恩布拉科中国

EMBRACO CHINA

宁波裕月科技有限公司

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恩布拉科是一家专注于制冷解决方案的公司，是密封式压缩机市场的领袖。我们的使命是为高品质的生活提供创新方案，始终追求技术卓越和可持续性发展。

全球的年产量超过3800万，公司提供的方案以创新性和低能耗而著称。恩布拉科共在巴西（总部），中国，意大利，斯洛伐克，墨西哥，美国和俄罗斯的工厂和办事处雇佣11500名员工。

作为全球的领袖，恩布拉科努力预期市场变化，不断的进行变革。我们持续的评估各项管理流程，以保持我们在业界的领先地位，促进增长的同时也不忘记组织的战略支柱。

EMBRACO is a company specialized in cooling solutions and world leader in the hermetic compressor market. Our mission: provide innovative solutions for a better quality of life, always attentive to technological excellence and sustainability.

With global operations and production capacity exceeding 38 million units a year, the company offers solutions that are differentiated for their innovation and low energy consumption. Its 11.500 employees work in factories and offices located in Brazil (headquarters), China, Italy, Slovakia, Mexico, the United States and Russia.

As a worldwide leader, **EMBRACO** tries to anticipate market changes, and in doing so, our company is in a state of permanent transformation. We continuously assess our processes in order to maintain our leadership within the industry and promote growth, without forgetting the pillars of our organization.

高效

能效是恩布拉科所有产品的开发基础。这意味着开发生产出能耗更低、消耗原材料更少的压缩机，同时也要保持产品的标杆品质。因此，我们持续在研发领域投资，创造更高效和更安静的对环境无害的产品。

作为提高我们产品能效的努力成果，也为了超越我们客户的最高期望，我们开发了恩布拉科全驱压缩机，一种可以根据转速的不同，改变制冷量，从而可以降低能耗40%。

我们拥有全系列的产品，能够提供不同等级能效的压缩机。我们提供的方案在满足最严格的国际能耗标准方面是全球标杆。追求持续改进的产品及流程是一项承诺，每代恩布拉科压缩机都会比之前的产品更加高效。

HIGH EFFICIENCY

Energy efficiency is the base for all our product development. This means producing compressors that consume each time less energy and less raw material in manufacturing, at the same time maintaining **Embraco** brand quality. Thus, we continuously invest in research and development to create products that are more efficient and silent and do not harm the environment.

As a result of efforts to increase energy efficiency in our products, and to surpass our customers' highest expectations, we have developed **Embraco Fullmotion** – a compressor that varies the cooling capacity according to the need, providing a reduction in energy consumption up to 40%.

We have a full product portfolio that offers compressors of a wide ranges of efficiency. We are a global benchmark in developing solutions that meet the strictest international standards regarding energy consumption. With a commitment to seek continuous product and process improvement, each new generation of **Embraco** compressors is more efficient than the previous one.

恩布拉科中国

1995年，恩布拉科在北京成立了中国与巴西的第一家合资企业——北京恩布拉科雪花压缩机有限公司，从此开始了其在中国业务的发展历程。北京工厂目前有三条生产线，新工厂生产出既小巧又高效的迷你系列压缩机，引领高效、低能耗的压缩机市场。目前已实现了家用、商用各种制冷剂的全线产品系列的生产，产品已供应全球市场。在节能效率以及产品创新上一直引领全球市场的趋势，是该领域的技术和市场领导者。

除了生产制造，恩布拉科还在北京工厂建立先进的研发中心，开发完整的制冷解决方案。 研发中心加强了恩布拉科与冰箱制造商合作，可更加快速的响应市场需求，提供更为高效智能的解决方案。

EMBRACO CHINA

In 1995, Embraco established the first joint venture company between China and Brazil in Beijing - Embraco snowflake Ltm.co. There are three new product line in China plant. In this new plant, Embraco is producing series of compressors, which are leading mini and high efficiency compressor market. Now the the product portfolio covers household and commercial application, being provided to the global market.

Besides its manufacturing area, Embraco keeps a state-of-the-art research and development center in Beijing, where it develops complete cooling solutions. This R&D center has helped bring a closer collaboration between Embraco and refrigerator manufacturers, thus creating more efficient products in a rapidly evolving market.

VES 变频科技产品系列
VES Fullmotion Product Line

VES 压缩机是为变频技术设计的全新平台。结合现有的机最新的（受产权保护）制冷解决方案，表现更加的智能高效。

虽然 VES 体积减小 20%，它与现有的 VEM 应用平台完全兼容。这就是恩布拉科设计的基本理念：创新产品而不失其功能。

VES compressor is a new platform, designed for variable capacity, incorporating the existing and new solutions (IP protected) providing intelligent and efficient performance.

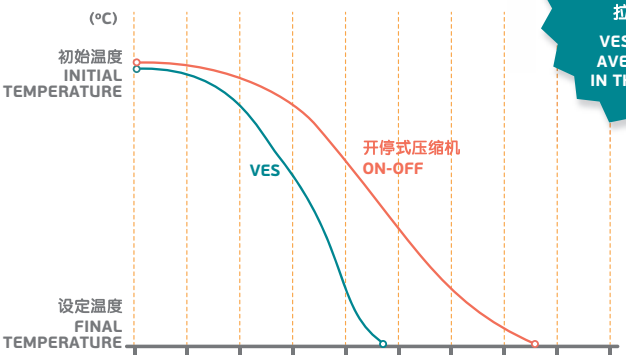
Even though it is 20% smaller than the VEM, the VES compressor is fully compatible with current VEM applications. This is the basic principle of the Embraco's designing movement: create products without losing their functionalities.

