

LT-S-H Series Semi-closed High Pressure Screw Heat Pump Compressor

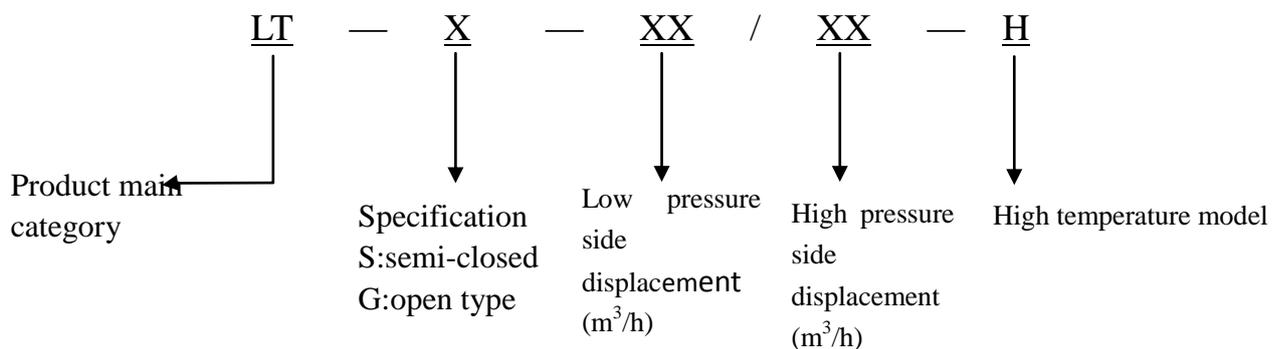
Product Description

Hanbell LT-S-H series compressor adopts two-stage compression technology which is suitable for large pressure ratio working conditions. Compared to compound jet enthalpy scroll compressor, its operation efficiency is higher.

Breaking through the application limit of traditional heat pump compressor, it can provide hot water with the limit of 90°C, and it can still make heat at the limit temperature of -40°C.

LT-S-H is a new technology solution for the national transformation of switching from coal to electricity.

Nomenclature



Features

Excellent motor cooling channel

Excellent motor cooling channel design, which realizes the reliable cooling of the motor while ensuring the high efficiency of the compressor, so that the compressor can operate in a very wide range, so it's more adaptable.

Check valve, shutoff valve, built-in economic filter

Pre-installed medium pressure check valve, shutoff valve and economizer filters, ensuring reliable protection of the compressor and simplifying customer system configuration.

Customization

In order to meet the special application needs of customers, HANBELL accepts customization/OEM requirements of different application scenarios in addition to the standard models listed.

Specification

Model		LT-S-20/10-H	LT-S-30/12-H	LT-S-45/20-H	LT-S-55/25-H	LT-S-65/32-H	LT-S-83/41-H
Rotation speed (50Hz)	Rpm	2950					
Displacement (Low stage)	m ³ /h	224	316	450	551	651	840
Displacement (High stage)	m ³ /h	99	137	207	257	313	396
Capacity control	Step type	%	10,50,100			10,50,75,100	
Lubrication type		Pressure diferencial					
Type		3 phase,2 pole, squirrel cage induction motor					
Start model		Y-△					
Voltage (50Hz)		380					
Insulation		Level F					
Protection		PTC+PT100					
Pressure test	bar	45					

Performance(with ECO)

LT-S-20/10-H, R134a								
Condensing Temp. °C	Evaporating Temp. °C	-45	-35	-25	-15	-5	5	15
45	Heating capacity(kW)	46.01	61.64	83.24	111.77	118.93	--	--
	Power(kW)	26.23	27.28	29.79	31.15	154.13	--	--
	COP(H)	1.75	2.26	2.79	3.59	0.77	--	--
50	Heating capacity (kW)	47.83	63.69	84.77	112.14	114.67	168.53	--
	Power (kW)	28.20	29.76	31.86	33.83	153.20	212.29	--
	COP(H)	1.70	2.14	2.66	3.31	0.75	0.79	--
55	Heating capacity (kW)	49.65	65.68	86.51	113.59	148.65	149.76	222.35
	Power (kW)	30.29	32.50	34.45	36.49	39.58	192.37	270.59
	COP(H)	1.64	2.02	2.51	3.11	3.76	0.78	0.82
60	Heating capacity (kW)	52.89	67.98	88.44	115.19	149.99	153.36	220.03
	Power (kW)	33.79	35.52	37.22	39.26	42.43	201.41	273.55
	COP(H)	1.57	1.91	2.38	2.93	3.53	0.76	0.80
65	Heating capacity (kW)	55.55	69.77	90.63	118.16	152.08	195.86	190.75
	Power (kW)	36.78	38.34	40.20	42.61	46.00	51.29	245.60
	COP(H)	1.51	1.82	2.25	2.77	3.31	3.82	0.78
70	Heating capacity (kW)	--	72.01	92.82	119.80	154.01	196.46	246.39
	Power (kW)	--	41.42	43.58	46.14	50.26	56.10	60.82
	COP(H)	--	1.74	2.13	2.60	3.06	3.50	4.05
75	Heating capacity (kW)	--	--	94.69	121.83	155.09	197.53	245.70
	Power (kW)	--	--	46.91	50.02	54.42	61.22	66.40
	COP(H)	--	--	2.02	2.44	2.85	3.23	3.70
80	Heating capacity (kW)	--	--	97.34	123.12	156.42	198.45	247.57
	Power (kW)	--	--	50.86	53.72	58.86	66.53	73.08
	COP(H)	--	--	1.91	2.29	2.66	2.98	3.39
85	Heating capacity (kW)	--	--	--	122.54	158.26	201.50	247.72
	Power (kW)	--	--	--	56.62	63.73	71.23	77.90
	COP(H)	--	--	--	2.16	2.48	2.83	3.18
90	Heating capacity (kW)	--	--	--	--	158.62	201.31	248.94
	Power (kW)	--	--	--	--	67.62	75.55	83.04
	COP(H)	--	--	--	--	2.35	2.66	3.00

95	Heating capacity (kW)	--	--	--	--	--	203.77	249.15
	Power (kW)	--	--	--	--	--	82.32	90.24
	COP(H)	--	--	--	--	--	2.48	2.76

★For ECO load data and oil cooling load, please download HANBELL model selection software and select the according to the designed working condition.

