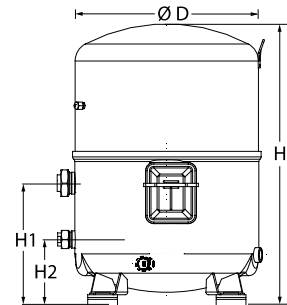


General Characteristics

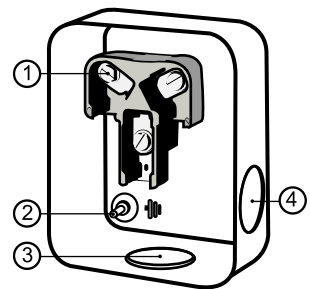
Model number (on compressor nameplate)		MTZ160HW3VE
Code number for Singlepack*		MTZ160-3VI
Code number for Industrial pack**		MTZ160-3VM
Drawing number		8504011e
Suction and discharge connections		Rotolock
Suction connection		1-3/4 " Rotolock
Discharge connection		1-1/4 " Rotolock
Suction connection with supplied sleeve		1-1/8 " ODF
Discharge connection with supplied sleeve		3/4 " ODF
Oil sight glass		Threaded
Oil equalization connection		3/8" flare SAE
Oil drain connection		None
LP gauge port		Schrader
IPR valve		435 psi / 115 psi
Cylinders		4
Swept volume		16.57 in ³ /rev
Displacement @ Nominal speed		2014 cfh @ 3500 rpm
Net weight		152 lbs
Oil charge		132 oz, POE - 175PZ
Maximum system test pressure Low Side / High side		363 psi / 435 psi
Maximum differential test pressure		435 psi
Maximum number of starts per hour		12
Refrigerant charge limit		22 lbs
Approved refrigerants		R404A,R134a,R407A/C/F,R448A,R449A,R452A,R513A

Dimensions



D=13.9 inch, H=21.3 inch,
H1=9.2 inch, H2=4.9 inch, H3=- inch

Terminal box



IP54 (with cable gland)
1: Screw connectors 10-32 UNF x 9.5
2: Earth M4-12
3: Knock-out Ø 29 mm (1.14")
4: Knock-out Ø 25.5 mm (1.00")

Electrical Characteristics

Nominal voltage	200-230V/3/60Hz
Voltage range	180-253 V
Winding resistance (between phases) +/- 7% at 77°F	0.28 Ω
Maximum Continuous Current (MCC)	70 A
Locked Rotor Amps (LRA)	259 A
Motor protection	Internal overload protector

Recommended Installation torques

Oil sight glass	37 ft.lbs
Power connections / Earth connection	2 ft.lbs / 1 ft.lbs
Mounting bolts	37 ft.lbs

Parts shipped with compressor

Mounting kit with grommets, bolts, nuts, sleeves and washers
Suction & Discharge solder sleeves, rotolock nuts and gaskets (shipped with rotolock version only)
Initial oil charge
Installation instructions

Approvals : CE certified, UL certified (file SA6873), -

*Singlepack: Compressor in cardboard box

**Industrial pack: 6 Unboxed compressors on pallet (order per multiples of 6)

Rotolock accessories, suction side
Code no.

Solder sleeve, P02 (1-3/4" Rotolock, 1-1/8" ODF)	8153004
Rotolock valve, V02 (1-3/4" Rotolock, 1-1/8" ODF)	8168028
Gasket, 1-3/4"	8156132

Rotolock accessories, discharge side
Code no.

Solder sleeve, P04 (1-1/4" Rotolock, 3/4" ODF)	8153008
Rotolock valve, V04 (1-1/4" Rotolock, 3/4" ODF)	8168029
Gasket, 1-1/4"	8156131

Rotolock accessories, sets
Code no.

Valve set, V02 (1-3/4"~1-1/8"), V04 (1-1/4"~3/4")	7703009
Gasket set, 1", 1-1/4", 1-3/4", OSG gaskets black & white	8156009

Oil / lubricants
Code no.

POE lubricant, 175PZ, 1 liter can	120Z0638
POE lubricant, 175PZ, 2.5 liter can	120Z0639

Crankcase heaters
Code no.

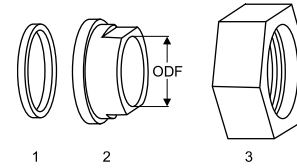
PTC heater 27W, CE mark, UL	120Z0459
Belt type crankcase heater, 75 W, 110 V, CE mark, UL	7773110
Belt type crankcase heater, 75 W, 230 V, CE mark, UL	7773108

Miscellaneous accessories
Code no.

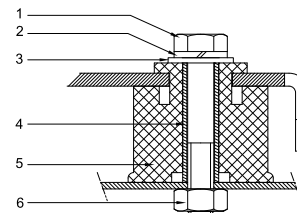
Acoustic hood for 4 cylinder compressor	120Z0473
Oil equalisation nut	8153127

Spare parts
Code no.

