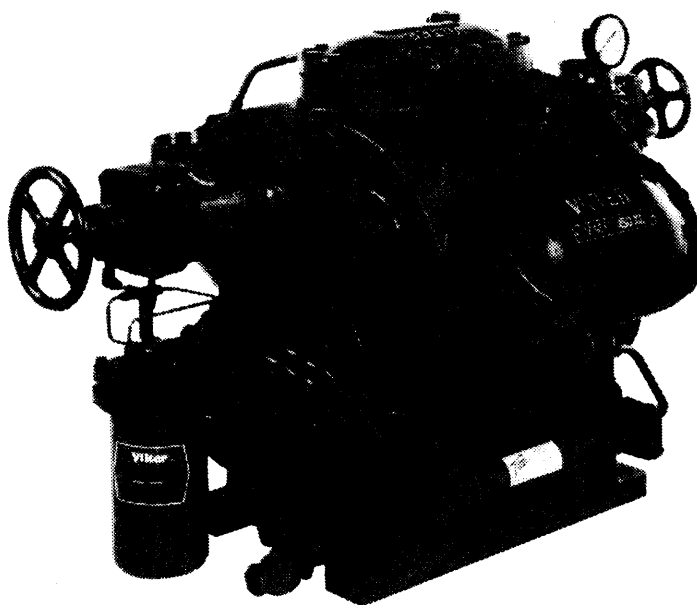


VILTER[™]
Since 1867**VMC**[®]**450XL**[®]

HIGH STAGE COMPRESSOR RATINGS



RATINGS CONDITIONS AND LIMITATIONS

Ratings for all refrigerants are based on saturated conditions at a compressor speed of 1200 RPM. A direct ratio can be used for other speeds. All BHP ratings are based on direct drive and do *not* include belt losses. Add 3% to BHP for V-Belt driven units.

Maximum Direct Drive Motor HP: 375HP

TEMPERATURE LIMITATIONS

Suction Superheat: 25 degrees (F.) for R-22 and R-717.

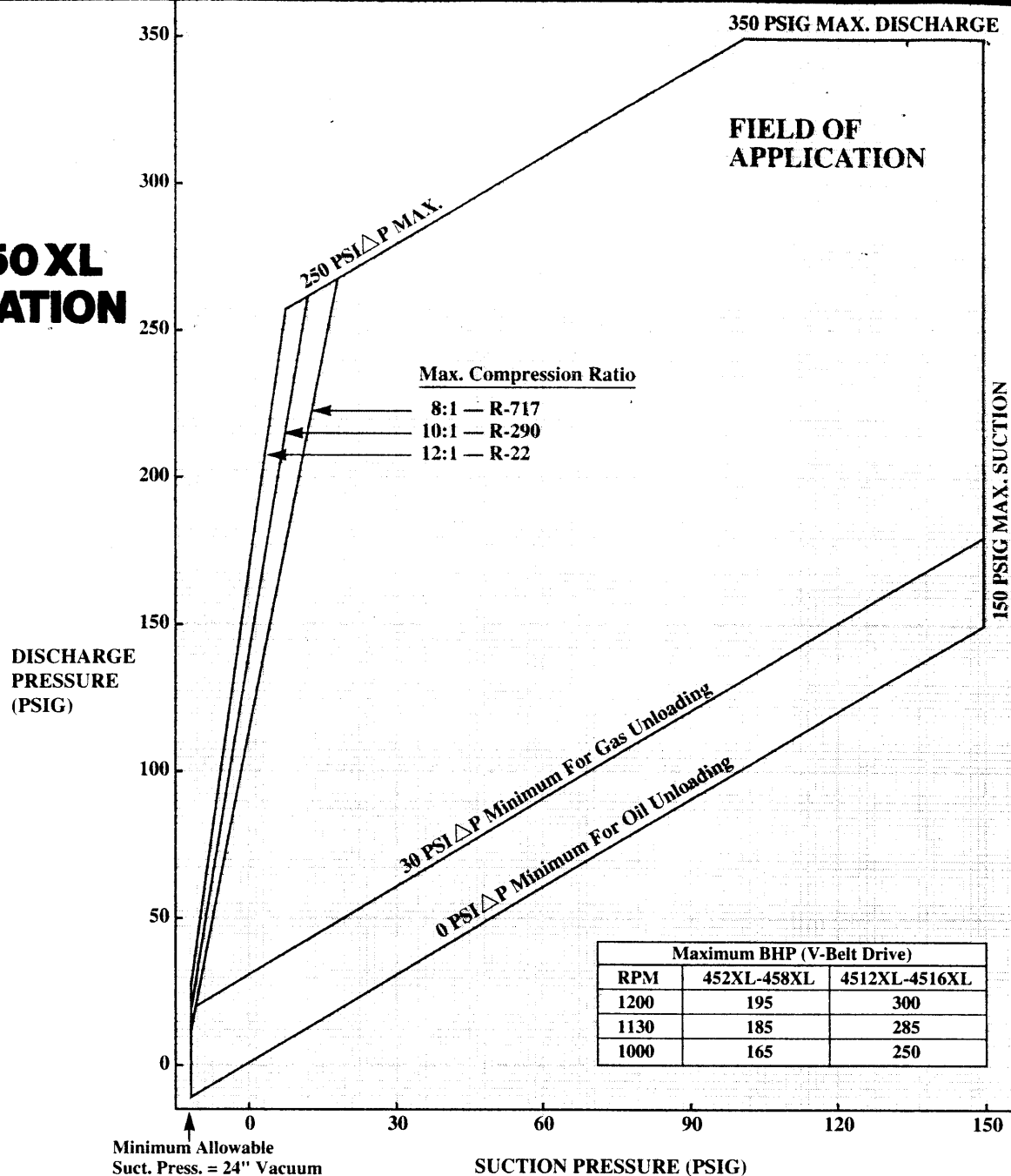
Maximum Discharge Temperature: 300° F.

Crankcase Oil Temperature Operating Range: 110°F. to 130°F. If oil temperature exceeds 130° F., premature wear and/or failure may result.

(See Page 2 for Application Range and other notes.)

HIGH STAGE RATINGS for Refrigerants R-717 (Ammonia) and R-22

VMC 450XL APPLICATION RANGE



APPLICATION NOTES

Some Safety Relief Valves simmer when subjected to a pressure which is 85% of their popping pressure. These high pressures, which cause Safety Relief Valves to simmer, must be considered when selecting high side components.

For example, if a VMC 450XL ammonia compressor is selected for 265 psig condensing pressure it is recommended that the high side components be designed for 350 psig, *not* 300 psig. The reason that the system should be designed for the higher pressure is that the 300 psig design would be protected by a 300 psig Safety Relief Valve, which could simmer above 255 psig. The 350 psig design would be protected by a 350 psig Safety Relief Valve, which would *not* simmer at 265 psig.

THE TEMPERATURE RANGES COVERED BY THESE RATINGS WERE DETERMINED FOR MOST PRACTICAL APPLICATIONS. CHECK WITH HOME OFFICE FOR RATINGS THAT STILL FALL WITHIN THE COMPRESSOR APPLICATION LIMITS BUT ARE NOT SHOWN IN THE TABLES.

