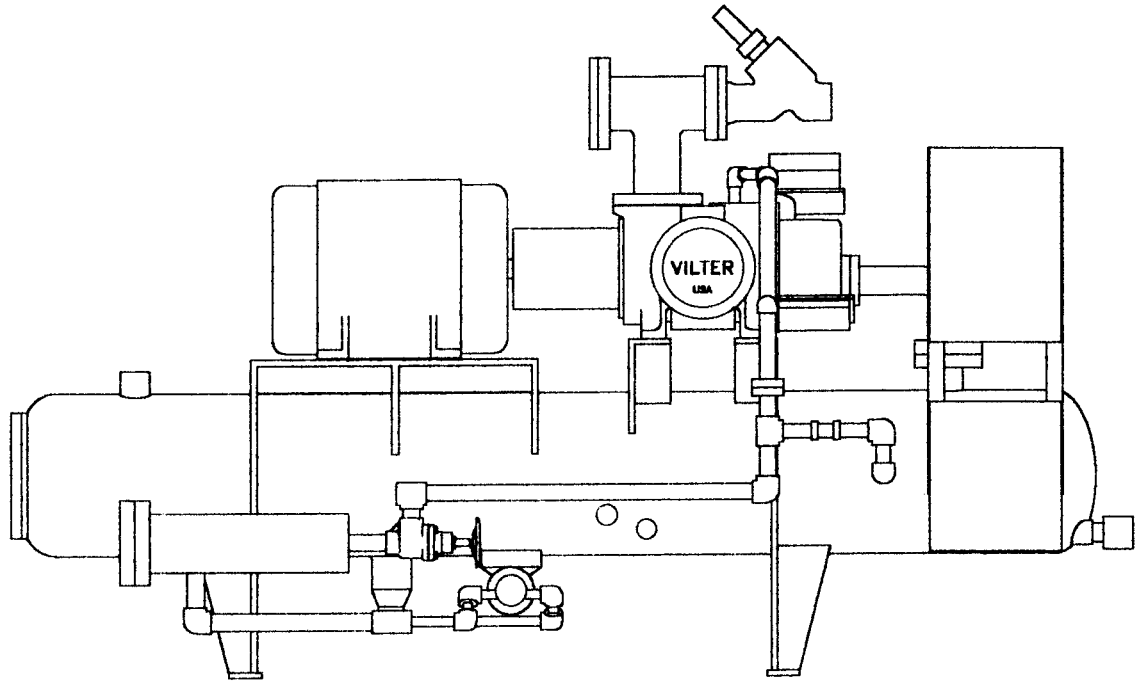




**VSS SINGLE SCREW  
COMPRESSORS  
VSS 451 THRU VSS 1801**

# **HIGH STAGE COMPRESSOR RATINGS BOOSTER COMPRESSOR RATINGS**



**for Refrigerants R-717(Ammonia), R-22**

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**SECTION 111**

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## VSS SINGLE SCREW COMPRESSOR RATINGS

### BASE RATING CONDITION AND CORRECTION FACTORS

SUCTION SUPERHEAT: Ratings are based on 0°F suction superheat.

- a. Reduce capacity 0.15% per °F of superheat.

LIQUID SUBCOOLING: Ratings are based on 10°F liquid subcooling.

- a. For less liquid subcooling, reduce capacity 0.25% per °F of liquid subcooling for R-717.
- b. For less liquid subcooling, reduce capacity 0.50% per °F of liquid subcooling for R-22.

ECONOMIZER UNITS: Econ-o-Mizer® Ratings are based on saturated suction, DX type Econ-o-Mizer and on 10°F liquid subcooling from the condenser.

BOOSTER UNITS: Booster compressor ratings are based on the following.

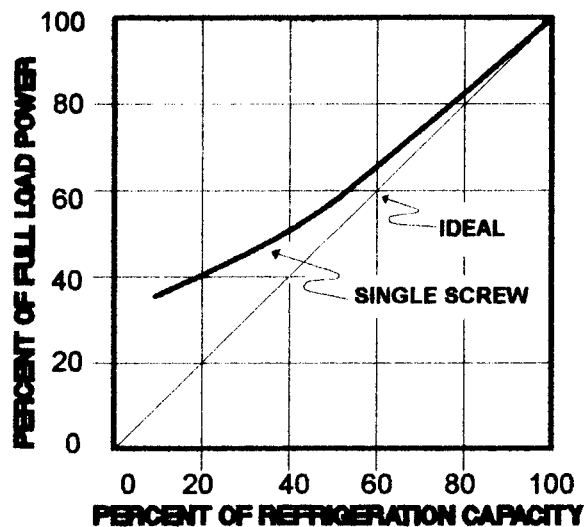
- a. Liquid temperature at intermediate temperature with 0°F liquid subcooling. (ie. flash type intercooler).
  1. Reduce capacity 1% for shell and coil or shell and tube intercoolers.

METHOD OF OIL COOLING: Rating based on use of water or thermo syphon oil cooling.

- a. For liquid injection oil cooling penalty with suction temperature of 0°F and above increase BHP 5%.
- b. For liquid Injection Oil Cooling penalty with suction temperature below 0°F, contact the Home Office.

FULL TIME OIL PUMPS: Full time oil pumps are required on all Booster Units and on High Stage Units with pressure ratios less than 3:1.

### TYPICAL PART LOAD PERFORMANCE



Notes: The curves above apply at constant condensing temperature. A considerable reduction in part load power occurs if the condensing temperature reduces under part load. For this special case, consult the Home Office for part load performance.

## VSS SINGLE SCREW COMPRESSOR RATINGS

### OPTIMUM INTERMEDIATE TEMPERATURE

The tables below show the optimum intermediate temperature for different operating conditions. The tables are intended for use in connection with Econ-o-Mizer® systems.

High Stage - Refrigerant: R-717 (Ammonia)

Optimum Intermediate Temperature (°F)

Suction Temp. (°F)	Condensing Pressure (PSIG)						
	135#	155#	165#	175#	185#	205#	225#
-40°	-21.0°	-20.0°	-19.5°	-19.0°	-18.5°	-17.5°	-16.5°
-30°	-12.0°	-11.0°	-10.5°	-10.0°	-9.5°	-8.5°	-7.5°
-20°	-2.5°	-1.5°	-1.0°	-0.5°	0.0°	1.0°	2.0°
-10°	8.0°	9.0°	9.5°	10.0°	10.5°	11.5°	12.5°
0°	19.0°	20.0°	20.5°	21.0°	21.5°	22.5°	23.5°
+10°	31.0°	32.0°	32.5°	33.0°	33.5°	34.5°	35.5°
+20°	43.5°	44.5°	45.0°	45.5°	46.0°	47.0°	48.0°
+30°	56.5°	57.5°	58.0°	58.5°	59.0°	60.0°	61.0°

High Stage - Refrigerant: R-22

Optimum Intermediate Temperature (°F)

Suction Temp. (°F)	Condensing Temperature (°F)						
	85°	90°	95°	100°	105°	110°	115°
-40°	-2.0°	-1.0°	0.0°	1.0°	2.0°	3.0°	4.0°
-30°	6.0°	7.0°	8.5°	9.5°	10.5°	12.0°	13.0°
-20°	14.0°	15.0°	16.5°	18.0°	19.0°	20.0°	21.5°
-10°	21.5°	23.0°	24.5°	26.0°	27.5°	29.0°	30.5°
0°	29.5°	31.0°	32.5°	34.0°	35.5°	37.0°	38.5°
+10°	37.0°	38.5°	40.0°	42.0°	44.0°	46.0°	48.0°
+20°	44.0°	46.0°	48.0°	50.0°	52.0°	54.0°	56.0°
+30°	51.0°	53.0°	55.0°	57.0°	59.0°	61.0°	63.0°

