--	--	--

★ For ECO load data, please download the HANBELL model selection software, and select according to design conditions.

## LB-180-PLUS, R404A, without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	20.9	28.5	37.4	48.1	60.9	76.3	94.5	116.1
	Power (kW)	23.98	25.05	26.25	27.64	29.06	30.78	32.85	35.10
	Current (A)	42.98	44.60	46.46	48.43	50.71	53.31	56.37	59.90
	COP	0.872	1.138	1.425	1.740	2.096	2.479	2.877	3.308
35	Refrigerating capacity (kW)	19.2	26.4	34.7	44.8	56.8	71.4	88.7	109.2
	Power (kW)	25.81	27.08	28.39	29.81	31.34	33.09	35.06	37.26
	Current (A)	45.61	47.54	49.52	51.61	54.01	56.65	59.72	63.24
	COP	0.744	0.975	1.222	1.503	1.813	2.158	2.530	2.931
40	Refrigerating capacity (kW)	17.3	23.8	31.4	40.5	51.6	65.1	81.3	100.7
	Power (kW)	28.00	29.48	31.01	32.63	34.28	36.15	38.15	40.38
	Current (A)	48.69	51.03	53.42	55.83	58.47	61.34	64.54	68.19
	COP	0.618	0.807	1.013	1.241	1.505	1.801	2.131	2.494
45	Refrigerating capacity (kW)	14.7	20.2	26.8	34.8	44.8	57.0	71.9	89.8
	Power (kW)	30.65	32.53	34.37	36.31	38.27	40.29	42.42	44.87
	Current (A)	52.70	55.54	58.45	61.48	64.68	67.96	71.51	75.52
	COP	0.480	0.621	0.780	0.958	1.171	1.415	1.695	2.001

## Oil cooling load (Discharge Temp. set point 80°C), without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	8.35	4.58	0.61	--	--	--	--	--
35	Oil cooling load (kW)	10.94	7.43	3.71	--	--	--	--	--
40	Oil cooling load (kW)	14.06	11.09	7.88	4.32	0.34	--	--	--
45	Oil cooling load (kW)	18.59	16.43	13.99	11.14	7.81	4.01	--	--

## LB-180-PLUS, R404A, ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	31.4	41.5	52.8	65.6	80.1	96.6	115.1	135.7
	Power (kW)	28.68	30.84	31.42	32.57	33.74	35.01	36.32	37.90
	Current (A)	49.84	53.05	54.03	55.87	57.54	59.60	61.63	64.30
	COP	1.095	1.346	1.680	2.014	2.374	2.759	3.169	3.580
35	Refrigerating capacity (kW)	30.7	40.7	51.9	64.5	78.9	95.4	113.8	134.6
	Power (kW)	29.75	32.86	34.99	36.17	37.27	38.58	39.81	41.36
	Current (A)	51.42	56.16	59.46	61.25	63.16	65.19	67.25	69.83
	COP	1.032	1.239	1.483	1.783	2.117	2.472	2.858	3.254
40	Refrigerating capacity (kW)	29.5	39.1	49.8	62.0	76.2	92.2	110.5	131.3
	Power (kW)	32.31	36.00	39.21	40.62	42.15	43.50	44.87	46.56
	Current (A)	55.25	61.05	66.21	68.44	71.09	73.29	75.61	78.46
	COP	0.913	1.086	1.270	1.526	1.808	2.119	2.462	2.820
45	Refrigerating capacity (kW)	26.9	35.7	45.6	57.2	70.6	86.2	104.2	124.6
	Power (kW)	34.95	38.95	42.55	46.69	48.56	50.16	51.69	53.43
	Current (A)	59.33	65.73	71.69	78.67	81.97	84.78	87.49	90.55
	COP	0.770	0.917	1.072	1.225	1.454	1.718	2.016	2.332

## Oil cooling load (Discharge Temp. set point 80°C), with ECO

Refrigerating capacity°C	Evaporating Temp.°C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	1.73	--	--	--	--	--	--	--
35	Oil cooling load (kW)	2.02	--	--	--	--	--	--	--
40	Oil cooling load (kW)	3.21	1.57	0.33	--	--	--	--	--
45	Oil cooling load (kW)	4.92	4.71	3.53	2.25	--	--	--	--

★ For ECO load data, please download the HANBELL model selection software, and select according to design conditions.

## LB-200-PLUS, R404A, without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	24.9	34.0	44.7	57.4	72.7	91.0	112.8	138.5
	Power (kW)	28.12	29.42	30.85	32.38	34.23	36.19	38.60	41.20
	Current (A)	52.66	54.57	56.62	58.87	61.44	64.42	67.88	71.90
	COP	0.886	1.156	1.449	1.773	2.124	2.514	2.922	3.362
35	Refrigerating capacity (kW)	23.0	31.4	41.4	53.4	67.8	85.1	105.8	130.3
	Power (kW)	30.31	31.82	33.36	35.01	36.79	38.88	41.10	43.76
	Current (A)	55.55	57.77	60.04	62.51	65.20	68.14	71.61	75.52
	COP	0.759	0.987	1.241	1.525	1.843	2.189	2.574	2.978
40	Refrigerating capacity (kW)	20.7	28.4	37.4	48.4	61.6	77.7	97.0	120.1
	Power (kW)	32.87	34.68	36.44	38.31	40.30	42.43	44.87	47.46
	Current (A)	59.09	61.71	64.40	67.19	70.22	73.39	77.10	81.16
	COP	0.630	0.819	1.026	1.263	1.528	1.831	2.162	2.531
45	Refrigerating capacity (kW)	17.5	24.1	31.9	41.6	53.4	68.0	85.8	107.1
	Power (kW)	35.97	38.19	40.36	42.65	44.97	47.33	49.91	52.64
	Current (A)	63.54	66.76	70.07	73.49	77.11	80.67	84.73	89.25
	COP	0.486	0.631	0.790	0.975	1.188	1.437	1.719	2.035

## Oil cooling load (Discharge Temp. set point 80°C), with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	9.49	4.98	0.22	--	--	--	--	--
35	Oil cooling load (kW)	12.54	8.34	3.88	--	--	--	--	--
40	Oil cooling load (kW)	16.22	12.65	8.80	4.53	--	--	--	--
45	Oil cooling load (kW)	21.57	18.97	16.02	12.59	8.59	4.02	--	--