CONDENSING Pressure (psig) and Corresponding Temperature (°F.)			REFRIGERANT R717 (AMMONIA) VILTER 450XL Since 1867 BASED ON 1200 RPM											
			COMPRESSOR MODEL											
	SUCTION		452XL		454XL		456XL		458XL		4512XL		4516XL	
	Temp. °F.	Press. psig.	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
95# 61.0°	-25	1.3	9.2	17.8	18.4	34.0	27.6	50.0	36.7	66.6	55.2	100.0	73.7	133.5
	-20	3.6	11.4	19.0	22.8	36.3	34.2	53.4	45.5	71.1	68.4	106.8	91.3	142.5
	-15	6.2	13.9	20.2	27.8	38.7	41.7	56.9	55.4	75.9	83.4	113.8	111.3	151.9
	-10	9.0	16.5	21.3	33.0	40.7	49.5	59.8	65.8	79.8	99.0	119.7	132.1	159.8
	-5	12.2	19.2	22.4	38.4	42.8	57.6	62.9	76.6	83.9	115.2	125.9	153.7	168.0
	0	15.7	22.1	23.3	44.3	44.5	66.4	65.4	88.3	87.2	132.9	130.9	177.3	174.7
	5	19.6	25.5	24.2	51.0	46.2	76.5	67.9	101.7	90.6	153.0	135.9	204.2	181.4
	10	23.8	29.0	24.7	58.2	47.3	87.2	69.5	116.1	92.7	174.5	139.1	233.0	185.7
	15	28.4	32.9	25.2	65.9	48.1	98.8	70.7	131.4	94.3	197.6	141.5	263.8	188.8
	20	33.5	37.1	25.4	74.3	48.5	111.4	71.3	148.2	95.1	222.8	142.6	297.4	190.4
	25	39.0	41.6	25.3	83.3	48.3	124.9	71.0	166.1	94.7	249.8	142.1	333.5	189.6
	30	45.0	46.3	25.1	92.7	47.9	139.0	70.4	184.8	93.9	278.0	140.9	371.1	188.1
115# 70.4°	-25	1.3	8.5	18.8	17.1	36.0	25.6	52.9	34.1	70.6	51.3	105.9	68.5	141.3
	-20	3.6	10.1	20.3	21.5	38.9	32.1	57.2	42.9	76.2	64.5	114.4	86.1	152.7
	-15	6.2	13.2	22.0	26.4	42.0	39.6	61.7	52.6	82.3	79.2	123.5	105.7	164.9
	-10	9.0	15.6	23.4	31.3	44.7	46.9	65.7	62.4	87.6	93.9	131.5	125.3	175.5
	-5	12.2	18.3	24.7	36.6	47.3	54.9	69.5	73.0	92.7	109.8	139.1	146.5	185.7
	0	15.7	21.2	25.9	42.4	49.6	63.6	72.9	84.6	97.2	127.2	145.9	169.7	194.7
	5	19.6	24.5	27.1	49.0	51.8	73.5	76.2	97.7	101.5	147.0	152.3	196.2	203.4
	10	23.8	28.0	27.9	56.1	53.4	84.1	78.5	111.9	104.7	168.2	157.1	224.6	209.7
	15	28.4	31.8	28.6	63.7	54.7	95.5	80.4	127.0	107.2	191.0	160.9	255.0	214.8
	20	33.5	35.9	29.0	71.9	55.4	107.8	81.4	143.4	108.6	215.6	162.9	287.8	217.5
	25	39.0	40.4	29.1	80.9	55.7	121.3	81.9	161.3	109.2	242.6	163.8	323.8	218.7
	30	45.0	45.1	29.1	90.4	55.7	135.5	81.9	180.3	109.2	271.1	163.8	361.9	218.7
135# 78.7°	-25	1.3	7.8	19.9	15.7	38.0	23.5	55.9	31.3	74.5	47.1	111.8	62.9	149.2
	-20	3.6	10.1	21.7	20.2	41.5	30.3	61.0	40.3	81.3	60.6	122.1	80.9	162.9
	-15	6.2	12.4	23.6	24.9	45.2	37.3	66.4	49.7	88.6	74.7	132.9	99.7	177.5
	-10	9.0	14.7	25.4	29.5	48.6	44.2	71.4	58.8	95.3	88.5	142.9	118.1	190.8
	-5	12.2	17.4	27.0	34.8	51.7	52.2	76.0	69.4	101.3	104.4	152.1	139.3	203.0
	0	15.7	20.2	28.6	40.4	54.6	60.6	80.3	80.6	107.0	121.2	160.6	161.7	214.4
	5	19.6	23.4	30.0	46.9	57.3	70.3	84.2	93.5	112.3	140.7	168.5	187.7	225.0
	10	23.8	27.0	31.1	54.0	59.4	81.0	87.3	107.7	116.4	162.0	174.7	216.2	233.2
	15	28.4	30.6	32.1	61.4	61.3	92.0	90.1	122.4	120.2	184.1	180.3	245.8	240.7
	20	33.5	34.6	32.6	69.4	62.3	104.0	91.6	138.4	122.1	208.1	183.2	277.8	244.6
	25	39.0	39.2	33.0	78.5	63.1	117.7	92.8	156.5	123.7	235.4	185.6	314.2	247.7
	30	45.0	44.0	33.2	88.1	63.5	132.1	93.4	175.7	124.5	264.2	186.8	352.7	249.3
155# 86.1°	-15	6.2	11.7	24.7	23.4	47.3	35.1	69.5	46.7	92.7	70.2	139.1	93.7	185.7
	-10	9.0	14.0	26.7	28.0	51.0	42.0	75.0	55.8	100.0	84.0	150.0	112.1	200.2
	-5	12.2	16.5	28.5	33.1	54.4	49.6	80.0	66.0	106.6	99.3	160.0	132.5	213.6
	0	15.7	19.3	30.2	38.7	57.7	58.0	84.8	77.2	113.1	116.1	169.7	154.9	226.5
	5	19.6	22.4	31.8	44.8	60.7	67.2	89.2	89.3	119.0	134.4	178.5	179.3	238.3
	10	23.8	25.8	33.1	51.7	63.3	77.5	93.1	103.1	124.1	155.1	186.2	207.0	248.5
	15	28.4	29.5	34.4	59.2	65.7	88.7	96.6	118.1	128.8	177.5	193.2	237.0	257.9
	20	33.5	33.5	35.3	67.2	67.4	100.7	99.1	134.0	132.1	201.5	198.2	269.0	264.6
	25	39.0	38.0	36.0	76.1	68.9	114.1	101.3	151.7	135.0	228.2	202.6	304.6	270.5
	30	45.0	42.7	36.6	85.6	70.0	128.3	102.9	170.7	137.2	256.7	205.9	342.7	274.8
165# 89.6°	-15	6.2	11.3	25.3	22.6	48.4	33.9	71.2	45.1	94.9	67.8	142.3	90.5	190.0
	-10	9.0	13.6	27.3	27.3	52.2	40.9	76.7	54.4	102.3	81.9	153.5	109.3	204.9
	-5	12.2	16.1	29.2	32.3	55.8	48.4	82.0	64.4	109.4	96.6	164.1	129.3	219.1
	0	15.7	18.9	31.0	37.8	59.3	56.7	87.2	75.4	116.2	113.4	174.4	151.3	232.8
	5	19.6	21.9	32.6	43.8	62.4	65.7	91.7	87.3	122.3	131.4	183.5	175.3	245.0
	10	23.8	25.2	34.2	50.5	65.3	75.7	96.0	100.7	128.0	151.5	192.1	202.2	256.4
	15	28.4	29.0	35.5	58.1	67.9	87.1	99.8	115.9	133.1	174.2	199.7	232.6	266.6
	20	33.5	33.0	36.6	66.1	70.0	99.1	102.9	131.8	137.2	198.2	205.9	264.6	274.8
	25	39.0	37.4	37.6	74.9	71.8	112.3	105.6	149.4	140.7	224.6	211.2	299.8	281.9
	30	45.0	42.1	38.3	84.3	73.2	126.4	107.6	168.1	143.5	252.8	215.3	337.5	287.4

Ratings above line for extrapolation only.