**VSS SINGLE SCREW COMPRESSOR RATINGS  
HIGH STAGE  
R-717 - 3550 RPM**

CONDENSING Temperature (°F) & Corresponding Pressure (PSIG)	SUCTION		COMPRESSOR MODEL							
			VSS451		VSS451E		VSS601		VSS601E	
	TEMP (°F)	PRESS (PSIG)	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
75°F 125.5#	-40°	8.8*	37.1	97.8	44.1	110.9	43.7	111.8	51.9	126.7
	-30°	1.7*	52.2	109.4	60.7	121.8	61.4	125.0	71.4	139.2
	-20°	3.5	70.8	119.9	80.8	131.3	83.3	137.0	95.0	150.1
	-10°	9.0	93.7	129.9	104.6	140.0	110.2	148.5	123.1	160.0
	0°	15.6	121.4	139.5	132.9	147.9	142.8	159.4	156.4	169.0
	10°	23.7	154.8	147.4	166.2	153.8	182.1	168.4	195.5	175.8
	20°	33.4	194.7	151.8	204.8	156.2	229.0	173.5	240.9	178.5
	30°	44.9	241.7	150.5	249.3	152.8	284.4	172.0	293.3	174.6
40°	58.4	297.2	140.9	300.3	141.4	349.6	161.0	353.3	161.6	
85°F 151.3#	-40°	8.8*	34.7	108.4	42.0	124.9	40.8	123.9	49.4	142.7
	-30°	1.7*	49.3	121.3	58.6	137.3	58.0	138.6	68.9	156.9
	-20°	3.5	67.5	134.1	78.6	149.1	79.4	153.2	92.5	170.4
	-10°	9.0	89.8	145.8	102.5	159.4	105.7	166.6	120.6	182.2
	0°	15.6	117.0	157.2	130.8	169.1	137.7	179.6	153.9	193.2
	10°	23.7	149.7	167.7	164.0	177.5	176.1	191.6	192.9	202.8
	20°	33.4	188.7	175.8	202.5	183.2	222.0	200.9	238.2	209.4
	30°	44.9	237.3	179.6	246.8	184.5	279.2	205.2	290.4	210.8
40°	58.4	288.9	176.5	297.6	178.9	339.9	201.7	350.1	204.5	
95°F 180.6#	-40°	8.8*	32.0	120.6	39.6	141.2	37.6	137.8	46.6	161.4
	-30°	1.7*	46.3	133.4	56.3	153.5	54.5	152.4	66.2	175.4
	-20°	3.5	64.1	148.4	76.2	167.7	75.4	169.6	89.7	191.7
	-10°	9.0	85.9	162.4	100.1	180.3	101.1	185.6	117.8	206.1
	0°	15.6	112.5	175.5	128.4	191.6	132.3	200.6	151.0	219.0
	10°	23.7	144.4	188.1	161.4	202.1	169.9	215.0	189.9	231.0
	20°	33.4	182.5	199.4	199.8	210.8	214.7	227.9	235.1	240.9
	30°	44.9	227.5	207.6	244.0	216.1	267.7	237.3	287.1	247.0
40°	58.4	280.5	210.4	294.6	215.9	330.0	240.4	346.6	246.7	
105°F 213.7#	-40°	8.8*	29.2	133.6	37.0	159.2	34.3	152.6	43.5	181.9
	-30°	1.7*	43.1	146.7	53.6	171.6	50.7	167.6	63.1	196.1
	-20°	3.5	60.5	162.8	73.6	187.1	71.2	186.1	86.6	213.8
	-10°	9.0	81.9	179.5	97.5	202.6	96.3	205.1	114.7	231.5
	0°	15.6	107.8	194.7	125.7	216.0	126.8	222.5	147.9	246.8
	10°	23.7	139.0	209.3	158.7	228.2	163.5	239.2	186.7	260.8
	20°	33.4	176.2	223.1	196.9	239.3	207.3	255.0	231.7	273.5
	30°	44.9	220.2	235.0	241.1	248.1	259.0	268.6	283.6	283.5
40°	58.4	271.9	242.9	291.4	252.4	319.9	277.6	342.8	288.5	

Notes: \* Inches of mercury below one standard atmosphere (29.92 inches).  
Standard ratings are based on saturated suction and 10° liquid subcooling.  
Econ-o-Mizer® Ratings are based on saturated suction, DX type Econ-o-Mizer  
and on 10°F liquid subcooling from the condenser.



**VSS SINGLE SCREW COMPRESSOR RATINGS  
HIGH STAGE  
R-717 - 3550 RPM**

CONDENSING Temperature (°F) & Corresponding Pressure (PSIG)	SUCTION		COMPRESSOR MODEL							
			VSS751		VSS751E		VSS901		VSS901E	
	TEMP (°F)	PRESS (PSIG)	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
75°F 125.5#	-40°	8.8*	61.6	162.3	73.2	184.0	69.7	178.2	82.7	202.0
	-30°	1.7*	86.6	181.5	100.7	202.1	97.9	199.3	113.8	221.9
	-20°	3.5	117.5	198.9	134.0	217.9	132.8	218.4	151.4	239.3
	-10°	9.0	155.4	215.6	173.6	232.3	175.7	236.7	196.2	255.0
	0°	15.6	201.3	231.4	220.5	245.4	227.6	254.1	249.3	269.4
	10°	23.7	256.8	244.5	275.7	255.3	290.3	268.4	311.6	280.2
	20°	33.4	322.9	251.9	339.7	259.2	365.0	276.6	384.0	284.5
	30°	44.9	401.0	249.7	413.6	253.5	453.3	274.2	467.5	278.3
40°	58.4	492.9	233.8	498.2	234.6	557.3	256.6	563.2	257.6	
85°F 151.3#	-40°	8.8*	57.5	179.9	69.7	207.2	65.0	197.5	78.7	227.5
	-30°	1.7*	81.8	201.2	97.1	227.8	92.5	220.9	109.8	250.1
	-20°	3.5	112.0	222.4	130.4	247.4	126.6	244.2	147.4	271.6
	-10°	9.0	149.0	241.9	170.0	264.6	168.5	265.6	192.2	290.4
	0°	15.6	194.2	260.8	217.0	280.5	219.5	286.3	245.3	308.0
	10°	23.7	248.3	278.2	272.0	294.5	280.7	305.4	307.5	323.3
	20°	33.4	313.0	291.7	335.9	304.0	353.9	320.2	379.7	333.8
	30°	44.9	393.7	298.0	409.5	306.1	445.0	327.1	462.9	336.0
40°	58.4	479.3	292.9	493.6	296.9	541.8	321.5	558.1	326.0	
95°F 180.6#	-40°	8.8*	53.0	200.1	65.7	234.4	59.9	219.7	74.3	257.3
	-30°	1.7*	76.8	221.3	93.3	254.7	86.9	242.9	105.5	279.6
	-20°	3.5	106.3	246.3	126.5	278.3	120.2	270.3	143.0	305.6
	-10°	9.0	142.6	269.5	166.1	299.3	161.2	295.8	187.8	328.5
	0°	15.6	186.5	291.3	212.9	318.0	210.9	319.8	240.7	349.1
	10°	23.7	239.6	312.2	267.8	335.4	270.8	342.7	302.7	368.2
	20°	33.4	302.7	330.9	331.5	349.8	342.2	363.3	374.7	384.0
	30°	44.9	377.5	344.6	404.8	358.6	426.7	378.3	457.6	393.7
40°	58.4	465.3	349.1	488.7	358.2	526.0	383.2	552.5	393.2	
105°F 213.7#	-40°	8.8*	48.4	221.6	61.3	264.1	54.7	243.3	69.3	289.9
	-30°	1.7*	71.5	243.4	89.0	284.7	80.8	267.2	100.6	312.6
	-20°	3.5	100.4	270.2	122.1	310.4	113.5	296.6	138.0	340.8
	-10°	9.0	135.8	297.8	161.7	336.1	153.5	326.9	182.8	369.0
	0°	15.6	178.8	323.1	208.5	358.4	202.1	354.7	235.8	393.4
	10°	23.7	230.5	347.3	263.2	378.7	260.6	381.3	297.6	415.7
	20°	33.4	292.3	370.3	326.7	397.1	330.4	406.5	369.3	436.0
	30°	44.9	365.2	390.0	399.9	411.6	412.8	428.1	452.1	451.9
40°	58.4	451.1	403.1	483.3	418.9	509.9	442.5	546.4	459.9	

Notes: \* Inches of mercury below one standard atmosphere (29.92 inches).  
Standard ratings are based on saturated suction and 10°F liquid subcooling.  
Econ-o-Mizer® Ratings are based on saturated suction, DX type Econ-o-Mizer  
and on 10°F liquid subcooling from the condenser.

