

VTCX424U-ME5C

VARIABLE SPEED COMPRESSOR

250V / 67-150Hz / R-290



Tecumseh

GENERAL DATA

Compressor Model	VTCX424U-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

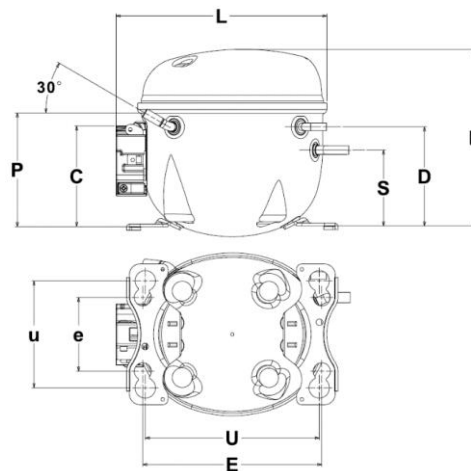
Application (Commercial Reference)	L/MBP (1/4 – 3/4 hp)
Speed Range	2000 – 4500 rpm
Cooling Capacity Range ²	1482 – 2961 BTU/h
Maximum Efficiency ²	5.76 BTU/Wh
Refrigerant	R-290
Evaporating Temperature Range	-35°C to -5°C (-31°F to +23°F)
Speed Range	2000 – 4500 rpm
Starting Torque	High Starting Torque (HST)
Cooling System	Fan Cooling (3 m/s)
Expansion Device	Expansion Valve / Capillary Tube

² Data for ASHRAE32 condition.

DESIGN INFORMATION

Displacement	12.47 cm ³ (0.76 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

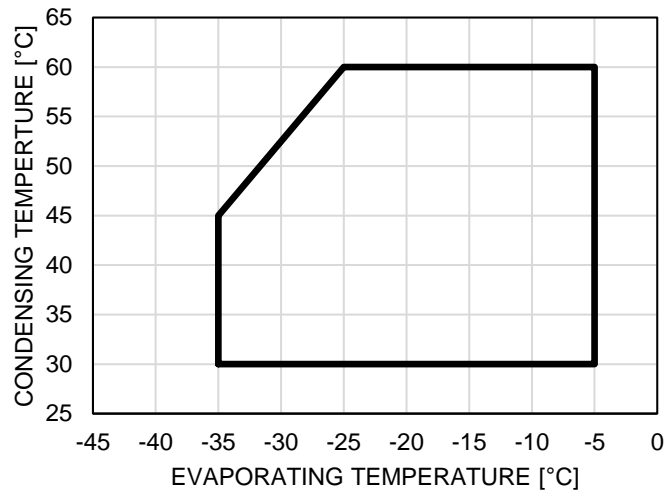
³ Drawing only for reference. Other options may be available. Universal mounting brackets.

IntelliCool™



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

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)	1482	(434)	283.7	2.47	5.22	(1.53)
2500	54.4	(130)	-23.3	(-10)	1809	(530)	330.6	2.84	5.47	(1.60)
3000	54.4	(130)	-23.3	(-10)	2103	(616)	370.6	3.17	5.67	(1.66)
3600	54.4	(130)	-23.3	(-10)	2437	(714)	422.8	3.61	5.76	(1.69)
4000	54.4	(130)	-23.3	(-10)	2662	(779)	467.8	3.98	5.69	(1.67)
4500	54.4	(130)	-23.3	(-10)	2961	(867)	544.2	4.58	5.44	(1.59)
2000	54.4	(130)	-6.7	(20)	2893	(847)	399.4	3.43	7.24	(2.12)
2500	54.4	(130)	-6.7	(20)	3567	(1044)	463.6	3.95	7.69	(2.25)
3000	54.4	(130)	-6.7	(20)	4213	(1234)	535.9	4.56	7.86	(2.30)
3600	54.4	(130)	-6.7	(20)	4977	(1457)	646.9	5.49	7.69	(2.25)
4000	54.4	(130)	-6.7	(20)	5492	(1608)	743.1	6.28	7.39	(2.16)
4500	54.4	(130)	-6.7	(20)	---	---	---	---	---	---