Mounting kit for 4 cylinder compressor & MS, including 4 grommets, 4 bolts	8156007
Oil sight glass with gaskets (black & white)	8156019
Gasket for oil sight glass (black chloroprene)	8156145
Service kit for terminal box 96 x 115 mm, including 1 cover, 1 clamp	8156135
T block connector 2.1" x 2.3"	8173230

Gaskets, sleeves and nuts


- 1: Gasket
- 2: Solder sleeve
- 3: Rotolock nut

Mounting kit


- 1: Bolt (4x)
- 2: Lock washer (4x)
- 3: Flat washer (4x)
- 4: Sleeve (4x)
- 5: Grommet (4x)
- 6: Nut (4x)

Performance data at 60 Hz, ARI rating conditions

R134a

Cond. temp. in °F (tc)	Evaporating temperature in °F (to)							
	-10	0	10	20	30	40	50	60

Cooling capacity in Btu/h

100	26 415	38 287	53 199	71 649	94 131	121 138	153 162	190 691	211 672
110	23 027	34 339	48 414	65 751	86 850	112 204	142 307	177 651	197 441
120	19 479	30 180	43 366	59 538	79 199	102 847	130 978	164 085	182 658
130	-	-	38 140	53 095	71 266	93 155	119 261	150 079	167 410
140	-	-	-	46 506	63 135	83 212	107 241	135 722	151 787
150	-	-	-	-	-	73 104	95 007	121 102	135 878
160	-	-	-	-	-	-	82 645	106 310	119 777
165	-	-	-	-	-	-	76 443	98 879	111 684

Power input in W

100	4 911	5 628	6 369	7 113	7 841	8 531	9 163	9 716	9 956
110	5 080	5 827	6 610	7 408	8 201	8 968	9 688	10 341	10 636
120	5 208	5 994	6 826	7 686	8 551	9 402	10 219	10 980	11 333
130	-	-	7 015	7 943	8 889	9 832	10 752	11 629	12 044
140	-	-	-	8 180	9 214	10 257	11 288	12 287	12 768
150	-	-	-	-	-	10 674	11 824	12 954	13 504
160	-	-	-	-	-	-	12 358	13 626	14 250
165	-	-	-	-	-	-	12 625	13 964	14 627

Current consumption in A

100	19.95	21.23	22.58	23.97	25.39	26.80	28.20	29.55	30.20
110	20.18	21.54	22.99	24.52	26.10	27.71	29.33	30.92	31.71
120	20.35	21.80	23.38	25.06	26.82	28.64	30.49	32.36	33.30
130	-	-	23.72	25.58	27.54	29.59	31.71	33.86	34.95
140	-	-	-	26.08	28.26	30.56	32.96	35.42	36.67
150	-	-	-	-	-	31.55	34.25	37.04	38.46
160	-	-	-	-	-	-	35.57	38.71	40.32
165	-	-	-	-	-	-	36.25	39.57	41.27

Mass flow in lbs/h

100	404	574	778	1 023	1 314	1 655	2 051	2 508	2 761
110	373	543	747	989	1 276	1 611	2 001	2 450	2 698
120	335	505	707	947	1 229	1 558	1 940	2 380	2 623
130	-	-	661	896	1 172	1 495	1 868	2 298	2 535
140	-	-	-	836	1 106	1 420	1 784	2 203	2 435
150	-	-	-	-	-	1 334	1 688	2 095	2 320
160	-	-	-	-	-	-	1 578	1 973	2 191
165	-	-	-	-	-	-	1 518	1 906	2 121

Energy Efficiency Ratio (E.E.R.)

100	5.38	6.80	8.35	10.07	12.01	14.20	16.72	19.63	21.26
110	4.53	5.89	7.32	8.88	10.59	12.51	14.69	17.18	18.56
120	3.74	5.04	6.35	7.75	9.26	10.94	12.82	14.94	16.12
130	-	-	5.44	6.68	8.02	9.47	11.09	12.91	13.90
140	-	-	-	5.69	6.85	8.11	9.50	11.05	11.89
150	-	-	-	-	-	6.85	8.04	9.35	10.06
160	-	-	-	-	-	-	6.69	7.80	8.41
165	-	-	-	-	-	-	6.06	7.08	7.64

Nominal performance at to = 45 °F, tc = 130 °F

Cooling capacity	105 650	Btu/h	Current consumption	30.64	A
Power input	10 297	W	Mass flow	1 675	lbs/h
E.E.R.	10.26				

Pressure switch settings

Maximum HP switch setting	293	psi(g)
Minimum LP switch setting	1	psi(g)
LP pump down setting	6	psi(g)

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T₀ : Evaporating temperature at dew point
T_C : Condensing temperature at dew point
Rating conditions : Superheat = 20 °F , Subcooling = 15 °F
Tolerance according EN12900

Sound power data

Sound power level	0	dB(A)
With accoustic hood	0	dB(A)

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Performance data at 60 Hz, ARI rating conditions
R404A