## LB-200-PLUS, R404A, with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	37.4	49.6	62.9	78.3	95.6	115.3	137.3	161.9
	Power (kW)	33.95	36.25	36.98	38.28	39.59	41.11	42.67	44.50
	Current (A)	60.56	64.06	65.14	67.18	69.14	71.40	73.83	76.70
	COP	1.102	1.368	1.701	2.046	2.415	2.805	3.217	3.638
35	Refrigerating capacity (kW)	36.6	48.5	61.9	77.0	94.2	113.8	135.8	160.6
	Power (kW)	35.19	38.83	41.11	42.44	43.79	45.26	46.85	48.65
	Current (A)	62.40	67.81	71.22	73.21	75.42	77.66	80.02	82.92
	COP	1.040	1.249	1.506	1.814	2.151	2.514	2.899	3.301
40	Refrigerating capacity (kW)	35.2	46.7	59.5	74.0	90.9	110.0	131.8	156.6
	Power (kW)	38.21	42.62	46.08	47.65	49.53	51.15	52.68	54.64
	Current (A)	66.67	73.24	78.71	81.24	84.11	86.61	89.25	92.42
	COP	0.921	1.096	1.291	1.553	1.835	2.151	2.502	2.866
45	Refrigerating capacity (kW)	32.1	42.6	54.4	68.2	84.2	102.8	124.3	148.7
	Power (kW)	41.30	46.11	50.27	54.75	57.01	58.86	60.76	62.78
	Current (A)	71.29	78.55	85.20	92.41	96.15	99.25	102.29	105.77
	COP	0.777	0.924	1.082	1.246	1.477	1.746	2.046	2.368

## Oil cooling load (Discharge Temp. set point 80°C), with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	1.91	--	--	--	--	--	--	--
35	Oil cooling load (kW)	2.23	--	--	--	--	--	--	--
40	Oil cooling load (kW)	3.65	1.70	0.08	--	--	--	--	--



45	Oil cooling load (kW)	5.7	5.42	3.96	2.25	--	--	--	--
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★ For ECO load data, please download the HANBELL model selection software, and select according to design conditions.

## LB-230-PLUS, R404A, without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	29.6	40.4	53.1	68.2	86.4	108.1	134.0	164.6
	Power (kW)	32.54	34.07	35.73	37.50	39.59	41.90	44.66	47.70
	Current (A)	58.68	60.93	63.32	66.02	69.14	72.68	76.81	81.50
	COP	0.910	1.186	1.486	1.818	2.182	2.580	3.001	3.451
35	Refrigerating capacity (kW)	27.3	37.4	49.3	63.5	80.6	101.2	125.8	154.9
	Power (kW)	35.10	36.84	38.62	40.51	42.63	44.97	47.64	50.65
	Current (A)	62.22	64.77	67.49	70.42	73.57	77.17	81.31	86.01
	COP	0.778	1.015	1.276	1.567	1.891	2.251	2.641	3.058
40	Refrigerating capacity (kW)	24.6	33.7	44.5	57.5	73.2	92.3	115.3	142.7
	Power (kW)	38.02	40.07	42.17	44.38	46.62	49.09	51.89	54.93
	Current (A)	66.48	69.55	72.79	76.14	79.64	83.58	87.87	92.82
	COP	0.647	0.841	1.055	1.296	1.570	1.880	2.222	2.598
45	Refrigerating capacity (kW)	20.8	28.6	38.0	49.4	63.5	80.8	101.9	127.3
	Power (kW)	41.67	44.23	46.74	49.28	52.06	54.76	57.70	60.99
	Current (A)	71.76	75.72	79.68	83.67	88.09	92.40	97.26	102.68
	COP	0.499	0.647	0.813	1.002	1.220	1.476	1.766	2.087

## Oil cooling load (Discharge Temp. set point 80°C), without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	10.35	4.95	--	--	--	--	--	--
35	Oil cooling load (kW)	13.90	8.86	3.52	--	--	--	--	--
40	Oil cooling load (kW)	18.18	13.89	9.26	4.13	--	--	--	--

45	Oil cooling load (kW)	24.43	21.27	17.71	13.58	8.75	3.27	--	--
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## LB-230-PLUS, R404A, with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	44.5	58.9	74.8	93.0	113.6	137.0	163.2	192.4
	Power (kW)	39.68	41.95	42.73	44.37	45.83	47.50	49.32	51.50
	Current (A)	68.84	72.31	73.67	76.07	78.41	81.14	83.96	87.50
	COP	1.121	1.404	1.751	2.096	2.478	2.884	3.309	3.736
35	Refrigerating capacity (kW)	43.5	57.7	73.5	91.5	111.9	135.2	161.4	190.9
	Power (kW)	41.10	45.65	47.61	49.10	50.70	52.43	54.17	56.24
	Current (A)	71.04	77.94	80.97	83.44	85.93	88.66	91.51	94.91
	COP	1.058	1.264	1.544	1.864	2.207	2.579	2.979	3.394
40	Refrigerating capacity (kW)	41.9	55.5	70.7	88.0	108.0	130.8	156.7	186.1
	Power (kW)	44.67	49.80	53.33	55.16	57.30	59.18	60.98	63.31
	Current (A)	76.32	84.39	90.06	93.08	96.63	99.65	102.79	106.58
	COP	0.938	1.114	1.326	1.595	1.885	2.210	2.570	2.940
45	Refrigerating capacity (kW)	38.2	50.6	64.7	81.1	100.1	122.2	147.8	176.7
	Power (kW)	48.31	53.85	58.83	63.40	65.94	68.15	70.23	72.64
	Current (A)	81.85	90.81	99.10	106.82	111.30	115.09	118.86	122.98
	COP	0.791	0.940	1.100	1.279	1.518	1.793	2.104	2.433

## Oil cooling load (Discharge Temp. set point 80°C), with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	1.93	--	--	--	--	--	--	--
35	Oil cooling load (kW)	2.34	--	--	--	--	--	--	--
40	Oil cooling load (kW)	4	1.65	--	--	--	--	--	--

	load (kW)								
45	Oil cooling load (kW)	6.43	6.06	4.30	1.91	--	--	--	--

★ For ECO load data, please download the HANBELL model selection software, and select according to design conditions.

## LB-250-PLUS, R404A, without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	32.0	43.6	57.3	73.7	93.3	116.8	144.7	177.7
	Power (kW)	35.08	36.73	38.42	40.40	42.62	45.14	48.03	51.40
	Current (A)	64.79	67.28	70.03	72.98	76.36	80.25	84.75	89.90
	COP	0.912	1.187	1.492	1.824	2.189	2.587	3.013	3.457
35	Refrigerating capacity (kW)	29.5	40.4	53.2	68.5	87.0	109.2	135.8	167.2
	Power (kW)	37.82	39.68	41.59	43.60	45.94	48.40	51.30	54.55
	Current (A)	68.78	71.59	74.57	77.75	81.26	85.22	89.63	94.81
	COP	0.780	1.018	1.279	1.571	1.894	2.256	2.647	3.065
40	Refrigerating capacity (kW)	26.5	36.4	48.0	62.0	79.1	99.7	124.5	154.1
	Power (kW)	41.01	43.19	45.41	47.74	50.21	52.91	55.84	59.12
	Current (A)	73.41	76.83	80.33	83.94	87.80	92.10	96.67	101.89
	COP	0.646	0.843	1.057	1.299	1.575	1.884	2.229	2.606
45	Refrigerating capacity (kW)	22.5	30.9	41.0	53.4	68.6	87.3	110.0	137.5
	Power (kW)	44.85	47.62	50.36	53.12	56.04	58.96	62.14	65.67
	Current (A)	79.24	83.55	87.77	92.12	96.83	101.40	106.53	112.14
	COP	0.502	0.649	0.814	1.005	1.224	1.481	1.770	2.094

