

VTCX419U-ME5C

VARIABLE SPEED COMPRESSOR

250V / 67-150Hz / R-290



GENERAL DATA

Compressor Model	VTCX419U-ME5C
Compressor Drawing - Universal Mounting Brackets	DCVTC052
220-240V Inverter (TAL™) ¹	030F0223
220-240V Inverter with Power Factor Corrector (PFC) (TAL™) ¹	030F0222
Inverter Drawing	DGMX0093
Wiring Diagram	DEMXX0061

¹ Usage with 030F0222 and 030F0223 approved under UL 60335-2-34 with Annex AA.

APPLICATION DATA

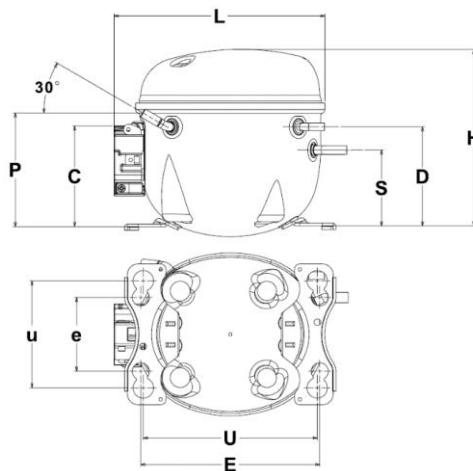
Application (Commercial Reference)	LMBP (1/4 – 1/2+ hp)
Speed Range	2000 – 4500 rpm
Cooling Capacity Range ²	1166 – 2241 BTU/h
Maximum Efficiency ²	5.86 BTU/Wh
Refrigerant	R-290
Evaporating Temperature Range	-35.0°C to -5.0°C (-31°F to +23°F)
Speed Range	2000 – 4500 rpm
Starting Torque	High Starting Torque (HST)
Cooling System	Fan Cooling (3 m/s)
Expansion Device	Expansion Valve / Capillary Tube

² Data for ASHRAE32 condition.

DESIGN INFORMATION

Displacement	9.74 cm ³ (0.59 in ³)
Oil Type / Quantity	POE 32 cSt / 170 ml
Compressor Weight	7.96 kg
Motor Technology	PMSM

COMPRESSOR DIMENSIONS³



Dimension	mm	in
L	200	7.88
H	167	6.59
C	95.6	3.76
P	108	4.25
D	94	3.70
S	72	2.84
E	170	6.69
e	70	2.76
U	165	6.50
u	101.6	4.00

Process tube

I.D.: 6.50±0.50mm – Depth: 16.0±1.0mm – Copper

Discharge tube

I.D.: 4.97±0.50mm – Depth: 16.0±1.0mm – Copper

Suction tube

I.D.: 6.50±0.50mm – Depth: 16.0±1.0mm – Copper

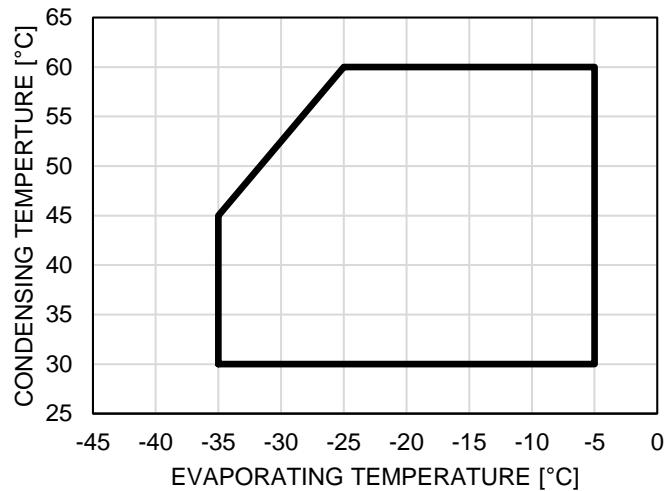
³ Drawing only for reference. Other options may be available. Universal mounting brackets.