**VSS SINGLE SCREW COMPRESSOR RATINGS  
HIGH STAGE  
R-717 - 3550 RPM**

CONDENSING Temperature (°F) & Corresponding Pressure (PSIG)	SUCTION		COMPRESSOR MODEL							
			VSS1051		VSS1051E		VSS1201		VSS1201E	
	TEMP (°F)	PRESS (PSIG)	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
75°F 125.5#	-40°	8.8*	86.0	226.5	102.1	256.7	95.9	245.3	113.9	278.0
	-30°	1.7*	120.8	253.3	140.4	282.0	134.7	274.3	156.7	305.4
	-20°	3.5	163.9	277.6	186.9	304.1	182.8	300.6	208.4	329.3
	-10°	9.0	216.8	300.9	242.1	324.2	241.8	325.8	270.1	351.0
	0°	15.6	280.9	322.9	307.6	342.4	313.3	349.7	343.1	370.8
	10°	23.7	358.2	341.2	384.5	356.2	399.5	369.5	428.9	385.7
	20°	33.4	450.4	351.5	473.9	361.6	502.4	380.7	528.5	391.6
	30°	44.9	559.4	348.5	576.9	353.7	624.0	377.4	643.5	383.1
40°	58.4	687.7	326.2	694.9	327.4	767.0	353.2	775.1	354.6	
85°F 151.3#	-40°	8.8*	80.3	251.0	97.2	289.1	89.5	271.8	108.4	313.1
	-30°	1.7*	114.1	280.8	135.5	317.9	127.3	304.1	151.2	344.2
	-20°	3.5	156.2	310.4	181.9	345.2	174.2	336.1	202.9	373.9
	-10°	9.0	207.9	337.5	237.2	369.1	231.9	365.5	264.6	399.7
	0°	15.6	270.9	363.9	302.7	391.4	302.1	394.0	337.7	423.9
	10°	23.7	346.4	388.2	379.4	410.9	386.4	420.4	423.2	444.9
	20°	33.4	436.7	407.0	468.5	424.2	487.1	440.8	522.6	459.4
	30°	44.9	549.2	415.7	571.2	427.1	612.6	450.2	637.1	462.5
40°	58.4	668.6	408.6	688.6	414.3	745.7	442.5	768.1	448.7	
95°F 180.6#	-40°	8.8*	74.0	279.2	91.7	327.0	82.5	302.3	102.2	354.1
	-30°	1.7*	107.2	308.8	130.2	355.4	119.6	334.4	145.2	384.8
	-20°	3.5	148.3	343.6	176.4	388.4	165.4	372.1	196.8	420.6
	-10°	9.0	198.9	376.0	231.7	417.6	221.8	407.2	258.5	452.2
	0°	15.6	260.2	406.4	297.0	443.7	290.3	440.1	331.3	480.5
	10°	23.7	334.2	435.6	373.5	468.0	372.8	471.7	416.6	506.8
	20°	33.4	422.3	461.7	462.4	488.1	471.1	500.0	515.8	528.5
	30°	44.9	526.6	480.8	564.7	500.4	587.3	520.6	629.9	541.9
40°	58.4	649.1	487.1	681.8	499.8	724.0	527.4	760.4	541.3	
105°F 213.7#	-40°	8.8*	67.5	309.3	85.6	368.5	75.3	334.9	95.4	399.1
	-30°	1.7*	99.7	339.6	124.1	397.3	111.2	367.7	138.4	430.2
	-20°	3.5	140.1	377.0	170.3	433.2	156.2	408.3	190.0	469.1
	-10°	9.0	189.4	415.5	225.6	469.0	211.3	450.0	251.7	507.9
	0°	15.6	249.4	450.8	290.9	500.0	278.2	488.2	324.5	541.5
	10°	23.7	321.6	484.6	367.2	528.4	358.7	524.8	409.6	572.2
	20°	33.4	407.8	516.6	455.8	554.1	454.8	559.5	508.3	600.1
	30°	44.9	509.5	544.2	557.8	574.4	568.2	589.3	622.2	622.0
40°	58.4	629.2	562.4	674.3	584.5	701.9	609.1	752.1	633.0	

Notes: \* Inches of mercury below one standard atmosphere (29.92 inches).  
Standard ratings are based on saturated suction and 10°F liquid subcooling.  
Econ-o-Mizer® Ratings are based on saturated suction, DX type Econ-o-Mizer  
and on 10°F liquid subcooling from the condenser.



**VSS SINGLE SCREW COMPRESSOR RATINGS  
HIGH STAGE  
R-717 - 3550 RPM**

CONDENSING Temperature (°F) & Corresponding Pressure (PSIG)	SUCTION		COMPRESSOR MODEL							
			VSS1501		VSS1501E		VSS1801		VSS1801E	
	TEMP (°F)	PRESS (PSIG)	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
75°F  125.5#	-40°	8.8*	120.2	316.8	142.8	359.1	140.7	359.9	167.1	407.8
	-30°	1.7*	188.9	354.3	196.4	394.5	197.6	402.4	229.8	448.1
	-20°	3.5	229.2	388.3	261.3	425.4	268.1	441.0	305.8	483.2
	-10°	9.0	303.2	420.8	338.6	453.4	354.7	478.0	396.3	515.0
	0°	15.6	392.8	451.7	430.3	478.9	459.7	513.1	503.5	544.0
	10°	23.7	501.0	477.2	537.8	498.2	586.2	542.1	629.3	565.9
	20°	33.4	630.0	491.7	662.7	505.9	737.2	558.5	775.5	574.6
	30°	44.9	782.4	487.4	806.9	494.8	915.5	553.7	944.1	562.0
40°	58.4	961.7	456.3	971.9	458.0	1125.4	518.3	1137.3	520.2	
85°F  151.3#	-40°	8.8*	112.2	351.1	135.9	404.4	131.3	398.8	159.0	459.4
	-30°	1.7*	159.6	392.8	189.5	444.7	186.7	446.2	221.8	505.1
	-20°	3.5	218.4	434.2	254.5	482.9	255.6	493.2	297.8	548.5
	-10°	9.0	290.8	472.1	331.8	516.4	340.2	536.3	388.2	586.5
	0°	15.6	378.8	509.0	423.4	547.5	443.3	578.1	495.4	621.9
	10°	23.7	484.5	543.0	530.7	574.7	586.9	616.8	620.9	652.8
	20°	33.4	610.7	569.4	655.3	593.4	714.6	646.7	766.8	674.1
	30°	44.9	768.1	581.5	798.9	597.4	898.7	660.5	934.8	678.6
40°	58.4	935.1	571.6	963.1	579.6	1094.1	649.3	1127.0	658.3	
95°F  180.6#	-40°	8.8*	103.4	390.5	128.2	457.4	121.0	443.6	150.0	519.5
	-30°	1.7*	149.9	431.9	182.1	497.1	175.4	490.6	213.1	564.6
	-20°	3.5	207.4	480.6	246.8	543.3	242.7	545.9	288.7	617.1
	-10°	9.0	278.1	526.0	324.1	584.1	325.4	597.4	379.2	663.4
	0°	15.6	364.0	568.5	415.4	620.6	425.9	645.7	486.1	705.0
	10°	23.7	467.4	609.3	522.4	654.7	546.9	692.1	611.3	743.6
	20°	33.4	590.6	645.9	646.8	682.7	691.1	733.6	756.8	775.5
	30°	44.9	736.4	672.5	789.8	700.0	861.7	763.9	924.2	795.1
40°	58.4	907.8	681.3	953.5	699.1	1062.3	773.8	1115.7	794.1	
105°F  213.7#	-40°	8.8*	94.4	432.6	119.7	515.5	110.4	491.4	140.0	585.5
	-30°	1.7*	139.5	475.0	173.6	555.7	163.2	539.5	203.1	631.2
	-20°	3.5	195.9	527.4	238.2	605.9	229.2	599.1	278.8	688.2
	-10°	9.0	264.9	581.3	315.5	656.1	310.0	660.2	369.2	745.2
	0°	15.6	348.8	630.6	406.9	699.4	408.2	716.2	476.1	794.4
	10°	23.7	449.8	677.9	513.6	739.1	526.3	770.0	601.0	839.5
	20°	33.4	570.3	722.7	637.4	775.1	667.3	820.8	745.8	880.4
	30°	44.9	712.5	761.2	780.2	803.4	833.7	864.6	912.9	912.6
40°	58.4	880.0	786.7	943.0	817.6	1029.8	893.6	1103.5	928.7	

Notes: \* Inches of mercury below one standard atmosphere (29.92 inches).  
Standard ratings are based on saturated suction and 10°F liquid subcooling.  
Econ-o-Mizer® Ratings are based on saturated suction, DX type Econ-o-Mizer  
and on 10°F liquid subcooling from the condenser.