## Oil cooling load (Discharge Temp. set point 80°C), without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	11.08	5.24	--	--	--	--	--	--
35	Oil cooling load (kW)	14.90	9.46	3.69	--	--	--	--	--
40	Oil cooling load (kW)	19.52	14.88	9.87	4.34	--	--	--	--

	load (kW)								
45	Oil cooling load (kW)	25.26	22.84	18.99	14.52	9.31	3.37	--	--

## LB-250-PLUS, R404A, with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	48.0	63.6	80.8	100.5	122.6	148.0	176.2	207.8
	Power (kW)	42.79	45.17	46.08	47.75	49.35	51.24	53.09	55.50
	Current (A)	76.08	79.91	81.24	84.00	86.50	89.50	92.49	96.30
	COP	1.122	1.408	1.753	2.105	2.485	2.888	3.319	3.744
35	Refrigerating capacity (kW)	47.0	62.3	79.4	98.8	120.9	146.0	174.2	206.1
	Power (kW)	44.39	49.24	51.24	52.86	54.60	56.45	58.33	60.54
	Current (A)	78.45	85.99	89.29	91.93	94.60	97.49	100.53	104.20
	COP	1.059	1.265	1.550	1.869	2.214	2.586	2.986	3.404
40	Refrigerating capacity (kW)	45.2	59.9	76.3	95.0	116.6	141.2	169.2	201.0
	Power (kW)	48.13	53.68	57.43	59.39	61.77	63.69	65.73	68.10
	Current (A)	84.18	92.89	98.83	102.04	105.76	108.95	112.18	116.05
	COP	0.939	1.116	1.329	1.600	1.888	2.217	2.574	2.952
45	Refrigerating capacity (kW)	41.2	54.7	69.8	87.5	108.0	131.9	159.6	190.8
	Power (kW)	52.05	58.09	63.40	68.30	71.09	73.34	75.66	78.21
	Current (A)	90.26	99.68	108.24	116.04	120.62	124.47	128.23	132.43
	COP	0.792	0.942	1.101	1.281	1.519	1.799	2.110	2.440

## Oil cooling load (Discharge Temp. set point 80°C), with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	2.06	--	--	--	--	--	--	--
35	Oil cooling load (kW)	2.49	--	--	--	--	--	--	--



40	Oil cooling load (kW)	4.29	1.73	--	--	--	--	--	--
45	Oil cooling load (kW)	6.91	6.5	4.59	1.99	--	--	--	--

★ For ECO load data, please download the HANBELL model selection software, and select according to design conditions.

## LB-280-PLUS, R404A, without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	35.1	47.9	62.9	80.9	102.4	128.2	158.8	195.1
	Power (kW)	37.90	39.67	41.58	43.69	46.13	48.78	52.00	55.60
	Current (A)	68.93	71.65	74.63	77.91	81.62	85.86	90.80	96.40
	COP	0.926	1.208	1.513	1.852	2.220	2.628	3.054	3.509
35	Refrigerating capacity (kW)	32.3	44.3	58.4	75.2	95.5	119.9	149.1	183.6
	Power (kW)	40.91	42.90	45.03	47.27	49.63	52.43	55.46	59.04
	Current (A)	73.29	76.42	79.73	83.15	87.00	91.31	96.17	101.70
	COP	0.789	1.033	1.297	1.591	1.924	2.287	2.688	3.110
40	Refrigerating capacity (kW)	29.1	39.9	52.7	68.1	86.8	109.4	136.7	169.2
	Power (kW)	44.39	46.78	49.23	51.69	54.39	57.22	60.49	64.01
	Current (A)	78.47	82.22	86.05	90.00	94.21	98.76	103.88	109.57
	COP	0.656	0.853	1.071	1.317	1.596	1.912	2.260	2.643
45	Refrigerating capacity (kW)	24.6	33.9	45.0	58.6	75.3	95.8	120.8	150.9
	Power (kW)	48.59	51.49	54.45	57.44	60.60	63.75	67.27	71.04
	Current (A)	84.84	89.49	94.15	98.94	104.02	109.02	114.62	120.69
	COP	0.506	0.658	0.826	1.020	1.243	1.503	1.796	2.124

## Oil cooling load (Discharge Temp. set point 80°C), without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	11.57	5.15	--	--	--	--	---	--
35	Oil cooling load (kW)	15.73	9.73	3.37	--	--	--	--	--
40	Oil cooling load (kW)	20.74	15.62	10.09	3.98	--	--	--	--

	load (kW)								
45	Oil cooling load (kW)	28.07	24.28	20.01	15.07	9.31	2.76	--	--

## LB-280-PLUS, R404A, with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	52.7	69.8	88.7	110.3	134.6	162.4	193.4	228.1
	Power (kW)	46.55	48.87	49.82	51.62	53.44	55.37	57.46	60.10
	Current (A)	81.81	85.50	87.08	89.99	92.74	95.99	99.24	103.40
	COP	1.132	1.428	1.781	2.137	2.519	2.933	3.366	3.795
35	Refrigerating capacity (kW)	51.6	68.4	87.1	108.4	132.7	160.3	191.3	226.3
	Power (kW)	48.23	53.22	55.45	57.20	59.07	61.07	63.09	65.53
	Current (A)	84.46	92.24	95.79	98.58	101.60	104.76	108.05	111.99
	COP	1.070	1.285	1.571	1.895	2.246	2.625	3.032	3.453
40	Refrigerating capacity (kW)	49.6	65.7	83.8	104.2	128.0	155.0	185.7	220.6
	Power (kW)	52.34	58.40	62.20	64.30	66.82	68.98	71.07	73.68
	Current (A)	90.74	100.26	106.28	109.74	113.82	117.28	120.78	125.12
	COP	0.948	1.125	1.347	1.620	1.916	2.247	2.613	2.994
45	Refrigerating capacity (kW)	45.2	60.0	76.6	96.1	118.6	144.8	175.1	209.4
	Power (kW)	56.62	63.18	69.02	73.87	76.92	79.40	81.87	84.67
	Current (A)	97.36	107.78	117.19	125.17	130.24	134.35	138.59	143.28
	COP	0.798	0.950	1.110	1.301	1.542	1.824	2.139	2.473

## Oil cooling load (Discharge Temp. set point 80°C), with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	2.04	--	--	--	--	--	--	--
35	Oil cooling load (kW)	2.52	--	--	--	--	--	--	--
40	Oil cooling load (kW)	4.52	1.66	--	--	--	--	--	--
45	Oil cooling load (kW)	7.37	6.86	4.80	4.66	--	--	--	--

	load (kW)								
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★ For ECO load data, please download the HANBELL model selection software, and select according to design conditions.