**THE VARIABLE SPEED COMPRESSOR CAN NOT BE CONNECTED DIRECTLY TO THE MAINS.
THE COMPRESSOR MUST BE USED WITH THE APPROPRIATE TECUMSEH VARIABLE SPEED INVERTER.**

IntelliCool™

COMPRESSOR OPERATING ENVELOPE



COMPRESSOR PERFORMANCE

ASHRAE32 ⁽¹⁾⁽²⁾ - 220V / 60Hz (030F0223 CONTROLLER)

RPM	COND. TEMP.		EVAP. TEMP.		COOLING CAPACITY		POWER	CURRENT	EFFICIENCY	
	°C	(°F)	°C	(°F)	BTU/h	(W)	W	A	EER	(COP)
2000	54.4	(130)	-23.3	(-10)	1163	(341)	212.0	1.86	5.49	(1.61)
2500	54.4	(130)	-23.3	(-10)	1387	(406)	243.1	2.12	5.71	(1.67)
3000	54.4	(130)	-23.3	(-10)	1607	(471)	276.2	2.39	5.82	(1.70)
3600	54.4	(130)	-23.3	(-10)	1865	(546)	318.4	2.75	5.86	(1.72)
4000	54.4	(130)	-23.3	(-10)	2034	(596)	348.2	2.99	5.84	(1.71)
4500	54.4	(130)	-23.3	(-10)	2241	(656)	387.2	3.32	5.79	(1.69)
2000	54.4	(130)	-6.7	(20)	2279	(667)	293.4	2.54	7.77	(2.27)
2500	54.4	(130)	-6.7	(20)	2776	(813)	340.2	2.93	8.16	(2.39)
3000	54.4	(130)	-6.7	(20)	3279	(960)	392.4	3.36	8.36	(2.45)
3600	54.4	(130)	-6.7	(20)	3891	(1139)	462.0	3.94	8.42	(2.47)
4000	54.4	(130)	-6.7	(20)	4305	(1260)	512.6	4.36	8.40	(2.46)
4500	54.4	(130)	-6.7	(20)	4827	(1414)	580.7	4.92	8.31	(2.43)

(1) Test condition with Ambient: 32.2°C (90°F); Return Gas: 32.2°C (90°F); Liquid: 32.2°C (90°F).

(2) Tolerance for cooling capacity, input current and input power are ±5%. Tolerance for efficiency is ±7%.

EN12900 ⁽¹⁾⁽²⁾ - 220V / 50Hz (030F0223 CONTROLLER)

RPM	COND. TEMP.		EVAP. TEMP.		COOLING CAPACITY		POWER	CURRENT	EFFICIENCY	
	°C	(°F)	°C	(°F)	BTU/h	(W)	W	A	EER	(COP)
2000	40	(104)	-35	(-31)	561	(164)	124.6	1.13	4.50	(1.32)
2500	40	(104)	-35	(-31)	745	(218)	155.4	1.38	4.79	(1.40)
3000	40	(104)	-35	(-31)	901	(264)	183.8	1.62	4.90	(1.44)
3600	40	(104)	-35	(-31)	1052	(308)	214.8	1.88	4.90	(1.43)
4000	40	(104)	-35	(-31)	1131	(331)	233.6	2.04	4.84	(1.42)
4500	40	(104)	-35	(-31)	1205	(353)	255.0	2.22	4.73	(1.38)
2000	45	(113)	-10	(14)	1711	(501)	241.7	2.11	7.08	(2.07)
2500	45	(113)	-10	(14)	2141	(627)	281.8	2.44	7.60	(2.22)
3000	45	(113)	-10	(14)	2567	(752)	328.6	2.83	7.81	(2.29)
3600	45	(113)	-10	(14)	3075	(900)	393.5	3.37	7.82	(2.29)
4000	45	(113)	-10	(14)	3411	(999)	442.0	3.77	7.72	(2.26)
4500	45	(113)	-10	(14)	3828	(1121)	508.7	4.32	7.53	(2.20)

(1) Test condition with Ambient: 32°C (90°F); Return Gas: 20°C (68°F); Subcooling: 0 K.

(2) Tolerance for cooling capacity, input current and input power are ±5%. Tolerance for efficiency is ±7%.