(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)	757	(222)	192.3	1.72	3.94	(1.15)
2500	40	(104)	-35	(-31)	995	(291)	227.5	1.98	4.38	(1.28)
3000	40	(104)	-35	(-31)	1194	(349)	258.6	2.24	4.62	(1.35)
3600	40	(104)	-35	(-31)	1400	(410)	300.5	2.59	4.66	(1.36)
4000	40	(104)	-35	(-31)	1531	(448)	337.0	2.88	4.54	(1.33)
4500	40	(104)	-35	(-31)	1699	(498)	398.5	3.34	4.26	(1.25)
2000	45	(113)	-10	(14)	2213	(648)	342.2	2.96	6.47	(1.89)
2500	45	(113)	-10	(14)	2769	(811)	406.6	3.48	6.81	(1.99)
3000	45	(113)	-10	(14)	3301	(967)	475.3	4.05	6.95	(2.03)
3600	45	(113)	-10	(14)	3929	(1150)	573.4	4.87	6.85	(2.01)
4000	45	(113)	-10	(14)	4353	(1275)	654.0	5.53	6.66	(1.95)
4500	45	(113)	-10	(14)	4902	(1435)	778.4	6.52	6.30	(1.84)

(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)	1482	(434)	286.4	1.33	5.17	(1.52)
2500	54.4	(130)	-23.3	(-10)	1809	(530)	331.7	1.53	5.45	(1.60)
3000	54.4	(130)	-23.3	(-10)	2103	(616)	376.2	1.73	5.59	(1.64)
3600	54.4	(130)	-23.3	(-10)	2437	(714)	432.2	1.98	5.64	(1.65)
4000	54.4	(130)	-23.3	(-10)	2662	(779)	472.9	2.16	5.63	(1.65)
4500	54.4	(130)	-23.3	(-10)	2961	(867)	529.8	2.42	5.59	(1.64)
2000	54.4	(130)	-6.7	(20)	2893	(847)	402.7	1.86	7.19	(2.10)
2500	54.4	(130)	-6.7	(20)	3567	(1044)	467.7	2.15	7.63	(2.23)
3000	54.4	(130)	-6.7	(20)	4213	(1234)	537.5	2.46	7.84	(2.29)
3600	54.4	(130)	-6.7	(20)	4977	(1457)	631.0	2.88	7.89	(2.31)
4000	54.4	(130)	-6.7	(20)	5492	(1608)	701.2	3.20	7.83	(2.29)
4500	54.4	(130)	-6.7	(20)	6159	(1803)	799.8	3.65	7.70	(2.25)

(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)	757	(222)	198.5	0.94	3.81	(1.12)
2500	40	(104)	-35	(-31)	995	(291)	229.2	1.07	4.34	(1.27)
3000	40	(104)	-35	(-31)	1194	(349)	262.4	1.22	4.55	(1.33)
3600	40	(104)	-35	(-31)	1400	(410)	306.7	1.41	4.57	(1.34)
4000	40	(104)	-35	(-31)	1531	(448)	339.7	1.56	4.51	(1.32)
4500	40	(104)	-35	(-31)	1699	(498)	385.7	1.77	4.41	(1.29)
2000	45	(113)	-10	(14)	2213	(648)	347.3	1.61	6.37	(1.87)
2500	45	(113)	-10	(14)	2769	(811)	405.6	1.87	6.83	(2.00)
3000	45	(113)	-10	(14)	3301	(967)	470.3	2.16	7.02	(2.06)
3600	45	(113)	-10	(14)	3929	(1150)	557.7	2.55	7.05	(2.06)
4000	45	(113)	-10	(14)	4353	(1275)	622.6	2.84	6.99	(2.05)
4500	45	(113)	-10	(14)	4902	(1435)	712.0	3.25	6.89	(2.02)

