

Mbsm.pro, Compressor, HIGHLY, BSA645CR-R1EN, GBSA645CR, 840w, r134a, 1.12hp, Constant-Speed, [1ph] 100/100-110V 50/60Hz

Category: compressor

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## Performance Analysis of the BSA645CR Compressor with Horsepower Calculation

### 1. Introduction

The **BSA645CR** is a constant-speed reciprocating compressor designed for refrigeration and air conditioning systems using **R134a** refrigerant. It is commonly used in residential and light commercial applications due to its compact design, efficiency, and compatibility with standard voltage supplies. This article provides a detailed overview of the BSA645CR compressor's technical specifications, explains how to calculate its output horsepower (HP), and discusses its performance characteristics.

### 2. Technical Specifications of



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系列 Series	型号 Model	排气量 Displacement (cc/rev)	冷量 Cooling Capacity (W)	冷量 Cooling Capacity (Btu/h)	COP (W/W)	电容 Capacitor (μF/V)	压缩机高度 Height (mm)	测试工况 Testing Condition
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**定速 R134a Constant-speed R134a**  
[1φ]100/100-110V 50/60Hz

A	BSA357CR	3.57	450	1535	2.21	17/250	143.0	ASHRAE/T
	BSA357UR	3.57	455	1552	2.60	25/250	153.0	ASHRAE/T
	BSA460CR	4.60	584	1993	2.35	17/220	169.0	ASHRAE/T
	BSA586CR	5.86	789	2692	2.40	25/250	169.0	ASHRAE/T
	BSA645CR	6.45	840	2866	2.33	20/250	169.0	ASHRAE/T
	BSA725SR	7.25	945	3224	2.51	17/300	162.6	ASHRAE/T

**定速 R134a Constant-speed R134a**  
[1φ]110V 60Hz

A	BSA272HJ	2.72	345	1177	2.60	20/200	152.1	ASHRAE/T
	BSA325HJ	3.25	430	1467	2.81	15/250	162.6	ASHRAE/T
	BSA357UJ	3.57	465	1587	2.67	20/250	152.1	ASHRAE/T
	BSA460UJ	4.60	615	2098	2.80	20/250	162.6	ASHRAE/T
	BSA520HJ	5.20	704	2402	2.93	25/250	172.6	ASHRAE/T
	BSA535HJ	5.35	718	2450	2.92	25/250	172.6	ASHRAE/T
	BSA586UJ	5.86	780	2661	2.80	17/250	172.6	ASHRAE/T
	BSA586HJ	5.86	785	2678	2.92	25/250	172.6	ASHRAE/T

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**Parameter** **Value**

Model	BSA645CR
Refrigerant	R134a
Voltage	100/100–110V, 50/60Hz
Displacement	6.45 cc/rev
Cooling Capacity (W)	840 W
Cooling Capacity (Btu/h)	2866 Btu/h
COP (Coefficient of Performance)	2.33 W/W
Capacitor	20 μF / 250 V
Compressor Height	169.0 mm
Test Condition	ASHRAE/T