LT-S-45/20-H, R134a								
Condensing Temp. °C	Evaporating Temp. °C	-45	-35	-25	-15	-5	5	15
45	Heating capacity(kW)	92.44	123.83	167.22	224.53	309.64	--	--
	Power(kW)	52.69	54.80	59.85	62.59	70.71	--	--
	COP(H)	1.75	2.26	2.79	3.59	4.38	--	--
50	Heating capacity(kW)	96.08	127.94	170.31	225.27	307.77	426.48	--
	Power (kW)	56.64	59.79	64.00	67.96	77.09	87.86	--
	COP(H)	1.70	2.14	2.66	3.31	3.99	4.85	--
55	Heating capacity(kW)	99.74	131.94	173.78	228.19	298.63	386.46	543.59
	Power (kW)	60.86	65.29	69.21	73.31	79.51	85.61	96.91
	COP(H)	1.64	2.02	2.51	3.11	3.76	4.51	5.61
60	Heating capacity(kW)	106.25	136.57	177.67	231.42	301.31	404.63	549.54
	Power (kW)	67.88	71.35	74.77	78.87	85.24	96.54	107.52
	COP(H)	1.57	1.91	2.38	2.93	3.53	4.19	5.11
65	Heating capacity(kW)	111.60	140.16	182.06	237.38	305.52	393.46	493.39
	Power (kW)	73.90	77.03	80.76	85.60	92.42	103.03	110.20
	COP(H)	1.51	1.82	2.25	2.77	3.31	3.82	4.48
70	Heating capacity(kW)	--	144.66	186.47	240.66	309.39	394.68	494.97
	Power (kW)	--	83.22	87.55	92.69	100.97	112.70	122.18
	COP(H)	--	1.74	2.13	2.60	3.06	3.50	4.05
75	Heating capacity(kW)	--	--	190.22	244.75	311.56	396.83	493.60
	Power (kW)	--	--	94.25	100.48	109.32	122.99	133.40
	COP(H)	--	--	2.02	2.44	2.85	3.23	3.70
80	Heating capacity(kW)	--	--	195.56	247.33	314.23	398.67	497.36
	Power (kW)	--	--	102.16	107.92	118.25	133.65	146.81
	COP(H)	--	--	1.91	2.29	2.66	2.98	3.39
85	Heating capacity(kW)	--	--	--	246.17	317.92	404.79	497.65
	Power (kW)	--	--	--	113.75	128.02	143.09	156.49
	COP(H)	--	--	--	2.16	2.48	2.83	3.18
90	Heating capacity(kW)	--	--	--	--	318.65	404.42	500.10
	Power (kW)	--	--	--	--	135.85	151.78	166.83
	COP(H)	--	--	--	--	2.35	2.66	3.00

95	Heating capacity(kW)	--	--	--	--	--	409.36	500.53
	Power (kW)	--	--	--	--	--	165.37	181.28
	COP(H)	--	--	--	--	--	2.48	2.76

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LT-S-55/25-H, R134a								
Condensing Temp. °C	Evaporating Temp. °C	-45	-35	-25	-15	-5	5	15
45	Heating capacity(kW)	112.98	151.35	204.38	274.42	378.45	--	--
	Power(kW)	64.40	66.98	73.15	76.50	86.43	--	--
	COP(H)	1.75	2.26	2.79	3.59	4.38	--	--
50	Heating capacity(kW)	117.43	156.38	208.15	275.33	376.16	521.26	--
	Power (kW)	69.23	73.07	78.22	83.06	94.22	107.38	--
	COP(H)	1.70	2.14	2.66	3.31	3.99	4.85	--
55	Heating capacity(kW)	121.91	161.26	212.40	278.90	364.99	472.35	664.39
	Power (kW)	74.38	79.79	84.59	89.60	97.18	104.63	118.45
	COP(H)	1.64	2.02	2.51	3.11	3.76	4.51	5.61
60	Heating capacity(kW)	129.86	166.92	217.16	282.84	368.27	494.54	671.65
	Power (kW)	82.97	87.21	91.38	96.39	104.18	117.99	131.41
	COP(H)	1.57	1.91	2.38	2.93	3.53	4.19	5.11
65	Heating capacity(kW)	136.40	171.30	222.52	290.13	373.42	480.90	603.04
	Power (kW)	90.32	94.14	98.71	104.62	112.96	125.93	134.68
	COP(H)	1.51	1.82	2.25	2.77	3.31	3.82	4.48
70	Heating capacity(kW)	--	176.81	227.91	294.14	378.14	482.38	604.97
	Power (kW)	--	101.71	107.00	113.29	123.41	137.74	149.33
	COP(H)	--	1.74	2.13	2.60	3.06	3.50	4.05
75	Heating capacity(kW)	--	--	232.49	299.14	380.80	485.02	603.29
	Power (kW)	--	--	115.19	122.81	133.62	150.32	163.04
	COP(H)	--	--	2.02	2.44	2.85	3.23	3.70
80	Heating capacity(kW)	--	--	239.02	302.30	384.06	487.27	607.88
	Power (kW)	--	--	124.87	131.91	144.53	163.35	179.43
	COP(H)	--	--	1.91	2.29	2.66	2.98	3.39
85	Heating capacity(kW)	--	--	--	300.87	388.57	494.74	608.24
	Power (kW)	--	--	--	139.02	156.47	174.89	191.27
	COP(H)	--	--	--	2.16	2.48	2.83	3.18
90	Heating capacity(kW)	--	--	--	--	389.46	494.29	611.23
	Power (kW)	--	--	--	--	166.04	185.51	203.90
	COP(H)	--	--	--	--	2.35	2.66	3.00