(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)	1573	(461)	262.7	1.23	5.99	(1.75)
3000	35	(95)	-25	(-13)	2223	(651)	344.0	1.59	6.46	(1.89)
3600	35	(95)	-25	(-13)	2553	(748)	389.6	1.80	6.55	(1.92)
4500	35	(95)	-25	(-13)	3041	(890)	464.5	2.13	6.55	(1.92)

(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)	2260	(662)	331.0	1.54	6.83	(2.00)
3000	45	(113)	-10	(14)	3372	(987)	448.1	2.06	7.52	(2.20)
3600	45	(113)	-10	(14)	4013	(1175)	531.4	2.43	7.55	(2.21)
4500	45	(113)	-10	(14)	5007	(1466)	678.5	3.09	7.38	(2.16)

(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	9.763944215119E+03	8.013630588301E+03	6.679933916265E+01	7.608921659132E+01
C ₂	1.522718258886E+00	-1.164977099652E-01	-1.988303814102E-03	1.028316122142E-02
C ₃	-5.986039356991E-05	-1.833022961959E-04	-1.197636302900E-06	-4.210097855362E-07
C ₄	2.273011185067E-08	1.270466913685E-08	7.833171111456E-11	1.514911946153E-10
C ₅	1.328749809898E+02	6.253553427756E+01	5.352551782889E-01	8.990188178577E-01
C ₆	2.139503894157E+00	5.059790112814E-01	4.398877637779E-03	1.626671363724E-02
C ₇	3.058653928141E-02	3.885109605040E-03	3.055409650408E-05	2.452435668200E-04
C ₈	-5.569562819805E+02	-5.018100776728E+02	-4.118943934063E+00	-4.404115635465E+00
C ₉	1.079302645329E+01	9.926791983278E+00	8.142187183529E-02	8.630547471785E-02
C ₁₀	-7.270319278063E-02	-6.208096984166E-02	-5.106735256181E-04	-5.818811415679E-04
C ₁₁	9.961079728669E-04	1.073611715555E-03	9.242808085397E-06	5.944519446466E-06
C ₁₂	-1.625604625281E-07	5.921850465831E-08	4.432922574572E-10	-1.064578182266E-09
C ₁₃	-3.498532342716E-06	4.472087624038E-06	4.004791964647E-08	-3.359951673962E-08
C ₁₄	-3.078503147957E-06	-1.215670594756E-05	-1.000287285077E-07	-1.906533577192E-08
C ₁₅	1.480662457561E-02	-2.557128924832E-02	-2.260865910735E-04	1.356451690029E-04
C ₁₆	2.395945835178E-02	2.786120006408E-02	2.336103482969E-04	1.610060219797E-04
C ₁₇	-2.100882618106E+00	-2.403135489207E+00	-2.024370761933E-02	-1.328431652200E-02
C ₁₈	9.470646621162E-06	-1.403140908038E-06	-9.883185429058E-09	6.204831321951E-08
C ₁₉	8.869191431740E-04	-1.445720634239E-04	-1.318428590883E-06	6.524666774650E-06
C ₂₀	-2.959794086274E-06	2.141862492224E-06	1.615194000954E-08	-1.934711188042E-08