Cond. temp. in °F (tc)	Evaporating temperature in °F (to)							
	-20	-10	0	10	20	30	40	45

Cooling capacity in Btu/h

90	42 901	57 760	75 928	97 901	124 174	155 243	191 604	211 923	233 751
100	37 023	50 750	67 499	87 765	112 043	140 830	174 620	193 546	213 909
110	31 283	43 814	59 079	77 574	99 793	126 232	157 387	174 888	193 754
120	25 679	36 950	50 667	67 325	87 421	111 449	139 905	155 949	173 285
130	-	30 156	42 261	57 019	74 927	96 479	122 172	136 725	152 500
140	-	23 433	33 861	46 654	62 310	81 322	104 186	117 218	131 399

Power input in W

90	8 599	9 726	10 830	11 891	12 891	13 811	14 630	14 997	15 331
100	8 675	9 929	11 182	12 413	13 603	14 734	15 786	16 277	16 741
110	8 669	10 047	11 443	12 838	14 214	15 552	16 831	17 443	18 034
120	8 599	10 094	11 629	13 184	14 740	16 279	17 781	18 513	19 227
130	-	10 087	11 755	13 465	15 197	16 932	18 652	19 500	20 336
140	-	10 041	11 838	13 697	15 600	17 527	19 459	20 420	21 376

Current consumption in A

90	27.70	30.46	33.09	35.70	38.40	41.30	44.51	46.26	48.14
100	27.88	31.07	34.09	37.08	40.14	43.37	46.89	48.80	50.81
110	27.84	31.47	34.93	38.33	41.77	45.37	49.23	51.30	53.47
120	27.53	31.64	35.56	39.40	43.26	47.25	51.49	53.74	56.08
130	-	31.53	35.94	40.25	44.56	48.98	53.63	56.07	58.61
140	-	31.10	36.04	40.85	45.64	50.52	55.60	58.26	61.00

Mass flow in lbs/h

90	888	1 163	1 485	1 860	2 296	2 799	3 376	3 695	4 035
100	834	1 107	1 427	1 799	2 230	2 728	3 300	3 616	3 953
110	775	1 046	1 363	1 732	2 159	2 653	3 219	3 532	3 866
120	710	980	1 294	1 659	2 083	2 571	3 133	3 442	3 773
130	-	906	1 218	1 580	2 000	2 484	3 040	3 347	3 674
140	-	827	1 135	1 494	1 910	2 389	2 940	3 244	3 568

Energy Efficiency Ratio (E.E.R.)

90	4.99	5.94	7.01	8.23	9.63	11.24	13.10	14.13	15.25
100	4.27	5.11	6.04	7.07	8.24	9.56	11.06	11.89	12.78
110	3.61	4.36	5.16	6.04	7.02	8.12	9.35	10.03	10.74
120	2.99	3.66	4.36	5.11	5.93	6.85	7.87	8.42	9.01
130	-	2.99	3.60	4.23	4.93	5.70	6.55	7.01	7.50
140	-	2.33	2.86	3.41	3.99	4.64	5.35	5.74	6.15

Nominal performance at to = 20 °F, tc = 120 °F

Cooling capacity	87 421	Btu/h	Current consumption	43.26	A
Power input	14 740	W	Mass flow	2 083	lbs/h
E.E.R.	5.93				

Pressure switch settings

Maximum HP switch setting	402	psi(g)
Minimum LP switch setting	15	psi(g)
LP pump down setting	19	psi(g)

T 0 : Evaporating temperature at dew point

T C : Condensing temperature at dew point

Rating conditions : Superheat = 20 °F , Subcooling = 0 °F

Tolerance according EN12900

Sound power data

Sound power level	86	dB(A)
With acoustic hood	80	dB(A)

Performance data at 60 Hz, ARI rating conditions
R407A

Cond. temp. in °F (tc)	Evaporating temperature in °F (to)							
	-20	-10	0	10	20	30	40	45

Cooling capacity in Btu/h

90	29 788	44 581	62 853	85 136	111 961	143 861	181 363	202 381	224 998
100	25 404	39 406	56 612	77 554	102 764	132 772	168 110	187 942	209 305
110	20 934	34 071	50 136	69 661	93 180	121 222	154 320	172 930	193 002
120	-	28 674	43 523	61 557	83 309	109 311	140 093	157 442	176 186
130	-	-	36 872	53 340	73 251	97 136	125 528	141 580	158 958
140	-	-	-	45 110	63 103	84 798	110 725	125 442	141 416

Power input in W

90	6 277	7 501	8 658	9 755	10 800	11 802	12 768	13 241	13 707
100	6 272	7 649	8 960	10 214	11 418	12 581	13 712	14 267	14 817
110	6 182	7 721	9 196	10 616	11 990	13 325	14 629	15 272	15 910
120	-	7 722	9 371	10 968	12 520	14 036	15 524	16 260	16 992
130	-	-	9 490	11 274	13 015	14 722	16 403	17 237	18 067
140	-	-	-	11 538	13 477	15 385	17 270	18 206	19 139