**VSS SINGLE SCREW COMPRESSOR RATINGS  
HIGH STAGE  
R-22 - 3550 RPM**

CONDENSING Temperature (°F) & Corresponding Pressure (PSIG)	SUCTION		COMPRESSOR MODEL							
			VSS451		VSS451E		VSS601		VSS601E	
	TEMP (°F)	PRESS (PSIG)	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
85°F  155.7#	-40°	0.6	40.0	126.9	50.4	137.6	47.1	145.1	59.3	157.2
	-30°	4.9	53.9	140.0	65.8	149.9	63.4	160.1	77.4	171.3
	-20°	10.2	71.0	150.7	84.3	158.9	83.5	172.2	99.2	181.6
	-10°	16.5	91.5	158.9	105.8	165.4	107.6	181.6	124.5	189.1
	0°	24.0	117.0	165.4	130.5	171.2	137.6	189.1	153.5	195.6
	10°	32.8	146.4	172.0	159.1	176.1	172.2	196.6	187.2	201.2
	20°	43.1	180.6	172.0	192.5	175.3	212.5	196.6	226.5	200.3
	30°	54.9	221.2	170.4	230.7	172.8	260.2	194.7	271.4	197.5
	40°	68.6	268.9	163.8	274.5	164.6	316.4	187.2	322.9	188.1
95°F  181.8#	-40°	0.6	37.1	138.4	48.5	151.5	43.6	158.2	57.0	173.2
	-30°	4.9	50.2	151.5	63.4	163.8	59.1	173.2	74.6	187.2
	-20°	10.2	66.5	166.3	81.2	177.7	78.2	190.0	95.5	203.1
	-10°	16.5	85.9	176.9	102.6	186.7	101.1	202.2	120.7	213.4
	0°	24.0	109.8	184.3	126.5	192.5	129.2	210.6	148.8	220.0
	10°	32.8	138.4	192.5	155.1	199.0	162.9	220.0	182.5	227.4
	20°	43.1	171.8	197.4	187.0	203.1	202.2	225.6	220.0	232.1
	30°	54.9	210.8	198.2	224.4	201.5	248.0	226.5	264.0	230.3
	40°	68.6	256.2	194.9	266.5	197.4	301.4	222.8	313.6	225.6
105°F  210.8#	-40°	0.6	34.3	151.5	46.5	168.7	40.3	173.2	54.8	192.8
	-30°	4.9	46.6	164.6	61.0	179.4	54.8	188.1	71.8	205.0
	-20°	10.2	62.1	181.0	78.4	194.9	73.0	206.9	92.3	222.8
	-10°	16.5	81.2	194.1	98.7	207.2	95.5	221.8	116.1	236.8
	0°	24.0	103.4	207.2	122.5	217.9	121.7	236.8	144.1	249.0
	10°	32.8	130.5	213.8	150.4	222.8	153.5	244.3	176.9	254.6
	20°	43.1	163.1	221.9	182.2	229.3	191.9	253.7	214.3	262.1
	30°	54.9	200.5	226.0	218.0	231.8	235.9	258.3	256.5	264.9
	40°	68.6	243.5	226.0	259.4	230.1	286.4	258.3	305.1	263.0
115°F  242.8#	-40°	0.6	31.6	167.1	44.7	188.4	37.2	190.9	52.6	215.3
	-30°	4.9	43.0	178.5	58.6	197.4	50.6	204.0	68.9	225.6
	-20°	10.2	57.6	194.1	75.6	212.1	67.8	221.8	88.9	242.4
	-10°	16.5	75.5	213.8	95.5	230.1	88.8	244.3	112.3	263.0
	0°	24.0	97.1	226.0	118.5	240.8	114.2	258.3	139.5	275.2
	10°	32.8	123.3	236.7	145.6	249.0	145.1	270.5	171.3	284.5
	20°	43.1	153.6	245.7	176.6	255.5	180.6	280.8	207.8	292.0
	30°	54.9	189.4	256.3	211.6	264.5	222.8	293.0	249.0	302.3
	40°	68.6	230.7	258.0	251.4	263.7	271.4	294.8	295.8	301.4

Notes: Standard ratings are based on saturated suction and 10°F liquid subcooling.  
Econ-o-Mizer® Ratings are based on saturated suction, DX type Econ-o-Mizer  
and on 10° liquid subcooling from the condenser.





**VSS SINGLE SCREW COMPRESSOR RATINGS  
HIGH STAGE  
R-22 - 3550 RPM**

CONDENSING Temperature (°F) & Corresponding Pressure (PSIG)	SUCTION		COMPRESSOR MODEL							
			VSS751		VSS751E		VSS901		VSS901E	
	TEMP (°F)	PRESS (PSIG)	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
85°F  155.7#	-40°	0.6	66.4	210.7	83.7	228.3	75.0	231.3	94.6	250.7
	-30°	4.9	89.3	232.4	109.1	248.7	101.0	255.1	123.4	273.0
	-20°	10.2	117.7	250.1	139.9	263.7	133.1	274.5	158.2	289.4
	-10°	16.5	151.8	263.7	175.5	274.5	171.6	289.4	198.4	301.4
	0°	24.0	194.0	274.5	216.4	284.0	219.3	301.4	244.7	311.8
	10°	32.8	242.8	285.4	264.0	292.2	274.5	313.3	298.4	320.8
	20°	43.1	299.6	285.4	319.4	290.8	338.7	313.3	361.1	319.3
	30°	54.9	366.9	282.7	382.7	286.8	414.8	310.3	432.7	314.8
40°	68.6	446.1	271.8	455.3	273.2	504.3	298.4	514.7	299.9	
95°F  181.8#	-40°	0.6	61.5	229.7	80.4	251.4	69.5	252.1	90.9	276.0
	-30°	4.9	83.3	251.4	105.2	271.8	94.1	276.0	118.9	298.4
	-20°	10.2	110.3	275.9	134.6	294.9	124.7	302.9	152.2	323.8
	-10°	16.5	142.5	293.6	170.2	309.9	161.1	322.3	192.5	340.2
	0°	24.0	182.1	305.8	209.8	319.4	205.9	335.7	237.2	350.6
	10°	32.8	229.6	319.4	257.4	330.3	259.6	350.6	290.9	362.6
	20°	43.1	285.1	327.5	310.1	337.0	322.3	359.6	350.6	370.0
	30°	54.9	349.7	328.9	372.2	334.3	395.4	361.1	420.7	367.0
40°	68.6	425.0	323.5	442.1	327.5	480.4	355.1	499.8	359.6	
105°F  210.8#	-40°	0.6	56.9	251.4	77.2	280.0	64.3	276.0	87.3	307.3
	-30°	4.9	77.3	273.2	101.2	297.6	87.4	299.9	114.4	326.7
	-20°	10.2	102.9	300.4	130.1	323.5	116.4	329.7	147.1	355.1
	-10°	16.5	134.6	322.1	163.7	343.8	152.2	353.6	185.0	377.5
	0°	24.0	171.6	343.8	203.2	361.5	194.0	377.5	229.8	396.9
	10°	32.8	216.4	354.7	249.4	369.7	244.7	389.4	282.0	405.8
	20°	43.1	270.6	368.3	302.2	380.5	305.9	404.3	341.7	417.8
	30°	54.9	332.6	375.1	361.6	384.6	376.0	411.8	408.8	422.2
40°	68.6	403.8	375.1	430.2	381.9	456.5	411.8	486.4	419.2	
115°F  242.8#	-40°	0.6	52.4	277.3	74.2	312.6	59.2	304.4	83.8	343.2
	-30°	4.9	71.4	296.3	97.1	327.5	80.7	325.3	109.8	359.6
	-20°	10.2	95.6	322.1	125.4	352.0	108.0	353.6	141.7	386.4
	-10°	16.5	125.2	354.7	158.4	381.9	141.6	389.4	179.0	419.2
	0°	24.0	161.0	375.1	196.6	399.6	182.0	411.8	222.3	438.6
	10°	32.8	204.6	392.8	241.5	413.2	231.3	431.2	273.0	453.6
	20°	43.1	254.7	407.7	293.0	424.0	288.0	447.6	331.2	465.5
	30°	54.9	314.1	425.4	351.1	439.0	355.1	467.0	396.9	481.9
40°	68.6	382.7	428.1	417.0	437.6	432.7	470.0	471.5	480.4	

Notes: Standard ratings are based on saturated suction and 10°F liquid subcooling.  
Econ-o-Mizer® Ratings are based on saturated suction, DX type Econ-o-Mizer  
and on 10°F liquid subcooling from the condenser.



**VSS SINGLE SCREW COMPRESSOR RATINGS  
HIGH STAGE  
R-22 - 3550 RPM**

CONDENSING Temperature (°F) & Corresponding Pressure (PSIG)	SUCTION		COMPRESSOR MODEL							
			VSS1051		VSS1051E		VSS1201		VSS1201E	
	TEMP (°F)	PRESS (PSIG)	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
85°F 155.7#	-40°	0.6	92.6	293.9	116.7	318.6	103.3	318.3	130.2	345.0
	-30°	4.9	124.6	324.3	152.3	347.0	139.0	351.2	169.8	375.8
	-20°	10.2	164.2	348.9	195.2	367.9	183.2	377.9	217.7	398.4
	-10°	16.5	211.7	367.9	244.9	383.1	236.2	398.4	273.1	414.8
	0°	24.0	270.6	383.1	301.9	396.3	301.9	414.8	336.8	429.2
	10°	32.8	338.8	398.2	368.2	407.7	377.9	431.3	410.7	441.5
	20°	43.1	417.9	398.2	445.5	405.8	466.2	431.3	497.0	439.5
	30°	54.9	511.8	394.4	533.9	400.1	570.9	427.1	595.5	433.3
40°	68.6	622.3	379.3	635.2	381.2	694.1	410.7	708.5	412.8	
95°F 181.8#	-40°	0.6	85.8	320.5	112.1	350.8	95.7	347.1	125.1	379.9
	-30°	4.9	116.2	350.8	146.7	379.3	129.6	379.9	163.7	410.7
	-20°	10.2	153.9	385.0	187.8	411.5	171.7	416.9	209.5	445.6
	-10°	16.5	198.8	409.6	237.5	432.4	221.8	443.6	264.9	468.2
	0°	24.0	254.1	426.7	292.7	445.6	283.4	462.1	326.5	482.6
	10°	32.8	320.4	445.6	359.0	460.8	357.3	482.6	400.4	499.0
	20°	43.1	397.7	457.0	432.7	470.3	443.6	494.9	482.6	509.3
	30°	54.9	487.9	458.9	519.2	466.5	544.2	497.0	579.1	505.2
40°	68.6	592.8	451.3	616.8	457.0	661.3	488.8	688.0	494.9	
105°F 210.8#	-40°	0.6	79.4	350.8	107.7	390.6	88.5	379.9	120.1	423.0
	-30°	4.9	107.9	381.2	141.2	415.3	120.3	412.8	157.5	449.7
	-20°	10.2	143.6	419.1	181.5	451.3	160.2	453.8	202.5	488.8
	-10°	16.5	187.8	449.4	228.3	479.8	209.5	486.7	254.6	519.6
	0°	24.0	239.3	479.8	283.5	504.4	267.0	519.6	316.3	546.3
	10°	32.8	301.9	494.9	348.0	515.8	336.8	536.0	388.1	558.6
	20°	43.1	377.4	513.9	421.6	531.0	421.0	556.5	470.3	575.0
	30°	54.9	464.0	523.4	504.5	536.7	517.5	566.8	562.7	581.2
40°	68.6	563.4	523.4	600.2	532.9	628.4	566.8	669.5	577.1	
115°F 242.8#	-40°	0.6	73.1	386.9	103.5	436.2	81.5	418.9	115.4	472.3
	-30°	4.9	99.6	413.4	135.5	457.0	111.1	447.7	151.1	494.9
	-20°	10.2	133.3	449.4	174.9	491.2	148.7	486.7	195.1	531.9
	-10°	16.5	174.7	494.9	220.9	532.9	194.9	536.0	246.4	577.1
	0°	24.0	224.6	523.4	274.3	557.5	250.5	566.8	306.0	603.8
	10°	32.8	285.4	548.0	336.9	576.5	318.3	593.5	375.8	624.3
	20°	43.1	355.3	568.9	408.7	591.7	396.3	616.1	455.9	640.7
	30°	54.9	438.2	593.6	489.7	612.5	488.8	642.8	546.3	663.3
40°	68.6	533.9	597.3	581.8	610.6	595.5	646.9	648.9	661.3	