## LB-360-PLUS, R404A, without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	45.2	61.7	81.1	104.2	132.0	165.2	204.7	251.3
	Power (kW)	50.41	52.76	55.28	58.09	61.24	64.91	69.07	73.90
	Current (A)	88.68	92.34	96.37	100.82	105.81	111.63	118.29	126.00
	COP	0.897	1.169	1.467	1.794	2.155	2.545	2.964	3.401
35	Refrigerating capacity (kW)	41.7	57.1	75.2	96.9	123.1	154.5	192.1	236.6
	Power (kW)	54.33	57.01	59.85	62.80	65.98	69.61	73.78	78.42
	Current (A)	94.68	98.96	103.34	108.04	113.28	119.09	125.68	133.27
	COP	0.767	1.002	1.257	1.543	1.866	2.220	2.604	3.017
40	Refrigerating capacity (kW)	37.5	51.5	67.9	87.8	111.8	141.0	176.1	218.0
	Power (kW)	58.90	62.09	65.35	68.73	72.26	76.13	80.36	85.14
	Current (A)	101.79	106.88	112.00	117.44	123.15	129.33	136.30	144.17
	COP	0.637	0.829	1.039	1.277	1.547	1.852	2.191	2.560
45	Refrigerating capacity (kW)	31.8	43.7	58.0	75.5	97.0	123.4	155.6	194.4
	Power (kW)	64.57	68.46	72.45	76.37	80.61	84.78	89.37	94.43
	Current (A)	110.54	116.84	123.19	129.68	136.65	143.44	151.31	159.90
	COP	0.493	0.638	0.801	0.989	1.203	1.456	1.741	2.059

## Oil cooling load (Discharge Temp. set point 80°C), without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	16.55	8.34	--	--	--	--	--	--
35	Oil cooling load (kW)	22.04	14.38	6.26	--	--	--	--	--
40	Oil cooling load (kW)	28.65	22.13	15.10	7.32	--	--	--	--

	load (kW)								
45	Oil cooling load (kW)	38.29	33.51	28.11	21.85	14.54	6.21	--	--

## LB-360-PLUS, R404A, with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	68.0	89.9	114.2	142.1	173.5	209.3	249.2	293.9
	Power (kW)	61.03	65.01	66.20	68.63	70.99	73.66	76.41	79.80
	Current (A)	105.14	111.41	113.43	117.35	121.12	125.40	129.91	135.50
	COP	1.114	1.383	1.725	2.071	2.444	2.841	3.261	3.683
35	Refrigerating capacity (kW)	66.5	88.1	112.3	139.7	170.9	206.5	246.4	291.5
	Power (kW)	63.34	70.74	73.71	76.11	78.54	81.19	83.89	87.11
	Current (A)	108.76	120.55	125.33	129.26	133.23	137.55	142.12	147.55
	COP	1.050	1.245	1.524	1.836	2.176	2.543	2.937	3.346
40	Refrigerating capacity (kW)	63.9	84.7	107.9	134.3	164.9	199.7	239.3	284.3
	Power (kW)	68.73	76.73	82.62	85.48	88.77	91.61	94.49	98.01
	Current (A)	117.24	130.13	139.95	144.68	150.34	155.10	160.02	166.10
	COP	0.930	1.104	1.306	1.571	1.858	2.180	2.533	2.901
45	Refrigerating capacity (kW)	58.3	77.3	98.8	123.8	152.8	186.5	225.7	269.9
	Power (kW)	74.38	82.98	90.63	98.17	102.27	105.50	108.90	112.53
	Current (A)	126.33	140.41	153.37	166.66	173.84	179.82	185.74	192.33
	COP	0.784	0.932	1.090	1.261	1.494	1.768	2.073	2.398

## Oil cooling load (Discharge Temp. set point 80°C), with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	3.23	--	--	--	--	--	--	--
35	Oil cooling load (kW)	3.81	--	--	--	--	--	--	--



40	Oil cooling load (kW)	6.39	2.77	--	--	--	--	--	--
45	Oil cooling load (kW)	10.13	9.55	6.87	3.6	--	--	--	--

★For ECO load data, please download the HANBELL model selection software, and select according to design conditions.

## LB-410-PLUS, R404A, without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	54.4	74.1	97.4	125.2	158.6	198.4	245.9	302.0
	Power (kW)	56.33	58.93	61.79	64.96	68.46	72.48	77.21	82.60
	Current (A)	97.52	101.54	106.05	110.97	116.63	123.13	130.80	139.60
	COP	0.966	1.257	1.576	1.927	2.317	2.737	3.185	3.656
35	Refrigerating capacity (kW)	50.1	68.6	90.4	116.5	147.9	185.7	230.8	284.2
	Power (kW)	60.71	63.73	66.82	70.13	73.77	77.86	82.40	87.71
	Current (A)	104.16	108.91	113.86	119.13	125.06	131.66	139.25	147.85
	COP	0.825	1.076	1.353	1.661	2.005	2.385	2.801	3.240
40	Refrigerating capacity (kW)	45.1	61.8	81.6	105.4	134.4	169.4	211.6	261.9
	Power (kW)	65.83	69.46	73.08	76.82	80.80	85.05	89.85	95.11
	Current (A)	112.18	117.84	123.73	129.85	136.36	143.54	151.42	160.32
	COP	0.685	0.890	1.117	1.372	1.663	1.992	2.355	2.754
45	Refrigerating capacity (kW)	38.2	52.5	69.7	90.7	116.6	148.3	187.0	233.6
	Power (kW)	72.14	76.57	80.92	85.30	90.13	94.75	99.92	105.57
	Current (A)	122.13	129.38	136.61	143.99	151.90	159.67	168.38	177.91
	COP	0.530	0.686	0.861	1.063	1.294	1.565	1.871	2.213

## Oil cooling load (Discharge Temp. set point 80°C), without ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	15.39	5.35	--	--	--	--	--	--
35	Oil cooling load (kW)	21.62	12.22	2.27	--	--	--	--	--

40	Oil cooling load (kW)	29.15	21.08	12.39	2.80	--	--	--	--
45	Oil cooling load (kW)	40.21	34.17	27.40	19.59	10.50	0.19	--	--

## LB-410-PLUS, R404A, with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Refrigerating capacity (kW)	81.6	108.1	137.3	170.7	208.4	251.5	299.4	353.1
	Power (kW)	70.25	72.60	73.96	76.75	79.28	82.32	85.45	89.20
	Current (A)	119.15	122.99	125.31	129.81	134.09	138.97	144.10	150.50
	COP	1.162	1.489	1.856	2.224	2.629	3.055	3.504	3.959
35	Refrigerating capacity (kW)	79.9	105.8	134.9	167.9	205.4	248.1	296.1	350.3
	Power (kW)	72.82	79.07	82.41	85.08	87.78	90.72	93.79	97.40
	Current (A)	123.31	133.53	139.10	143.44	148.02	152.87	158.07	164.14
	COP	1.097	1.338	1.637	1.973	2.340	2.735	3.157	3.596
40	Refrigerating capacity (kW)	76.8	101.8	129.7	161.4	198.1	239.9	287.5	341.6
	Power (kW)	79.03	88.74	92.35	95.59	99.26	102.39	105.66	109.47
	Current (A)	133.44	149.50	155.69	161.04	167.34	172.64	178.11	184.64
	COP	0.972	1.147	1.404	1.689	1.996	2.343	2.721	3.120
45	Refrigerating capacity (kW)	70.0	92.9	118.7	148.7	183.6	224.1	271.2	324.3
	Power (kW)	85.40	95.34	105.29	109.70	114.21	117.92	121.62	125.77
	Current (A)	143.99	160.69	177.55	185.11	192.78	199.08	205.47	212.33
	COP	0.820	0.974	1.127	1.356	1.608	1.900	2.230	2.579