95	Heating capacity(kW)	--	--	--	--	--	500.33	611.76
	Power (kW)	--	--	--	--	--	202.12	221.57
	COP(H)	--	--	--	--	--	2.48	2.76

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LT-S-65/32-H, R134a								
Condensing Temp. °C	Evaporating Temp. °C	-45	-35	-25	-15	-5	5	15
45	Heating capacity(kW)	133.52	178.87	241.54	324.32	447.26	--	--
	Power(kW)	76.10	79.16	86.45	90.40	102.14	--	--
	COP(H)	1.75	2.26	2.79	3.59	4.38	--	--
50	Heating capacity(kW)	138.78	184.81	246.00	325.39	444.55	616.03	--
	Power (kW)	81.82	86.36	92.45	98.17	111.35	126.90	--
	COP(H)	1.70	2.14	2.66	3.31	3.99	4.85	--
55	Heating capacity(kW)	144.08	190.57	251.02	329.61	431.35	558.23	785.18
	Power (kW)	87.91	94.30	99.97	105.90	114.85	123.65	139.98
	COP(H)	1.64	2.02	2.51	3.11	3.76	4.51	5.61
60	Heating capacity(kW)	153.47	197.26	256.64	334.27	435.23	584.46	793.77
	Power (kW)	98.05	103.07	108.00	113.92	123.13	139.44	155.30
	COP(H)	1.57	1.91	2.38	2.93	3.53	4.19	5.11
65	Heating capacity(kW)	161.20	202.45	262.98	342.88	441.31	568.33	712.68
	Power (kW)	106.74	111.26	116.66	123.64	133.49	148.82	159.17
	COP(H)	1.51	1.82	2.25	2.77	3.31	3.82	4.48
70	Heating capacity(kW)	--	208.96	269.35	347.62	446.90	570.09	714.96
	Power (kW)	--	120.21	126.46	133.89	145.85	162.78	176.49
	COP(H)	--	1.74	2.13	2.60	3.06	3.50	4.05
75	Heating capacity(kW)	--	--	274.76	353.53	450.03	573.20	712.98
	Power (kW)	--	--	136.13	145.13	157.91	177.65	192.68
	COP(H)	--	--	2.02	2.44	2.85	3.23	3.70
80	Heating capacity(kW)	--	--	282.47	357.26	453.89	575.86	718.41
	Power (kW)	--	--	147.57	155.89	170.81	193.04	212.05
	COP(H)	--	--	1.91	2.29	2.66	2.98	3.39
85	Heating	--	--	--	355.57	459.22	584.70	718.83

	capacity(kW)							
	Power (kW)	--	--	--	164.30	184.92	206.69	226.04
	COP(H)	--	--	--	2.16	2.48	2.83	3.18
90	Heating capacity(kW)	--	--	--	--	460.28	584.16	722.36
	Power (kW)	--	--	--	--	196.23	219.24	240.97
	COP(H)	--	--	--	--	2.35	2.66	3.00
95	Heating capacity(kW)	--	--	--	--	--	591.30	722.98
	Power (kW)	--	--	--	--	--	238.87	261.85
	COP(H)	--	--	--	--	--	2.48	2.76