Notes: Standard ratings are based on saturated suction and 10°F liquid subcooling.  
Econ-o-Mizer® Ratings are based on saturated suction, DX type Econ-o-Mizer  
and on 10°F liquid subcooling from the condenser.



**VSS SINGLE SCREW COMPRESSOR RATINGS  
HIGH STAGE  
R-22 - 3550 RPM**

CONDENSING Temperature (°F) & Corresponding Pressure (PSIG)	SUCTION		COMPRESSOR MODEL							
			VSS1501		VSS1501E		VSS1801		VSS1801E	
	TEMP (°F)	PRESS (PSIG)	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
85°F  155.7#	-40°	0.6	129.5	411.2	163.3	445.6	151.6	467.0	191.0	506.2
	-30°	4.9	174.3	453.6	212.9	485.4	204.0	515.2	249.2	551.4
	-20°	10.2	229.7	488.1	272.9	514.6	268.8	554.4	319.4	584.5
	-10°	16.5	296.1	514.6	342.5	535.8	346.5	584.5	400.7	608.6
	0°	24.0	378.5	535.8	422.3	554.4	442.9	608.6	494.1	629.7
	10°	32.8	473.8	557.1	515.0	570.3	554.4	632.7	602.6	647.8
	20°	43.1	584.5	557.1	623.1	567.7	683.9	632.7	729.1	644.8
	30°	54.9	715.8	551.7	746.7	559.7	837.6	626.7	873.8	635.7
	40°	68.6	870.3	530.5	888.4	533.2	1018.4	602.6	1039.5	605.6
95°F  181.8#	-40°	0.6	120.0	448.3	156.8	490.7	140.4	509.2	183.5	557.4
	-30°	4.9	162.5	490.7	205.2	530.5	190.1	557.4	240.1	602.6
	-20°	10.2	215.3	538.5	262.6	575.6	251.9	611.6	307.3	653.8
	-10°	16.5	278.1	573.0	332.2	604.8	325.4	650.8	388.7	687.0
	0°	24.0	355.3	596.8	409.4	623.4	415.8	677.9	479.1	708.1
	10°	32.8	448.0	623.4	502.1	644.6	524.3	708.1	587.5	732.2
	20°	43.1	556.2	639.3	605.1	657.9	650.8	726.1	708.1	747.2
	30°	54.9	682.4	641.9	726.1	652.5	798.4	729.1	849.7	741.2
	40°	68.6	829.1	631.3	862.6	639.3	970.2	717.1	1009.3	726.1
105°F  210.8#	-40°	0.6	111.0	490.7	150.6	546.4	129.9	557.4	176.3	620.7
	-30°	4.9	150.9	533.2	197.5	580.9	176.6	605.6	231.1	659.8
	-20°	10.2	200.8	586.2	253.9	631.3	235.0	665.9	297.1	717.1
	-10°	16.5	262.6	628.7	319.3	671.1	307.3	714.1	373.6	762.3
	0°	24.0	334.7	671.1	396.5	705.6	391.7	762.3	464.0	801.5
	10°	32.8	422.3	692.3	486.7	721.5	494.1	786.4	569.5	819.5
	20°	43.1	527.9	718.9	589.7	742.7	617.7	816.5	690.0	843.6
	30°	54.9	648.9	732.1	705.5	750.7	759.3	831.6	825.6	852.7
	40°	68.6	787.9	732.1	839.4	745.4	922.0	831.6	982.2	846.6
115°F  242.8#	-40°	0.6	102.2	541.1	144.7	610.1	119.6	614.6	169.3	693.0
	-30°	4.9	139.3	578.3	189.5	639.3	163.0	656.8	221.8	726.1
	-20°	10.2	186.4	628.7	244.6	687.0	218.1	714.1	286.2	780.4
	-10°	16.5	244.4	692.3	309.0	745.4	285.9	786.4	361.6	846.6
	0°	24.0	314.1	732.1	383.7	779.9	367.6	831.6	448.9	885.8
	10°	32.8	399.1	766.6	471.2	806.4	467.0	870.8	551.4	915.9
	20°	43.1	497.0	795.8	571.6	827.6	581.5	903.9	668.9	940.1
	30°	54.9	612.8	830.3	684.9	856.8	717.1	943.1	801.5	973.2
	40°	68.6	746.7	835.6	813.7	854.1	873.8	949.1	952.1	970.2

Notes: Standard ratings are based on saturated suction and 10°F liquid subcooling.  
Econ-o-Mizer® Ratings are based on saturated suction, DX type Econ-o-Mizer  
and on 10°F liquid subcooling from the condenser.



**VSS SINGLE SCREW COMPRESSOR RATINGS  
BOOSTER**

**HIGH STAGE MULTIPLIERS FOR TWO STAGE SYSTEMS (1)**

REFRIGERANT R-717 - (Ammonia) No Desuperheating but with Subcooling (2)

BOOSTER DISCHARGE		BOOSTER SUCTION TEMPERATURE (°F)						
Temp. (°F)	Corresponding Pressure (PSIG)	-70°	-60°	-50°	-40°	-30°	-20°	-10°
0°	15.6	1.69	1.56	1.44	1.37	1.31	1.27	---
10°	23.7	1.78	1.62	1.48	1.39	1.32	1.28	---
20°	33.4	1.90	1.70	1.53	1.42	1.35	1.29	1.25
30°	44.9	1.79	1.79	1.59	1.46	1.37	1.31	1.26

REFRIGERANT R-717 - (Ammonia) Desuperheating and Subcooling

BOOSTER DISCHARGE		BOOSTER SUCTION TEMPERATURE (°F)						
Temp. (°F)	Corresponding Pressure (PSIG)	-70°	-60°	-50°	-40°	-30°	-20°	-10°
0°	15.6	1.46	1.35	1.26	1.20	1.14	1.12	---
10°	23.7	1.56	1.42	1.31	1.23	1.18	1.14	---
20°	33.4	1.68	1.51	1.37	1.27	1.21	1.16	1.13
30°	44.9	1.82	1.61	1.43	1.33	1.25	1.19	1.15

REFRIGERANT R-22 No Desuperheating but with Subcooling (2)

BOOSTER DISCHARGE		BOOSTER SUCTION TEMPERATURE (°F)						
Temp. (°F)	Corresponding Pressure (PSIG)	-70°	-60°	-50°	-40°	-30°	-20°	-10°
0°	24.0	1.53	1.41	1.33	1.31	1.30	---	---
10°	32.8	1.60	1.47	1.37	1.31	1.30	---	---
20°	43.1	1.70	1.54	1.42	1.33	1.31	1.26	1.25
30°	54.9	1.82	1.63	1.49	1.38	1.31	1.26	1.25

REFRIGERANT R-22 Desuperheating and Subcooling

BOOSTER DISCHARGE		BOOSTER SUCTION TEMPERATURE (°F)						
Temp. (°F)	Corresponding Pressure (PSIG)	-70°	-60°	-50°	-40°	-30°	-20°	-10°
0°	24.0	1.40	1.31	1.24	1.19	1.15	---	---
10°	32.8	1.48	1.37	1.28	1.22	1.17	---	---
20°	43.1	1.57	1.44	1.34	1.26	1.21	1.17	1.13
30°	54.9	1.69	1.52	1.40	1.31	1.25	1.20	1.15

- Notes: (1) These multipliers include booster oil cooling load.  
 (2) With no desuperheating, high stage capacity requirement is increased since the volume of gas is greater at 120°F. (Booster discharge temperature with discharge line liquid injection) than if desuperheated to within 10°F. of saturated suction temperature. Thus the higher multipliers.