COMPRESSOR PERFORMANCE

ASHRAE32 ⁽¹⁾⁽²⁾ - 220V / 60Hz (030F0222 CONTROLLER)

RPM	COND. TEMP.		EVAP. TEMP.		COOLING CAPACITY		POWER	CURRENT	EFFICIENCY	
	°C	(°F)	°C	(°F)	BTU/h	(W)	W	A	EER	(COP)
2000	54.4	(130)	-23.3	(-10)	1163	(341)	219.5	1.03	5.30	(1.55)
2500	54.4	(130)	-23.3	(-10)	1387	(406)	250.6	1.17	5.54	(1.62)
3000	54.4	(130)	-23.3	(-10)	1607	(471)	283.7	1.32	5.67	(1.66)
3600	54.4	(130)	-23.3	(-10)	1865	(546)	325.9	1.51	5.72	(1.68)
4000	54.4	(130)	-23.3	(-10)	2034	(596)	355.7	1.64	5.72	(1.67)
4500	54.4	(130)	-23.3	(-10)	2241	(656)	394.7	1.82	5.68	(1.66)
2000	54.4	(130)	-6.7	(20)	2279	(667)	300.9	1.40	7.57	(2.22)
2500	54.4	(130)	-6.7	(20)	2776	(813)	347.7	1.60	7.98	(2.34)
3000	54.4	(130)	-6.7	(20)	3279	(960)	399.9	1.84	8.20	(2.40)
3600	54.4	(130)	-6.7	(20)	3891	(1139)	469.5	2.15	8.29	(2.43)
4000	54.4	(130)	-6.7	(20)	4305	(1260)	520.1	2.38	8.28	(2.42)
4500	54.4	(130)	-6.7	(20)	4827	(1414)	588.2	2.69	8.21	(2.40)

(1) Test condition with Ambient: 32.2°C (90°F); Return Gas: 32.2°C (90°F); Liquid: 32.2°C (90°F).

(2) Tolerance for cooling capacity, input current and input power are ±5%. Tolerance for efficiency is ±7%.

EN12900 ⁽¹⁾⁽²⁾ - 220V / 50Hz (030F0222 CONTROLLER)

RPM	COND. TEMP.		EVAP. TEMP.		COOLING CAPACITY		POWER	CURRENT	EFFICIENCY	
	°C	(°F)	°C	(°F)	BTU/h	(W)	W	A	EER	(COP)
2000	40	(104)	-35	(-31)	561	(164)	132.1	0.64	4.25	(1.24)
2500	40	(104)	-35	(-31)	745	(218)	162.9	0.78	4.57	(1.34)
3000	40	(104)	-35	(-31)	901	(264)	191.3	0.91	4.71	(1.38)
3600	40	(104)	-35	(-31)	1052	(308)	222.3	1.04	4.73	(1.39)
4000	40	(104)	-35	(-31)	1131	(331)	241.1	1.13	4.69	(1.37)
4500	40	(104)	-35	(-31)	1205	(353)	262.5	1.22	4.59	(1.34)
2000	45	(113)	-10	(14)	1711	(501)	249.2	1.16	6.86	(2.01)
2500	45	(113)	-10	(14)	2141	(627)	289.3	1.34	7.40	(2.17)
3000	45	(113)	-10	(14)	2567	(752)	336.1	1.55	7.64	(2.24)
3600	45	(113)	-10	(14)	3075	(900)	401.0	1.84	7.67	(2.25)
4000	45	(113)	-10	(14)	3411	(999)	449.5	2.06	7.59	(2.22)
4500	45	(113)	-10	(14)	3828	(1121)	516.2	2.36	7.42	(2.17)

(1) Test condition with Ambient: 32°C (90°F); Return Gas: 20°C (68°F); Subcooling: 0 K.

(2) Tolerance for cooling capacity, input current and input power are ±5%. Tolerance for efficiency is ±7%.

APPLICATION CONDITION 1 ⁽¹⁾⁽²⁾ - 220V / 60Hz (030F0222 CONTROLLER)

RPM	COND. TEMP.		EVAP. TEMP.		COOLING CAPACITY		POWER	CURRENT	EFFICIENCY	
	°C	(°F)	°C	(°F)	BTU/h	(W)	W	A	EER	(COP)
2000	35	(95)	-25	(-13)	1197	(350)	179.1	0.85	6.68	(1.96)
3000	35	(95)	-25	(-13)	1707	(500)	244.7	1.14	6.98	(2.04)
3600	35	(95)	-25	(-13)	1987	(582)	284.4	1.32	6.99	(2.05)
4500	35	(95)	-25	(-13)	2368	(693)	344.7	1.59	6.87	(2.01)

(1) Test condition with Return Gas: 32.2°C (90°F); Liquid: 32.2°C (90°F).