高效
EFFICIENCY

最高效的变频系列
(相对于 VEM 系列能效提高 4%)

The most efficient compressor in its category (+4% versus VEM).

VES平均减少
20%
拉低温的时间
VES REDUCES AN AVERAGE OF 20% IN THE PULL-DOWN TIME



需要制冷时，加快运转通过变频理念实现更好的温度控制

Operation at higher speed whenever needed. Better temperature control thanks to variable speed concept.

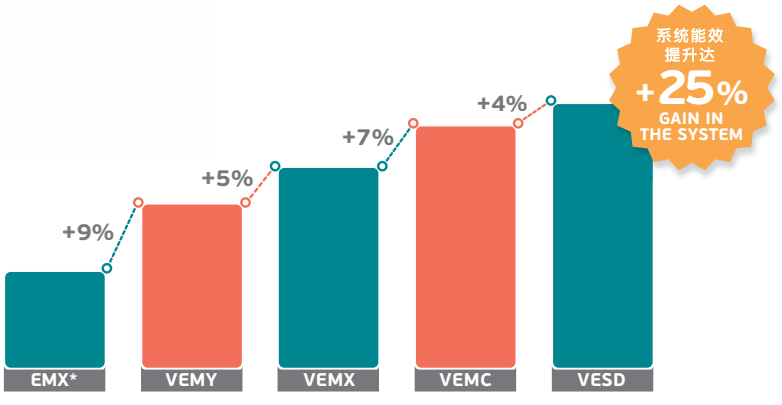
更低噪音
NOISE LEVEL

比 VEM 系列噪音降低 2 分贝
2dB quieter than VEM.**

** 测试条件 Test condition: (-23,3℃ / 54,4℃) at 2500rpm.

快速制冷 长久保鲜
FAST COOLING AND FRESHNESS

比定频压缩机拉低温的时间平均缩短 20%
VES reduces pull-down time by 20% (average) compared to ON-OFF compressors.



* 欧洲市场上销量最好的压缩机
* Best selling compressor in european market.

EM 产品系列
EM Product Line

世界顶级的产品

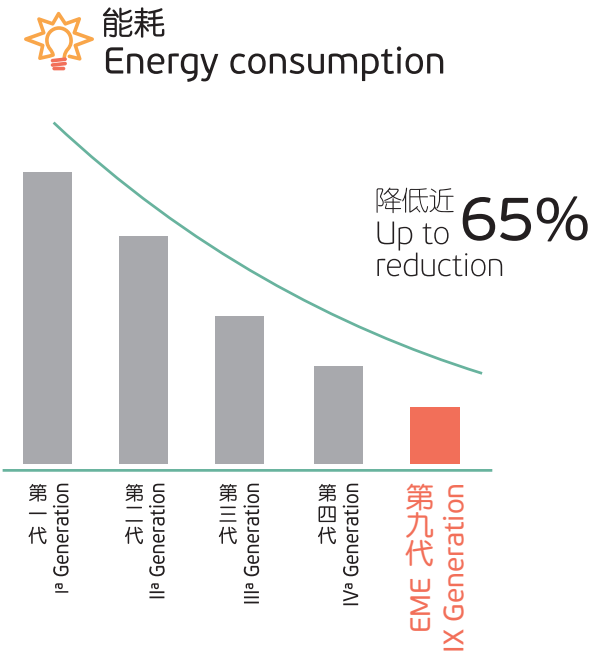
在中国投产的 EM 系列压缩机是最新技术研发的成果，畅销于世界各地。也是恩布拉科连续 20 年在产品与制造技术上不断投入的结晶。