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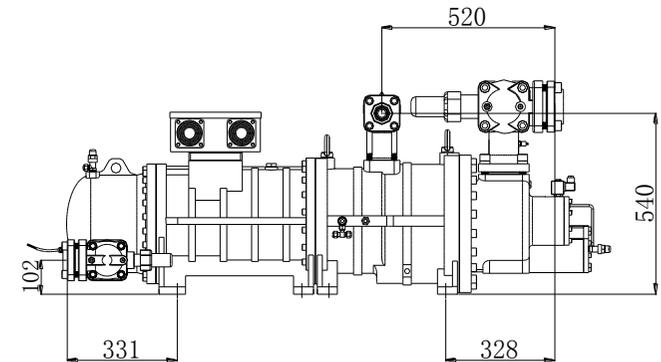
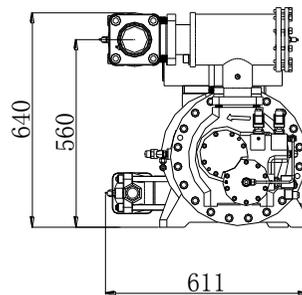
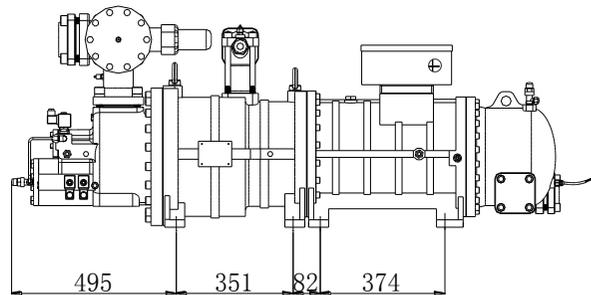
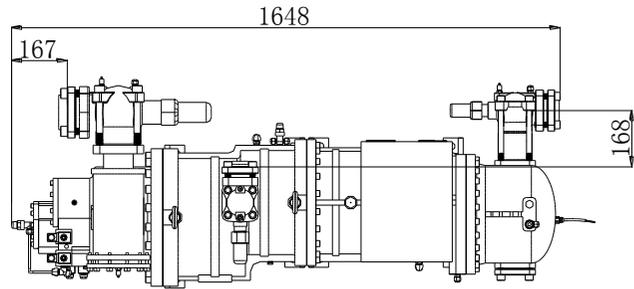
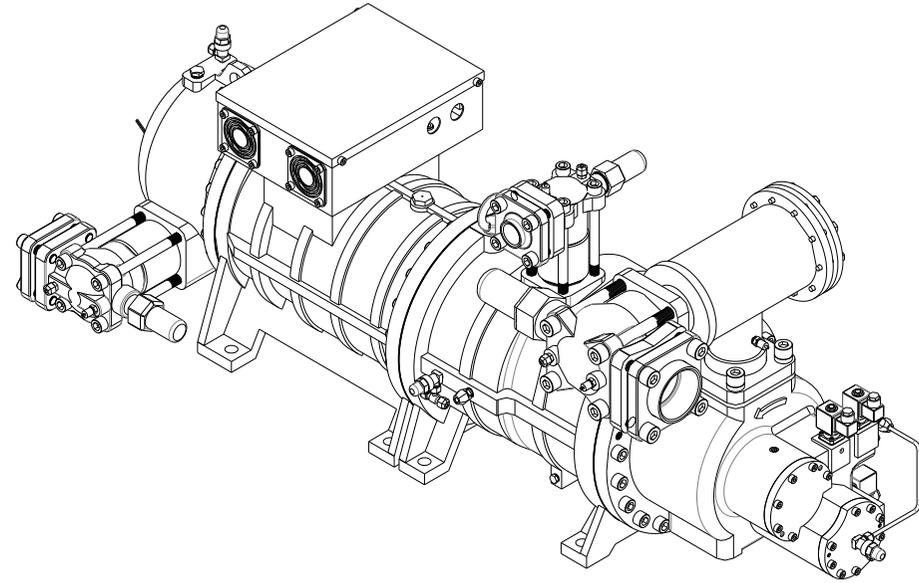
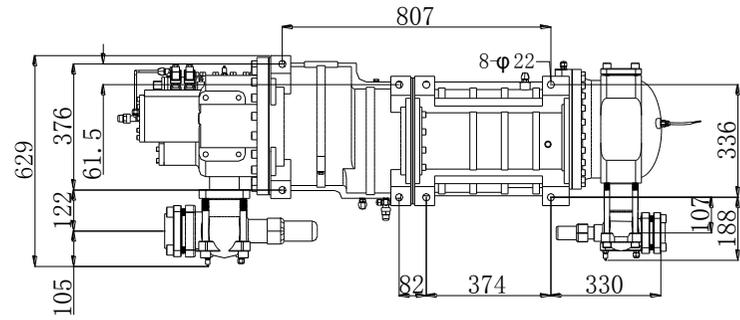
LT-S-83/41-H, R134a								
Condensing Temp. °C	Evaporating Temp. °C	-45	-35	-25	-15	-5	5	15
45	Heating capacity(kW)	172.55	231.15	312.15	419.12	578.00	--	--
	Power(kW)	98.35	102.30	111.72	116.83	132.00	--	--
	COP(H)	1.75	2.26	2.79	3.59	4.38	--	--
50	Heating capacity(kW)	179.35	238.83	317.91	420.51	574.50	796.10	--
	Power (kW)	105.73	111.60	119.47	126.86	143.90	164.00	--
	COP(H)	1.70	2.14	2.66	3.31	3.99	4.85	--
55	Heating capacity(kW)	186.19	246.28	324.40	425.96	557.44	721.40	1014.70
	Power (kW)	113.60	121.87	129.19	136.85	148.42	159.80	180.90
	COP(H)	1.64	2.02	2.51	3.11	3.76	4.51	5.61
60	Heating capacity(kW)	198.33	254.93	331.66	431.98	562.45	755.30	1025.80
	Power (kW)	126.72	133.19	139.57	147.22	159.12	180.20	200.70
	COP(H)	1.57	1.91	2.38	2.93	3.53	4.19	5.11
65	Heating capacity(kW)	208.32	261.63	339.85	443.11	570.31	734.46	921.00
	Power (kW)	137.94	143.78	150.76	159.78	172.52	192.32	205.70
	COP(H)	1.51	1.82	2.25	2.77	3.31	3.82	4.48
70	Heating capacity(kW)	--	270.04	348.08	449.23	577.53	736.73	923.95
	Power (kW)	--	155.34	163.42	173.03	188.48	210.37	228.07
	COP(H)	--	1.74	2.13	2.60	3.06	3.50	4.05
75	Heating capacity(kW)	--	--	355.08	456.87	581.58	740.75	921.39
	Power (kW)	--	--	175.93	187.56	204.07	229.58	249.01
	COP(H)	--	--	2.02	2.44	2.85	3.23	3.70
80	Heating capacity(kW)	--	--	365.04	461.69	586.57	744.19	928.40
	Power (kW)	--	--	190.71	201.46	220.74	249.47	274.04
	COP(H)	--	--	1.91	2.29	2.66	2.98	3.39
85	Heating capacity(kW)	--	--	--	459.51	593.46	755.61	928.95
	Power (kW)	--	--	--	212.32	238.97	267.11	292.12
	COP(H)	--	--	--	2.16	2.48	2.83	3.18
90	Heating capacity(kW)	--	--	--	--	594.82	754.92	933.52
	Power (kW)	--	--	--	--	253.59	283.32	311.41
	COP(H)	--	--	--	--	2.35	2.66	3.00

95	Heating capacity(kW)	--	--	--	--	--	764.15	934.32
	Power (kW)	--	--	--	--	--	308.69	338.39
	COP(H)	--	--	--	--	--	2.48	2.76