(2) Tolerance for cooling capacity, input current and input power are ±5%. Tolerance for efficiency is ±7%.

APPLICATION CONDITION 2 ⁽¹⁾⁽²⁾ - 220V / 50Hz (030F0222 CONTROLLER)

RPM	COND. TEMP.		EVAP. TEMP.		COOLING CAPACITY		POWER	CURRENT	EFFICIENCY	
	°C	(°F)	°C	(°F)	BTU/h	(W)	W	A	EER	(COP)
2000	45	(113)	-10	(14)	1747	(512)	237.5	1.11	7.36	(2.15)
3000	45	(113)	-10	(14)	2622	(768)	320.3	1.48	8.19	(2.40)
3600	45	(113)	-10	(14)	3141	(920)	382.1	1.76	8.22	(2.41)
4500	45	(113)	-10	(14)	3910	(1145)	491.9	2.25	7.95	(2.33)

(1) Test condition with Return Gas: 32°C (90°F); Subcooling: 0 K.

(2) Tolerance for cooling capacity, input current and input power are ±5%. Tolerance for efficiency is ±7%.

ASHRAE32 PERFORMANCE CURVE COEFFICIENTS – 030F0223

COEFFICIENT	COOLING CAPACITY	POWER	CURRENT	MASS FLOW
C _n	BTU/h	W	A	lb/h
C ₁	5.220547075719E+03	1.696239244260E+03	1.417777456553E+01	3.457891888265E+01
C ₂	9.040471567132E-01	-1.571865805599E-01	-1.293526317681E-03	6.233520334433E-03
C ₃	7.777349591285E-05	2.843742975921E-05	2.371046977714E-07	5.029670143162E-07
C ₄	5.810999062769E-15	8.263119841769E-16	-1.458487109030E-13	3.835764882094E-17
C ₅	1.178487297297E+02	1.543045016332E+01	1.279144209257E-01	7.714731174638E-01
C ₆	1.947231231001E+00	1.080259882626E-01	9.003664484535E-04	1.360716426318E-02
C ₇	1.759613224552E-02	1.331505640185E-03	1.104923670964E-05	1.351981170741E-04
C ₈	-2.670429679006E+02	-9.736136923707E+01	-8.095031129360E-01	-1.773211595428E+00
C ₉	5.215021567783E+00	2.015906902030E+00	1.677584391985E-02	3.474516308836E-02
C ₁₀	-3.554119615366E-02	-1.362560072561E-02	-1.134600807402E-04	-2.369414810158E-04
C ₁₁	1.101094235054E-03	2.808021441467E-04	2.326278856019E-06	6.956174375961E-06
C ₁₂	-7.748074944883E-08	-1.686317244613E-08	-1.414311508843E-10	-5.032398728031E-10
C ₁₃	5.179773391489E-06	7.865009487771E-07	6.432408203190E-09	3.020548415299E-08
C ₁₄	-5.511146008885E-06	-1.351829776286E-06	-1.116176437084E-08	-3.560711584263E-08
C ₁₅	3.611349631683E-03	-1.018869071595E-02	-8.445883339370E-05	4.683254092086E-05
C ₁₆	1.155684731521E-02	5.780532908545E-03	4.775432098469E-05	7.312544511962E-05
C ₁₇	-2.359855281829E+00	-3.705213484354E-01	-3.057390659365E-03	-1.481061891946E-02
C ₁₈	5.502926300525E-06	1.319960995659E-06	1.097870288065E-08	3.589907850553E-08
C ₁₉	3.898900184743E-04	-9.324455484896E-06	-7.706959652239E-08	2.935562682085E-06
C ₂₀	-1.034142773422E-06	-2.778841637938E-07	-2.338603309443E-09	-6.644410171937E-09
C ₂₁	-1.051071476148E-04	-3.570047796853E-05	-2.937084299867E-07	-6.895452521472E-07
C ₂₂	-2.667342594242E-02	-2.218051365708E-03	-1.836722871126E-05	-1.666147703834E-04
C ₂₃	6.860768374281E-03	2.192024692590E-03	1.801288620751E-05	4.207308290916E-05

