



tecumseh

FH4538Z-XG1A

380-420V 3~ 50Hz / 460V 3~ 60 Hz

Compressor

HBP

R-404A / R-448A / R-449A / R-452A

Voltage Code : XG

Refrigerant	Frequency	Nominal Cooling Capacity (*)		Sound Power ISO3745 / ISO 3743-1
		Watts	BTU/h	
R-452A	50HZ / 60HZ	4673 / 5584	15934 / 19040	76 dBA
R-404A	50HZ / 60HZ	4624 / 5443	15766 / 18559	
R-448A	50HZ / 60HZ	4666 / 5576	15912 / 19014	
R-449A	50HZ / 60HZ	4659 / 5567	15887 / 18984	

(*) Operating conditions ARI 520-90 : Dew / T°Cond. 120°F / T°Evap 20°F / T°Evaporating 20°F / T°Superheat 32°F



*Non-contractual picture

Dimensions

Weight	31.1 kg (69 lb)
Length	274 mm (10.8 in)
Width	288 mm (11.3 in)
Height	354 mm (13.9 in)

Certificates



General

Compressor Type	Reciprocating
Displacement (cc)	63
Horse Power	3-1/2
Compressor Cooling	Fan
Evaporating Temp. Range	-15°C to 15°C (5°F to 59°F)
Oil Type	P.O.E 32
Oil Charge (cc)	1140

Electrical

Motor Type	3PH
Main Winding (Ohm)	3.95
Current RLA 50Hz (A)	5.68
Current RLA 60Hz (A)	5.59
Current LRA (A)	45
Overload	Internal
- Time Check	3.0-10s / 25 A
- Open Temp / Close Temp	105 °C / 69 °C

Note : Tecumseh reserves the right to change information contained in this document without notification.



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Conditions DEW

Evaporating : 20 °F
Superheat : 32 °F

50HZ R-452A

Condensing	Evaporating	(°F)	-15	-5	5	15	25	35	45	55
90	Refrig. Capacity	(Btu/h)	7513	10954	15122	20175	26285	33636	42427	52867
	Power Input	(W)	1421	1664	1886	2082	2246	2371	2450	2479
	Amps	(A)	3.29	3.63	3.92	4.16	4.37	4.55	4.71	4.85
105	Refrig. Capacity	(Btu/h)	5490	8673	12447	16965	22395	28920	36743	46085
	Power Input	(W)	1431	1722	1997	2250	2475	2665	2814	2917
	Amps	(A)	3.2	3.65	4.05	4.39	4.68	4.94	5.17	5.37
120	Refrig. Capacity	(Btu/h)			9722	13679	18403	24078	30908	39126
	Power Input	(W)			2073	2381	2666	2920	3137	3311
	Amps	(A)			4.12	4.58	4.97	5.33	5.64	5.91
140	Refrig. Capacity	(Btu/h)				9247	12986	17483	22947	29628
	Power Input	(W)				2509	2870	3206	3511	3779
	Amps	(A)				4.72	5.28	5.78	6.23	6.63

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60HZ R-452A

Condensing	Evaporating	(°F)	-15	-5	5	15	25	35	45	55
90	Refrig. Capacity	(Btu/h)	8958	13238	18270	24241	31352	39822	49886	61793
	Power Input	(W)	1695	2039	2336	2593	2812	3001	3162	3302
	Amps	(A)	3.41	3.74	4.04	4.3	4.54	4.76	4.97	5.17
105	Refrig. Capacity	(Btu/h)	6371	10366	14963	20341	26700	34254	43243	53930
	Power Input	(W)	1623	2045	2418	2744	3031	3282	3502	3697
	Amps	(A)	3.31	3.75	4.14	4.49	4.8	5.09	5.35	5.6
120	Refrig. Capacity	(Btu/h)			11645	16379	21932	28518	36379	45790
	Power Input	(W)			2454	2854	3210	3526	3808	4060
	Amps	(A)			4.18	4.63	5.03	5.39	5.73	6.03
140	Refrig. Capacity	(Btu/h)				11146	15541	20753	27025	34651
	Power Input	(W)				2938	3391	3798	4166	4498
	Amps	(A)				4.67	5.22	5.72	6.17	6.58



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Conditions DEW

Evaporating : 20 °F
Superheat : 32 °F

50HZ R-404A

Condensing	Evaporating	(°F)	-15	-5	5	15	25	35	45	55
90	Refrig. Capacity	(Btu/h)	7926	11245	15298	20236	26227	33450	42102	52394
	Power Input	(W)	1508	1750	1971	2164	2319	2428	2481	2470
	Amps	(A)	3.49	3.81	4.09	4.33	4.52	4.66	4.76	4.82
105	Refrig. Capacity	(Btu/h)	5938	8974	12602	16967	22232	28576	36199	45328
	Power Input	(W)	1536	1817	2087	2335	2553	2733	2865	2940
	Amps	(A)	3.43	3.85	4.22	4.55	4.83	5.07	5.26	5.41
120	Refrig. Capacity	(Btu/h)		6664	9841	13611	18129	23573	30146	38087
	Power Input	(W)		1868	2178	2474	2748	2991	3194	3348
	Amps	(A)		3.86	4.33	4.74	5.12	5.45	5.73	5.98
140	Refrig. Capacity	(Btu/h)			6144	9074	12557	16764	21902	28233
	Power Input	(W)			2286	2635	2971	3287	3573	3820
	Amps	(A)			4.43	4.97	5.46	5.92	6.33	6.69