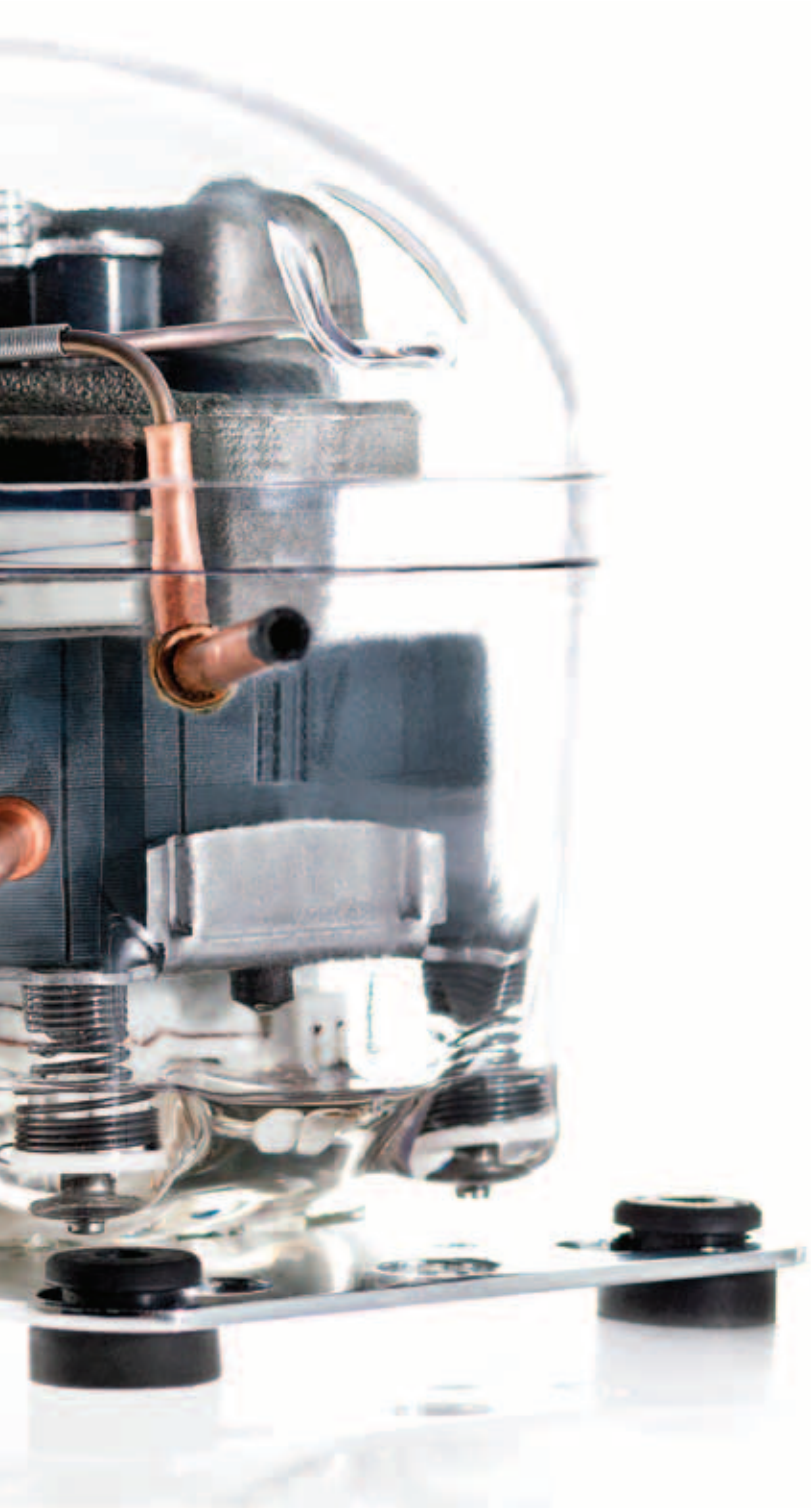
EM 系列压缩机适用于家用及小型商用制冷设备。其最具代表性的特点是：高效、体积小、低噪音、低振动。

Best in Class

The EM launched in China is the latest technological evolution of the best selling compressor in the world.
The EM family is the result of 20 years of continuous investments in leading edge product and production technology.

EM line compressors were developed to be used on household and light commercial applications.





小体积
Small size(*)

能耗降低近 65%
Up to 65% reduction
in energy consumption(*)

低噪音、低振动
Low noise and vibration(*)

(*) 表示与同系列的其他压缩机相比较得出的结果。
(*) Compared to the compressors in its category.