Current consumption in A

90	24.30	26.52	28.80	31.10	33.36	35.53	37.55	38.49	39.37
100	24.50	26.89	29.39	31.96	34.52	37.04	39.45	40.60	41.70
110	24.58	27.19	29.95	32.81	35.72	38.63	41.47	42.85	44.19
120	-	27.36	30.41	33.62	36.91	40.24	43.55	45.18	46.79
130	-	-	30.74	34.32	38.04	41.83	45.65	47.55	49.43
140	-	-	-	34.87	39.05	43.34	47.71	49.90	52.08

Mass flow in lbs/h

90	464	680	938	1 244	1 603	2 022	2 507	2 776	3 063
100	420	638	895	1 200	1 557	1 973	2 454	2 721	3 006
110	371	588	845	1 148	1 502	1 914	2 390	2 654	2 936
120	-	532	787	1 087	1 438	1 845	2 316	2 577	2 856
130	-	-	722	1 019	1 365	1 767	2 231	2 488	2 763
140	-	-	-	942	1 283	1 679	2 136	2 389	2 660

Energy Efficiency Ratio (E.E.R.)

90	4.75	5.94	7.26	8.73	10.37	12.19	14.20	15.28	16.41
100	4.05	5.15	6.32	7.59	9.00	10.55	12.26	13.17	14.13
110	3.39	4.41	5.45	6.56	7.77	9.10	10.55	11.32	12.13
120	-	3.71	4.64	5.61	6.65	7.79	9.02	9.68	10.37
130	-	-	3.89	4.73	5.63	6.60	7.65	8.21	8.80
140	-	-	-	3.91	4.68	5.51	6.41	6.89	7.39

Nominal performance at to = 20 °F, tc = 120 °F

Cooling capacity	83 309	Btu/h	Current consumption	36.91	A
Power input	12 520	W	Mass flow	1 438	lbs/h
E.E.R.	6.65				

Pressure switch settings

Maximum HP switch setting	374	psi(g)
Minimum LP switch setting	13	psi(g)
LP pump down setting	17	psi(g)

T 0 : Evaporating temperature at dew point

T C : Condensing temperature at dew point

Rating conditions : Superheat = 20 °F , Subcooling = 0 °F

Tolerance according EN12900

Sound power data

Sound power level	85	dB(A)
With acoustic hood	79	dB(A)

Performance data at 60 Hz, ARI rating conditions
R407C

Cond. temp. in °F (tc)	Evaporating temperature in °F (to)							
	10	20	25	30	35	40	45	50

Cooling capacity in Btu/h

100	83 841	109 566	124 237	140 224	157 611	176 482	196 919	219 008	242 830
110	76 454	100 729	114 544	129 588	145 946	163 700	182 935	203 733	226 178
120	-	91 771	104 715	118 801	134 114	150 736	168 752	188 244	209 296
130	-	82 742	94 799	107 912	122 164	137 639	154 420	172 590	192 234
140	-	-	84 846	96 970	110 146	124 458	139 989	156 822	175 042
150	-	-	-	-	98 109	111 243	125 508	140 989	157 770

Power input in W

100	10 155	11 291	11 821	12 319	12 779	13 198	13 569	13 889	14 152
110	10 562	11 866	12 488	13 084	13 649	14 177	14 664	15 105	15 496
120	-	12 376	13 091	13 784	14 453	15 091	15 693	16 256	16 773
130	-	12 821	13 628	14 419	15 192	15 939	16 657	17 340	17 984
140	-	-	14 099	14 989	15 864	16 721	17 554	18 358	19 129
150	-	-	-	-	16 471	17 437	18 385	19 310	20 207

Current consumption in A

100	31.70	34.32	35.57	36.79	37.99	39.18	40.38	41.59	42.84
110	32.80	35.87	37.33	38.76	40.17	41.56	42.96	44.36	45.79
120	-	37.29	39.00	40.67	42.32	43.95	45.58	47.21	48.87
130	-	38.51	40.50	42.45	44.37	46.28	48.17	50.07	51.98
140	-	-	41.77	44.03	46.26	48.47	50.67	52.86	55.07
150	-	-	-	-	47.92	50.46	53.00	55.52	58.06

Mass flow in lbs/h

100	1 103	1 416	1 592	1 782	1 986	2 207	2 443	2 697	2 969
110	1 059	1 369	1 543	1 730	1 932	2 150	2 383	2 633	2 901
120	-	1 317	1 489	1 674	1 873	2 087	2 317	2 563	2 827
130	-	1 261	1 431	1 613	1 809	2 019	2 245	2 487	2 747
140	-	-	1 367	1 547	1 739	1 946	2 168	2 406	2 661
150	-	-	-	-	1 665	1 868	2 086	2 319	2 569

Energy Efficiency Ratio (E.E.R.)

