

## Model: TPA1410YXA

### Product Description

<b>Type:</b>	Reciprocating Compressors
<b>Application:</b>	LBP - Low Back Pressure
<b>ProductDescription:</b>	R-134a
<b>Voltage/Frequency:</b>	115V ~ 60Hz 100V ~ 50Hz
<b>Version:</b>	N/A



### Product Specifications

#### Performance

Condition	Test Voltage	Refrigeration Capacity			Input Power (I) W	(E) Efficiency			EVAP TEMP	Condition	AMBIENT TEMP	RETURN GAS	LIQUID TEMP
		(R) Btu/h	(R) kcal/h	(R) W		(E) Btu/Wh	(E) kcal/Wh	W/W					
ASHRAE (R-513A)	115V ~ 60HZ	1210	305	355	214	5.65	1.42	1.65	-23°C (-10°F)	54°C (130°F)	32°C (90°F)	32°C (90°F)	32°C (90°F)
ASHRAE (R-134a)	115V ~ 60HZ	1100	277	322	200	5.5	1.39	1.61	-23°C (-10°F)	54°C (130°F)	32°C (90°F)	32°C (90°F)	32°C (90°F)

#### General

<b>Evaporating Temp. Range:</b>	-34.4°C to -12.2°C (-30°F to 10°F)
<b>Motor Torque:</b>	Low Start Torque (LST)
<b>Compressor Cooling:</b>	Fan

#### Mechanical

<b>Weight:</b>	28
<b>Weight Unit of Measure:</b>	LB
<b>Displacement (cc):</b>	8.374
<b>Oil Type:</b>	Polyolester
<b>Viscosity (cSt):</b>	32
<b>Oil Charge (cc):</b>	185

#### Electrical

<b>Voltage Range (50 Hz):</b>	90-110
<b>Voltage Range (60 Hz):</b>	103-127
<b>Locked Rotor Amps (LRA):</b>	21.3
<b>Rated Load Amps (RLA 50 Hz):</b>	0
<b>Rated Load Amps (RLA 60 Hz):</b>	1.8
<b>Max. Continuous Current (MCC in Amps):</b>	0

Motor Resistance (Ohm) - Main: 2.68  
Motor Resistance (Ohm) - Start: 4.52  
MotorType: PTCS\_CR  
Overload Type:  
Relay Type:

[Agency Approval](#)

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CE Listed, cURus Recognized



# Performance Data Sheet

## TPA1410YXA

### General

Model	TPA1410YXA	Unit of Measure	Fahrenheit
Condition	ASHRAE (R-134a)	Voltage/Frequency	115V ~ 60HZ
RETURN GAS	32.2°C (90°F) RETURN GAS	MotorType	PTCS_CR

### Performance Information

EVAP TEMP (°F)	Condensing Temperature (°F)					
		100	110	120	130	140
-40	Btu/h	476	457	444	428	403
	Watts	114	113	111	108	103
	Amps	0.99	0.98	0.93	0.82	0.66
	Lb/h	5.90	5.66	5.50	5.31	4.99
-35	Btu/h	561	535	514	490	454
	Watts	125	125	124	121	118
	Amps	1.15	1.15	1.11	1.02	0.89
	Lb/h	6.96	6.63	6.38	6.08	5.64
-30	Btu/h	663	632	604	573	530
	Watts	137	138	137	136	133
	Amps	1.28	1.29	1.26	1.20	1.10
	Lb/h	8.23	7.84	7.50	7.12	6.57
-25	Btu/h	781	746	714	677	627
	Watts	149	151	151	151	149
	Amps	1.39	1.41	1.40	1.36	1.29
	Lb/h	9.70	9.27	8.87	8.41	7.79
-20	Btu/h	913	876	841	800	745
	Watts	161	164	166	166	166
	Amps	1.49	1.52	1.53	1.51	1.47
	Lb/h	11.4	10.9	10.5	9.96	9.27
-15	Btu/h	1060	1020	985	942	883
	Watts	173	178	181	183	184
	Amps	1.58	1.62	1.65	1.66	1.65
	Lb/h	13.2	12.7	12.3	11.7	11.0
-10	Btu/h	1220	1180	1140	1100	1040
	Watts	186	192	197	200	203
	Amps	1.66	1.72	1.76	1.80	1.82
	Lb/h	15.2	14.7	14.3	13.7	13.0
-5	Btu/h	1390	1350	1320	1270	1210
	Watts	199	207	213	218	222
	Amps	1.75	1.82	1.88	1.95	2.00
	Lb/h	17.3	16.9	16.5	15.9	15.2
0	Btu/h	1560	1530	1500	1460	1400
	Watts	212	222	229	236	242
	Amps	1.85	1.93	2.01	2.10	2.20

	Lb/h	19.6	19.2	18.8	18.3	17.6
5	Btu/h	1750	1730	1700	1660	1610
	Watts	226	237	247	255	263
	Amps	1.96	2.05	2.16	2.28	2.40
	Lb/h	22.0	21.7	21.3	20.9	20.2
10	Btu/h	1950	1930	1910	1880	1830
	Watts	239	252	264	275	284
	Amps	2.09	2.20	2.32	2.47	2.63
	Lb/h	24.4	24.2	24.0	23.6	22.9