CONDENSING Pressure (psig) and Corresponding Temperature (°F.) ↓			REFRIGERANT R717 (AMMONIA) VILTER 450XL ® Since 1867 BASED ON 1200 RPM											
			COMPRESSOR MODEL											
			SUCTION		452XL		454XL		456XL		458XL		4512XL	
	Temp. °F	Press. psig	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
175# 93.0°	- 10	9.0	13.3	27.7	26.7	53.0	40.0	77.9	53.2	103.9	80.1	155.9	106.9	208.1
	- 5	12.2	15.8	29.6	31.6	56.6	47.4	83.2	63.0	110.9	94.8	166.5	126.5	222.2
	0	15.7	18.5	31.5	37.0	60.2	55.5	88.5	73.8	118.0	111.0	177.1	148.1	236.4
	5	19.6	21.4	33.2	42.9	63.4	64.3	93.2	85.5	124.3	128.7	186.5	171.7	248.9
	10	23.8	24.7	34.8	49.5	66.5	74.2	97.8	98.7	130.3	148.5	195.6	198.2	261.1
	15	28.4	28.5	36.2	57.1	69.3	85.6	101.9	113.9	135.8	171.2	203.8	228.6	272.1
	20	33.5	32.5	37.5	65.1	71.7	97.6	105.4	129.8	140.5	195.2	210.9	260.6	281.5
	25	39.0	36.9	38.6	74.0	73.8	110.9	108.5	147.6	144.7	221.9	217.1	296.2	289.7
30	45.0	41.6	39.4	83.4	75.3	125.0	110.7	166.3	147.6	250.1	221.5	333.9	295.6	
95° 181.1#	- 10	9.0	13.1	28.0	26.3	53.5	39.4	78.7	52.4	104.9	78.9	157.3	105.3	210.0
	- 5	12.2	15.6	29.9	31.2	57.1	46.8	83.9	62.2	111.9	93.6	167.9	124.9	224.2
	0	15.7	18.2	31.8	36.5	60.7	54.7	89.2	72.8	119.0	109.5	178.5	146.1	238.3
	5	19.6	21.1	33.5	42.3	64.0	63.4	94.1	84.4	125.4	126.9	188.2	169.3	251.3
	10	23.8	24.4	35.2	48.8	67.2	73.2	98.8	97.3	131.7	146.4	197.6	195.4	263.8
	15	28.4	28.1	36.7	56.4	70.2	84.5	103.2	112.5	137.6	169.1	206.5	225.8	275.6
	20	33.5	32.1	38.0	64.4	72.7	96.5	106.9	128.4	142.5	193.1	213.8	257.8	285.4
	25	39.0	36.6	39.2	73.4	75.0	110.0	110.3	146.4	147.0	220.1	220.6	293.8	294.5
30	45.0	41.3	40.1	82.8	76.6	124.1	112.6	165.1	150.1	248.3	225.3	331.5	300.7	
185# 96.2°	- 10	9.0	13.0	28.1	26.0	53.8	39.0	79.1	51.8	105.5	78.0	158.2	104.1	211.2
	- 5	12.2	15.4	30.0	30.9	57.4	46.3	84.4	61.6	112.5	92.7	168.8	123.7	225.4
	0	15.7	18.0	31.9	36.1	61.0	54.1	89.7	72.0	119.6	108.3	179.4	144.5	239.5
	5	19.6	20.9	33.6	41.9	64.3	62.8	94.5	83.6	126.0	125.7	189.1	167.7	252.4
	10	23.8	24.2	35.4	48.4	67.6	72.6	99.4	95.5	132.5	145.2	198.8	193.8	265.4
	15	28.4	27.9	37.0	56.0	70.7	83.9	103.9	111.7	138.6	167.9	207.9	224.2	277.6
	20	33.5	31.9	38.3	64.0	73.3	95.9	107.8	127.6	143.7	191.9	215.6	256.2	287.1
	25	39.0	36.4	39.6	73.0	75.7	109.4	111.3	145.6	148.4	218.9	222.6	292.2	297.2
30	45.0	41.1	40.5	82.4	77.4	123.5	113.8	164.3	151.7	247.1	227.6	329.9	303.9	
205# 102.3°	- 5	12.2	14.6	31.0	29.3	59.2	43.9	87.0	58.4	116.0	87.9	174.1	117.3	232.4
	0	15.7	17.1	33.2	34.2	63.4	51.3	93.2	68.2	124.3	102.6	186.5	136.9	248.9
	5	19.6	20.1	35.2	40.2	67.3	60.3	98.9	80.2	131.9	120.6	197.9	160.9	264.2
	10	23.8	23.4	37.3	46.8	71.3	70.2	104.8	93.3	139.8	140.4	209.7	187.3	279.9
	15	28.4	27.1	39.2	54.3	74.9	81.4	110.1	108.3	146.8	162.9	220.3	217.4	294.1
	20	33.5	31.1	40.9	62.4	78.2	93.5	115.0	124.4	153.3	187.1	230.0	249.8	307.0
	25	39.0	35.5	42.5	71.2	81.3	106.7	119.5	142.0	159.4	213.5	239.1	285.0	319.2
	30	45.0	40.4	44.0	81.0	84.1	121.4	123.6	161.5	164.8	242.9	247.3	324.2	330.2
225# 108.0°	0	15.7	16.5	34.0	33.0	65.0	49.4	95.6	65.8	127.4	99.0	191.2	132.1	255.2
	5	19.6	19.2	36.5	38.4	69.7	57.6	102.5	76.6	136.6	115.2	205.0	153.7	273.6
	10	23.8	22.4	38.8	44.9	74.1	67.3	108.9	89.5	145.2	134.7	217.9	179.7	290.9
	15	28.4	26.1	41.0	52.2	78.3	78.3	115.1	104.1	153.5	156.6	230.3	209.0	307.4
	20	33.5	30.0	43.0	60.2	82.3	90.2	121.0	120.0	161.3	180.5	242.0	241.0	323.1
	25	39.0	34.6	45.0	69.3	86.0	103.9	126.4	138.2	168.6	207.8	252.9	277.4	337.6
	30	45.0	39.3	46.8	78.8	89.4	118.1	131.4	157.1	175.2	236.3	262.9	315.4	351.0
245# 113.3°	5	19.6	18.6	37.7	37.2	72.0	55.8	105.8	74.2	141.1	111.6	211.8	148.9	282.7
	10	23.8	21.7	40.2	43.5	76.9	65.2	113.0	86.7	150.7	130.5	226.2	174.1	301.9
	15	28.4	25.3	42.8	50.7	81.8	76.0	120.3	101.1	160.3	152.1	240.6	203.0	321.2
	20	33.5	29.2	45.0	58.5	86.1	87.7	126.6	116.7	168.8	175.4	253.2	234.2	338.0
	25	39.0	33.7	47.2	67.6	90.3	101.3	132.7	134.8	177.0	202.7	265.6	270.6	354.5
	30	45.0	38.4	49.1	77.0	93.9	115.4	138.0	153.5	184.0	230.9	276.2	308.2	368.7
265# 118.4°	10	23.8	21.0	41.4	42.0	79.2	63.0	116.4	83.8	155.2	126.0	232.9	168.1	310.9
	15	28.6	24.5	44.1	49.0	84.3	73.5	123.9	97.7	165.2	147.0	247.9	196.2	331.0
	20	33.5	28.4	46.7	57.0	89.2	85.4	131.1	113.7	174.8	170.9	262.3	228.2	350.2
	25	39.0	32.7	49.0	65.5	93.6	98.2	137.6	130.6	183.5	196.4	275.3	262.2	367.1
	30	45.0	37.5	50.9	75.2	97.4	112.7	143.2	150.0	190.9	225.5	286.5	301.0	382.4

Ratings above line for extrapolation only.