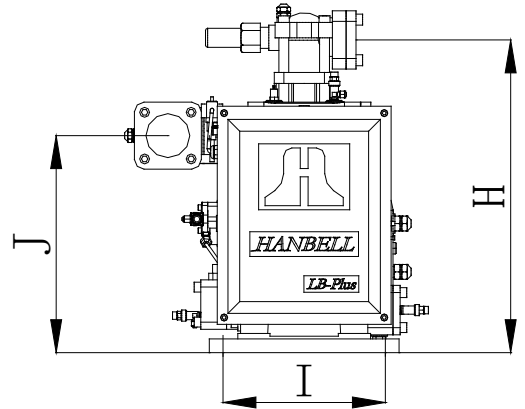
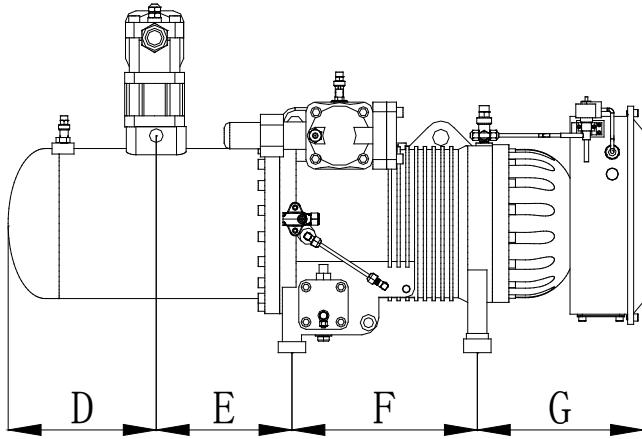
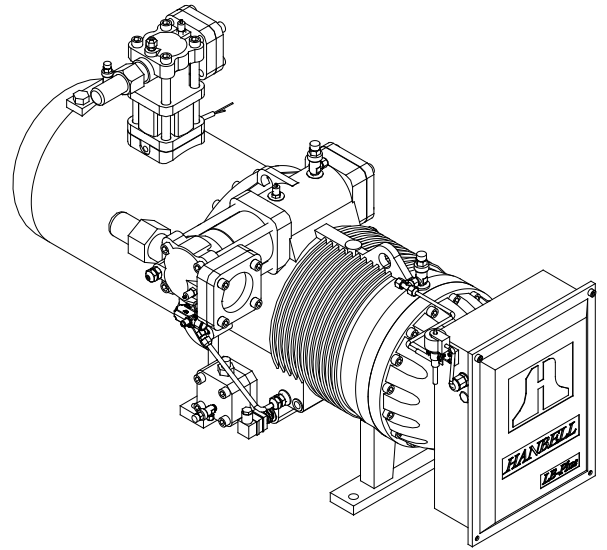
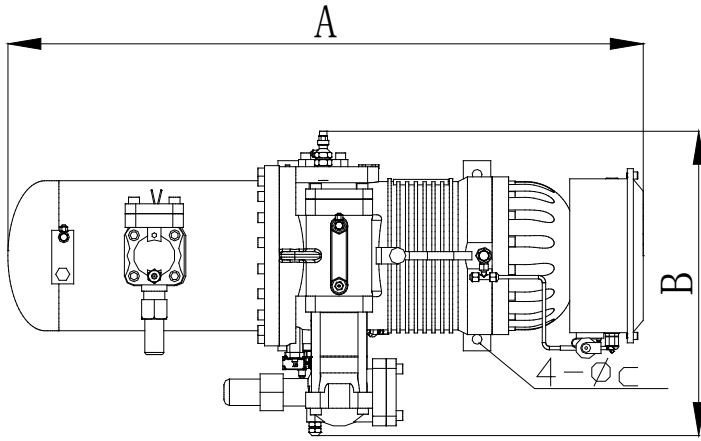
## Oil cooling load (Discharge Temp. set point 80°C), with ECO

Condensing Temp. °C	Evaporating Temp. °C	-45	-40	-35	-30	-25	-20	-15	-10
30	Oil cooling load (kW)	2.22	--	--	--	--	--	--	--

35	Oil cooling load (kW)	3.05	--	--	--	--	--	--	--
40	Oil cooling load (kW)	6.09	1.81	--	--	--	--	--	--
45	Oil cooling load (kW)	10.45	9.61	6.69	0.46	--	--	--	--

★For ECO load data, please download the HANBELL model selection software, and select according to design conditions.

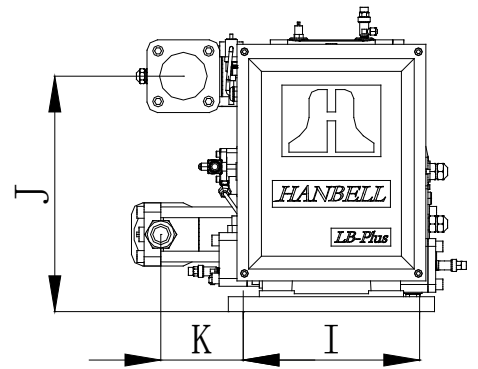
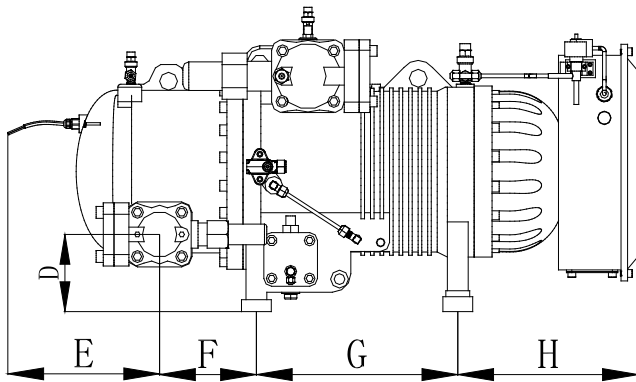
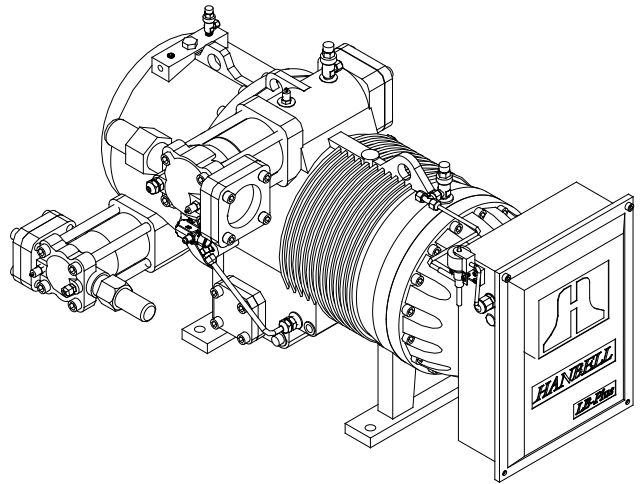
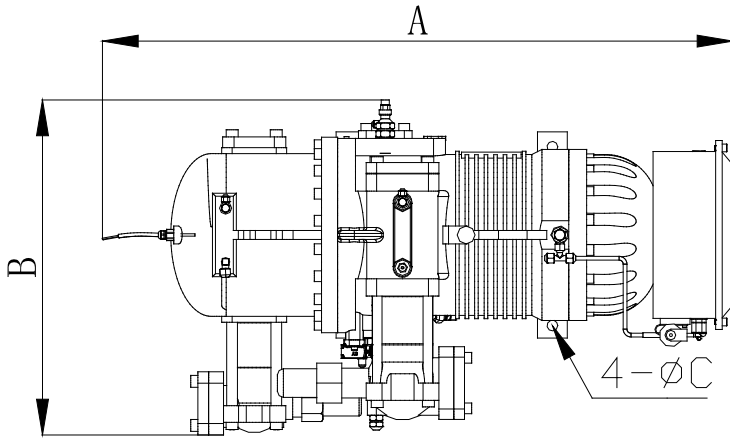
**LB100~280-PLUS Drawing**