C ₂₁	-1.496102521656E-04	-3.834368040838E-04	-3.098594746065E-06	-1.060240312767E-06
C ₂₂	-1.228209156960E-02	-9.027602255763E-03	-8.248832952340E-05	-7.005696772788E-05
C ₂₃	2.471081907061E-03	2.624113498905E-02	2.134153203190E-04	1.536776255762E-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	-3.216032036662E+03	-8.803709992915E+02	-8.320286665810E+00	-1.229130315781E+01
C ₂	3.132538490929E+00	-1.111377389761E+00	-9.226289034274E-03	1.674493422217E-02
C ₃	-1.206446182513E-04	-3.225346174119E-05	-6.225109584698E-08	-7.819200991787E-07
C ₄	1.998137820766E-08	9.512600055346E-09	5.458173927453E-11	1.558708478895E-10
C ₅	-4.712173348665E+01	5.646514195856E+01	4.311942716740E-01	-3.628067036334E-02
C ₆	-5.394002925968E-01	-1.205135407093E+00	-8.928971086380E-03	2.322813213191E-03
C ₇	-3.182612115999E-03	-1.425371860169E-02	-1.170852422011E-04	3.886721177573E-05
C ₈	1.400623181481E+02	9.798839135421E+01	8.851191011454E-01	4.760266078229E-01
C ₉	-2.191326872256E+00	-3.0540147444033E+00	-2.596888965374E-02	-6.709076773632E-03
C ₁₀	7.595688637053E-03	2.805439237281E-02	2.310829065982E-04	-4.139827999072E-06
C ₁₁	-5.788818581891E-04	1.689730383710E-03	1.330323402393E-05	2.501488226780E-06
C ₁₂	-4.444874462927E-08	1.321148754375E-08	9.753223412819E-11	-3.945445746299E-10
C ₁₃	-1.027233891127E-05	-2.325340680167E-06	-1.340799422747E-08	-1.573618498783E-08
C ₁₄	5.361136510285E-07	-1.912927889880E-05	-1.485956495585E-07	-1.087324468310E-08
C ₁₅	8.244976586957E-02	-3.552674565049E-02	-2.841062267667E-04	3.874881309898E-04
C ₁₆	-2.705634865015E-02	5.546630196625E-02	4.334838974671E-04	-5.204164402528E-06
C ₁₇	1.839896903490E+00	-3.407529254066E+00	-2.580033128424E-02	6.213843254955E-03
C ₁₈	3.226448917663E-06	2.674711703491E-07	2.382623958141E-09	2.712138954115E-08
C ₁₉	1.257635766857E-03	1.766316744111E-04	1.126646147533E-06	7.368969709067E-06
C ₂₀	-1.451444412195E-06	-4.865637859469E-07	-3.743212454674E-09	-1.506135147232E-08
C ₂₁	1.383186769459E-04	-5.470925901756E-04	-4.271058744974E-06	5.327993050086E-07
C ₂₂	-6.158389826879E-03	3.950111149436E-03	1.514440291200E-05	-1.089495418585E-04
C ₂₃	-2.668427988829E-02	3.934284853449E-02	2.938040189040E-04	-1.597765582417E-04