CONDENSING Pressure (psig) and Corresponding Temperature (°F.)			REFRIGERANT 22		VILTER 450XL [®] Since 1867		BASED ON 1200 RPM							
			COMPRESSOR MODEL											
↓	SUCTION		452XL		454XL		456XL		458XL		4512XL		4516XL	
	Temp. °F	Press. psig	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
60° 101.6#	-40	0.5	6.9	16.6	13.9	31.8	20.8	46.8	27.7	62.3	41.7	93.5	55.6	124.9
	-35	2.6	8.3	18.2	16.6	34.8	24.9	51.2	33.1	68.2	49.8	102.4	66.5	136.6
	-30	4.9	9.9	19.7	19.8	37.6	29.7	55.3	39.5	73.7	59.4	110.6	79.3	147.6
	-25	7.4	11.6	21.0	23.3	40.2	34.9	59.1	46.5	78.8	69.9	118.2	93.3	157.8
	-20	10.2	13.6	22.3	27.3	42.7	40.9	62.8	54.4	83.7	81.9	125.6	109.3	167.6
	-15	13.2	15.8	23.5	31.6	45.0	47.4	66.2	63.0	88.2	94.8	132.4	126.5	176.7
	-10	16.5	18.0	24.7	36.1	47.2	54.1	69.4	72.0	92.5	108.3	138.8	144.5	185.3
	-5	20.1	20.2	25.7	40.7	49.2	61.0	72.3	81.2	96.4	122.1	144.7	162.9	193.2
	0	24.0	22.8	26.6	45.7	50.9	68.5	74.8	91.1	99.8	137.1	149.7	182.9	199.8
	5	28.2	25.6	27.4	51.3	52.3	76.9	76.9	102.3	102.5	153.9	153.8	205.4	205.3
	10	32.8	28.9	28.1	57.9	53.7	86.8	78.9	114.5	105.3	173.6	157.9	231.8	210.8
	15	37.7	32.3	28.6	64.8	54.7	97.1	80.4	129.2	107.2	194.3	160.9	259.4	214.8
	20	43.0	36.2	29.0	72.5	55.4	108.7	81.4	144.6	108.6	217.4	162.9	290.2	217.5
	25	48.8	40.1	29.0	80.3	55.5	120.4	81.6	160.1	108.8	240.8	163.2	321.4	217.9
	30	54.9	44.4	28.8	89.0	55.0	133.4	80.9	177.5	107.8	266.9	161.8	356.3	215.9
	35	61.5	49.1	28.2	98.4	54.0	147.5	79.4	196.2	105.8	295.1	158.8	393.9	212.0
	40	68.5	54.1	27.5	108.4	52.6	162.5	77.3	216.2	103.1	325.1	154.7	433.9	206.5
45	76.0	59.5	26.6	119.3	50.8	178.8	74.8	237.9	99.6	357.8	149.4	477.6	199.4	
50	84.0	65.0	25.5	130.2	48.8	195.2	71.7	259.6	95.7	390.5	143.5	521.2	191.6	
70° 121.4#	-40	0.5	6.4	17.2	12.8	32.8	19.2	48.2	25.5	64.3	38.4	96.5	51.2	128.8
	-35	2.6	7.4	18.7	14.9	35.8	22.3	52.6	29.7	70.2	44.7	105.3	59.7	140.6
	-30	4.9	8.9	19.9	17.8	38.0	26.7	55.9	35.5	74.5	53.4	111.8	71.3	149.2
	-25	7.4	10.6	22.0	21.2	42.0	31.8	61.7	42.3	82.3	63.6	123.5	84.9	164.9
	-20	10.2	12.5	23.5	25.0	44.9	37.5	66.0	49.9	88.0	75.0	132.1	100.1	176.3
	-15	13.2	14.6	25.0	29.3	47.7	43.9	70.1	58.4	93.5	87.9	140.3	117.3	187.3
	-10	16.5	17.3	26.3	34.7	50.3	52.0	73.9	69.2	98.6	104.1	147.9	138.9	197.5
	-5	20.1	19.2	27.6	38.4	52.8	57.6	77.6	76.6	103.5	115.2	155.3	153.7	207.3
	0	24.0	21.7	28.9	43.5	55.2	65.2	81.1	86.7	108.2	130.5	162.3	174.1	216.7
	5	28.2	24.4	29.9	48.9	57.2	73.3	84.1	97.5	112.1	146.7	168.2	195.8	224.6
	10	32.8	27.6	30.9	55.2	59.0	82.8	86.7	110.1	115.6	165.6	173.5	221.0	231.6
	15	37.7	30.9	31.7	62.0	60.6	92.9	89.1	123.6	118.8	185.9	178.2	248.2	237.9
	20	43.0	34.6	32.3	69.4	61.8	104.0	90.9	138.4	121.1	208.1	181.8	277.8	242.6
	25	48.8	38.4	32.8	77.0	62.8	115.4	92.3	153.5	123.1	230.9	184.7	308.2	246.6
	30	54.9	42.7	33.1	85.6	63.3	128.3	93.1	170.7	124.1	256.7	186.2	342.7	248.5
	35	61.5	47.2	32.9	94.6	62.9	141.8	92.5	188.6	123.3	283.7	185.0	378.7	247.0
	40	68.5	52.1	32.4	104.3	62.0	156.4	91.1	208.0	121.5	312.8	182.3	417.5	243.4
45	76.0	57.1	31.8	114.5	60.7	171.6	89.2	228.3	119.0	343.4	178.5	458.3	238.3	
50	84.0	62.6	30.9	125.5	59.0	188.1	86.7	250.3	115.6	376.4	173.5	502.4	231.6	
85° 155.7#	-40	0.5	5.1	17.3	10.3	33.0	15.4	48.5	20.5	64.7	30.9	97.1	41.2	129.6
	-35	2.6	6.1	19.1	12.2	36.6	18.3	53.8	24.3	71.7	36.6	107.6	48.8	143.7
	-30	4.9	7.5	21.0	15.0	40.1	22.5	59.0	29.9	78.6	45.0	117.9	60.1	157.4
	-25	7.4	9.1	22.8	18.2	43.5	27.3	64.0	36.3	85.3	54.6	127.9	72.9	170.8
	-20	10.2	10.9	24.6	21.9	47.1	32.8	69.2	43.7	92.3	65.7	138.5	87.7	184.9
	-15	13.2	12.9	26.3	25.9	50.3	38.8	73.9	51.7	98.6	77.7	147.9	103.7	197.5
	-10	16.5	15.1	28.1	30.2	53.7	45.3	78.9	60.2	105.3	90.6	157.9	120.9	210.8
	-5	20.1	17.3	30.0	34.6	56.9	51.9	83.6	69.0	111.5	103.8	167.3	138.5	223.4
	0	24.0	19.7	31.4	39.4	60.0	59.1	88.2	78.6	117.6	118.2	176.5	157.7	235.6
	5	28.2	22.3	32.8	44.6	62.8	66.9	92.3	88.9	123.1	133.8	184.7	178.5	246.6
	10	32.8	25.1	34.3	50.3	65.5	75.4	96.3	100.3	128.4	150.9	192.6	201.4	257.2
	15	37.7	28.3	35.5	56.8	67.8	85.1	99.7	113.3	132.9	170.3	199.4	227.4	266.2
	20	43.0	31.6	36.5	63.4	69.7	95.0	102.5	126.4	136.6	190.1	205.0	253.8	273.6
	25	48.8	35.2	37.3	70.5	71.3	105.7	104.8	140.6	139.8	211.4	209.7	282.2	279.9
	30	54.9	39.2	38.1	78.5	72.8	117.7	107.0	156.5	142.7	235.4	214.1	314.2	285.8
	35	61.5	43.3	38.7	86.8	73.9	130.1	108.6	173.1	144.8	260.3	217.3	347.5	290.1
	40	68.5	47.7	39.0	95.6	74.5	143.3	109.5	190.6	146.0	286.7	219.1	382.7	292.5
45	76.0	52.6	38.9	105.3	74.3	157.9	109.2	210.0	145.6	315.8	218.5	421.5	291.7	
50	84.0	57.4	38.6	115.0	73.8	172.4	108.5	229.3	144.7	344.9	217.1	460.4	289.7	

