

COMPOUND TWO STAGE SCREW 2016.ver1 MYCOMW 2016.ver1e

DATE : 07-14-2024

MODEL : N1612LSC-MBL-63

ROTOR & PORT 2ND : 125S L

ROTOR & PORT 1ST : 160L MB

REFRIGERANT : AMMONIA

RECOMMENDED PORT :		LBM	LBM	LBM	LBM	LBM	LBM	LBM	MBL
Vi 2ND :	[-]	5.69	5.15	4.72	4.38	4.1	3.84	3.56	2.82
Vi 1ST :	[-]	1.78	1.97	2.14	2.31	2.47	2.64	2.85	3.59
CAPACITY :	[Mcal/h]	59.8	70	79.8	89.5	98.9	108.7	121	167.2
CAPACITY :	[TR]	19.8	23.1	26.4	29.6	32.7	35.9	40	55.3
ABSORBED POWER :	[kW]	82.3	84.2	86.2	88.2	90.7	93.8	99.1	117.6
ABSORBED POWER 2ND :	[kW]	59.7	60	60.3	60.6	60.9	61.3	61.7	63.2
ABSORBED POWER 1ST :	[kW]	22.6	24.2	25.9	27.6	29.7	32.6	37.5	54.3

DRIVE SHAFT SPEED :	[min-1]	3566	3566	3566	3566	3566	3566	3566	3566
COMPRESSOR SPEED :	[min-1]	4350	4350	4350	4350	4350	4350	4350	4350
INDICATOR POSITION 2ND :	[%]	100	100	100	100	100	100	100	100
INDICATOR POSITION 1ST :	[%]	30	40	50	60	70	80	90	100
SWEPT VOLUME RATIO (2ND/1S)	[-]	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17
CONDENSING TEMP. :	[degC]	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9
EVAPORATIVE TEMP. :	[degC]	-36.5	-36.5	-36.5	-36.5	-36.5	-36.5	-36.5	-36.5
SUCTION SUPERHEAT :	[degC]	0	0	0	0	0	0	0	0
INTERMED. SUPERHEAT :	[degC]	0	0	0	0	0	0	0	0
LIQUID APPROACH TEMP. :	[degC]	5	5	5	5	5	5	5	5
LIQUID SUBCOOLING :	[degC]	0	0	0	0	0	0	0	0
SUCTION TEMP. 1ST :	[degC]	-36.5	-36.5	-36.5	-36.5	-36.5	-36.5	-36.5	-36.5
OIL SUPPLY TEMP. :	[degC]	50	50	50	50	50	50	50	50
SUCTION PRESS. :	[kg/cm2A]	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
DISCHARGE PRESS. :	[kg/cm2A]	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2
OIL SUPPLY PRESS. :	[kg/cm2A]	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2
SUCTION PRES. DROP :	[kg/cm2]	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
DISCHARGE PRES. DROP :	[kg/cm2]	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

SWEPT VOLUME 2ND :	[m3/h]	290	290	290	290	290	290	290	290
SWEPT VOLUME 1ST :	[m3/h]	918	918	918	918	918	918	918	918
LOAD(VOL. FLOW RATE) 2ND :	[%]	89.8	91.9	93.5	94.6	95.7	96.6	97.6	100
LOAD(VOL. FLOW RATE) 1ST :	[%]	32.9	38.9	44.8	50.6	56.4	62.5	70.2	100
INTERMED. TEMP. :	[degC]	-22.1	-19.1	-16.6	-14.4	-12.3	-10.1	-7.63	0.24
SUCTION TEMP. 2ND :	[degC]	54.8	54.6	54.5	54.4	54.6	55	56.1	59.5
DISCHARGE TEMP. 2ND :	[degC]	75.8	75.8	75.9	76	76.2	76.7	77.6	80.6
DISCHARGE TEMP. 1ST :	[degC]	56	55.9	55.8	55.8	56	56.5	57.6	61.1
INTERMED. PRESS. :	[kg/cm2A]	1.76	2.01	2.25	2.48	2.71	2.95	3.26	4.42
REFRIG. FLOW RATE 2ND :	[m3/h]	22	25.8	29.4	32.7	36.2	40	44.8	62.7
REFRIG. FLOW RATE INT. :	[m3/h]	47.6	46.7	45.7	45.1	43.8	42.5	41	35.5
REFRIG. FLOW RATE 1ST :	[m3/h]	269	319	367	414	461	511	574	818
REFRIG. FLOW RATE 2ND :	[kg/h]	246.1	287.6	327.9	364.2	403.7	444.7	496	684.9
REFRIG. FLOW RATE INT. :	[kg/h]	51.92	58.19	63.8	69.09	73.63	77.98	82.93	96.93
REFRIG. FLOW RATE 1ST :	[kg/h]	194	229.3	264	298.2	332.1	367.9	413.5	588.9
INJECT. OIL FLOW RATE 1ST :	[L/min]	34	34	34	34	34	34	34	34
LUB. OIL FLOW RATE 2ND :	[L/min]	25.5	25.4	25.3	25.2	25.1	25	24.9	24.4
LUB. OIL FLOW RATE 1ST :	[L/min]	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5
TOTAL OIL FLOW RATE 2ND :	[L/min]	25.5	25.4	25.3	25.2	25.1	25	24.9	24.4
TOTAL OIL FLOW RATE 1ST :	[L/min]	71.5	71.5	71.5	71.5	71.5	71.5	71.5	71.5
TOTAL OIL FLOW RATE :	[L/min]	97	96.9	96.8	96.7	96.6	96.5	96.4	95.9
OIL HEAT REJECTION :	[Mcal/h]	60.8	60.8	60.9	61	61.5	62.5	64.7	71.4
OIL SPEC HT :	[kcal/kgC]	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
OIL DENSITY :	[kg/L]	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88