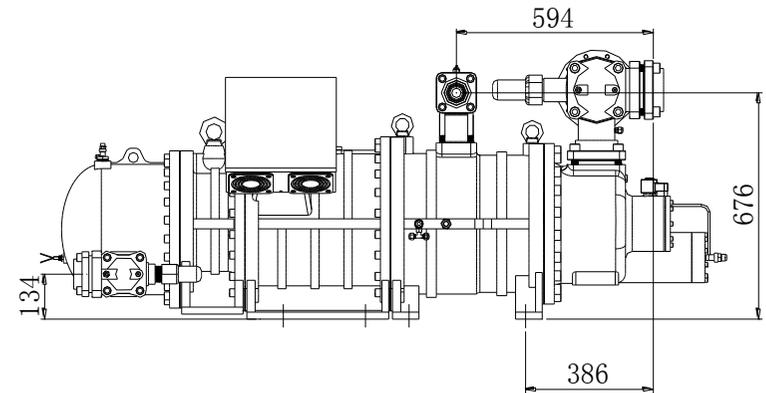
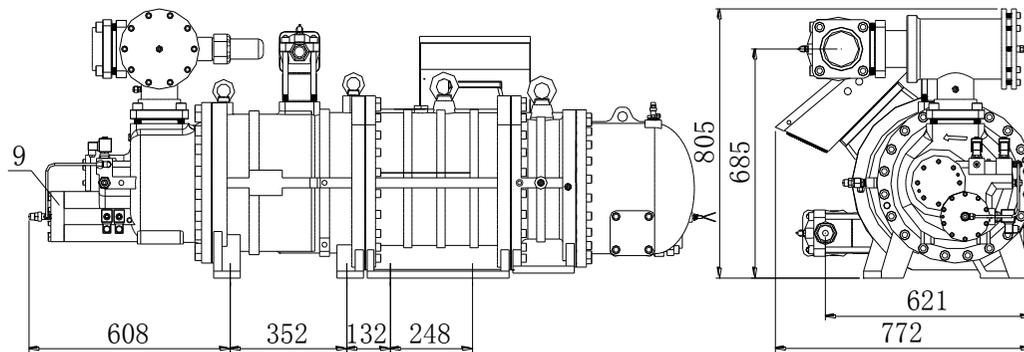
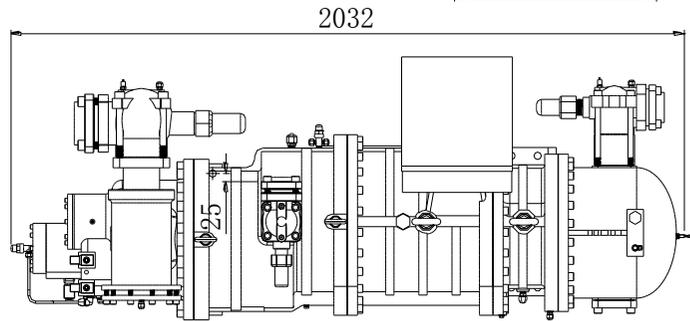
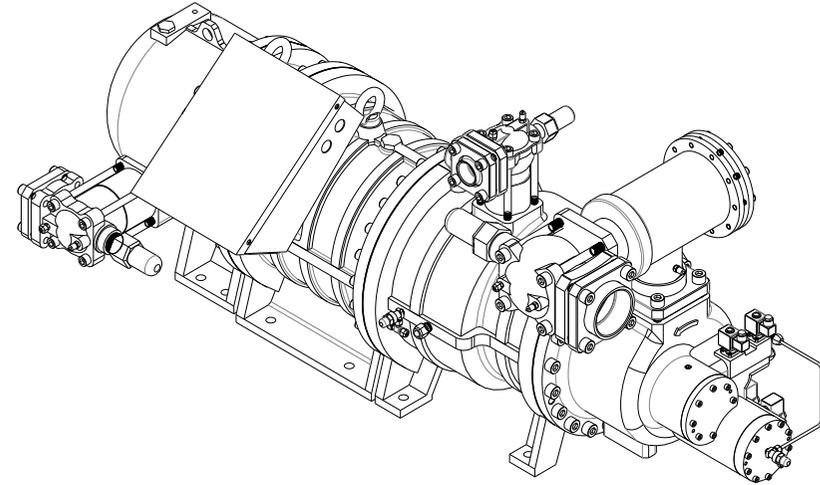
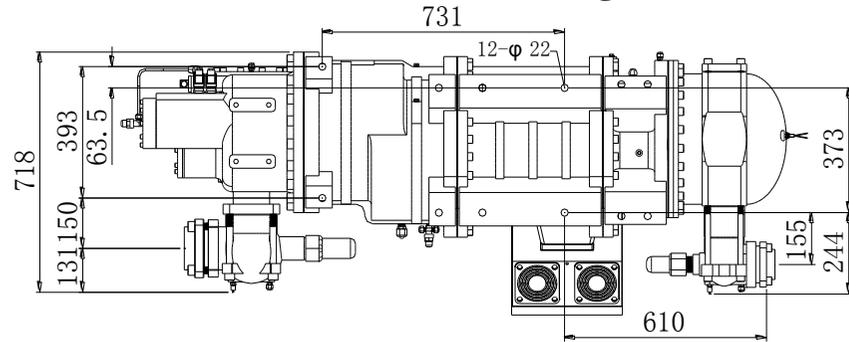
Note: the above performance data is from Hanbell latest model selection software. The software is subject to be updated without notice.