产品应用范围

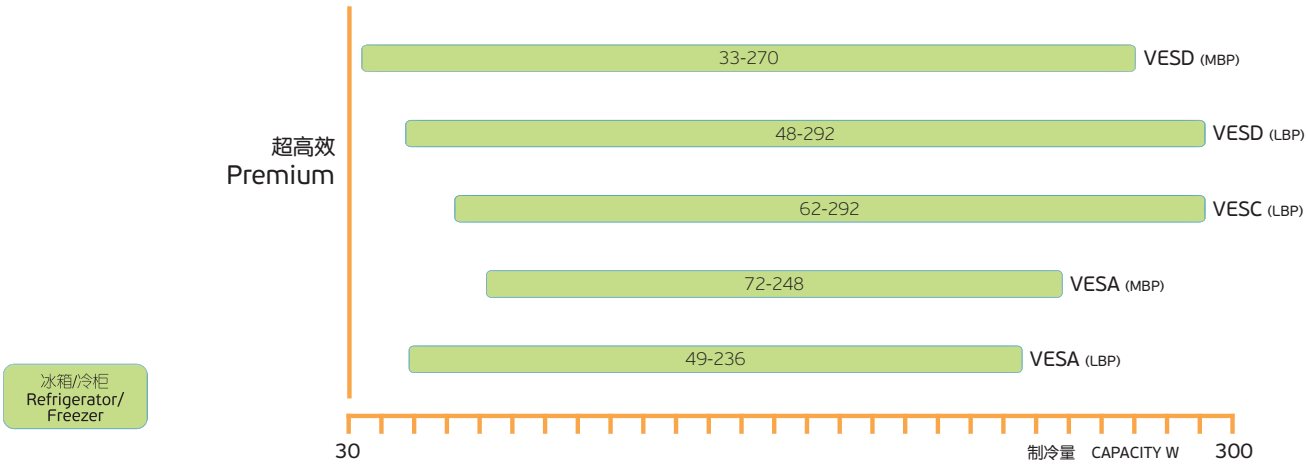
PRODUCT

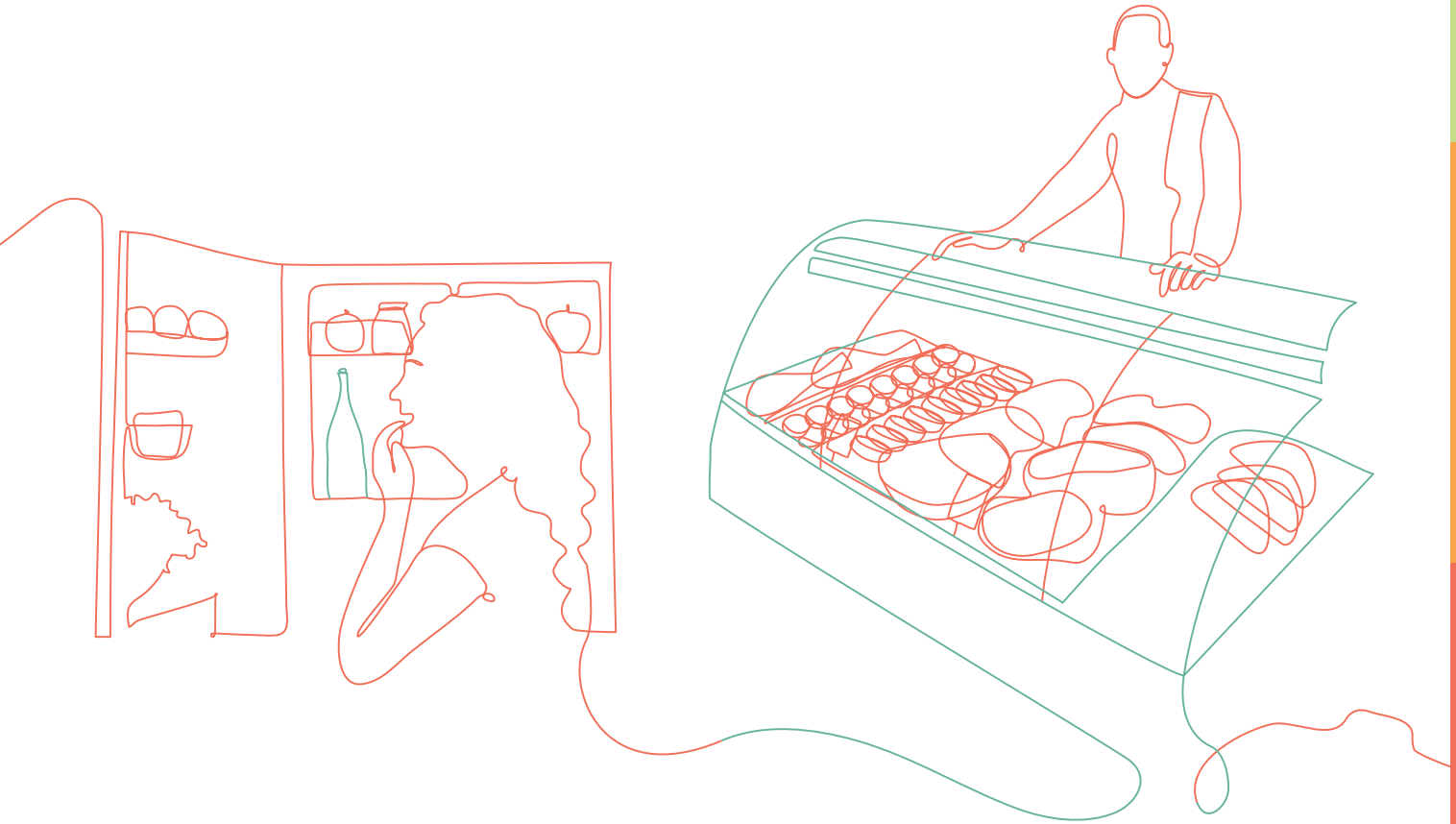
APPLICATION RANGE

中国产品系列应用范围
China Product Line Application Range

变频压缩机应用范围 (VES)
Fullmotion Application Range (VES)