COP : [-] 0.845 0.966 1.08 1.18 1.27 1.35 1.42 1.65

--- SUPER HEAT is NOT counted in refrigeration capacity ---

--- WITH WATER COOLED OIL COOLER ---

--- WITH LIQUID SUBCOOLER ---

REFRIG. FLOW RATE :	[m3/h]	47.6	46.7	45.7	45.1	43.8	42.5	41	35.5
REFRIG. FLOW RATE :	[kg/h]	51.92	58.19	63.8	69.09	73.63	77.98	82.93	96.93
HEAT REJECTION :	[Mcal/h]	12.8	14.4	15.9	17.2	18.4	19.6	20.9	24.6

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DATE :		07-14-2024								
MODEL :		N1612LSC-MBL-63								
ROTOR & PORT 2ND :		125S L								
ROTOR & PORT 1ST :		160L MB								
REFRIGERANT :		AMMONIA								
RECOMMENDED PORT :		LBM	LBM	LBM	LBM	LBM	LBM	LBL	LBL	
Vi 2ND :	[-]	5.21	4.71	4.31	4	3.73	3.5	3.24	2.56	
Vi 1ST :	[-]	1.62	1.79	1.95	2.11	2.26	2.41	2.61	3.3	
CAPACITY :	[Mcal/h]	68.5	80	91.2	102.1	112.8	123.8	137.8	189.7	
CAPACITY :	[TR]	22.6	26.5	30.2	33.8	37.3	40.9	45.6	62.7	
ABSORBED POWER :	[kW]	85.5	87.8	90	92.3	95.1	98.7	104.7	125.8	
ABSORBED POWER 2ND :	[kW]	60	60.3	60.7	61	61.4	61.8	62.3	64.1	
ABSORBED POWER 1ST :	[kW]	25.6	27.4	29.3	31.3	33.7	36.9	42.5	61.8	
DRIVE SHAFT SPEED :	[min-1]	3566	3566	3566	3566	3566	3566	3566	3566	
COMPRESSOR SPEED :	[min-1]	4350	4350	4350	4350	4350	4350	4350	4350	
INDICATOR POSITION 2ND :	[%]	100	100	100	100	100	100	100	100	
INDICATOR POSITION 1ST :	[%]	30	40	50	60	70	80	90	100	
SWEPT VOLUME RATIO (2ND/1S	[-]	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	
CONDENSING TEMP. :	[degC]	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	
EVAPORATIVE TEMP. :	[degC]	-32	-32	-32	-32	-32	-32	-32	-32	
SUCTION SUPERHEAT :	[degC]	23	23	23	23	23	23	23	23	
INTERMED. SUPERHEAT :	[degC]	0	0	0	0	0	0	0	0	
LIQUID APPROACH TEMP. :	[degC]	5	5	5	5	5	5	5	5	
LIQUID SUBCOOLING :	[degC]	0	0	0	0	0	0	0	0	
SUCTION TEMP. 1ST :	[degC]	-9	-9	-9	-9	-9	-9	-9	-9	
OIL SUPPLY TEMP. :	[degC]	50	50	50	50	50	50	50	50	
SUCTION PRESS. :	[kg/cm2A]	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	
DISCHARGE PRESS. :	[kg/cm2A]	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	
OIL SUPPLY PRESS. :	[kg/cm2A]	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	
SUCTION PRES. DROP :	[kg/cm2]	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
DISCHARGE PRES. DROP :	[kg/cm2]	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
SWEPT VOLUME 2ND :	[m3/h]	290	290	290	290	290	290	290	290	
SWEPT VOLUME 1ST :	[m3/h]	918	918	918	918	918	918	918	918	
LOAD(VOL. FLOW RATE) 2ND :	[%]	90.9	92.8	94.2	95.2	96.2	97	97.9	100	
LOAD(VOL. FLOW RATE) 1ST :	[%]	33.1	39.1	45	50.8	56.6	62.6	70.3	100	
INTERMED. TEMP. :	[degC]	-19.5	-16.4	-13.8	-11.5	-9.29	-7.09	-4.47	3.74	
SUCTION TEMP. 2ND :	[degC]	57.1	57.2	57.3	57.5	57.9	58.7	60.2	65.3	
DISCHARGE TEMP. 2ND :	[degC]	77.8	78.1	78.3	78.6	79.1	79.8	81.1	85.3	
DISCHARGE TEMP. 1ST :	[degC]	58.4	58.5	58.7	59	59.5	60.3	61.9	67	
INTERMED. PRESS. :	[kg/cm2A]	1.98	2.26	2.54	2.8	3.06	3.34	3.7	5.03	
REFRIG. FLOW RATE 2ND :	[m3/h]	25.3	29.6	33.7	37.5	41.6	45.9	51.5	72.3	
REFRIG. FLOW RATE INT. :	[m3/h]	46.8	45.6	44.4	43.6	42.2	40.7	38.9	32.8	
REFRIG. FLOW RATE 1ST :	[m3/h]	273	323	372	420	467	517	581	826	
REFRIG. FLOW RATE 2ND :	[kg/h]	280.1	327	372.5	413.3	457.8	503.8	561.3	772.5	
REFRIG. FLOW RATE INT. :	[kg/h]	56.94	63.5	69.3	74.72	79.26	83.52	88.2	100.2	
REFRIG. FLOW RATE 1ST :	[kg/h]	222.9	263.4	303.1	342.1	380.9	421.7	473.7	673.6	
INJECT. OIL FLOW RATE 1ST :	[L/min]	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	
LUB. OIL FLOW RATE 2ND :	[L/min]	25.4	25.3	25.2	25.1	25	24.8	24.7	24.2	
LUB. OIL FLOW RATE 1ST :	[L/min]	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	
TOTAL OIL FLOW RATE 2ND :	[L/min]	25.4	25.3	25.2	25.1	25	24.8	24.7	24.2	
TOTAL OIL FLOW RATE 1ST :	[L/min]	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	
TOTAL OIL FLOW RATE :	[L/min]	95.9	95.8	95.7	95.6	95.4	95.3	95.2	94.6	
OIL HEAT REJECTION :	[Mcal/h]	64.8	65.3	65.9	66.4	67.4	68.9	71.9	81.2	
OIL SPEC HT :	[kcal/kgC]	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	
OIL DENSITY :	[kg/L]	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
COP :	[-]	0.931	1.06	1.18	1.29	1.38	1.46	1.53	1.75	