PERFORMANCE CURVE EQUATION

INPUTS

$$\begin{aligned}
 Y = & C_1 + C_2 X_1 + C_3 X_1^2 + C_4 X_1^3 + C_5 X_2 + C_6 X_2^2 + C_7 X_2^3 + C_8 X_3 + C_9 X_3^2 + C_{10} X_3^3 + C_{11} X_1 X_2 X_3 + \\
 & C_{12} X_1^2 X_2 X_3 + C_{13} X_1 X_2^2 X_3 + C_{14} X_1 X_2 X_3^2 + C_{15} X_1 X_2 + C_{16} X_1 X_3 + C_{17} X_2 X_3 + C_{18} X_1^2 X_2 + \\
 & C_{19} X_1 X_2^2 + C_{20} X_1^2 X_3 + C_{21} X_1 X_3^2 + C_{22} X_2^2 X_3 + C_{23} X_2 X_3^2
 \end{aligned}$$

$X_1 =$ Motor speed (rpm)
 $X_2 =$ Evaporating temperature (°C)
 $X_3 =$ Condensing temperature (°C)

EN12900 PERFORMANCE CURVE COEFFICIENTS – 030F0223

COEFFICIENT	COOLING CAPACITY	POWER	CURRENT	MASS FLOW
C _n	BTU/h	W	A	lb/h
C ₁	5.405560575128E+02	1.980181301028E+03	1.654679096030E+01	1.325008267583E+01
C ₂	1.432180978365E+00	-1.558882647896E-01	-1.286662976355E-03	5.525465689288E-03
C ₃	9.339582026320E-05	3.546378330919E-05	2.962662628955E-07	8.227021393492E-07
C ₄	4.681736586293E-15	8.498020027832E-16	-2.054543537541E-13	3.920290706097E-17
C ₅	5.145089513436E+01	1.503643622762E+01	1.247894265362E-01	6.231856994564E-01
C ₆	5.321459209068E-01	1.795814646403E-01	1.495487775008E-03	8.998978248700E-03
C ₇	4.033148133147E-03	2.444217898594E-03	2.030631933731E-05	7.946337493014E-05
C ₈	-1.530084360391E+01	-1.135262482862E+02	-9.441817398128E-01	-5.640333154151E-01
C ₉	2.721289574256E-01	2.382546438374E+00	1.982732702820E-02	9.780328179318E-03
C ₁₀	-4.657681084543E-03	-1.647630787504E-02	-1.371725060822E-04	-8.416477592767E-05
C ₁₁	4.692889271496E-04	2.329752852930E-04	1.931117275811E-06	8.710147715196E-06
C ₁₂	-1.087145127005E-07	-1.913997538674E-08	-1.606134075100E-10	-8.555863974981E-10
C ₁₃	-2.160946714286E-06	7.848273984737E-07	6.402431578512E-09	3.153891939065E-08
C ₁₄	-2.362477788953E-06	-6.679779806507E-07	-5.496365267869E-09	-2.828653468921E-08
C ₁₅	2.311158972270E-02	-9.927268038837E-03	-8.233831720261E-05	-8.401571705008E-07
C ₁₆	-4.079782739154E-03	4.342879976377E-03	3.589554096806E-05	1.188967392878E-04
C ₁₇	-7.524733272730E-01	-2.409827577649E-01	-1.986028463762E-03	-1.125099025967E-02
C ₁₈	6.450719054073E-06	1.515788583335E-06	1.261046672313E-08	5.010242820024E-08
C ₁₉	6.552279889104E-04	-7.156650355910E-06	-5.872452171066E-08	3.310364709969E-06
C ₂₀	-1.870367198255E-06	-3.473233029147E-07	-2.924916660265E-09	-1.701220455099E-08
C ₂₁	-1.066993599252E-05	-1.476651362786E-05	-1.202339126802E-07	-4.413489046451E-07
C ₂₂	-1.488904673054E-02	-2.403591853524E-03	-1.988808090407E-05	-1.610656843327E-04
C ₂₃	-8.625500672679E-03	4.827903707110E-04	3.853724028779E-06	-3.585041150700E-05

PERFORMANCE CURVE EQUATION

INPUTS

$$Y = C_1 + C_2 X_1 + C_3 X_1^2 + C_4 X_1^3 + C_5 X_2 + C_6 X_2^2 + C_7 X_2^3 + C_8 X_3 + C_9 X_3^2 + C_{10} X_3^3 + C_{11} X_1 X_2 X_3 + C_{12} X_1^2 X_2 X_3 + C_{13} X_1 X_2^2 X_3 + C_{14} X_1 X_2 X_3^2 + C_{15} X_1 X_2 + C_{16} X_1 X_3 + C_{17} X_2 X_3 + C_{18} X_1^2 X_2 + C_{19} X_1 X_2^2 + C_{20} X_1^2 X_3 + C_{21} X_1 X_3^2 + C_{22} X_2^2 X_3 + C_{23} X_2 X_3^2$$