R600a
低背压 LBP（-35℃ to -10℃）
中背压 MBP（-20℃ to 10℃）

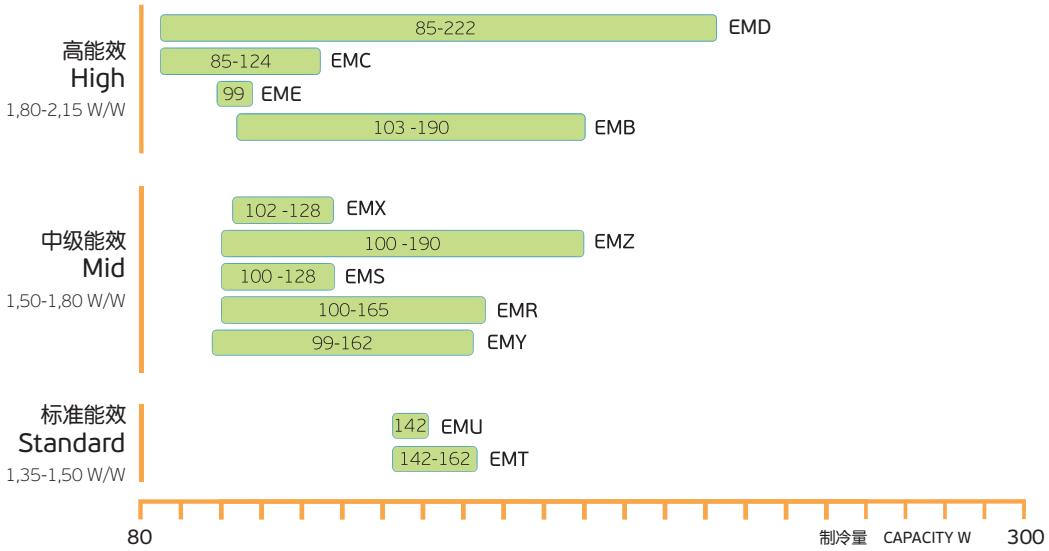




中国产品系列应用范围
China Product Line Application Range

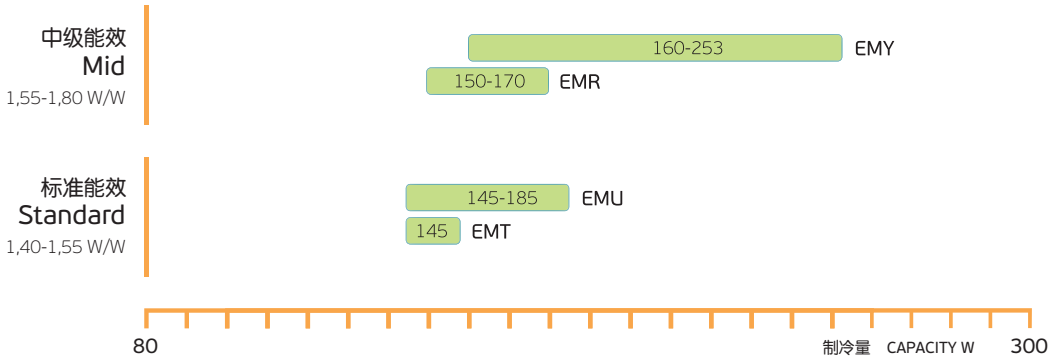
家用压缩机应用范围 (EM)
Household Application Range (EM)