UOM: mm

Model	A	B	C	D	E	F	G	H	I	J
LB100	1163.5	554	18	(275)	247.5	338	303	569	300	395
LB140	1199	584	18	(297)	255.5	339	308	578	350	402.5
LB180	1263	584	18	(297)	255.5	405	308	578	350	402.5
LB200	1410	645	18	(427)	270.3	390	332	683	350	449.5
LB230~280	1445	649	18	(427)	265.3	411	340	683	386	483

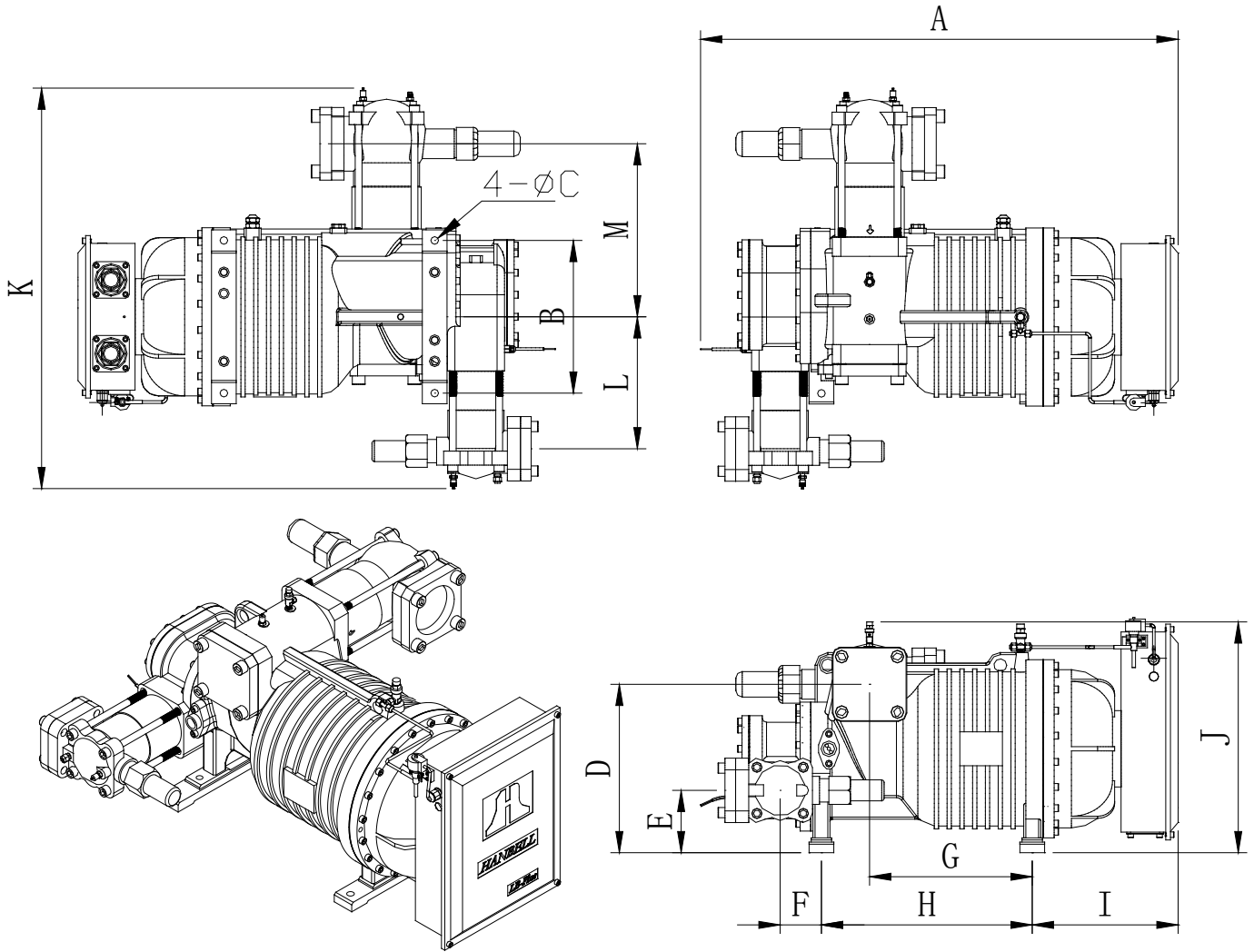
**LB100P~280P-PLUS Drawing**



UOM: mm

Model	A	B	C	D	E	F	G	H	I	J	K
LB100-P	1004	562	18	129.5	(254)	163.5	338	303	300	395	133
LB140-P	1017	597	18	117	(241)	177	339	308	350	402.5	104
LB180-P	1083	611	18	117.6	(241)	177	405	308	350	402.5	104
LB200-P	1186	630	18	112.5	(235)	230	390	332	350	449.5	158
LB230~280-P	1218	630	18	112.5	(235)	234	411	340	386	483	152