X₁ = Motor speed (rpm)

X₂ = Evaporating temperature (°C)

X₃ = Condensing temperature (°C)

ASHRAE32 PERFORMANCE CURVE COEFFICIENTS – 030F0222

COEFFICIENT	COOLING CAPACITY	POWER	CURRENT	MASS FLOW
C _n	BTU/h	W	A	lb/h
C ₁	5.220547075719E+03	1.703739238642E+03	7.704209173098E+00	3.457891888265E+01
C ₂	9.040471567132E-01	-1.571865797978E-01	-7.157598758170E-04	6.233520334433E-03
C ₃	7.777349591285E-05	2.843742953750E-05	1.269753910831E-07	5.029670143162E-07
C ₄	5.810999062769E-15	8.464060177033E-16	1.189294619742E-13	3.835764882094E-17
C ₅	1.178487297297E+02	1.543045015680E+01	6.950245525513E-02	7.714731174638E-01
C ₆	1.947231231001E+00	1.080259878166E-01	4.826130778370E-04	1.360716426318E-02
C ₇	1.759613224552E-02	1.331505632342E-03	5.988125177102E-06	1.351981170741E-04
C ₈	-2.670429679006E+02	-9.736136893975E+01	-4.365799465031E-01	-1.773211595428E+00
C ₉	5.215021567783E+00	2.015906895955E+00	9.027538247707E-03	3.474516308836E-02
C ₁₀	-3.554119615366E-02	-1.362560068437E-02	-6.095926952077E-05	-2.369414810158E-04
C ₁₁	1.101094235054E-03	2.808021441929E-04	1.266021688623E-06	6.956174375961E-06
C ₁₂	-7.748074944883E-08	-1.686317244703E-08	-7.461871931342E-11	-5.032398728031E-10
C ₁₃	5.179773391489E-06	7.865009487705E-07	3.613917450470E-09	3.020548415299E-08
C ₁₄	-5.511146008885E-06	-1.351829776147E-06	-6.125293115821E-09	-3.560711584263E-08
C ₁₅	3.611349631683E-03	-1.018869071515E-02	-4.589456511805E-05	4.683254092086E-05
C ₁₆	1.155684731521E-02	5.780532908545E-03	2.617127648064E-05	7.312544511962E-05
C ₁₇	-2.359855281829E+00	-3.705213485373E-01	-1.680442359827E-03	-1.481061891946E-02
C ₁₈	5.502926300525E-06	1.319960995641E-06	5.915604197987E-09	3.589907850553E-08
C ₁₉	3.898900184743E-04	-9.324455484513E-06	-4.218525918324E-08	2.935562682085E-06
C ₂₀	-1.034142773422E-06	-2.778841637469E-07	-1.223106419148E-09	-6.644410171937E-09
C ₂₁	-1.051071476148E-04	-3.570047796320E-05	-1.626293363033E-07	-6.895452521472E-07
C ₂₂	-2.667342594242E-02	-2.218051365858E-03	-1.000681359853E-05	-1.666147703834E-04
C ₂₃	6.860768374281E-03	2.192024693727E-03	1.000258296369E-05	4.207308290916E-05

PERFORMANCE CURVE EQUATION

INPUTS

$$Y = C_1 + C_2 X_1 + C_3 X_1^2 + C_4 X_1^3 + C_5 X_2 + C_6 X_2^2 + C_7 X_2^3 + C_8 X_3 + C_9 X_3^2 + C_{10} X_3^3 + C_{11} X_1 X_2 X_3 + C_{12} X_1^2 X_2 X_3 + C_{13} X_1 X_2^2 X_3 + C_{14} X_1 X_2 X_3^2 + C_{15} X_1 X_2 + C_{16} X_1 X_3 + C_{17} X_2 X_3 + C_{18} X_1^2 X_2 + C_{19} X_1 X_2^2 + C_{20} X_1^2 X_3 + C_{21} X_1 X_3^2 + C_{22} X_2^2 X_3 + C_{23} X_2 X_3^2$$