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	3.615219E+03	3.502724E+00	2.756433E+00	4.517877E+01
C2	1.600797E+01	-8.401843E-01	7.056096E-02	2.070214E-01
C3	-5.174705E+01	3.520239E+00	-3.358188E-02	-6.461856E-01
C4	-1.492096E-01	-2.297170E-02	1.404183E-04	-1.607513E-03
C5	3.003957E-01	3.448256E-02	-1.197954E-03	3.777023E-03
C6	4.512539E-01	-1.768743E-02	3.302061E-04	5.636698E-03
C7	-1.618873E-03	-3.940045E-05	7.256147E-06	-1.799819E-05
C8	3.189752E-03	2.660657E-04	1.294061E-06	3.962502E-05
C9	-9.466477E-04	5.724895E-06	6.981020E-06	-1.199524E-05
C10	-1.389098E-03	3.367240E-05	-8.497124E-07	-1.735734E-05

$$\text{Value} = C1 + C2 * Te + C4 * Te^2 + C7 * Te^3 + (C3 + C5 * Te + C8 * Te^2) * Tc + (C6 + C9 * Te) * Tc^2 + C10 * Tc^3$$

Te = Evaporator Temperature

Tc = Condensing Temperature



# Performance Data Sheet

## TPA1410YXA

### General

Model	TPA1410YXA	Unit of Measure	Fahrenheit
Condition	ASHRAE (R-513A)	Voltage/Frequency	115V ~ 60HZ
RETURN GAS	32.2°C (90°F) RETURN GAS	MotorType	PTCS_CR

### Performance Information

EVAP TEMP (°F)	Condensing Temperature (°F)							
		80	90	100	110	120	130	140
-40	Btu/h	623	561	524	503	488	471	443
	Watts	119	121	122	121	119	115	111
	Amps	0.95	1.02	1.05	1.04	0.98	0.87	0.70
	Lb/h	8.69	7.81	7.29	7.00	6.80	6.57	6.17
-35	Btu/h	729	661	617	589	566	539	500
	Watts	129	133	134	134	133	130	126
	Amps	1.12	1.18	1.21	1.21	1.17	1.08	0.94
	Lb/h	10.2	9.22	8.61	8.20	7.88	7.51	6.97
-30	Btu/h	849	778	730	695	665	631	583
	Watts	139	144	147	148	147	145	143
	Amps	1.26	1.32	1.35	1.36	1.33	1.27	1.16
	Lb/h	11.9	10.9	10.2	9.70	9.28	8.80	8.13
-25	Btu/h	984	911	859	821	786	745	690
	Watts	150	156	159	161	162	161	160
	Amps	1.37	1.43	1.47	1.49	1.48	1.44	1.36
	Lb/h	13.7	12.7	12.0	11.5	11.0	10.4	9.63
-20	Btu/h	1130	1060	1000	964	926	881	820
	Watts	160	167	172	176	178	178	178
	Amps	1.48	1.53	1.57	1.60	1.61	1.60	1.55
	Lb/h	15.8	14.8	14.0	13.5	12.9	12.3	11.5
-15	Btu/h	1290	1220	1170	1120	1080	1040	972
	Watts	171	179	186	191	194	196	197
	Amps	1.57	1.62	1.67	1.71	1.74	1.75	1.74
	Lb/h	18.1	17.0	16.3	15.7	15.2	14.5	13.6
-10	Btu/h	1460	1390	1340	1300	1260	1210	1140
	Watts	182	192	199	206	211	214	217
	Amps	1.66	1.70	1.76	1.81	1.86	1.90	1.92
	Lb/h	20.4	19.5	18.8	18.2	17.6	17.0	16.0
-5	Btu/h	1630	1570	1520	1490	1450	1400	1340
	Watts	192	204	213	221	228	233	238
	Amps	1.75	1.79	1.85	1.92	1.99	2.06	2.12
	Lb/h	22.9	22.0	21.4	20.9	20.3	19.7	18.7
0	Btu/h	1820	1760	1720	1690	1650	1610	1540
	Watts	203	216	228	237	246	253	259
	Amps	1.85	1.89	1.95	2.03	2.13	2.22	2.32

	Lb/h	25.6	24.8	24.2	23.7	23.3	22.6	21.7
5	Btu/h	2010	1960	1930	1900	1870	1830	1770
	Watts	213	229	242	254	264	274	282
	Amps	1.96	2.00	2.07	2.17	2.28	2.40	2.54
	Lb/h	28.3	27.6	27.1	26.8	26.4	25.8	24.9
10	Btu/h	2200	2160	2140	2120	2100	2070	2010
	Watts	224	241	257	271	283	294	305
	Amps	2.08	2.13	2.21	2.32	2.45	2.61	2.78
	Lb/h	31.1	30.5	30.2	30.0	29.7	29.2	28.4

COEFFICIENTS	CAPACITY	POWER	CURRENT	MASS FLOW
C1	3.977891E+03	3.754920E+00	2.909568E+00	5.586338E+01
C2	1.761386E+01	-9.006776E-01	7.448101E-02	2.559812E-01
C3	-5.693822E+01	3.773696E+00	-3.544754E-02	-7.990061E-01
C4	-1.641780E-01	-2.462566E-02	1.482193E-04	-1.987684E-03
C5	3.305309E-01	3.696530E-02	-1.264507E-03	4.670275E-03
C6	4.965229E-01	-1.896092E-02	3.485509E-04	6.969757E-03
C7	-1.781275E-03	-4.223728E-05	7.659266E-06	-2.225470E-05
C8	3.509742E-03	2.852224E-04	1.365953E-06	4.899619E-05
C9	-1.041614E-03	6.137087E-06	7.368854E-06	-1.483207E-05
C10	-1.528450E-03	3.609681E-05	-8.969186E-07	-2.146229E-05

$$\text{Value} = C1 + C2 * Te + C4 * Te^2 + C7 * Te^3 + (C3 + C5 * Te + C8 * Te^2) * Tc + (C6 + C9 * Te) * Tc^2 + C10 * Tc^3$$

Te = Evaporator Temperature

Tc = Condensing Temperature