**LB-360P/410P-PLUS Drawing**

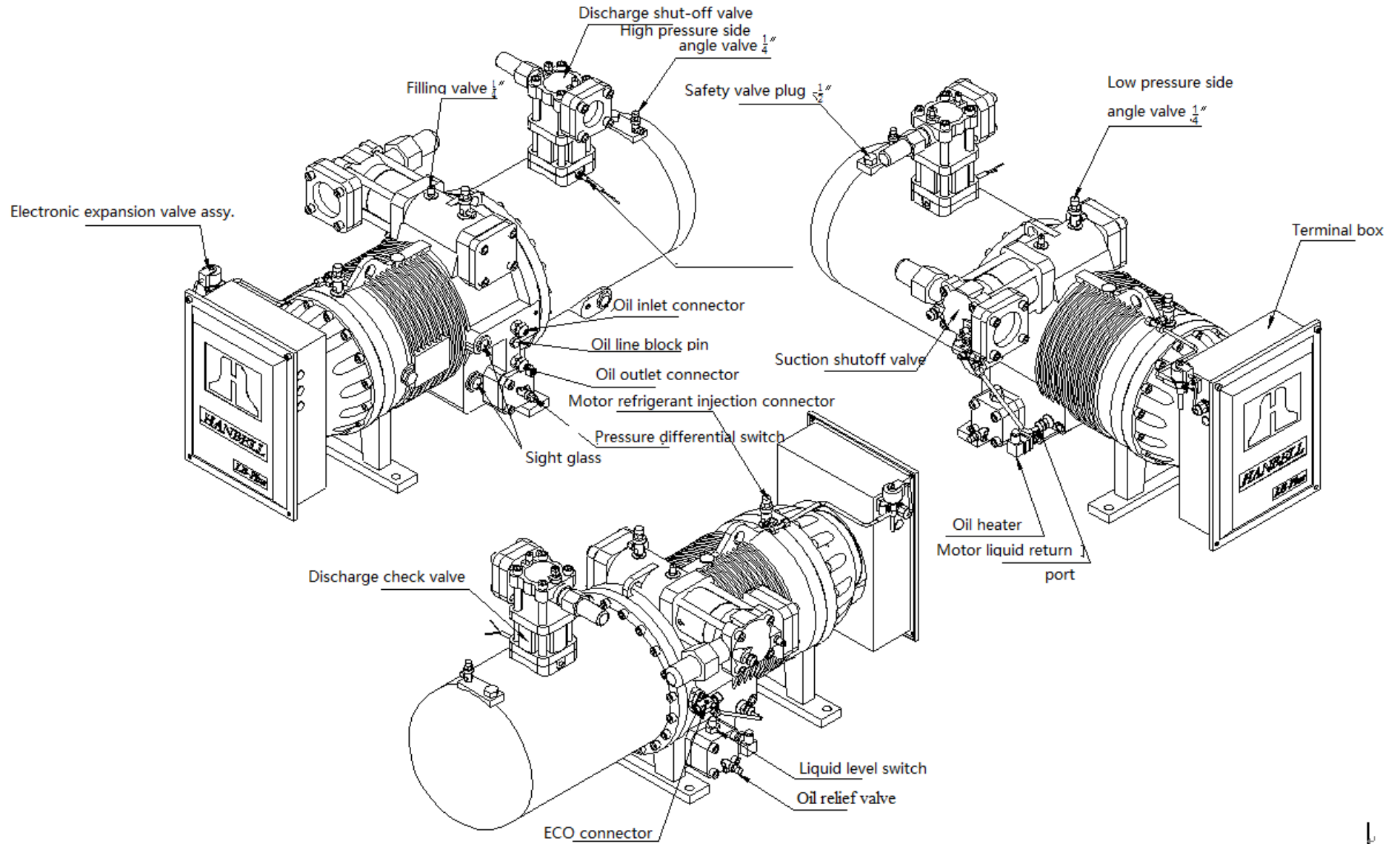


UOM: mm

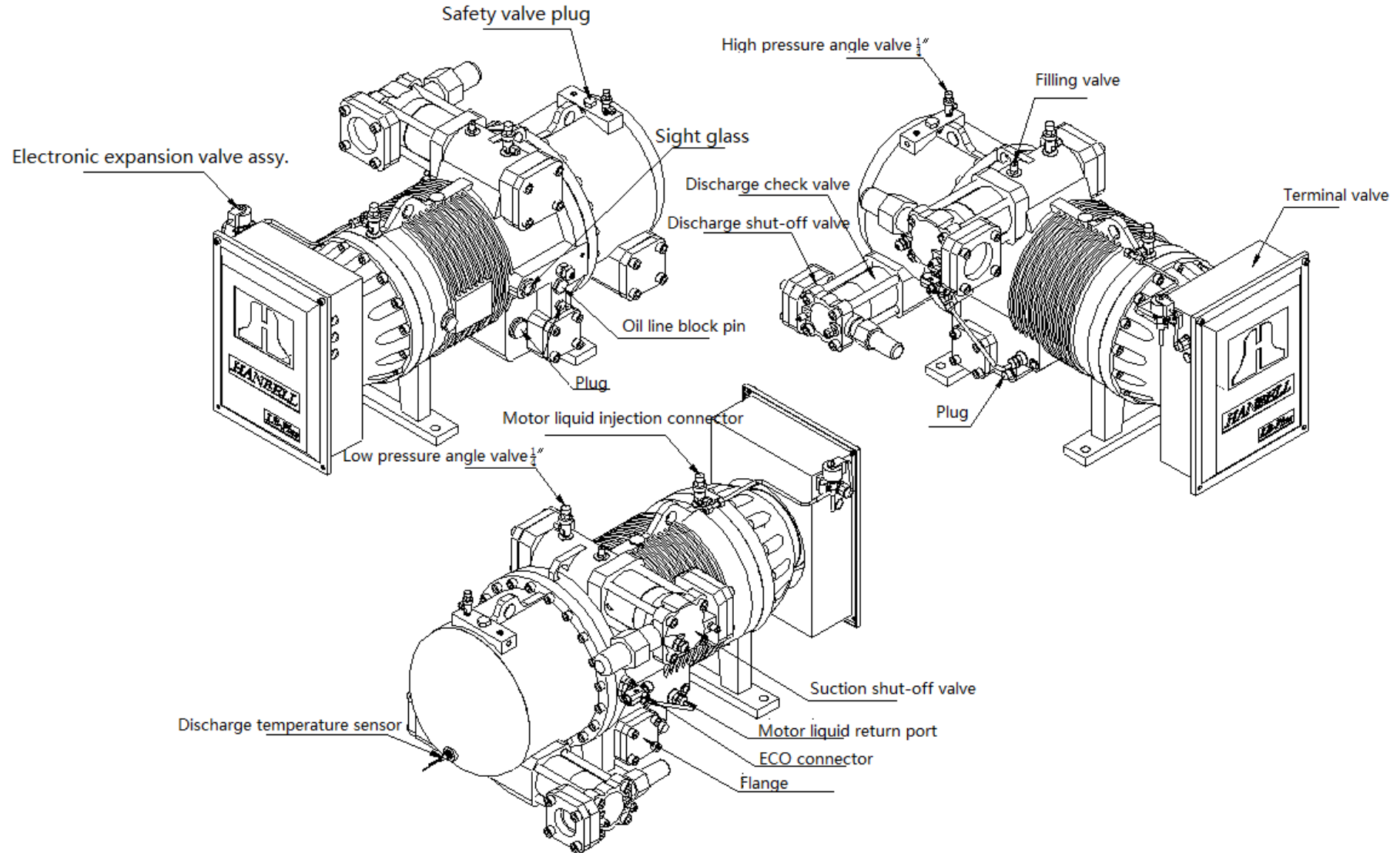
Model	A	B	C	D	E	F	G	H	I	J	K	L	M
LB360	1137	360	18	397	147	98	384.5	495	342.5	538	939	301	408
LB410	1237	360	18	397	156	106	465.8	576.3	342.5	538	949	327	408