X₁ = Motor speed (rpm)

X₂ = Evaporating temperature (°C)

X₃ = Condensing temperature (°C)

EN12900 PERFORMANCE CURVE COEFFICIENTS – 030F0222

COEFFICIENT	COOLING CAPACITY	POWER	CURRENT	MASS FLOW
C _n	BTU/h	W	A	lb/h
C ₁	5.405560575128E+02	1.987681295358E+03	8.970750297216E+00	1.325008267583E+01
C ₂	1.432180978365E+00	-1.558882639820E-01	-7.067325535317E-04	5.525465689288E-03
C ₃	9.339582026320E-05	3.546378308837E-05	1.578777828936E-07	8.227021393492E-07
C ₄	4.681736586293E-15	8.699773514725E-16	1.675299958654E-13	3.920290706097E-17
C ₅	5.145089513436E+01	1.503643621854E+01	6.761252820434E-02	6.231856994564E-01
C ₆	5.321459209068E-01	1.795814641887E-01	8.033302332926E-04	8.998978248700E-03
C ₇	4.033148133147E-03	2.444217890744E-03	1.097315196994E-05	7.946337493014E-05
C ₈	-1.530084360391E+01	-1.135262479885E+02	-5.088392755006E-01	-5.640333154151E-01
C ₉	2.721289574256E-01	2.382546432342E+00	1.066907503598E-02	9.780328179318E-03
C ₁₀	-4.657681084543E-03	-1.647630783380E-02	-7.373365484151E-05	-8.416477592767E-05
C ₁₁	4.692889271496E-04	2.329752853214E-04	1.049529369107E-06	8.710147715196E-06
C ₁₂	-1.087145127005E-07	-1.913997538417E-08	-8.462273083113E-11	-8.555863974981E-10
C ₁₃	-2.160946714286E-06	7.848273984949E-07	3.619509444552E-09	3.153891939065E-08
C ₁₄	-2.362477788953E-06	-6.679779804286E-07	-3.042162067830E-09	-2.828653468921E-08
C ₁₅	2.311158972270E-02	-9.927268037814E-03	-4.467905055261E-05	-8.401571705008E-07
C ₁₆	-4.079782739154E-03	4.342879975297E-03	1.964764464235E-05	1.188967392878E-04
C ₁₇	-7.524733272730E-01	-2.409827576776E-01	-1.094948091350E-03	-1.125099025967E-02
C ₁₈	6.450719054073E-06	1.515788583316E-06	6.790806355453E-09	5.010242820024E-08
C ₁₉	6.552279889104E-04	-7.156650351530E-06	-3.272632514043E-08	3.310364709969E-06
C ₂₀	-1.870367198255E-06	-3.473233028817E-07	-1.527168139422E-09	-1.701220455099E-08
C ₂₁	-1.066993599252E-05	-1.476651362520E-05	-6.828668440428E-08	-4.413489046451E-07
C ₂₂	-1.488904673054E-02	-2.403591853504E-03	-1.085658143507E-05	-1.610656843327E-04
C ₂₃	-8.625500672679E-03	4.827903703699E-04	2.295671195363E-06	-3.585041150700E-05

PERFORMANCE CURVE EQUATION

INPUTS

$$\begin{aligned}
 Y = & C_1 + C_2 X_1 + C_3 X_1^2 + C_4 X_1^3 + C_5 X_2 + C_6 X_2^2 + C_7 X_2^3 + C_8 X_3 + C_9 X_3^2 + C_{10} X_3^3 + C_{11} X_1 X_2 X_3 + \\
 & C_{12} X_1^2 X_2 X_3 + C_{13} X_1 X_2^2 X_3 + C_{14} X_1 X_2 X_3^2 + C_{15} X_1 X_2 + C_{16} X_1 X_3 + C_{17} X_2 X_3 + C_{18} X_1^2 X_2 + \\
 & C_{19} X_1 X_2^2 + C_{20} X_1^2 X_3 + C_{21} X_1 X_3^2 + C_{22} X_2^2 X_3 + C_{23} X_2 X_3^2
 \end{aligned}$$

$X_1 =$ Motor speed (rpm)
 $X_2 =$ Evaporating temperature (°C)
 $X_3 =$ Condensing temperature (°C)

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