**VSS SINGLE SCREW COMPRESSOR RATINGS  
BOOSTER  
R-717 - 3550 RPM**

DISCHARGE Temperature (°F) & Corresponding Pressure (PSIG)	SUCTION		COMPRESSOR MODEL							
			VSS451		VSS601		VSS751		VSS901	
	TEMP (°F)	PRESS (PSIG)	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
0°F 15.6#	-70°	21.9*	18.1	41.4	21.2	47.4	30.0	68.8	33.9	75.5
	-60°	18.7*	26.1	43.1	30.7	49.2	43.3	71.5	48.9	78.5
	-50°	14.4*	36.8	44.4	43.3	50.7	61.1	73.7	69.1	80.9
	-40°	8.8*	50.4	46.4	59.3	53.0	83.7	76.9	94.6	84.4
	-30°	1.7*	67.7	46.0	79.7	52.6	112.3	76.4	127.0	83.8
	-20°	3.5	89.1	42.1	104.8	48.1	147.8	69.9	167.1	76.7
10°F 23.7#	-70°	21.9*	16.9	46.4	19.9	53.1	28.1	77.1	31.8	84.6
	-60°	18.7*	24.8	47.7	29.2	54.5	41.2	79.1	46.5	86.8
	-50°	14.4*	35.3	49.3	41.6	56.3	58.6	81.8	66.2	89.8
	-40°	8.8*	48.6	52.2	57.2	59.6	80.6	86.6	91.2	95.0
	-30°	1.7*	65.5	54.0	77.0	61.7	108.6	89.6	122.8	98.3
	-20°	3.5	86.7	53.1	102.0	60.7	143.9	88.1	162.6	96.7
20°F 33.4#	-70°	21.9*	15.8	50.8	18.6	58.0	26.3	84.3	29.7	92.5
	-60°	18.7*	23.5	53.2	27.6	60.8	38.9	88.3	44.0	97.0
	-50°	14.4*	33.7	56.1	39.6	64.1	55.8	93.1	63.1	102.2
	-40°	8.8*	46.7	57.8	54.9	66.1	77.5	96.0	87.6	105.3
	-30°	1.7*	63.2	61.4	74.3	70.2	104.8	101.9	118.5	111.9
	-20°	3.5	83.5	62.9	98.3	71.9	138.6	104.4	156.7	114.6
30°F 44.9#	-70°	21.9*	109.0	61.2	128.2	69.9	180.8	101.5	204.4	111.5
	-60°	18.7*	22.0	59.0	25.9	67.5	36.6	98.0	41.3	107.6
	-50°	14.4*	31.9	62.5	37.5	71.4	52.9	103.7	59.8	113.8
	-40°	8.8*	44.6	66.3	52.5	75.8	74.0	110.1	83.7	120.9
	-30°	1.7*	60.8	68.6	71.5	78.4	100.8	113.9	114.0	125.0
	-20°	3.5	81.2	72.4	95.5	82.7	134.6	120.1	152.2	131.9
	-10°	9.0	105.8	73.5	124.5	84.0	175.5	121.9	198.4	133.8

Notes: \* Inches of mercury below one standard atmosphere (29.92 inches).



**VSS SINGLE SCREW COMPRESSOR RATINGS  
BOOSTER  
R-717 - 3550 RPM**

DISCHARGE Temperature (°F) & Corresponding Pressure (PSIG)	SUCTION		COMPRESSOR MODEL							
			VSS1051		VSS1201		VSS1501		VSS1801	
	TEMP (°F)	PRESS (PSIG)	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
0°F 15.6#	-70°	21.9*	41.8	96.0	46.6	103.9	58.5	134.2	68.4	152.5
	-60°	18.7*	60.4	99.7	67.4	108.0	84.5	139.5	98.8	158.5
	-50°	14.4*	85.2	102.8	95.1	111.3	119.2	143.8	139.5	163.3
	-40°	8.8*	116.7	107.3	130.2	116.2	163.3	150.1	191.0	170.5
	-30°	1.7*	156.7	106.6	174.8	115.4	219.1	149.1	256.4	169.3
	-20°	3.5	206.2	97.5	230.0	105.6	288.4	136.3	337.5	154.9
10°F 23.7#	-70°	21.9*	39.2	107.5	43.7	116.4	54.8	150.4	64.2	170.8
	-60°	18.7*	57.4	110.4	64.1	119.5	80.3	154.4	94.0	175.4
	-50°	14.4*	81.7	114.2	91.2	123.6	114.3	159.7	133.8	181.4
	-40°	8.8*	112.5	120.8	125.5	130.8	157.3	169.0	184.1	191.9
	-30°	1.7*	151.5	125.0	169.0	135.3	211.9	174.8	248.0	198.6
	-20°	3.5	200.7	122.9	223.8	133.1	280.7	171.9	328.4	195.2
20°F 33.4#	-70°	21.9*	38.6	117.6	40.9	127.3	51.2	164.5	60.0	186.8
	-60°	18.7*	54.3	123.3	60.6	133.5	76.0	172.4	88.9	195.8
	-50°	14.4*	77.9	129.9	86.9	140.7	108.9	181.7	127.4	206.4
	-40°	8.8*	108.1	133.9	120.5	145.0	151.1	187.3	176.9	212.7
	-30°	1.7*	146.2	142.2	163.1	154.0	204.4	198.9	239.2	226.0
	-20°	3.5	193.3	145.6	215.6	157.7	270.4	203.7	316.4	231.4
30°F 44.9#	-70°	21.9*	252.2	141.7	281.3	153.4	352.8	198.2	412.8	225.1
	-60°	18.7*	51.0	136.7	56.9	148.1	71.3	191.3	83.5	217.2
	-50°	14.4*	73.8	144.7	82.3	156.7	103.3	202.4	120.8	229.9
	-40°	8.8*	103.3	153.6	115.2	166.3	144.5	214.9	169.0	244.1
	-30°	1.7*	140.7	158.9	156.9	172.1	196.7	222.3	230.2	252.5
	-20°	3.5	187.8	167.6	209.5	181.5	262.6	234.5	307.3	266.3
	-10°	9.0	244.9	170.1	273.1	184.2	342.5	237.9	400.7	270.3

Notes: \* Inches of mercury below one standard atmosphere (29.92 inches).



**VSS SINGLE SCREW COMPRESSOR RATINGS  
BOOSTER  
R-22 - 3650 RPM**

DISCHARGE Temperature (°F) & Corresponding Pressure (PSIG)	SUCTION		COMPRESSOR MODEL							
			VSS451		VSS601		VSS751		VSS901	
	TEMP (°F)	PRESS (PSIG)	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
0°F 24.0#	-70°	16.6*	25.4	48.2	29.9	55.0	42.1	79.9	47.6	87.7
	-60°	11.9*	35.1	50.0	41.3	57.1	58.2	82.9	65.8	91.0
	-50°	6.1*	47.3	52.5	55.6	60.0	78.4	87.1	88.6	95.6
	-40°	0.6	62.3	54.6	73.3	62.4	103.3	90.7	116.8	99.5
	-30°	4.9	80.4	54.9	94.5	62.7	133.3	91.1	150.7	100.0
	-20°	10.2	102.6	50.0	120.7	57.1	170.2	82.9	192.5	91.0
10°F 32.8#	-70°	16.6*	23.9	53.3	28.2	60.9	39.7	88.5	44.9	97.1
	-60°	11.9*	33.3	55.6	39.2	63.6	55.3	92.3	62.5	101.3
	-50°	6.1*	45.1	58.3	53.1	66.6	74.8	96.8	84.6	106.2
	-40°	0.6	59.7	61.0	70.2	69.7	99.0	101.3	111.9	111.2
	-30°	4.9	77.6	63.0	91.3	72.0	128.7	104.5	145.5	114.7
	-20°	10.2	99.5	62.4	117.0	71.3	165.0	103.6	186.5	113.7
20°F 43.1#	-70°	16.6*	22.4	58.9	26.4	67.3	37.2	97.7	42.1	107.3
	-60°	11.9*	31.5	62.2	37.1	71.0	52.3	103.2	59.1	113.2
	-50°	6.1*	42.9	64.7	50.5	73.9	71.1	107.4	80.4	117.9
	-40°	0.6	57.0	67.9	67.1	77.6	94.6	112.7	107.0	123.7
	-30°	4.9	74.3	70.8	87.4	80.9	123.3	117.4	139.4	128.9
	-20°	10.2	95.5	72.6	112.3	83.0	158.4	120.5	179.0	132.3
30°F 54.9#	-70°	16.6*	20.9	64.1	24.6	73.3	34.7	106.4	39.2	116.8
	-60°	11.9*	29.6	68.1	34.8	77.9	49.1	113.1	55.5	124.1
	-50°	6.1*	40.6	72.3	47.7	82.6	67.3	120.0	76.1	131.7
	-40°	0.6	54.3	75.3	63.8	86.1	90.0	125.0	101.8	137.3
	-30°	4.9	71.0	79.0	83.5	90.3	117.7	131.2	133.1	144.0
	-20°	10.2	91.5	82.7	107.6	94.5	151.8	137.3	171.6	150.7
	-10°	16.5	116.2	83.5	136.7	95.5	192.7	138.6	217.8	152.2

Notes: \* Inches of mercury below one standard atmosphere (29.92 inches).