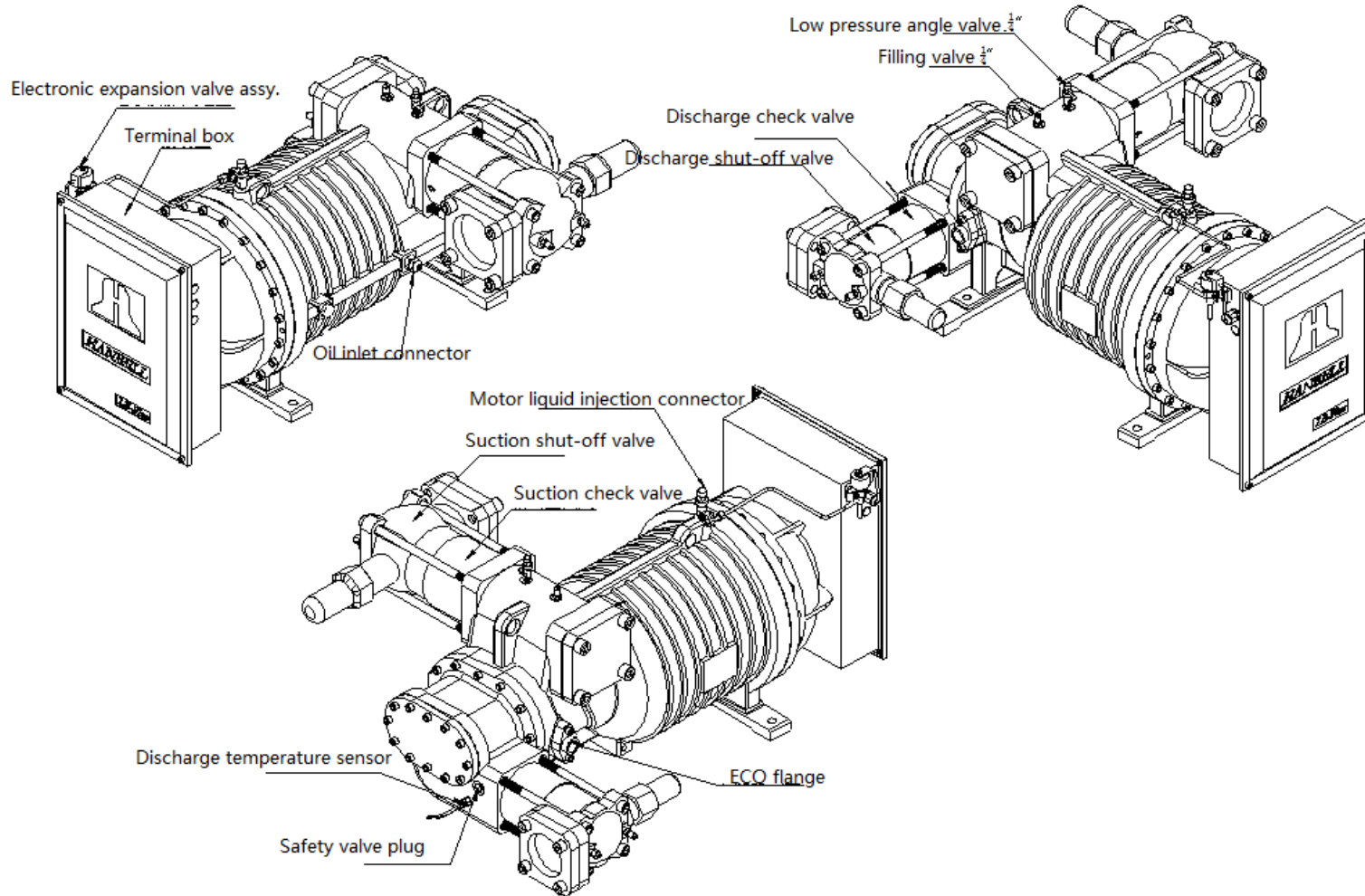


**LB-100~280-PLUS Drawing**



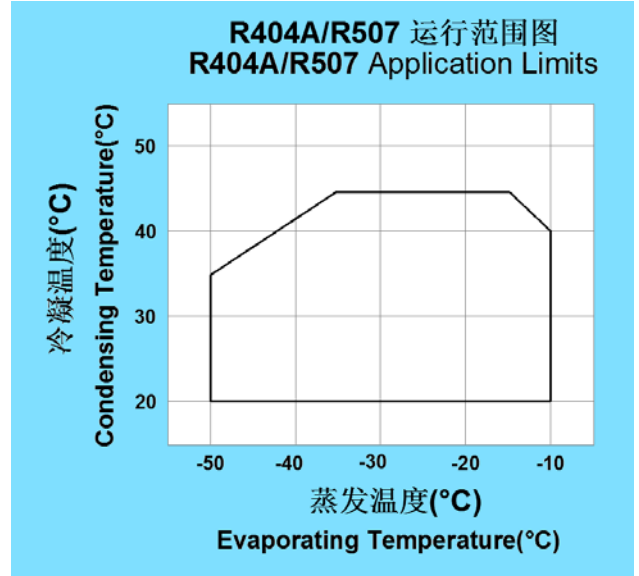
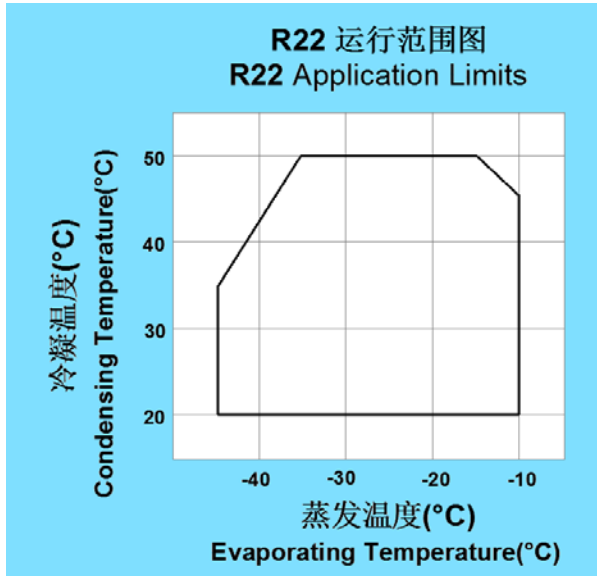
**LB-100P ~280P-PLUS Drawing**



**LB-360P/410P-PLUS Drawing**

Note: The size of LB-PLUS, LB-V-PLUS, LB-P-PLUS, LB-V-P-PLUS is the same.

# Application Limits



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