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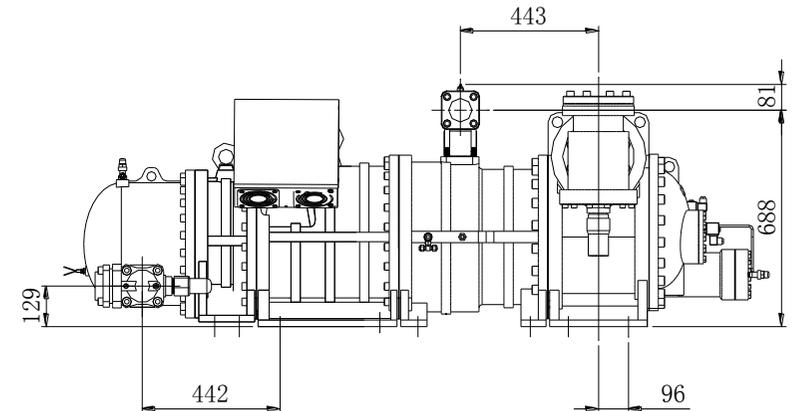
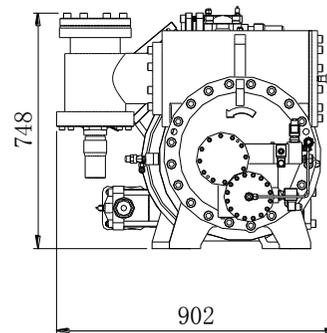
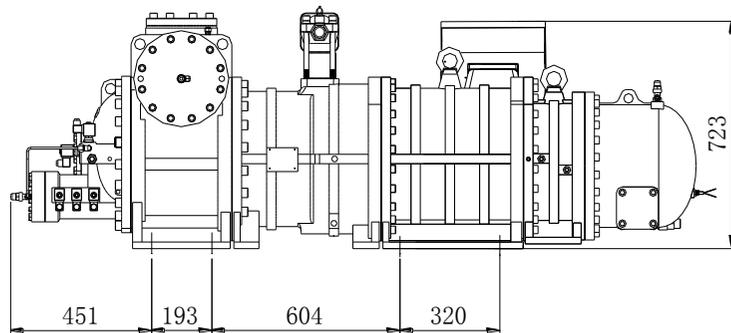
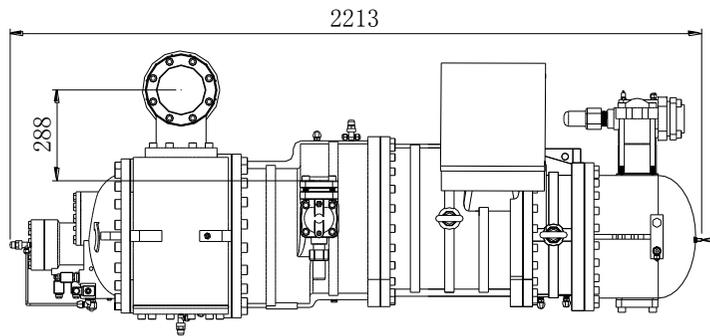
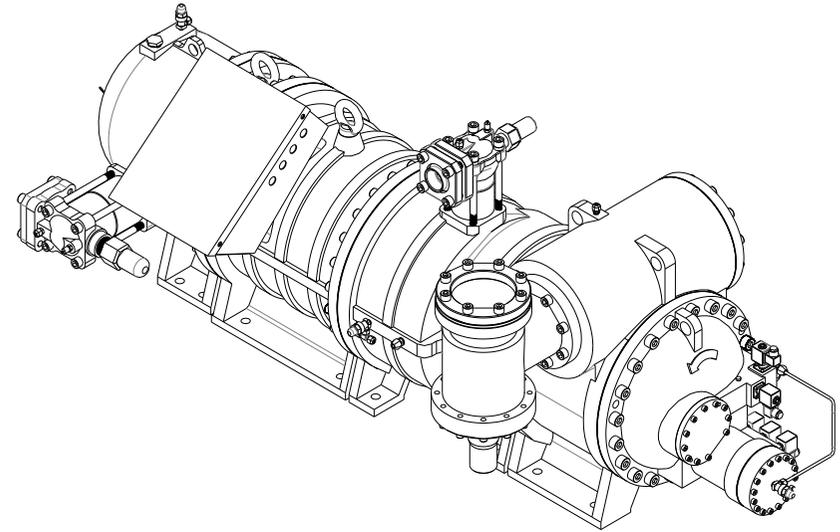
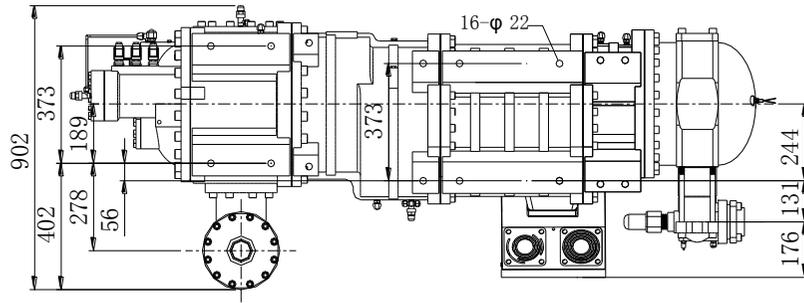
LT-S-20/10-H& LT-S-30/12-H Drawing