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--- WITH WATER COOLED OIL COOLER ---

--- WITH LIQUID SUBCOOLER ---

REFRIG. FLOW RATE :	[m3/h]	46.8	45.6	44.4	43.6	42.2	40.7	38.9	32.8	
REFRIG. FLOW RATE :	[kg/h]	56.94	63.5	69.3	74.72	79.26	83.52	88.2	100.2	
HEAT REJECTION :	[Mcal/h]	14.1	15.8	17.3	18.7	19.9	21	22.3	25.5	

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ROTOR & PORT 2ND :		125S L								
ROTOR & PORT 1ST :		160L MB								
REFRIGERANT :		AMMONIA								
RECOMMENDED PORT :		LBM	LBM	LBM	LBM	LBM	LBM	LBL	LBL	
Vi 2ND :	[-]	5.42	4.9	4.49	4.16	3.89	3.64	3.37	2.66	
Vi 1ST :	[-]	1.56	1.72	1.88	2.03	2.17	2.32	2.5	3.17	
CAPACITY :	[Mcal/h]	64.2	75	85.5	95.7	105.7	116	129.1	177.9	
CAPACITY :	[TR]	21.2	24.8	28.3	31.6	34.9	38.4	42.7	58.8	
ABSORBED POWER :	[kW]	84.9	87	89.2	91.4	94	97.5	103.3	123.7	
ABSORBED POWER 2ND :	[kW]	59.8	60.2	60.5	60.8	61.2	61.6	62	63.7	
ABSORBED POWER 1ST :	[kW]	25.1	26.9	28.7	30.5	32.8	35.9	41.3	60	
DRIVE SHAFT SPEED :	[min-1]	3566	3566	3566	3566	3566	3566	3566	3566	
COMPRESSOR SPEED :	[min-1]	4350	4350	4350	4350	4350	4350	4350	4350	
INDICATOR POSITION 2ND :	[%]	100	100	100	100	100	100	100	100	
INDICATOR POSITION 1ST :	[%]	30	40	50	60	70	80	90	100	
SWEPT VOLUME RATIO (2ND/1S	[-]	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	
CONDENSING TEMP. :	[degC]	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	
EVAPORATIVE TEMP. :	[degC]	-32	-32	-32	-32	-32	-32	-32	-32	
SUCTION SUPERHEAT :	[degC]	41	41	41	41	41	41	41	41	
INTERMED. SUPERHEAT :	[degC]	0	0	0	0	0	0	0	0	
LIQUID APPROACH TEMP. :	[degC]	5	5	5	5	5	5	5	5	
LIQUID SUBCOOLING :	[degC]	0	0	0	0	0	0	0	0	
SUCTION TEMP. 1ST :	[degC]	9	9	9	9	9	9	9	9	
OIL SUPPLY TEMP. :	[degC]	50	50	50	50	50	50	50	50	
SUCTION PRESS. :	[kg/cm2A]	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	
DISCHARGE PRESS. :	[kg/cm2A]	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	
OIL SUPPLY PRESS. :	[kg/cm2A]	19.2	19.2	19.2	19.2	19.2	19.2	19.2	19.2	
SUCTION PRES. DROP :	[kg/cm2]	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
DISCHARGE PRES. DROP :	[kg/cm2]	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