R600a
低背压 LBP (-35℃ to -10℃)
220-240V / 50Hz



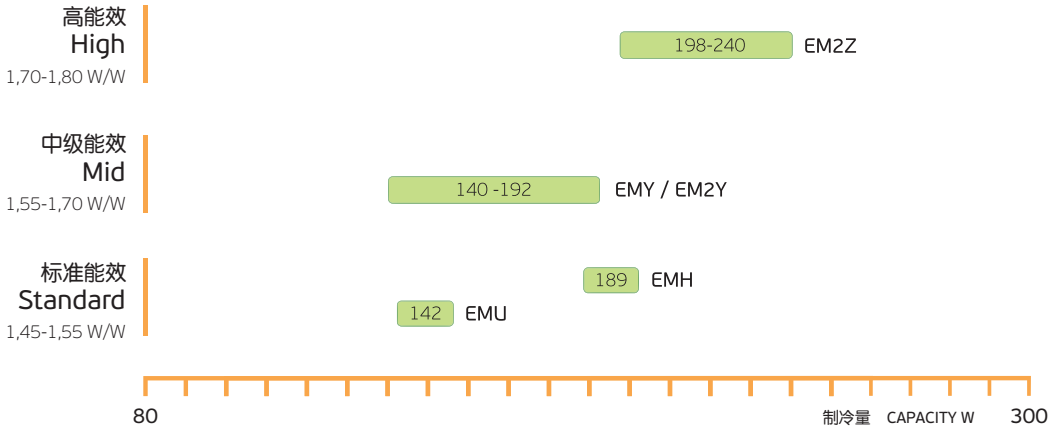
冰箱/冷柜
Refrigerator/
Freezer

R134a
低背压 LBP (-35℃ to -10℃)
220-240V/50Hz
200-230V/50Hz



冰箱/冷柜
Refrigerator/
Freezer

R134a
低背压 LBP (-35℃ to -10℃)
115V/60Hz
115-127V/60Hz

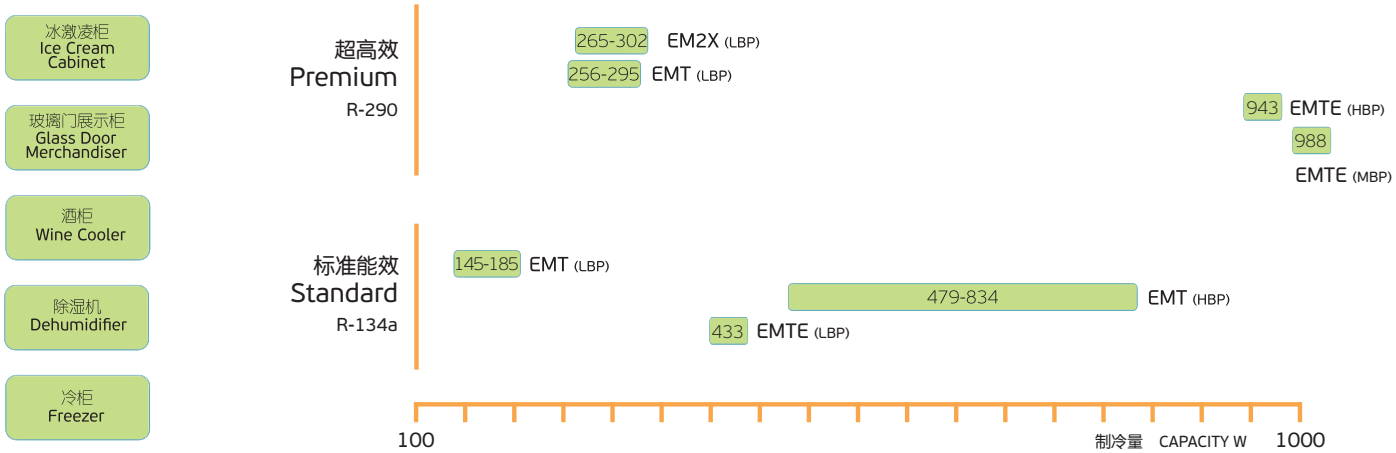


冰箱/冷柜
Refrigerator/
Freezer

中国产品系列应用范围
China Product Line Application Range

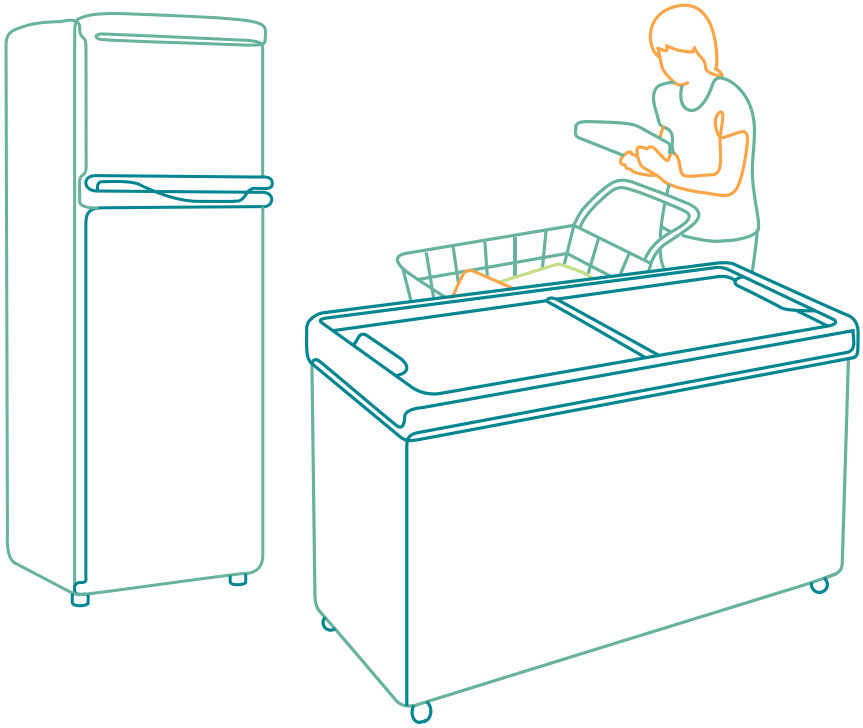
商用压缩机应用范围 (EM)
Commercial Application Range (EM)

R134a/R290
低背压 LBP (-35℃ to -10℃)
高背压 HBP（-15℃ to 10℃）



以丙烷为制冷剂，扩大了压缩机的制冷量。在应用中，我们可以使用更轻便、体积更小的压缩机替代以前使用的大型压缩机。

Using propane as a refrigerant fluid it is possible to extend the compressor cooling capacity,allowing the use of smaller and lighter models in applications that previously were only attended by large models.