100	8.26	9.70	10.51	11.38	12.33	13.37	14.51	15.77	17.16
110	7.24	8.49	9.17	9.90	10.69	11.55	12.48	13.49	14.60
120	-	7.42	8.00	8.62	9.28	9.99	10.75	11.58	12.48
130	-	6.45	6.96	7.48	8.04	8.64	9.27	9.95	10.69
140	-	-	6.02	6.47	6.94	7.44	7.97	8.54	9.15
150	-	-	-	-	5.96	6.38	6.83	7.30	7.81

Nominal performance at to = 45 °F, tc = 130 °F

Cooling capacity	154 420	Btu/h	Current consumption	48.17	A
Power input	16 657	W	Mass flow	2 245	lbs/h
E.E.R.	9.27				

Pressure switch settings

Maximum HP switch setting	426	psi(g)
Minimum LP switch setting	20	psi(g)
LP pump down setting	25	psi(g)

T 0 : Evaporating temperature at dew point

T C : Condensing temperature at dew point

Rating conditions : Superheat = 20 °F , Subcooling = 15 °F

Tolerance according EN12900

Sound power data

Sound power level	87	dB(A)
With acoustic hood	81	dB(A)

Performance data at 60 Hz, ARI rating conditions
R407F

Cond. temp. in °F (tc)	Evaporating temperature in °F (to)								
	-20	-10	0	10	20	30	40	45	50

Cooling capacity in Btu/h

90	-	48 258	68 581	93 395	123 317	158 962	200 946	224 507	249 882
100	-	41 703	60 187	82 722	109 923	142 408	180 792	202 388	225 689
110	-	36 252	53 236	73 829	98 648	128 311	163 433	183 233	204 630
120	-	-	47 446	66 436	89 213	116 392	148 591	166 765	186 426
130	-	-	-	60 266	81 338	106 373	135 988	152 706	170 799
140	-	-	-	-	-	-	-	-	-

Power input in W

90	-	8 025	9 201	10 343	11 413	12 373	13 184	13 522	13 808
100	-	8 202	9 496	10 791	12 051	13 235	14 306	14 788	15 226
110	-	8 389	9 784	11 216	12 647	14 040	15 354	15 970	16 553
120	-	-	10 111	11 663	13 249	14 831	16 372	17 114	17 832
130	-	-	-	12 177	13 901	15 657	17 406	18 266	19 111
140	-	-	-	-	-	-	-	-	-

Current consumption in A

90	-	26.76	29.21	31.69	34.08	36.28	38.18	38.98	39.67
100	-	27.35	30.00	32.75	35.48	38.08	40.45	41.51	42.47
110	-	27.70	30.60	33.66	36.77	39.82	42.70	44.05	45.31
120	-	-	31.19	34.60	38.14	41.68	45.12	46.77	48.35
130	-	-	-	35.73	39.73	43.81	47.86	49.83	51.76
140	-	-	-	-	-	-	-	-	-

Mass flow in lbs/h

90	-	651	910	1 218	1 582	2 008	2 504	2 779	3 074
100	-	594	842	1 136	1 484	1 892	2 367	2 630	2 913
110	-	547	788	1 073	1 409	1 802	2 259	2 513	2 786
120	-	-	748	1 028	1 355	1 737	2 180	2 427	2 691
130	-	-	-	1 000	1 322	1 697	2 130	2 371	2 628
140	-	-	-	-	-	-	-	-	-

Energy Efficiency Ratio (E.E.R.)

90	-	6.01	7.45	9.03	10.80	12.85	15.24	16.60	18.10
100	-	5.08	6.34	7.67	9.12	10.76	12.64	13.69	14.82
110	-	4.32	5.44	6.58	7.80	9.14	10.64	11.47	12.36
120	-	-	4.69	5.70	6.73	7.85	9.08	9.74	10.45
130	-	-	-	4.95	5.85	6.79	7.81	8.36	8.94
140	-	-	-	-	-	-	-	-	-

Nominal performance at to = 20 °F, tc = 120 °F

Cooling capacity	89 213	Btu/h	Current consumption	38.14	A
Power input	13 249	W	Mass flow	1 355	lbs/h
E.E.R.	6.73				

Pressure switch settings

Maximum HP switch setting	348	psi(g)
Minimum LP switch setting	15	psi(g)
LP pump down setting	18	psi(g)

T 0 : Evaporating temperature at dew point

T C : Condensing temperature at dew point

Rating conditions : Superheat = 20 °F , Subcooling = 0 °F

Tolerance according EN12900

Sound power data

Sound power level	85	dB(A)
With acoustic hood	79	dB(A)

Performance data at 60 Hz, ARI rating conditions
R448A

Cond. temp. in °F (tc)	Evaporating temperature in °F (to)								
	-20	-10	0	10	20	30	40	45	50