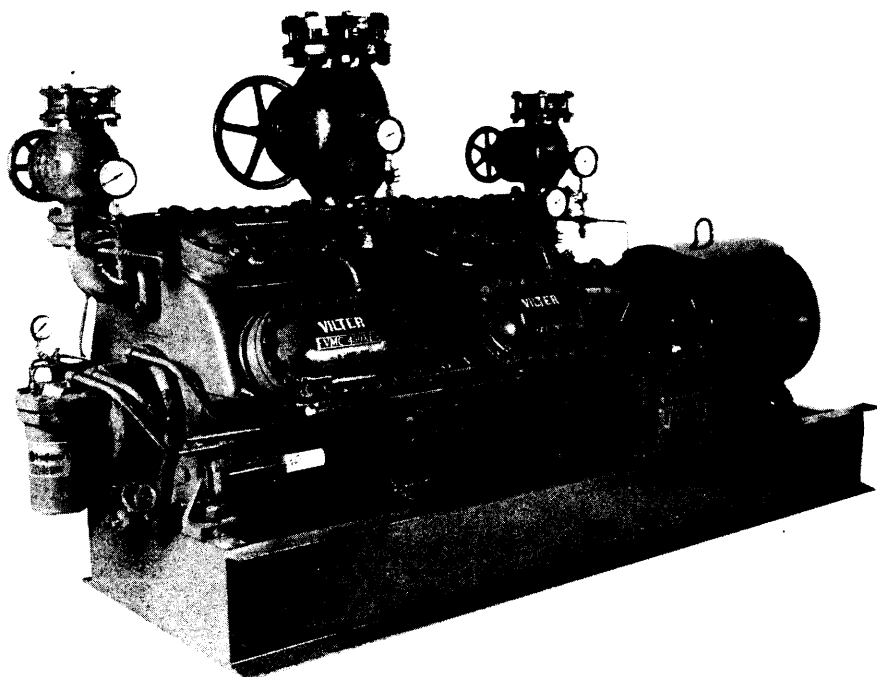
CONDENSING Pressure (psig) and Corresponding Temperature (°F.)			REFRIGERANT 22				VILTER 450XL [®] Since 1967				BASED ON 1200 RPM			
			COMPRESSOR MODEL											
SUCTION			452XL		454XL		456XL		458XL		4512XL		4516XL	
Temp. °F	Press. psig		TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
95° 181.8#	-30	4.9	6.5	21.4	13.1	40.9	19.6	60.1	26.1	80.2	39.3	120.3	52.4	160.6
	-25	7.4	8.0	23.4	16.0	44.7	24.0	65.7	31.9	87.6	48.0	131.5	64.1	175.5
	-20	10.2	9.6	25.3	19.3	48.3	28.9	71.0	38.5	94.7	57.9	142.1	77.3	189.6
	-15	13.2	11.5	27.2	23.1	52.0	34.6	76.4	46.1	101.9	69.3	152.9	92.5	204.2
	-10	16.5	13.5	29.2	27.0	55.8	40.5	82.0	53.8	109.4	81.0	164.1	108.1	219.1
	-5	20.1	15.6	31.0	31.3	59.2	46.9	87.0	62.4	116.0	93.9	174.1	125.3	232.4
	0	24.0	18.0	32.8	36.1	62.7	54.1	92.2	72.0	122.9	108.3	184.4	144.5	246.2
	5	28.2	20.6	34.6	41.2	66.1	61.8	97.2	82.2	129.6	123.6	194.4	164.9	259.5
	10	32.8	23.4	36.2	46.8	69.3	70.2	101.9	93.3	135.8	140.4	203.8	187.3	272.1
	15	37.7	26.3	37.8	52.6	72.2	78.9	106.1	104.9	141.5	157.8	212.3	210.6	283.5
	20	43.0	29.3	39.2	58.7	75.0	88.0	110.3	117.1	147.0	176.0	220.6	235.0	294.5
	25	48.8	32.7	40.6	65.6	77.7	98.3	114.2	130.8	152.3	196.7	228.5	262.6	305.1
30	54.9	35.9	41.7	72.0	79.7	107.9	117.2	143.6	156.2	215.9	234.4	288.2	312.9	
35	61.5	40.4	42.6	81.0	81.4	121.4	119.7	161.5	159.5	242.9	239.4	324.2	319.6	
40	68.5	44.8	43.2	89.7	82.5	134.5	121.3	178.9	161.7	269.0	242.6	359.1	323.9	
45	76.0	49.4	43.5	99.0	83.2	148.4	122.3	197.4	163.1	296.9	244.7	396.3	326.6	
50	84.0	54.1	43.7	108.5	83.5	162.6	122.8	216.4	163.7	325.4	245.6	434.3	327.8	
100° 195.9#	-20	10.2	9.0	25.4	18.0	48.5	27.0	71.3	35.9	95.1	54.0	142.6	72.1	190.4
	-15	13.2	10.7	27.3	21.5	52.2	32.2	76.7	42.9	102.3	64.5	153.5	86.1	204.9
	-10	16.5	12.7	29.4	25.5	56.2	38.2	82.6	50.9	110.2	76.5	165.3	102.1	220.6
	-5	20.1	14.9	31.4	29.8	60.0	44.7	88.2	59.4	117.6	89.4	176.5	119.3	235.6
	0	24.0	17.1	33.4	34.3	63.8	51.4	93.8	68.4	125.1	102.9	187.6	137.3	250.5
	5	28.2	19.6	35.2	39.2	67.3	58.8	98.9	78.2	131.9	117.6	197.9	156.9	264.2
	10	32.8	22.1	37.0	44.3	70.8	66.4	104.1	88.3	138.8	132.9	208.2	177.3	278.0
	15	37.7	25.0	38.8	50.1	74.1	75.1	108.9	99.9	145.2	150.3	217.9	200.6	290.9
	20	43.0	28.0	40.4	56.2	77.2	84.2	113.5	112.1	151.3	168.5	227.1	225.0	303.1
	25	48.8	31.4	41.8	62.9	80.0	94.3	117.6	125.4	156.8	188.6	235.3	251.8	314.1
	30	54.9	34.9	43.1	70.0	82.4	104.9	121.1	139.6	161.5	209.9	242.3	280.2	323.5
	35	61.5	38.8	44.1	77.8	84.3	116.6	123.9	155.1	165.2	233.3	247.9	311.4	331.0
	40	68.5	42.9	45.0	86.0	86.0	128.9	126.4	171.5	168.6	257.9	252.9	344.3	337.6
	45	76.0	47.4	45.6	95.0	87.1	142.4	128.0	189.4	170.7	284.9	256.2	380.3	342.0
	50	84.0	52.3	46.0	104.7	88.0	157.0	129.4	208.8	172.5	314.0	258.8	419.1	345.5
105° 210.8#	-20	10.2	8.4	25.5	16.8	48.8	25.2	71.7	33.5	95.7	50.4	143.5	67.3	191.6
	-15	13.2	10.1	27.6	20.3	52.7	30.4	77.5	40.5	103.3	60.9	155.0	81.3	206.9
	-10	16.5	12.0	29.7	24.1	56.7	36.1	83.4	48.1	111.1	72.3	166.8	96.5	222.6
	-5	20.1	14.1	31.8	28.2	60.7	42.3	89.2	56.2	119.0	84.6	178.5	112.9	238.3
	0	24.0	16.4	33.9	32.8	64.8	49.2	95.3	65.4	127.0	98.4	190.6	131.3	254.4
	5	28.2	18.7	36.0	37.5	68.8	56.2	101.1	74.8	134.9	112.5	202.3	150.1	270.1
	10	32.8	21.2	37.9	42.5	72.5	63.7	106.6	84.8	142.1	127.5	213.2	170.1	284.6
	15	37.7	23.9	39.8	47.9	76.1	71.8	111.9	95.5	149.2	143.7	223.8	191.7	298.8
	20	43.0	26.8	41.6	53.6	79.5	80.4	116.9	106.9	155.8	160.8	233.8	214.6	312.1
	25	48.8	30.1	43.2	60.3	82.5	90.4	121.3	120.2	161.7	180.8	242.6	241.4	323.9
	30	54.9	33.7	44.6	67.5	85.3	101.2	125.4	134.6	167.2	202.4	250.9	270.2	334.9
	35	61.5	37.4	45.7	75.0	87.4	112.4	128.5	149.6	171.3	224.9	257.0	300.2	343.1
	40	68.5	41.6	46.7	83.3	89.2	124.9	131.1	166.1	174.8	249.8	262.3	333.5	350.2
	45	76.0	46.1	47.5	92.3	90.9	138.4	133.6	184.1	178.2	276.8	267.3	369.5	356.8
	50	84.0	50.7	48.2	101.6	92.2	152.3	135.5	202.6	180.7	304.7	271.2	406.7	362.1