**VSS SINGLE SCREW COMPRESSOR RATINGS  
BOOSTER  
R-22 - 3550 RPM**

DISCHARGE Temperature (°F) & Corresponding Pressure (PSIG)	SUCTION		COMPRESSOR MODEL							
			VSS1051		VSS1201		VSS1501		VSS1801	
	TEMP (°F)	PRESS (PSIG)	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
0°F 24.0#	-70°	16.6*	58.7	111.5	65.5	120.8	82.1	156.0	96.1	177.2
	-60°	11.9*	81.2	115.7	90.6	125.3	113.6	161.8	132.9	183.8
	-50°	6.1*	109.4	121.6	122.0	131.6	153.0	170.0	179.0	193.1
	-40°	0.6	144.2	126.5	160.8	137.0	201.6	176.9	235.9	201.0
	-30°	4.9	186.0	127.1	207.4	137.6	260.1	177.7	304.3	201.9
	-20°	10.2	237.5	115.7	264.9	125.3	332.2	161.8	388.7	183.8
10°F 32.8#	-70°	16.6*	55.4	123.5	61.8	133.7	77.5	172.7	90.7	196.1
	-60°	11.9*	77.1	128.8	86.0	139.4	107.9	180.1	126.2	204.6
	-50°	6.1*	104.4	135.0	116.4	146.2	146.0	188.9	170.8	214.5
	-40°	0.6	138.1	141.3	154.0	153.0	193.1	197.6	226.0	224.5
	-30°	4.9	179.5	145.8	200.2	157.9	251.1	204.0	293.8	231.7
	-20°	10.2	230.1	144.5	256.7	156.5	321.9	202.1	376.6	229.6
20°F 43.1#	-70°	16.6*	51.9	136.3	57.9	147.7	72.6	190.7	85.0	216.6
	-60°	11.9*	72.9	143.9	81.3	155.9	102.0	201.3	119.3	228.7
	-50°	6.1*	99.2	149.8	110.7	162.2	138.8	209.6	162.4	238.0
	-40°	0.6	132.0	157.2	147.2	170.2	184.6	219.9	216.0	249.8
	-30°	4.9	172.0	163.8	191.8	177.4	240.5	229.2	281.4	260.3
	-20°	10.2	220.9	168.2	246.4	182.2	309.0	235.3	361.6	267.3
30°F 54.9#	-70°	16.6*	48.4	148.5	54.0	160.8	67.7	207.7	79.2	235.9
	-60°	11.9*	68.5	157.8	76.4	170.9	95.8	220.7	112.1	250.7
	-50°	6.1*	93.9	167.4	104.7	181.3	131.3	234.2	153.7	266.0
	-40°	0.6	125.6	174.5	140.1	188.9	175.6	244.0	205.5	277.2
	-30°	4.9	164.2	183.0	183.2	198.2	229.7	256.0	268.8	290.8
	-20°	10.2	211.7	191.5	236.2	207.4	296.1	267.9	346.5	304.3
	-10°	16.5	268.8	193.4	299.8	209.5	375.9	270.6	439.9	307.3


Notes: \* Inches of mercury below one standard atmosphere (29.92 inches).





**VSS SINGLE SCREW COMPRESSOR RATINGS  
OIL COOLING REQUIREMENTS  
HIGH STAGE R-717 - 3550 RPM**

CONDENSING Temperature (°F) & Corresponding Pressure (PSIG)	SUCTION		COMPRESSOR MODEL							
	TEMP (°F)	PRESS (PSIG)	VSS 451	VSS 601	VSS 751	VSS 901	VSS 1051	VSS 1201	VSS 1501	VSS 1801
75°F 125.5#	-40°	8.8*	13.8	16.3	22.6	25.5	31.1	34.6	42.6	49.8
	-30°	1.7*	14.0	16.4	22.8	25.8	31.4	35.0	43.0	50.4
	-20°	3.5	13.6	16.0	22.2	25.1	30.5	34.0	41.8	48.9
	-10°	9.0	12.7	14.9	20.7	23.5	28.5	31.8	39.1	45.8
	0°	15.6	11.3	13.3	18.4	20.9	25.4	28.3	34.8	40.7
	10°	23.7	9.0	10.6	14.8	16.7	20.3	22.6	27.8	32.6
	20°	33.4	4.9	5.7	8.0	9.0	11.0	12.2	15.0	17.6
	30°	44.9	4.5	5.3	7.4	8.4	10.2	11.3	13.9	16.3
40°	58.4	0.7	0.8	1.1	1.3	1.5	1.7	2.1	2.5	
85°F 151.3#	-40°	8.8*	16.4	19.3	26.8	30.3	36.8	41.1	50.5	59.1
	-30°	1.7*	16.8	19.8	27.5	31.1	37.8	42.2	51.8	60.7
	-20°	3.5	16.8	19.8	27.5	31.1	37.8	42.2	51.9	60.7
	-10°	9.0	16.3	19.1	26.6	30.1	36.6	40.8	50.1	58.7
	0°	15.6	15.2	17.9	24.8	28.1	34.1	38.0	46.8	54.8
	10°	23.7	13.4	15.8	21.9	24.8	30.2	33.6	41.3	48.4
	20°	33.4	10.6	12.4	17.3	19.5	23.8	26.5	32.6	38.1
	30°	44.9	4.8	5.7	7.9	8.9	10.8	12.0	14.8	17.3
40°	58.4	5.2	6.1	8.5	9.6	11.6	13.0	15.6	18.7	
95°F 180.6#	-40°	8.8*	19.3	22.8	31.6	35.8	43.5	48.5	59.6	69.8
	-30°	1.7*	19.8	23.3	32.4	36.6	44.5	49.6	61.0	71.5
	-20°	3.5	20.3	23.9	33.1	37.5	45.6	50.8	62.5	73.2
	-10°	9.0	20.1	23.7	32.9	37.2	45.2	50.4	62.0	72.6
	0°	15.6	19.4	22.8	31.6	35.8	43.5	48.5	59.7	69.8
	10°	23.7	18.0	21.2	29.4	33.2	40.4	45.1	55.4	64.9
	20°	33.4	15.8	18.5	25.7	29.1	35.4	39.5	48.5	58.8
	30°	44.9	12.1	14.2	19.8	22.4	27.2	30.4	37.3	43.7
40°	58.4	3.3	3.9	5.4	6.1	7.4	8.3	10.2	11.9	
105°F 213.7#	-40°	8.8*	22.5	26.5	36.8	41.6	50.6	56.4	69.4	81.2
	-30°	1.7*	23.1	27.2	37.7	42.7	51.9	57.9	71.2	83.3
	-20°	3.5	23.8	28.0	39.0	44.1	53.6	59.7	73.5	86.0
	-10°	9.0	24.2	28.5	39.5	44.7	54.4	60.6	74.6	87.3
	0°	15.6	23.8	28.0	39.0	44.1	53.6	59.7	73.4	86.0
	10°	23.7	22.8	26.9	37.3	42.2	51.3	57.2	70.3	82.3
	20°	33.4	21.1	24.8	34.4	39.0	47.4	52.8	65.0	76.0
	30°	44.9	18.2	21.5	29.8	33.7	41.0	45.7	56.2	65.8
40°	58.4	13.6	16.0	22.2	25.1	30.5	34.0	41.8	48.9	

- Notes
- \* Inches of mercury below one standard atmosphere.
  - \*\* Consult Home Office for recommendations on oil cooler load.
  - For Econ-o-Mizer® oil cooler loads add 10% to the oil cooler requirements.
  -  Shaded areas indicate oil cooling requirement with mandatory oil full time oil pump.