Cooling capacity in Btu/h

50	58 552	78 851	104 242	135 284	-	-	-	-	-
60	52 439	71 303	94 912	123 824	158 600	-	-	-	-
70	46 747	64 244	86 138	112 988	145 356	183 799	-	-	-
80	41 426	57 623	77 869	102 725	132 750	168 505	210 548	-	-
100	31 689	45 489	62 641	83 709	109 253	139 833	176 009	196 369	218 338
120	-	34 486	48 816	66 365	87 697	113 371	143 948	161 251	179 989
140	-	-	-	-	67 670	88 709	113 959	128 338	143 981

Power input in W

50	6 346	7 051	7 672	8 205	-	-	-	-	-
60	6 660	7 443	8 145	8 763	9 293	-	-	-	-
70	6 945	7 825	8 625	9 344	9 978	10 522	-	-	-
80	7 189	8 183	9 100	9 938	10 692	11 361	11 940	-	-
100	7 510	8 783	9 985	11 113	12 162	13 130	14 013	14 422	14 809
120	-	9 149	10 705	12 192	13 606	14 944	16 201	16 799	17 376
140	-	-	-	-	14 929	16 706	18 408	19 230	20 032

Current consumption in A

50	21.98	23.14	24.14	24.92	-	-	-	-	-
60	22.62	23.96	25.19	26.23	27.02	-	-	-	-
70	23.19	24.75	26.23	27.56	28.68	29.51	-	-	-
80	23.68	25.49	27.25	28.89	30.36	31.58	32.48	-	-
100	24.31	26.68	29.08	31.44	33.69	35.76	37.59	38.39	39.11
120	-	27.35	30.49	33.66	36.80	39.84	42.70	44.05	45.33
140	-	-	-	-	39.51	43.62	47.62	49.57	51.47

Mass flow in lbs/h

50	717	956	1 245	1 592	-	-	-	-	-
60	673	903	1 182	1 516	1 912	-	-	-	-
70	630	853	1 122	1 445	1 828	2 277	-	-	-
80	589	805	1 065	1 378	1 748	2 183	2 689	-	-
100	506	711	957	1 251	1 600	2 009	2 486	2 751	3 036
120	-	617	852	1 132	1 462	1 849	2 300	2 551	2 821
140	-	-	-	-	1 329	1 698	2 127	2 366	2 622

Energy Efficiency Ratio (E.E.R.)

50	9.23	11.18	13.59	16.49	-	-	-	-	-
60	7.87	9.58	11.65	14.13	17.07	-	-	-	-
70	6.73	8.21	9.99	12.09	14.57	17.47	-	-	-
80	5.76	7.04	8.56	10.34	12.42	14.83	17.63	-	-
100	4.22	5.18	6.27	7.53	8.98	10.65	12.56	13.62	14.74
120	-	3.77	4.56	5.44	6.45	7.59	8.88	9.60	10.36
140	-	-	-	-	4.53	5.31	6.19	6.67	7.19

Nominal performance at to = 20 °F, tc = 120 °F

Cooling capacity	87 697	Btu/h	Current consumption	36.80	A
Power input	13 606	W	Mass flow	1 462	lbs/h
E.E.R.	6.45				

Pressure switch settings

Maximum HP switch setting	402	psi(g)
Minimum LP switch setting	15	psi(g)
LP pump down setting	19	psi(g)

T 0 : Evaporating temperature at dew point

T C : Condensing temperature at dew point

Rating conditions : Superheat = 20 °F , Subcooling = 0 °F

Tolerance according EN12900

Sound power data

Sound power level	85	dB(A)
With acoustic hood	79	dB(A)

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Performance data at 60 Hz, ARI rating conditions
R449A

Cond. temp. in °F (tc)	Evaporating temperature in °F (to)								
	-20	-10	0	10	20	30	40	45	50

Cooling capacity in Btu/h

50	58 556	78 856	104 248	135 292	-	-	-	-	-
60	52 443	71 308	94 918	123 832	158 610	-	-	-	-
70	46 751	64 250	86 144	112 996	145 365	183 811	-	-	-
80	41 430	57 629	77 876	102 733	132 760	168 517	210 563	-	-
100	31 693	45 494	62 648	83 717	109 263	139 845	176 023	196 385	218 356
120	-	34 491	48 822	66 374	87 707	113 383	143 963	161 267	180 007
140	-	-	-	-	67 680	88 721	113 974	128 355	143 999

Power input in W

50	6 346	7 051	7 672	8 205	-	-	-	-	-
60	6 660	7 443	8 145	8 763	9 293	-	-	-	-
70	6 945	7 825	8 625	9 344	9 978	10 522	-	-	-
80	7 189	8 183	9 100	9 938	10 692	11 361	11 940	-	-
100	7 510	8 783	9 985	11 113	12 162	13 130	14 013	14 422	14 809
120	-	9 149	10 705	12 192	13 606	14 944	16 201	16 799	17 376
140	-	-	-	-	14 929	16 706	18 408	19 230	20 032