CONDENSING Pressure (psig) and Corresponding Temperature (°F.)			REFRIGERANT 22				VILTER ^{450XL} Since 1867				BASED ON 1200 R/H			
			COMPRESSOR MODEL											
↓	SUCTION		452XL		454XL		456XL		458XL		4512XL		4516XL	
	Temp. °F	Press. psig	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
110° 226.4#	-20	10.2	7.8	25.6	15.7	49.0	23.5	72.0	31.3	96.0	47.1	144.1	62.9	192.4
	-15	13.2	9.5	27.8	19.0	53.1	28.5	78.1	37.9	104.1	57.0	156.2	76.1	208.5
	-10	16.5	11.4	30.1	22.8	57.5	34.2	84.5	45.5	112.7	68.4	169.1	91.3	225.8
	- 5	20.1	13.3	32.3	26.7	61.7	40.0	90.7	53.2	120.9	80.1	181.5	106.9	242.2
	0	24.0	15.5	34.5	31.0	65.9	46.5	96.9	61.8	129.2	93.0	193.8	124.1	258.7
	5	28.2	17.7	36.6	35.5	70.0	52.2	102.9	70.8	137.2	105.0	205.9	142.1	274.8
	10	32.8	20.2	38.7	40.4	74.0	60.6	108.8	80.6	145.0	121.2	217.6	161.7	290.5
	15	37.7	22.9	40.7	45.8	77.9	68.7	114.5	91.3	152.7	137.4	229.1	183.3	305.8
	20	43.0	25.7	42.7	51.5	81.6	77.2	120.0	102.7	159.9	154.5	240.0	206.2	320.4
	25	48.8	28.9	44.5	58.0	85.0	86.9	125.0	115.7	166.6	173.9	250.0	232.2	333.7
	30	54.9	32.3	46.1	64.8	88.2	97.1	129.7	129.2	172.9	194.3	259.4	259.4	346.3
	35	61.5	36.1	47.5	72.3	90.8	108.4	133.5	144.2	178.0	216.8	267.0	289.4	356.5
115° 242.7#	40	68.5	40.0	48.6	80.2	93.0	120.2	136.7	159.9	182.3	240.5	273.5	321.0	365.1
	45	76.0	44.3	49.6	88.7	94.9	133.0	139.5	176.9	186.0	266.0	279.1	355.1	372.6
	50	84.0	48.9	50.1	98.0	96.5	146.9	141.9	195.4	189.1	293.9	283.8	392.3	378.9
	-20	10.2	7.3	25.7	14.7	49.2	22.0	72.3	29.3	96.4	44.1	144.7	58.8	193.2
	-15	13.2	9.0	27.9	18.0	53.4	27.0	78.5	35.9	104.7	54.0	157.1	72.1	209.7
	-10	16.5	10.7	30.3	21.5	58.0	32.2	85.3	42.9	113.7	64.5	170.6	86.1	227.7
	- 5	20.1	12.7	32.7	25.2	62.6	37.8	92.0	50.3	122.7	75.6	184.1	100.9	245.8
	0	24.0	14.6	35.0	29.2	67.0	43.8	98.5	58.2	131.3	87.6	197.1	116.9	263.0
	5	28.2	16.8	37.2	33.6	71.2	50.4	104.7	67.0	139.6	100.8	209.4	134.5	279.5
	10	32.8	19.1	39.5	38.3	75.5	57.4	110.0	76.4	148.0	114.9	222.1	153.3	296.4
	15	37.7	20.8	41.6	43.6	79.5	65.4	116.9	86.9	155.8	130.8	233.8	174.5	312.1
	20	43.0	24.6	43.6	49.3	83.3	73.9	122.5	98.3	163.3	147.9	245.0	197.4	327.0
120° 259.9#	25	48.8	27.7	45.6	55.5	87.2	83.2	128.2	110.7	170.9	166.5	256.5	222.2	342.4
	30	54.9	31.0	47.4	62.1	90.7	93.1	133.3	123.8	177.8	186.2	266.8	248.6	356.1
	35	61.5	34.6	49.1	69.3	93.8	103.9	137.9	138.2	183.9	207.8	275.9	277.4	368.3
	40	68.5	38.5	50.5	77.2	96.5	115.7	141.9	153.9	189.1	231.5	283.8	309.0	378.9
	45	76.0	42.7	51.7	85.5	98.8	128.2	145.2	170.5	193.7	256.4	290.6	342.3	387.9
	50	84.0	47.0	52.7	94.2	100.7	141.2	148.0	187.8	197.4	282.5	296.2	377.1	395.4
	-10	16.5	9.9	30.7	19.8	58.7	29.7	86.3	39.5	115.1	59.4	172.6	79.3	230.5
	- 5	20.1	11.6	33.0	23.3	63.0	34.9	92.6	46.5	123.5	69.9	185.3	93.3	247.3
	0	24.0	13.7	35.3	27.5	67.5	41.2	99.2	54.8	132.3	82.5	198.5	110.1	265.0
	5	28.2	15.7	37.6	31.5	71.8	47.2	105.6	62.8	140.7	94.5	211.2	126.1	281.9
	10	32.8	18.1	39.9	36.3	76.3	54.4	112.2	72.4	149.6	108.9	224.4	145.3	299.6
	15	37.7	20.7	42.1	41.4	80.5	62.1	118.3	82.6	157.8	124.2	236.8	165.7	316.0
125° 277.9#	20	43.0	23.5	44.3	47.1	84.7	70.6	125.5	93.9	166.0	141.3	249.1	188.5	332.5
	25	48.8	26.6	46.4	53.2	88.7	79.8	130.4	106.1	173.9	159.6	260.9	213.0	348.2
	30	54.9	29.7	48.4	59.6	92.5	89.3	136.0	118.8	181.3	178.7	272.0	238.6	363.2
	35	61.5	33.1	50.3	66.4	96.2	99.5	141.4	132.4	188.6	199.1	282.9	265.8	377.7
	40	68.5	36.9	52.0	73.9	99.5	110.8	146.3	147.4	195.0	221.6	292.6	295.8	390.6
	45	76.0	40.8	53.6	81.8	102.4	122.6	150.5	163.1	200.7	245.3	301.2	327.5	402.0
	50	84.0	45.0	54.9	90.1	105.0	135.1	154.4	179.7	205.8	270.2	308.8	360.7	412.2
	10	32.8	16.9	40.1	33.9	76.7	50.8	112.8	67.6	150.3	101.7	225.6	135.7	301.1
15	37.7	19.6	42.4	39.3	81.1	58.9	119.2	78.4	159.0	117.9	238.5	157.3	318.4	
20	43.0	22.4	44.8	44.8	85.7	67.2	126.0	89.3	168.0	134.4	252.0	179.3	336.5	
25	48.8	25.3	47.2	50.6	90.2	75.9	132.6	100.9	176.8	151.8	265.3	202.6	354.1	
30	54.9	28.4	49.4	57.0	94.4	85.4	138.8	113.7	185.0	170.9	277.6	228.2	370.6	
35	61.5	31.8	51.5	63.7	98.4	95.9	144.7	127.0	192.9	191.0	289.4	255.0	386.3	
40	68.5	35.3	53.6	70.8	102.4	106.1	150.5	141.2	200.7	212.3	301.2	283.4	402.0	
45	76.0	39.1	55.3	78.3	105.8	117.4	155.5	156.1	207.4	234.8	311.2	313.4	415.4	
50	84.0	43.1	57.0	86.3	108.9	129.4	160.1	172.1	213.4	258.8	320.3	345.5	427.5	

• Vilter VMC® 450XL®

SECTION 100-H

HIGH STAGE COMPRESSOR HIGH SUCTION RATINGS



RATING CONDITIONS AND LIMITATIONS

Ratings for all refrigerants are based on saturated conditions at a compressor speed of 1200 RPM. A direct ratio can be used for other speeds.

All BHP ratings are based on direct drive and do *not* include belt losses. Add 3% to BHP for V-Belt driven units.