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60HZ R-404A

Condensing	Evaporating	(°F)	-15	-5	5	15	25	35	45	55
90	Refrig. Capacity	(Btu/h)	9315	13387	18208	23953	30818	39012	48766	60329
	Power Input	(W)	1760	2096	2388	2638	2844	3009	3133	3216
	Amps	(A)	3.51	3.82	4.1	4.35	4.56	4.74	4.89	5
105	Refrig. Capacity	(Btu/h)	6808	10568	14923	20041	26112	33343	41969	52255
	Power Input	(W)	1713	2112	2470	2786	3061	3295	3490	3647
	Amps	(A)	3.45	3.84	4.2	4.52	4.82	5.07	5.29	5.48
120	Refrig. Capacity	(Btu/h)		7773	11611	16055	21284	27505	34954	43912
	Power Input	(W)		2105	2522	2899	3236	3534	3794	4017
	Amps	(A)		3.83	4.26	4.66	5.03	5.36	5.66	5.93
140	Refrig. Capacity	(Btu/h)			7312	10774	14806	19605	25412	32527
	Power Input	(W)			2576	3024	3434	3808	4146	4448
	Amps	(A)			4.28	4.78	5.25	5.69	6.09	6.46



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Evaporating : 20 °F
Superheat : 32 °F

50HZ R-448A*

Condensing	Evaporating	(°F)	-15	-5	5	15	25	35	45	55
90	Refrig. Capacity	(Btu/h)	7030	10323	14356	19290	25293	32545	41234	51556
	Power Input	(W)	1347	1564	1771	1957	2111	2224	2285	2283
	Amps	(A)	3.12	3.41	3.68	3.91	4.11	4.27	4.39	4.46
105	Refrig. Capacity	(Btu/h)		8362	12044	16496	21887	28396	36214	45546
	Power Input	(W)		1629	1880	2118	2332	2513	2649	2731
	Amps	(A)		3.46	3.81	4.13	4.42	4.66	4.87	5.03
120	Refrig. Capacity	(Btu/h)			9671	13637	18410	24170	31111	39447
	Power Input	(W)			1966	2253	2524	2769	2978	3141
	Amps	(A)			3.91	4.32	4.71	5.05	5.35	5.61
140	Refrig. Capacity	(Btu/h)				9823	13762	18514	24276	31273
	Power Input	(W)				2404	2747	3074	3375	3640
	Amps	(A)				4.53	5.05	5.54	5.98	6.38

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60HZ R-448A*

Condensing	Evaporating	(°F)	-15	-5	5	15	25	35	45	55
90	Refrig. Capacity	(Btu/h)	8377	12474	17345	23177	30170	38532	48485	60260
	Power Input	(W)	1607	1916	2193	2437	2646	2817	2949	3039
	Amps	(A)	3.23	3.52	3.79	4.05	4.27	4.47	4.63	4.76
105	Refrig. Capacity	(Btu/h)		9994	14478	19780	26095	33633	42621	53297
	Power Input	(W)		1936	2275	2582	2857	3096	3299	3461
	Amps	(A)		3.55	3.9	4.23	4.53	4.8	5.04	5.24
120	Refrig. Capacity	(Btu/h)			11588	16330	21940	28626	36618	46164
	Power Input	(W)			2328	2698	3038	3345	3616	3851
	Amps	(A)			3.97	4.37	4.76	5.12	5.44	5.73
140	Refrig. Capacity	(Btu/h)				11840	16466	21972	28589	36581
	Power Input	(W)				2819	3244	3640	4003	4332
	Amps	(A)				4.49	5	5.48	5.92	6.34

* Due to very high discharge temperature especially on LBP conditions, please strictly refer to Tecumseh Guidelines & Marketing Bulletin when using this refrigerant.



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50HZ R-449A*

Condensing	Evaporating	(°F)	-15	-5	5	15	25	35	45	55
90	Refrig. Capacity	(Btu/h)	7012	10301	14332	19264	25270	32528	41229	51570
	Power Input	(W)	1347	1564	1771	1957	2111	2224	2285	2283
	Amps	(A)	3.12	3.41	3.68	3.91	4.11	4.27	4.39	4.46
105	Refrig. Capacity	(Btu/h)		8341	12020	16471	21863	28378	36209	45561
	Power Input	(W)		1629	1880	2118	2332	2513	2649	2731
	Amps	(A)		3.46	3.81	4.13	4.42	4.66	4.87	5.03
120	Refrig. Capacity	(Btu/h)			9648	13612	18386	24152	31106	39463
	Power Input	(W)			1966	2253	2524	2769	2978	3141
	Amps	(A)			3.91	4.32	4.71	5.05	5.35	5.61
140	Refrig. Capacity	(Btu/h)				9798	13738	18495	24270	31291
	Power Input	(W)				2404	2747	3074	3375	3640
	Amps	(A)				4.53	5.05	5.54	5.98	6.38

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60HZ R-449A*

Condensing	Evaporating	(°F)	-15	-5	5	15	25	35	45	55
90	Refrig. Capacity	(Btu/h)	8356	12448	17316	23147	30142	38512	48479	60278
	Power Input	(W)	1607	1916	2193	2437	2646	2817	2949	3039
	Amps	(A)	3.23	3.52	3.79	4.05	4.27	4.47	4.63	4.76
105	Refrig. Capacity	(Btu/h)		9969	14449	19749	26066	33613	42615	53315
	Power Input	(W)		1936	2275	2582	2857	3096	3299	3461
	Amps	(A)		3.55	3.9	4.23	4.53	4.8	5.04	5.24
120	Refrig. Capacity	(Btu/h)			11560	16300	21911	28605	36611	46183
	Power Input	(W)			2328	2698	3038	3345	3616	3851
	Amps	(A)			3.97	4.37	4.76	5.12	5.44	5.73
140	Refrig. Capacity	(Btu/h)				11811	16437	21950	28582	36601
	Power Input	(W)				2819	3244	3640	4003	4332
	Amps	(A)				4.49	5	5.48	5.92	6.34

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