**VSS SINGLE SCREW COMPRESSOR RATINGS  
OIL COOLING REQUIREMENTS  
HIGH STAGE R-22 - 3550 RPM**

CONDENSING Temperature (°F) & Corresponding Pressure (PSIG)	SUCTION		COMPRESSOR MODEL							
	TEMP (°F)	PRESS (PSIG)	VSS 451	VSS 601	VSS 751	VSS 901	VSS 1051	VSS 1201	VSS 1501	VSS 1801
85°F 155.7#	-40°	0.6	12.4	14.6	20.3	22.9	27.9	31.1	38.2	44.7
	-30°	4.9	11.8	13.9	19.4	21.9	26.6	29.7	36.5	42.7
	-20°	10.2	10.5	12.3	17.1	19.4	23.6	26.3	32.3	37.8
	-10°	16.5	8.9	10.5	14.5	16.5	20.0	22.3	27.4	32.1
	0°	24.0	7.2	8.5	11.8	13.4	16.3	18.2	22.3	26.1
	10°	32.8	5.8	6.8	9.4	10.7	13.0	14.4	17.8	20.8
	20°	43.1	4.0	4.7	6.5	7.4	8.9	10.0	12.3	14.4
	30°	54.9	2.4	2.9	4.0	4.5	5.5	6.1	7.5	8.8
40°	68.6	**	**	**	**	**	**	**	**	
95°F 181.8#	-40°	0.6	15.2	17.9	24.8	28.1	34.1	38.0	46.8	54.7
	-30°	4.9	14.5	17.1	23.8	26.9	32.7	36.4	44.8	52.5
	-20°	10.2	13.8	16.3	22.6	25.6	31.1	34.7	42.6	49.9
	-10°	16.5	12.4	14.6	20.3	22.9	27.9	31.1	38.2	44.7
	0°	24.0	10.6	12.5	17.4	19.7	23.9	26.7	32.8	38.4
	10°	32.8	9.1	10.7	14.8	16.7	20.4	22.7	27.9	32.7
	20°	43.1	7.4	8.7	12.1	13.6	16.6	18.5	22.7	26.6
	30°	54.9	5.5	6.5	9.1	10.3	12.5	13.9	17.1	20.0
40°	68.6	3.8	4.5	6.3	7.1	8.6	9.6	11.8	13.8	
105°F 210.8#	-40°	0.6	18.3	21.5	29.9	33.8	41.1	45.8	56.3	65.9
	-30°	4.9	17.5	20.6	28.6	32.3	39.3	43.8	53.9	63.1
	-20°	10.2	17.0	20.0	27.8	31.4	38.2	42.6	52.4	61.3
	-10°	16.5	15.9	18.7	26.0	29.4	35.7	39.8	49.0	57.3
	0°	24.0	14.6	17.2	23.9	27.0	32.9	36.6	45.1	52.7
	10°	32.8	12.7	15.0	20.8	23.5	28.6	31.9	39.2	45.9
	20°	43.1	11.1	13.1	18.2	20.6	25.0	27.9	34.3	40.1
	30°	54.9	9.3	10.9	15.2	17.2	20.9	23.3	28.7	33.5
40°	68.6	7.3	8.6	11.9	13.5	16.4	18.3	22.5	26.3	
115°F 242.8#	-40°	0.6	21.7	25.5	35.5	40.1	48.8	54.4	66.9	78.3
	-30°	4.9	20.8	24.5	34.0	38.5	46.8	52.2	64.2	75.1
	-20°	10.2	20.3	23.8	33.1	37.5	45.6	50.8	62.5	73.1
	-10°	16.5	19.9	23.4	32.5	36.7	44.7	49.8	61.2	71.7
	0°	24.0	18.4	21.7	30.1	34.1	41.4	46.2	56.8	66.5
	10°	32.8	16.8	19.8	27.5	31.1	37.9	42.2	51.9	60.8
	20°	43.1	15.2	17.9	24.8	28.1	34.1	38.0	46.8	54.7
	30°	54.9	13.6	16.0	22.2	25.1	30.5	34.1	41.9	49.0
40°	68.6	11.4	13.5	18.7	21.2	25.7	28.7	35.3	41.3	

Notes    \*\* Consult Home Office for recommendations on oil cooler load.  
For Econ-o-Mizer® oil cooler loads add 10% to the oil cooler requirements.



**VSS SINGLE SCREW COMPRESSOR RATINGS  
OIL COOLING REQUIREMENTS  
BOOSTER R-717 - 3550 RPM**

DISCHARGE Temp. (°F) & Corr. Pressure (PSIG)	SUCTION		COMPRESSOR MODEL							
	TEMP (°F)	PRESS (PSIG)	VSS 451	VSS 601	VSS 751	VSS 901	VSS 1051	VSS 1201	VSS 1501	VSS 1801
0°F 15.6#	-70°	21.9*	5.3	6.2	8.6	9.7	11.8	13.2	16.2	19.0
	-60°	18.7*	4.4	5.2	7.2	8.2	9.9	11.1	13.6	15.9
	-50°	14.4*	3.3	3.9	5.4	6.1	7.4	8.2	10.1	11.8
	-40°	8.8*	2.1	2.5	3.4	3.9	4.7	5.3	6.5	7.6
	-30°	1.7*	0.4	0.4	0.6	0.7	0.8	0.9	1.1	1.3
	-20°	3.5	**	**	**	**	**	**	**	**
10°F 23.7#	-70°	21.9*	6.4	7.6	10.5	11.9	14.4	16.1	19.8	23.2
	-60°	18.7*	5.5	6.5	9.0	10.2	12.4	13.8	16.9	19.8
	-50°	14.4*	4.4	5.2	7.2	8.1	9.9	11.0	13.6	15.9
	-40°	8.8*	3.4	4.0	5.5	6.2	7.6	8.4	10.4	12.1
	-30°	1.7*	2.0	2.3	3.2	3.6	4.4	4.9	6.0	7.1
	-20°	3.5	**	**	**	**	**	**	**	**
20°F 33.4#	-70°	21.9*	7.5	8.8	12.2	13.8	16.8	18.7	23.0	27.0
	-60°	18.7*	6.8	8.0	11.1	12.5	15.2	17.0	20.9	24.5
	-50°	14.4*	5.9	6.9	9.6	10.8	13.2	14.7	18.1	21.2
	-40°	8.8*	4.6	5.5	7.6	8.6	10.4	11.6	14.3	16.7
	-30°	1.7*	3.5	4.1	5.8	6.5	7.9	8.8	10.8	12.7
	-20°	3.5	1.9	2.2	3.1	3.5	4.3	4.8	5.8	6.8
30°F 44.9#	-60°	18.7*	8.2	9.6	13.3	15.1	18.3	20.5	25.1	29.4
	-50°	14.4*	7.4	8.7	12.0	13.6	16.5	18.4	22.7	26.6
	-40°	8.8*	6.5	7.6	10.5	11.9	14.5	16.2	19.9	23.3
	-30°	1.7*	5.1	6.0	8.3	9.4	11.4	12.7	15.7	18.3
	-20°	3.5	3.8	4.5	6.2	7.0	8.5	9.5	11.7	13.7
	-10°	9.0	2.0	2.4	3.3	3.7	4.5	5.0	6.2	7.2

**BOOSTER R-22 - 3550 RPM**

DISCHARGE Temp. (°F) & Corr. Pressure (PSIG)	SUCTION		COMPRESSOR MODEL							
	TEMP (°F)	PRESS (PSIG)	VSS 451	VSS 601	VSS 751	VSS 901	VSS 1051	VSS 1201	VSS 1501	VSS 1801
0°F 24.0#	-70°	16.6*	1.6	1.9	2.7	3.0	3.7	4.1	5.1	5.9
	-60°	11.9*	**	**	**	**	**	**	**	**
	-50°	6.1*	**	**	**	**	**	**	**	**
	-40°	0.6	**	**	**	**	**	**	**	**
	-30°	4.9	**	**	**	**	**	**	**	**
	-20°	10.2	**	**	**	**	**	**	**	**
10°F 32.8#	-70°	16.6*	2.8	3.4	4.7	5.3	6.4	7.1	8.8	10.3
	-60°	11.9*	1.1	1.3	1.8	2.0	2.4	2.7	3.4	3.9
	-50°	6.1*	**	**	**	**	**	**	**	**
	-40°	0.6	**	**	**	**	**	**	**	**
	-30°	4.9	**	**	**	**	**	**	**	**
	-20°	10.2	**	**	**	**	**	**	**	**
20°F 43.1#	-70°	16.6*	4.1	4.8	6.7	7.6	9.2	10.2	12.6	14.7
	-60°	11.9*	2.6	3.0	4.2	4.7	5.7	6.4	7.9	9.2
	-50°	6.1*	0.6	0.8	1.1	1.2	1.5	1.6	2.0	2.3
	-40°	0.6	**	**	**	**	**	**	**	**
	-30°	4.9	**	**	**	**	**	**	**	**
	-20°	10.2	**	**	**	**	**	**	**	**
30°F 54.9#	-70°	16.6*	5.4	6.4	8.9	10.1	12.2	13.7	16.8	19.7
	-60°	11.9*	3.9	4.6	6.4	7.3	8.8	9.9	12.1	14.2
	-50°	6.1*	2.3	2.7	3.7	4.2	5.1	5.7	7.0	8.2
	-40°	0.6	0.3	0.4	0.5	0.6	0.7	0.8	1.0	1.2
	-30°	4.9	**	**	**	**	**	**	**	**
	-20°	10.2	**	**	**	**	**	**	**	**
-10°	16.5	**	**	**	**	**	**	**	**	

Notes      \* Inches of mercury below one standard atmosphere.  
             \*\* Consult Home Office for recommendations on oil cooler load.





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