Current consumption in A

50	21.95	23.11	24.11	24.88	-	-	-	-	-
60	22.60	23.94	25.17	26.21	27.00	-	-	-	-
70	23.19	24.75	26.22	27.55	28.67	29.50	-	-	-
80	23.68	25.49	27.24	28.89	30.35	31.57	32.47	-	-
100	24.31	26.68	29.08	31.44	33.69	35.76	37.59	38.39	39.11
120	-	27.35	30.49	33.66	36.80	39.84	42.70	44.05	45.33
140	-	-	-	-	39.51	43.62	47.62	49.57	51.47

Mass flow in lbs/h

50	733	977	1 272	1 626	-	-	-	-	-
60	687	922	1 207	1 547	1 951	-	-	-	-
70	643	870	1 145	1 474	1 864	2 321	-	-	-
80	601	821	1 087	1 405	1 783	2 226	2 740	-	-
100	517	727	978	1 278	1 633	2 050	2 535	2 805	3 095
120	-	632	872	1 158	1 495	1 889	2 349	2 605	2 880
140	-	-	-	-	1 361	1 738	2 176	2 420	2 681

Energy Efficiency Ratio (E.E.R.)

50	9.23	11.18	13.59	16.49	-	-	-	-	-
60	7.87	9.58	11.65	14.13	17.07	-	-	-	-
70	6.73	8.21	9.99	12.09	14.57	17.47	-	-	-
80	5.76	7.04	8.56	10.34	12.42	14.83	17.64	-	-
100	4.22	5.18	6.27	7.53	8.98	10.65	12.56	13.62	14.74
120	-	3.77	4.56	5.44	6.45	7.59	8.89	9.60	10.36
140	-	-	-	-	4.53	5.31	6.19	6.67	7.19

Nominal performance at to = 20 °F, tc = 120 °F

Cooling capacity	87 707	Btu/h	Current consumption	36.80	A
Power input	13 606	W	Mass flow	1 495	lbs/h
E.E.R.	6.45				

Pressure switch settings

Maximum HP switch setting	402	psi(g)
Minimum LP switch setting	15	psi(g)
LP pump down setting	19	psi(g)

T 0 : Evaporating temperature at dew point

T C : Condensing temperature at dew point

Rating conditions : Superheat = 20 °F , Subcooling = 0 °F

Tolerance according EN12900

Sound power data

Sound power level	84	dB(A)
With acoustic hood	78	dB(A)

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Performance data at 60 Hz, ARI rating conditions
R452A

Cond. temp. in °F (tc)	Evaporating temperature in °F (to)								
	-20	-10	0	10	20	30	40	45	50

Cooling capacity in Btu/h

50	64 532	82 386	104 561	131 575	-	-	-	-	-
60	58 453	75 426	96 427	121 974	152 583	-	-	-	-
70	52 588	68 644	88 433	112 475	141 287	175 385	-	-	-
80	46 910	62 012	80 553	103 053	130 030	162 001	199 483	-	-
100	36 008	49 091	65 026	84 332	107 529	135 134	167 666	185 940	205 639
120	25 531	36 450	49 631	65 597	84 866	107 959	135 393	150 901	167 688
140	-	-	-	46 634	61 831	80 266	102 460	115 129	128 933

Power input in W

50	6 525	6 930	7 353	7 844	-	-	-	-	-
60	7 221	7 715	8 196	8 714	9 322	-	-	-	-
70	7 829	8 445	9 017	9 596	10 232	10 978	-	-	-
80	8 329	9 100	9 796	10 468	11 167	11 944	12 850	-	-
100	8 932	10 112	11 155	12 113	13 035	13 974	14 980	15 525	16 105
120	8 877	10 598	12 120	13 495	14 773	16 006	17 245	17 882	18 539
140	-	-	-	14 463	16 229	17 888	19 490	20 286	21 087

Current consumption in A

50	23.00	23.12	23.35	23.73	-	-	-	-	-
60	23.91	24.42	24.96	25.58	26.35	-	-	-	-
70	24.73	25.69	26.60	27.54	28.54	29.66	-	-	-
80	25.41	26.87	28.22	29.53	30.83	32.18	33.62	-	-
100	26.05	28.70	31.11	33.33	35.41	37.41	39.36	40.34	41.33
120	25.29	29.37	33.08	36.46	39.57	42.45	45.15	46.46	47.73
140	-	-	-	38.39	42.76	46.77	50.46	52.21	53.90

Mass flow in lbs/h

50	1 003	1 272	1 589	1 962	-	-	-	-	-
60	966	1 232	1 545	1 912	2 341	-	-	-	-
70	927	1 189	1 498	1 860	2 283	2 773	-	-	-
80	884	1 144	1 449	1 806	2 222	2 705	3 261	-	-
100	788	1 042	1 338	1 686	2 090	2 559	3 099	3 397	3 716
120	674	922	1 212	1 549	1 942	2 397	2 921	3 211	3 521
140	-	-	-	1 393	1 774	2 215	2 723	3 005	3 306

Energy Efficiency Ratio (E.E.R.)