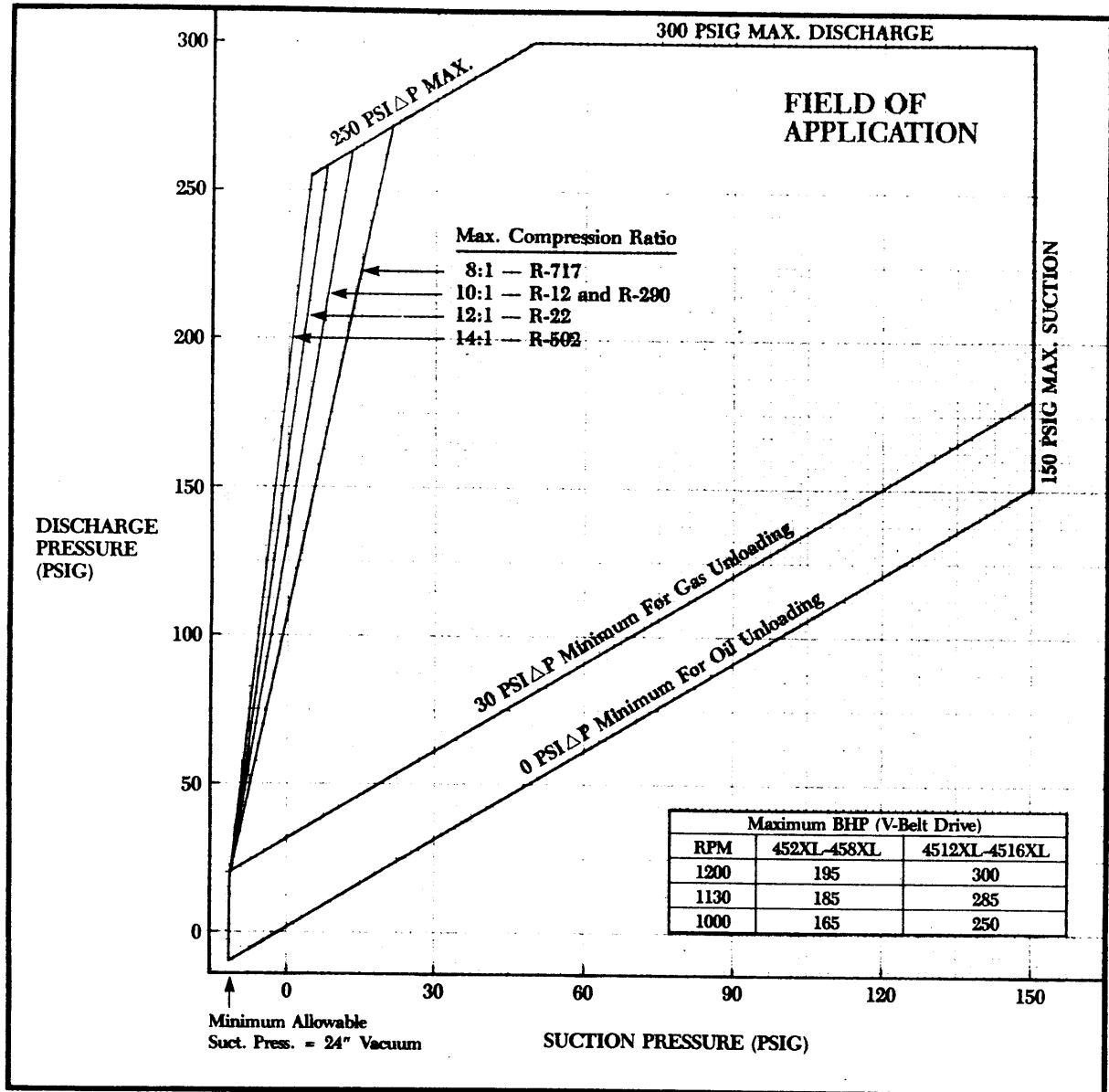
Maximum Direct Drive Motor HP: 375HP

(See Pages 2 and 3 for Additional Information.)

HIGH STAGE, HIGH SUCTION RATINGS For Refrigerants 12-22-717 (Ammonia)

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VMC 450XL® APPLICATION RANGE



TEMPERATURE LIMITATIONS

Suction Superheat: 25 degrees (F.) for R-22, and R-717
 + 65°F (actual gas temperature) or
 25 degrees (F.) of Superheat, whichever is greater, for R-12

Maximum Discharge Temperature: 300°F

Crankcase Oil Temperature Operating Range: 110°F. to 130°F. If oil temperature exceeds 130°F. premature wear and/or failure may result.

APPLICATION NOTES

Compressors designed for High Suction Pressure conditions are available for special applications not covered by the standard VMC 450XL® compressor product line. These applications include wine chilling, precooling of water in beverage plants, industrial gas and/or liquid cooling, and the heating of condenser water in specialized heat pumps.

At these High Suction Conditions (some well above ambient), precautions must be taken to keep the suction gas from condensing. This can be accomplished by suction to liquid line heat exchangers, insulation, and, in some cases, suction line heat tracing.

Some Safety Relief Valves simmer when subjected to a pressure which is 85% of their popping pressure. These high pressures, which cause Safety Relief Valves to simmer, must be considered when selecting high side components.

For example, if a VMC 450XL ammonia compressor is selected for 265 psig condensing pressure, it is recommended that the high side components be designed for 350 psig, *not* 300 psig. The reason that the system should be designed for the higher pressure is that the 300 psig design would be protected by a 300 psig Safety Relief Valve, which could simmer above 255 psig. The 350 psig design would be protected by a 350 psig Safety Relief Valve, which would *not* simmer at 265 psig.

The letter "X" should appear in both the model number and serial number of compressors rated for these conditions.

THE TEMPERATURE RANGES COVERED BY THESE RATINGS WERE DETERMINED FOR MOST PRACTICAL APPLICATIONS. CHECK WITH HOME OFFICE FOR RATINGS THAT STILL FALL WITHIN THE COMPRESSOR APPLICATION LIMITS BUT ARE NOT SHOWN IN THE TABLES.

High Suction Ratings

CONDENSING Pressure (psig) and Corresponding Temperature (°F.) ↓	REFRIGERANT R717 (AMMONIA) <i>Filter</i> 450XL® BASED ON 1200 RPM													
	COMPRESSOR MODEL													
	SUCTION		452XL		454XL		456XL		458XL		4512XL		4516XL	
	Temp. °F	Press. psig	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
115# 70.4°	35	51.6	50.9	27.3	102.0	52.2	152.9	76.7	203.4	102.3	305.9	153.5	408.3	204.9
	40	58.6	56.9	26.2	114.1	50.0	171.0	73.5	227.5	98.0	342.2	147.1	456.7	196.3
	45	66.3	63.6	24.7	127.5	47.3	191.1	69.5	254.2	92.7	382.4	139.1	510.4	185.7
	50	74.5	71.1	23.2	142.4	44.3	213.5	65.1	284.0	86.8	427.1	130.3	570.0	173.9
	55	83.4	79.2	20.9	158.7	40.0	237.9	58.8	316.5	78.4	475.9	117.6	635.3	157.0
	60	92.9	87.6	17.5	175.5	33.5	263.1	49.3	350.0	65.7	526.3	98.5	702.5	131.5
135# 78.7°	35	51.6	49.1	31.6	98.3	60.5	147.4	88.9	196.0	118.6	294.8	177.9	393.5	237.5
	40	58.6	54.9	31.0	110.0	59.2	164.9	87.0	219.3	116.0	329.9	174.1	440.3	232.4
	45	66.3	61.3	30.2	122.8	57.7	184.1	84.8	244.9	113.1	368.3	169.7	491.6	226.5
	50	74.5	68.4	29.0	137.1	55.5	205.5	81.6	273.4	108.8	411.2	163.2	548.8	217.9
	55	83.4	76.0	27.4	152.3	52.3	228.3	76.9	303.7	102.5	456.8	153.8	609.7	205.3
	60	92.9	84.2	24.8	168.8	47.4	253.0	69.7	336.6	92.9	506.2	139.4	675.7	186.1
155# 86.1°	35	51.6	47.8	35.4	95.8	67.6	143.6	99.4	191.0	132.5	287.3	198.8	383.5	265.4
	40	58.6	53.6	35.2	107.5	67.2	161.1	98.8	214.4	131.7	322.4	197.6	430.3	263.8
	45	66.3	60.0	34.7	120.3	66.4	180.3	97.6	239.9	130.1	360.8	195.3	481.6	260.7
	50	74.5	66.9	34.1	134.0	65.1	200.9	95.7	267.2	127.6	401.9	191.5	536.4	255.6
	55	83.4	74.4	32.9	149.1	62.9	223.5	92.5	297.3	123.3	447.2	185.0	596.9	247.0
	60	92.9	82.3	30.9	164.9	59.1	247.2	86.9	328.8	115.8	494.5	173.8	660.1	232.0
165# 89.6°	35	51.6	47.2	37.2	94.6	71.2	141.8	104.7	188.6	139.6	283.7	209.4	378.7	279.5
	40	58.6	53.0	37.2	106.2	71.2	159.2	104.7	211.8	139.6	318.5	209.4	425.1	279.5
	45	66.3	59.4	37.0	119.0	70.8	178.4	104.1	237.3	138.8	356.9	208.2	476.4	278.0
	50	74.5	66.1	36.6	132.5	69.9	198.6	102.8	264.2	137.0	397.4	205.6	530.4	274.4
	55	83.4	73.6	35.7	147.5	68.2	221.1	100.3	294.1	133.7	442.4	200.6	590.4	267.8
	60	92.9	81.3	34.0	163.0	65.0	244.3	95.6	325.0	127.4	488.8	191.2	652.5	255.2
175# 93.0°	35	51.6	46.6	38.8	93.3	74.1	139.9	108.9	186.0	145.2	279.8	217.9	373.5	290.9
	40	58.6	52.3	39.0	104.8	74.5	157.1	109.5	209.0	146.0	314.3	219.1	419.5	292.5
	45	66.3	58.7	38.9	117.6	74.4	176.3	109.4	234.5	145.8	352.7	218.8	470.8	292.1
	50	74.5	65.4	38.5	131.0	73.9	196.4	108.6	261.2	144.8	392.9	217.3	524.4	290.1
	55	83.4	72.8	38.0	145.8	72.6	218.6	106.7	290.7	142.3	437.3	213.5	583.6	285.0
	60	92.9	80.4	36.5	161.1	69.7	241.5	102.5	321.2	136.6	483.1	205.0	644.9	273.6
95° 181.1#	35	51.6	46.2	39.7	92.5	75.9	138.7	111.6	184.5	148.8	277.4	223.2	370.3	298.0
	40	58.6	51.9	40.0	103.9	76.5	155.8	112.5	207.2	149.9	311.6	225.0	415.9	300.3
	45	66.3	58.2	40.1	116.7	76.6	174.9	112.6	232.7	150.1	350.0	225.3	467.2	300.7
	50	74.5	64.9	39.9	130.0	76.3	194.9	112.2	259.2	149.6	389.9	224.4	520.4	299.5
	55	83.4	72.2	39.3	144.7	75.2	216.9	110.5	288.5	147.4	434.0	221.2	579.2	295.2
	60	92.9	79.8	38.0	159.9	72.6	239.7	106.7	318.8	142.3	479.5	213.5	640.1	285.0