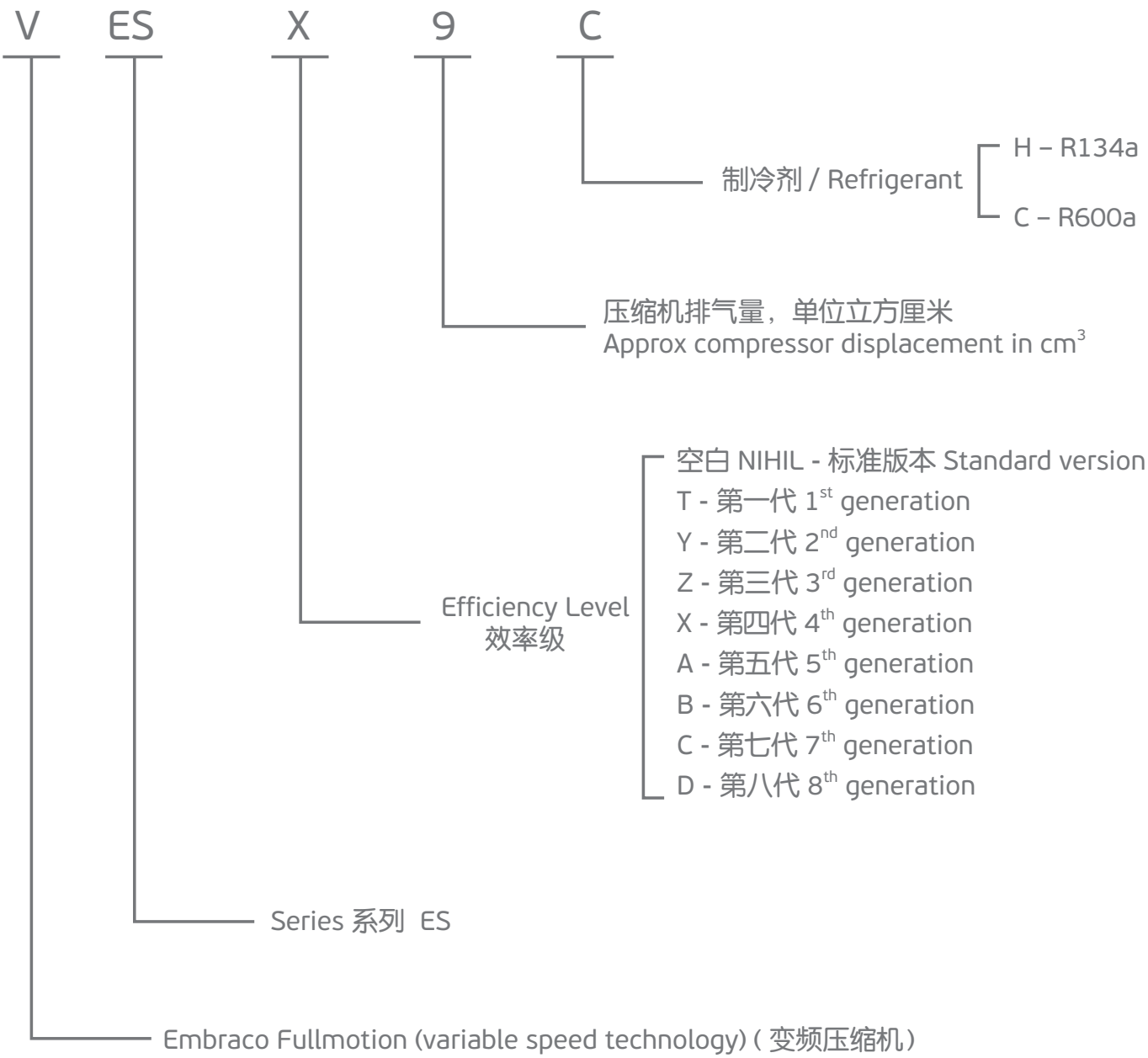


COMPRESSOR NOMENCLATURE

压缩机命名

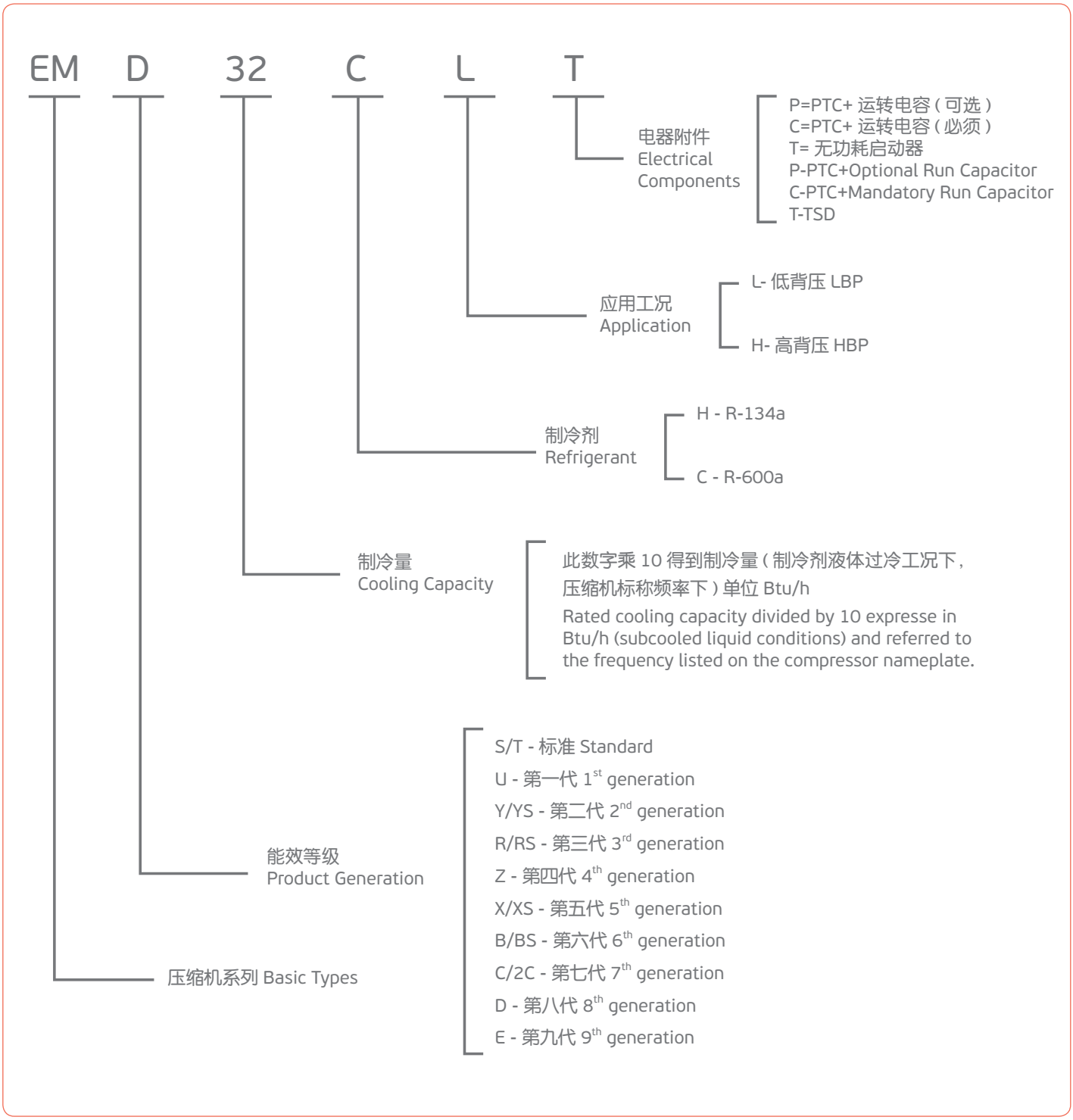
VES 变频科技产品系列
VES Fullmotion Product Line