50	9.89	11.89	14.22	16.77	-	-	-	-	-
60	8.09	9.78	11.77	14.00	16.37	-	-	-	-
70	6.72	8.13	9.81	11.72	13.81	15.98	-	-	-
80	5.63	6.81	8.22	9.84	11.64	13.56	15.52	-	-
100	4.03	4.85	5.83	6.96	8.25	9.67	11.19	11.98	12.77
120	2.88	3.44	4.10	4.86	5.74	6.74	7.85	8.44	9.04
140	-	-	-	3.22	3.81	4.49	5.26	5.68	6.11

Nominal performance at to = 20 °F, tc = 120 °F

Cooling capacity	84 866	Btu/h	Current consumption	39.57	A
Power input	14 773	W	Mass flow	1 942	lbs/h
E.E.R.	5.74				

Pressure switch settings

Maximum HP switch setting	402	psi(g)
Minimum LP switch setting	15	psi(g)
LP pump down setting	19	psi(g)

T 0 : Evaporating temperature at dew point

T C : Condensing temperature at dew point

Rating conditions : Superheat = 20 °F , Subcooling = 0 °F

Tolerance according EN12900

Sound power data

Sound power level	84	dB(A)
With acoustic hood	78	dB(A)

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Performance data at 60 Hz, ARI rating conditions
R513A

Cond. temp. in °F (tc)	Evaporating temperature in °F (to)								
	-20	-10	0	10	20	30	40	45	50

Cooling capacity in Btu/h

50	-	44 533	58 316	75 613	96 846	122 434	-	-	-
60	-	41 622	54 928	71 572	91 978	116 567	145 759	-	-
70	-	38 604	51 364	67 289	86 801	110 322	138 272	154 040	-
80	-	35 518	47 665	62 803	81 353	103 739	130 380	145 428	161 698
100	-	29 297	40 016	53 377	69 802	89 715	113 536	127 044	141 687
120	-	23 274	32 295	43 608	57 639	74 808	95 539	107 372	120 254
140	-	-	-	-	45 175	59 331	76 702	86 725	97 710

Power input in W

50	-	4 609	5 101	5 628	6 248	7 019	-	-	-
60	-	4 894	5 409	5 926	6 505	7 203	8 080	-	-
70	-	5 172	5 738	6 275	6 841	7 496	8 297	8 770	-
80	-	5 418	6 065	6 650	7 233	7 872	8 626	9 065	9 554
100	-	5 717	6 611	7 379	8 082	8 777	9 524	9 935	10 381
120	-	5 592	6 847	7 915	8 853	9 720	10 575	11 016	11 476
140	-	-	-	-	9 347	10 501	11 579	12 108	12 640

Current consumption in A

50	-	17.06	17.82	18.70	19.73	20.95	-	-	-
60	-	17.70	18.55	19.47	20.53	21.74	23.17	-	-
70	-	18.25	19.21	20.23	21.33	22.58	24.01	24.80	-
80	-	18.70	19.81	20.94	22.14	23.45	24.92	25.72	26.57
100	-	19.23	20.74	22.22	23.71	25.25	26.89	27.76	28.67
120	-	19.20	21.25	23.21	25.13	27.04	29.00	30.00	31.03
140	-	-	-	-	26.31	28.73	31.14	32.35	33.58

Mass flow in lbs/h

50	-	642	825	1 044	1 303	1 607	-	-	-
60	-	630	814	1 034	1 294	1 599	1 954	-	-
70	-	615	800	1 021	1 281	1 587	1 942	2 139	-
80	-	599	784	1 004	1 264	1 569	1 924	2 121	2 333
100	-	563	744	961	1 218	1 519	1 871	2 067	2 277
120	-	521	695	905	1 156	1 451	1 796	1 989	2 195
140	-	-	-	-	1 079	1 364	1 700	1 887	2 089

Energy Efficiency Ratio (E.E.R.)

50	-	9.66	11.43	13.43	15.50	17.44	-	-	-
60	-	8.51	10.16	12.08	14.14	16.18	18.04	-	-
70	-	7.46	8.95	10.72	12.69	14.72	16.67	17.56	-
80	-	6.56	7.86	9.44	11.25	13.18	15.11	16.04	16.93
100	-	5.12	6.05	7.23	8.64	10.22	11.92	12.79	13.65
120	-	4.16	4.72	5.51	6.51	7.70	9.03	9.75	10.48
140	-	-	-	-	4.83	5.65	6.62	7.16	7.73

Nominal performance at to = 20 °F, tc = 120 °F

Cooling capacity	57 639	Btu/h	Current consumption	25.13	A
Power input	8 853	W	Mass flow	1 156	lbs/h
E.E.R.	6.51				

Pressure switch settings

Maximum HP switch setting	402	psi(g)
Minimum LP switch setting	15	psi(g)
LP pump down setting	19	psi(g)

T 0 : Evaporating temperature at dew point

T C : Condensing temperature at dew point

Rating conditions : Superheat = 20 °F , Subcooling = 0 °F

Tolerance according EN12900

Sound power data

Sound power level		dB(A)
With acoustic hood		dB(A)

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