SWEPT VOLUME 2ND :	[m3/h]	290	290	290	290	290	290	290	290	
SWEPT VOLUME 1ST :	[m3/h]	918	918	918	918	918	918	918	918	
LOAD(VOL. FLOW RATE) 2ND :	[%]	90.4	92.4	93.9	94.9	95.9	96.8	97.7	100	
LOAD(VOL. FLOW RATE) 1ST :	[%]	33.1	39.1	45	50.8	56.5	62.6	70.3	100	
INTERMED. TEMP. :	[degC]	-20.7	-17.7	-15	-12.9	-10.6	-8.44	-5.84	2.37	
SUCTION TEMP. 2ND :	[degC]	58.2	58.5	58.8	59.1	59.7	60.6	62.3	68	
DISCHARGE TEMP. 2ND :	[degC]	78.6	79	79.4	79.7	80.3	81.1	82.6	87.3	
DISCHARGE TEMP. 1ST :	[degC]	59.5	59.8	60.2	60.6	61.2	62.2	64	69.8	
INTERMED. PRESS. :	[kg/cm2A]	1.88	2.15	2.41	2.66	2.91	3.17	3.51	4.78	
REFRIG. FLOW RATE 2ND :	[m3/h]	23.8	27.9	31.8	35.2	39.1	43.2	48.5	68.4	
REFRIG. FLOW RATE INT. :	[m3/h]	47.2	46.1	45	44.4	43	41.6	39.9	33.9	
REFRIG. FLOW RATE 1ST :	[m3/h]	274	324	372	420	468	518	581	827	
REFRIG. FLOW RATE 2ND :	[kg/h]	262.6	306.6	349.1	386.5	428.2	471.4	525.5	725	
REFRIG. FLOW RATE INT. :	[kg/h]	54.29	60.64	66.27	71.63	76.08	80.28	84.97	97.34	
REFRIG. FLOW RATE 1ST :	[kg/h]	208	245.8	282.7	319.1	355.2	393.2	441.6	628.2	
INJECT. OIL FLOW RATE 1ST :	[L/min]	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	
LUB. OIL FLOW RATE 2ND :	[L/min]	25.4	25.3	25.2	25.1	25	24.9	24.8	24.3	
LUB. OIL FLOW RATE 1ST :	[L/min]	37.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1	
TOTAL OIL FLOW RATE 2ND :	[L/min]	25.4	25.3	25.2	25.1	25	24.9	24.8	24.3	
TOTAL OIL FLOW RATE 1ST :	[L/min]	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	
TOTAL OIL FLOW RATE :	[L/min]	95.9	95.8	95.7	95.6	95.5	95.4	95.3	94.7	
OIL HEAT REJECTION :	[Mcal/h]	66.6	67.4	68.3	69.1	70.3	72.1	75.4	85.9	
OIL SPEC HT :	[kcal/kgC]	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	
OIL DENSITY :	[kg/L]	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
COP :	[-]	0.879	1	1.11	1.22	1.31	1.38	1.45	1.67	

--- SUPER HEAT is NOT counted in refrigeration capacity ---

--- WITH WATER COOLED OIL COOLER ---

--- WITH LIQUID SUBCOOLER ---

REFRIG. FLOW RATE :	[m3/h]	47.2	46.1	45	44.4	43	41.6	39.9	33.9	
REFRIG. FLOW RATE :	[kg/h]	54.29	60.64	66.27	71.63	76.08	80.28	84.97	97.34	
HEAT REJECTION :	[Mcal/h]	13.4	15.1	16.5	17.9	19.1	20.2	21.4	24.7	