High Suction Ratings

CONDENSING Pressure (psig) and Corresponding Temperature (°F.) ↓			REFRIGERANT R717 (AMMONIA)				<i>Filter</i> 450XL®		BASED ON 1200 RPM					
			COMPRESSOR MODEL											
			SUCTION		452XL		454XL		456XL		458XL		4512XL	
	Temp. °F	Press. psig	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
185# 96.2°	35	51.6	45.9	40.3	92.0	77.0	137.9	113.2	183.5	150.9	275.9	226.5	368.3	302.3
	40	58.6	51.6	40.7	103.3	77.8	154.9	114.4	206.0	152.5	309.8	228.8	413.5	305.4
	45	66.3	57.9	40.8	116.1	78.0	174.0	114.7	231.5	152.9	348.2	229.4	464.8	306.2
	50	74.5	64.6	40.7	129.4	77.8	194.0	114.4	258.0	152.5	388.1	228.8	518.0	305.4
	55	83.4	71.9	40.2	144.0	76.9	215.9	113.0	287.1	150.7	431.9	226.2	576.4	301.9
	60	92.9	79.4	38.9	159.2	74.4	238.6	109.4	317.4	145.8	477.4	218.8	637.3	292.1
205# 102.3°	35	51.6	44.7	43.2	89.5	82.5	134.2	121.3	178.5	161.7	268.4	242.6	358.3	323.9
	40	58.6	50.2	43.9	100.6	84.0	150.8	123.5	200.6	164.6	301.7	247.0	402.7	329.8
	45	66.3	56.3	44.4	112.8	84.9	169.1	124.8	224.9	166.4	338.3	249.7	451.5	333.3
	50	74.5	63.0	44.4	126.2	84.8	189.2	124.7	251.6	166.2	378.5	249.4	505.2	332.9
	55	83.4	70.1	43.9	140.4	83.9	210.5	123.3	280.0	164.4	420.1	246.8	562.0	329.4
	60	92.9	77.4	42.5	155.0	81.3	232.4	119.5	309.1	159.4	464.9	239.1	620.5	319.2
225# 108.0°	35	51.6	43.1	46.3	86.3	88.5	129.4	130.1	172.1	173.5	258.8	260.3	345.5	347.5
	40	58.6	48.5	47.3	97.2	90.4	145.7	132.9	193.8	177.2	291.5	265.9	389.1	354.9
	45	66.3	54.6	48.0	109.4	91.8	164.0	135.0	218.1	179.9	328.1	270.0	437.9	360.4
	50	74.5	60.8	48.4	121.8	92.5	182.6	136.0	242.9	181.3	365.3	272.0	487.6	363.2
	55	83.4	67.7	48.3	135.7	92.4	203.4	135.8	270.6	181.1	407.0	271.8	543.2	362.8
	60	92.9	74.9	47.5	150.0	90.9	224.9	133.6	299.1	178.2	449.9	267.3	600.5	356.9
245# 113.3°	35	51.6	42.1	48.5	84.3	92.8	126.4	136.4	168.1	181.9	252.8	272.9	337.5	364.3
	40	58.6	47.3	49.7	94.8	95.1	142.1	139.8	189.0	186.4	284.3	279.7	379.5	373.4
	45	66.3	53.0	50.8	106.2	97.1	159.2	142.7	211.8	190.3	318.5	285.6	425.1	381.2
	50	74.5	59.6	51.4	119.4	98.3	179.0	144.5	238.1	192.7	358.1	289.1	478.0	385.9
	55	83.4	66.2	51.7	132.6	98.8	198.8	145.2	264.4	193.7	397.7	290.6	530.8	387.9
	60	92.9	73.4	51.4	147.0	98.3	220.4	144.5	293.1	192.7	440.9	289.1	588.4	385.9
265# 118.4°	35	51.6	41.0	50.9	82.2	97.4	123.2	143.2	163.9	190.9	246.5	286.5	329.1	382.4
	40	58.6	46.2	52.4	92.5	100.2	138.7	147.3	184.5	196.4	277.4	294.7	370.3	393.4
	45	66.3	51.7	53.6	103.6	102.5	155.3	150.7	206.6	200.9	310.7	301.5	414.7	402.4
	50	74.5	58.2	54.6	116.7	104.3	174.9	153.3	232.7	204.4	350.0	306.8	467.2	409.5
	55	83.4	65.0	55.0	130.3	105.2	195.3	154.6	259.8	206.2	390.8	309.4	521.6	413.0
	60	92.9	72.0	55.1	144.2	105.3	216.2	154.8	287.5	206.4	432.5	309.7	577.2	413.4

High Suction Ratings

CONDENSING Pressure (psig) and Corresponding Temperature (°F.) ↓			REFRIGERANT 22 <i>Filter</i> 450XL® BASED ON 1200 RPM													
			COMPRESSOR MODEL													
			SUCTION		452XL		454XL		456XL		458XL		4512XL		4516XL	
	Temp. °F	Press. psig	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP	TONS	BHP
85° 155.7#	55	92.6	62.6	38.1	125.4	72.8	188.0	107.0	250.1	142.7	376.1	214.1	502.0	285.8		
	60	101.6	67.9	37.3	136.1	71.3	204.0	104.8	271.4	139.8	408.2	209.7	544.8	279.9		
95° 181.8#	55	92.6	59.2	43.7	118.7	83.5	177.9	122.8	236.7	163.7	356.0	245.6	475.2	327.8		
	60	101.6	64.6	43.5	129.4	83.2	194.0	122.3	258.0	163.1	388.1	244.7	518.0	326.6		
100° 195.9#	55	92.6	57.4	46.4	115.0	88.8	172.4	130.5	229.3	174.1	344.9	261.2	460.4	348.6		
	60	101.6	62.6	46.6	125.5	89.0	188.1	130.8	250.3	174.4	376.4	261.8	502.4	349.4		
105° 210.8#	55	92.6	55.8	48.7	111.9	93.2	167.7	137.0	223.1	182.7	335.6	274.1	447.9	365.9		
	60	101.6	61.1	49.2	122.4	94.0	183.5	138.2	244.1	184.2	367.1	276.5	490.0	369.0		
110° 226.4#	55	92.6	53.7	51.2	107.6	97.8	161.3	143.8	214.6	191.7	322.7	287.6	430.7	384.0		
	60	101.6	58.6	51.6	117.5	98.6	176.1	144.9	234.3	193.3	352.4	290.0	470.4	387.1		
115° 242.7#	55	92.6	51.8	53.5	103.8	102.3	155.6	150.4	207.0	200.5	311.3	300.9	415.5	401.6		
	60	101.6	56.6	54.2	113.5	103.6	170.1	152.3	226.3	203.1	340.4	304.7	454.3	406.7		
120° 259.9#	55	92.6	49.4	56.0	98.9	107.0	148.3	157.3	197.2	209.7	296.6	314.7	395.9	420.1		
	60	101.6	53.8	56.6	107.8	108.3	161.6	159.2	215.0	212.3	323.3	318.5	431.5	425.2		
125° 277.9#	55	92.6	47.2	58.3	94.5	111.5	141.7	163.9	188.4	218.5	283.4	327.9	378.3	437.8		
	60	101.6	51.6	59.3	103.3	113.4	154.9	166.7	206.0	222.3	309.8	333.5	413.5	445.2		