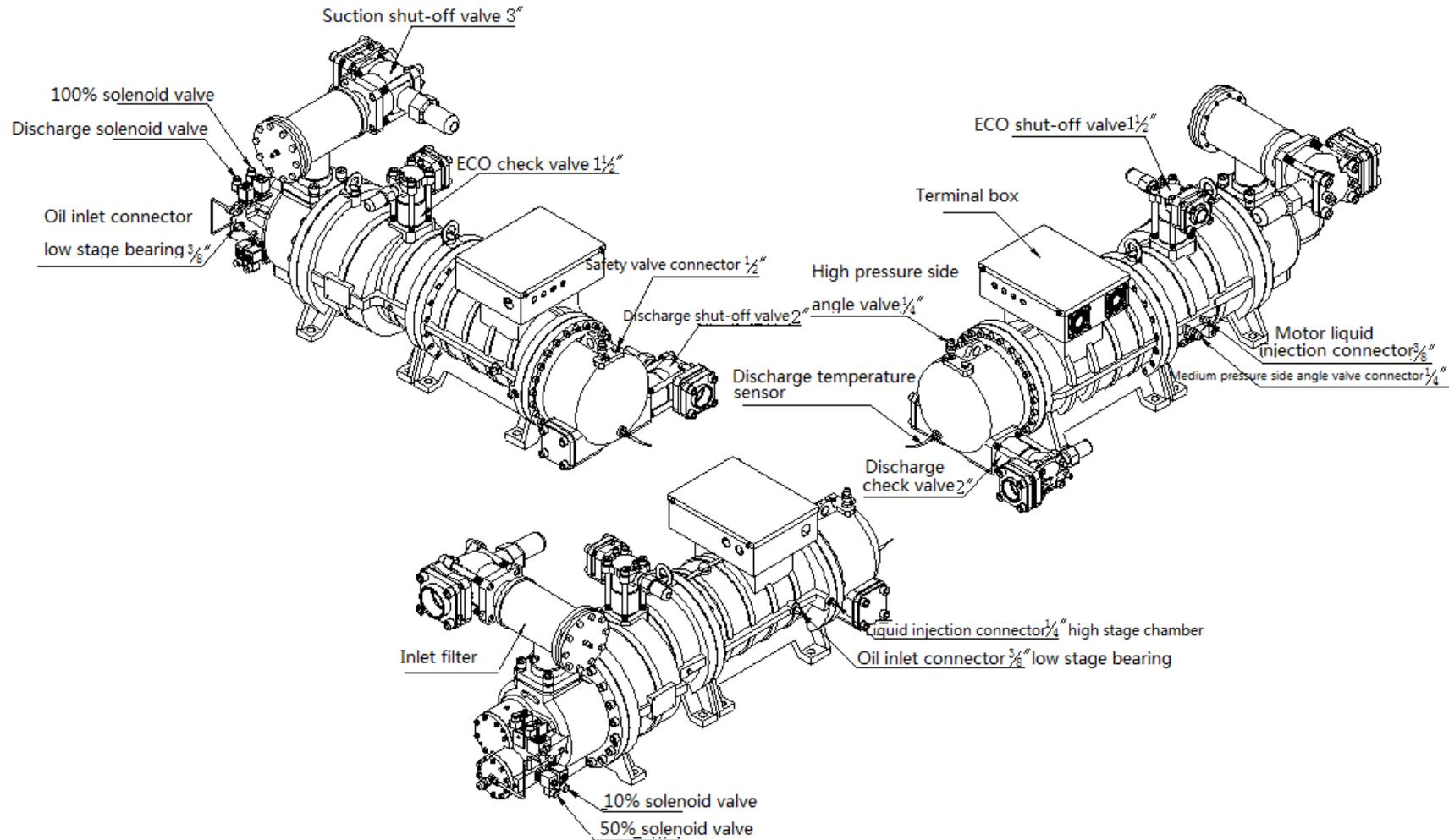
LT-S-45/20-H & LT-S-55/25-H Drawing



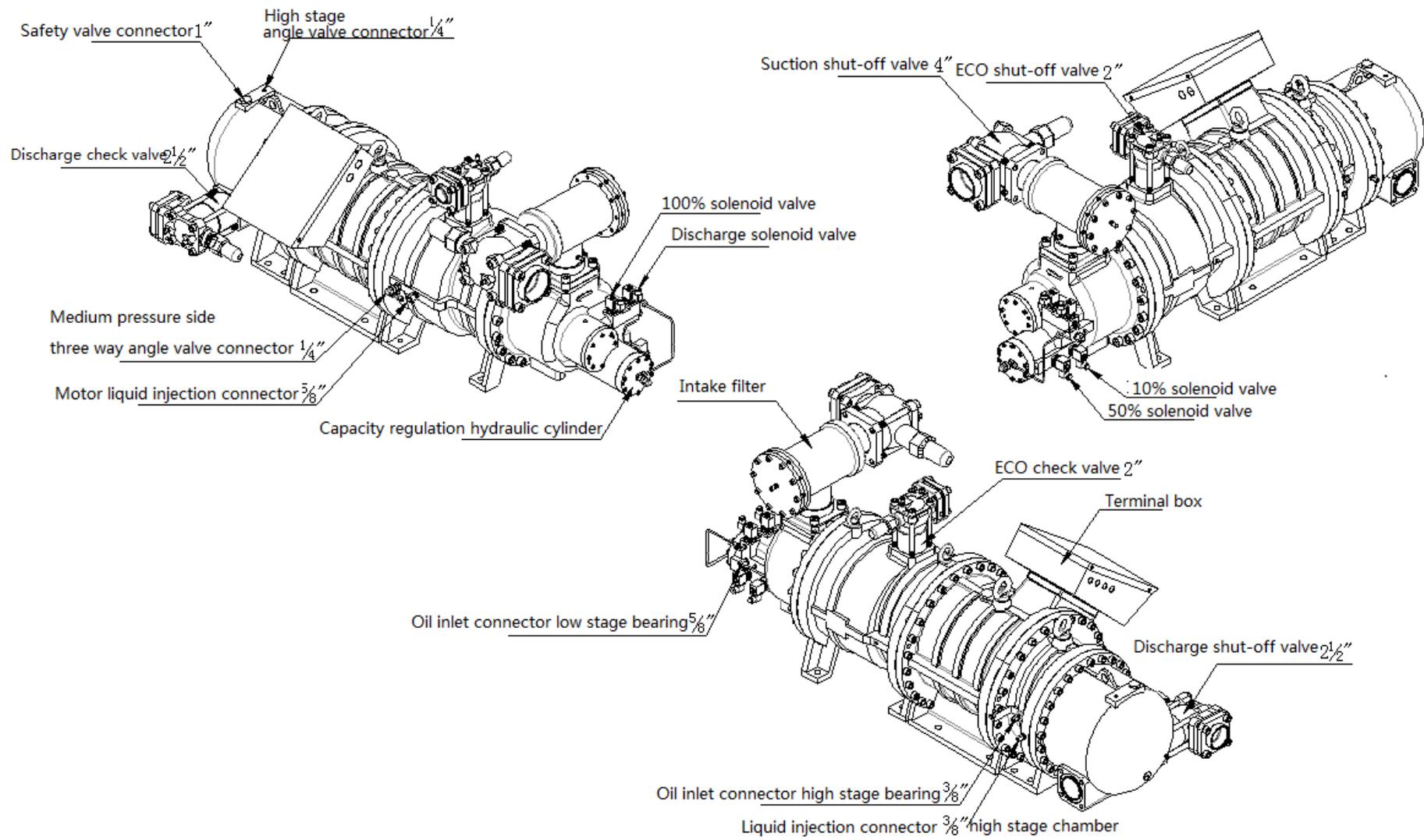
LT-S-65/32-H & LT-S-83/41-H Drawing



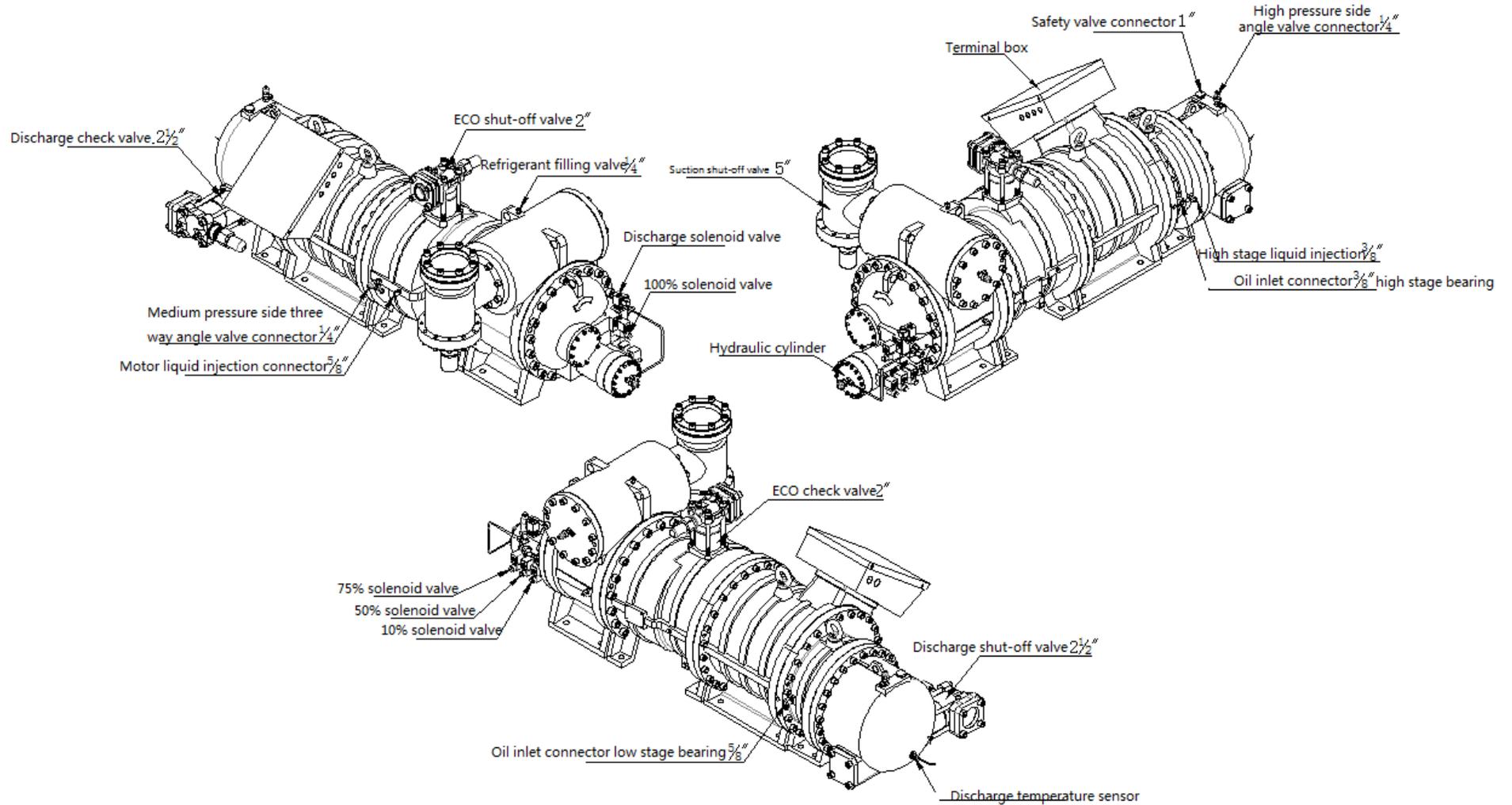
LT-S-20/10-H& LT-S-30/12-H Drawing



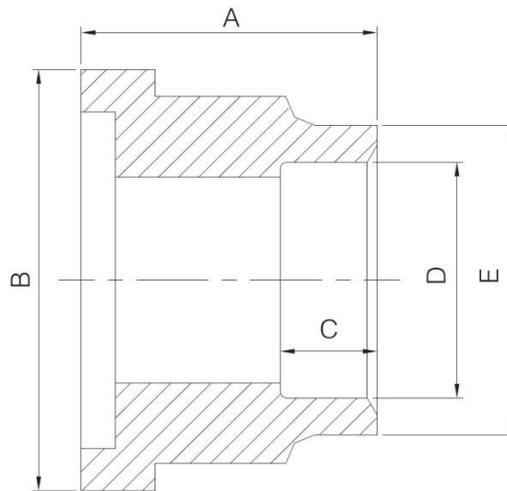
LT-S-45/20-H& LT-S-55/25-H Drawing



LT-S-65/32-H& LT-S-83/41-H Drawing



LT-S-H Suction/Discharge Bushing Specification



Bushing

Model	Position	Pipe size and material		Bushing size				
				A	B	C	D	E
LT-20/10 LT-30/12	Discharge	copper	2 1/8"	50	90	30	55	65
		copper	2"				61.3	74
	Suction	copper	3 1/8"	66	120	45	80.5	90
		copper	3"				90.2	103
	Economizer	copper	1 5/8"	52	75	35	42	52
		copper	1 1/2"				49.3	64
LT-45/20 LT-55/25	Discharge	copper	2 5/8"	60	110	35	68	77
		copper	2 1/2"				77	90
	Suction	copper	3 5/8"	76	145	50	93	103
		copper	4"				110	128
	Economizer	copper	2 1/8"	50	90	30	55	65
		copper	2"				61.3	74
LT-83/41 LT-65/32	Discharge	copper	2 5/8"	60	110	35	68	77
		copper	2 1/2"				77	90
	Suction	copper	4 1/8"	80	174	35	106	121
		copper	5"	75			135	154
	Economizer	copper	2 1/8"	50	90	30	55	65
		copper	2"				61.3	74