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	9.763944215119E+03	5.177787741810E+03	2.314815838786E+01	7.608921659132E+01
C ₂	1.522718258886E+00	-2.503195119680E-01	-1.060665237020E-03	1.028316122142E-02
C ₃	-5.986039356991E-05	-5.027450880879E-06	-2.626694448227E-08	-4.210097855362E-07
C ₄	2.273011185067E-08	3.215421278608E-09	1.403514902389E-11	1.514911946153E-10
C ₅	1.328749809898E+02	1.884862035466E+01	7.392511009493E-02	8.990188178577E-01
C ₆	2.139503894157E+00	1.484847899214E-01	5.626671393593E-04	1.626671363724E-02
C ₇	3.058653928141E-02	3.717705936407E-03	1.627847974737E-05	2.452435668200E-04
C ₈	-5.569562819805E+02	-3.171495619635E+02	-1.420937735262E+00	-4.404115635465E+00
C ₉	1.079302645329E+01	6.498793840685E+00	2.924729523662E-02	8.630547471785E-02
C ₁₀	-7.270319278063E-02	-4.330624189208E-02	-1.953232571116E-04	-5.818811415679E-04
C ₁₁	9.961079728669E-04	4.935970025102E-04	2.160088070413E-06	5.944519446466E-06
C ₁₂	-1.625604625281E-07	-1.262043838919E-08	-5.375378131006E-11	-1.064578182266E-09
C ₁₃	-3.498532342716E-06	5.431533382297E-07	2.360537740455E-09	-3.359951673962E-08
C ₁₄	-3.078503147957E-06	-3.729352592352E-06	-1.637272709944E-08	-1.906533577192E-08
C ₁₅	1.480662457561E-02	-1.533856357878E-02	-6.733635467526E-05	1.356451690029E-04
C ₁₆	2.395945835178E-02	1.433592557919E-02	6.165360904342E-05	1.610060219797E-04
C ₁₇	-2.100882618106E+00	-4.650140222220E-01	-1.732363106726E-03	-1.328431652200E-02
C ₁₈	9.470646621162E-06	1.346615612341E-06	6.007483975506E-09	6.204831321951E-08
C ₁₉	8.869191431740E-04	5.814512216484E-06	3.443127965554E-08	6.524666774650E-06
C ₂₀	-2.959794086274E-06	-9.386873315420E-08	-1.475471420451E-10	-1.934711188042E-08
C ₂₁	-1.496102521656E-04	-1.288750516943E-04	-5.683608334320E-07	-1.060240312767E-06
C ₂₂	-1.228209156960E-02	4.972540927639E-05	2.037083196349E-06	-7.005696772788E-05
C ₂₃	2.471081907061E-03	4.645526168360E-03	1.834600321171E-05	1.536776255762E-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	-3.216032036662E+03	-1.201433684997E+03	-6.193570415024E+00	-1.229130315781E+01
C ₂	3.132538490929E+00	-2.566743710122E-01	-1.013793344811E-03	1.674493422217E-02
C ₃	-1.206446182513E-04	3.719207984975E-06	2.473149681162E-08	-7.819200991787E-07
C ₄	1.998137820766E-08	1.232710971240E-09	4.417677423510E-12	1.558708478895E-10
C ₅	-4.712173348665E+01	-1.036664637225E+01	-7.024149673634E-02	-3.628067036334E-02
C ₆	-5.394002925968E-01	-5.640975591550E-01	-2.435617810455E-03	2.322813213191E-03
C ₇	-3.182612115999E-03	-8.401677832801E-03	-3.811867019839E-05	3.886721177573E-05
C ₈	1.400623181481E+02	7.470654952852E+01	3.791178308184E-01	4.760266078229E-01
C ₉	-2.191326872256E+00	-1.475942634275E+00	-7.238183168440E-03	-6.709076773632E-03
C ₁₀	7.595688637053E-03	1.029866321912E-02	4.837881442274E-05	-4.139827999072E-06
C ₁₁	-5.788818581891E-04	4.669491175733E-04	1.802376940446E-06	2.501488226780E-06
C ₁₂	-4.444874462927E-08	1.544537971148E-08	7.965469730012E-11	-3.945445746299E-10
C ₁₃	-1.027233891127E-05	-6.979419660547E-07	-2.021292054814E-09	-1.573618498783E-08
C ₁₄	5.361136510285E-07	-5.898661586123E-06	-2.364516288843E-08	-1.087324468310E-08
C ₁₅	8.244976586957E-02	-6.233411980247E-03	-2.069885273759E-05	3.874881309898E-04
C ₁₆	-2.705634865015E-02	1.522761329898E-02	6.049249311335E-05	-5.204164402528E-06
C ₁₇	1.839896903490E+00	-1.753135712934E-01	2.203033594697E-04	6.213843254955E-03
C ₁₈	3.226448917663E-06	-2.874788699008E-07	-1.735385938655E-09	2.712138954115E-08
C ₁₉	1.257635766857E-03	8.583644455529E-05	3.323015374257E-07	7.368969709067E-06
C ₂₀	-1.451444412195E-06	8.704015451122E-08	5.239157041130E-10	-1.506135147232E-08
C ₂₁	1.383186769459E-04	-1.599649359472E-04	-6.396154353036E-07	5.327993050086E-07
C ₂₂	-6.158389826879E-03	-1.246284661605E-03	-8.012502905747E-06	-1.089495418585E-04
C ₂₃	-2.668427988829E-02	3.912744894023E-03	7.081645053475E-06	-1.597765582417E-04

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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