VES Fullmotion 变频系列命名规则
VES Fullmotion Nomenclature



EM 产品系列
EM Product Line

家用压缩机
Household Compressor



注：压缩机被更换之后，压缩机及其附件必须妥善处理，零部件必须根据其材料（金属、非金属、塑料、油等）方面的指令重复利用。
推荐这些方法的目的是为了最大限度地降低对环境的负面影响。

Note: After replacement,the compressor and its accessories must have proper processing,and the components must be recycled according to the material group (ferrous,non-ferrous,polymers,oils,...)directives,These recommendations are intended to minimize the adverse impacts that may be caused to the environment.

EM 产品系列
EM Product Line

商用压缩机
Commercial Compressor

型号命名 -1
Nomenclature Model -1

EM T 2 121 U

基础型号Basic Type
EM

系列Product Generation

M	第一代 1st generation
K	第二代 2nd generation
T	第三代 3nd generation
U	第四代 4th generation
Y	第五代 5th generation

应用工况Application

1 低背压 - 低启动力矩 LBP - LST
2 低背压 - 高启动力矩 LBP - HST
5 中高背压 - 低启动力矩 HBP - LST / MBP - LST
6 中高背压 - 高启动力矩 HBP - HST / MBP - HST
9 中高背压 - 高启动力矩 MBP/HBP - HST

制冷量Cooling Capacity

第一位数字表示需加在后两位数字后面的0的个数，这样就得到了50Hz时的制冷量，单位 Kal/h,例如：134=340Kal/h 50Hz
The first digit indicates the number of zeros to be added to the 2 following digits to get the rated capacity at 50 Hz. (In the indicated example the capacity is 58 Kcal/h).

制冷剂及电源相数编码 Refrigerant type code and possible design alternatives

L HFO1234yf 单相 single phase
U R290 单相 single phase
V R290/R600a 单相 single phase
Y R600a 单相 single phase
Z-ZH-H R134a 单相 single phase
GJ-GK R404A 单相 single phase
GS R404A 三相 three phase

型号命名 -2
Nomenclature Model -2

EM T 65 H L R

制冷量Cooling Capacity

此数字乘以10得到制冷量（制冷剂液体过冷工况下，压缩机标称频率下）,单位 Btu/h
Rated cooling capacity dividid by 10 expresse in Btu/h (subcooled liquid conditions) and referred to the frequency listed on the compressor nameplate

应用工况Application

L 低背压 LBP
H 高/中/低背压 H/M/LBP
D 高背压 HBP

基础型号Basic Type
EM

系列Product Generation

S	标准 Standard
T	第一代 1st generation
U	第二代 2nd generation
Y	第三代 3nd generation
Z	第四代 4th generation
X	第五代 5th generation
2C	第六代 6th generation

制冷剂 Refrigerant

H = R134a
C = R600a
U = R290

电器附件Electrical Components

R 继电器+可选启动电容
Relay + Optional Start Capacitor
P 可选运转电容
PTC + Optional Run Capacitor
C 运转电容
PTC + Run Capacitor
X 继电器+启动电容
Relay + Start Capacitor

注：压缩机被更换之后，压缩机及其附件必须妥善处理，零部件必须根据其材料（金属、非金属、塑料、油等）方面的指令重复利用。
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PRODUCT SPECIFICATION

产品性能参数

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R290

EM商用Commercial — 25页

如何阅读我们的产品目录 /How to read our catalogue

1 VES | EM家用Household | EM商用Commercial

2 R134a | R290 | R600a

制冷剂 Refrigerant	系列 Series	型号 Model	应用工况 Application	电压 / 频率 Vol./Freq.	汽缸容积 Displacement	性能参数 Performance				运行电容 Capacitor	油粘度 Oil Viscosity	认证 Certification	高度 Height "A"
						冷量 Capacity		效率 COP					
				V/Hz	cm^3	W	Kcal/h	W/W	kcal/wh	μF			mm
3 R290	EMT	EMT 2121 U	VLBP	220~240/50	5.56	265	227.8	1.53	1.32	47(*)	ISO 22	CCC/VDE	166
		EMT 2125 U	VLBP	220~240/50	5.96	295	253.7	1.48	1.28	57(*)	ISO 22	CCC/VDE	166
	EM2X	EM2X1121U	VLBP	220~240/50	5.54	265	227.9	1.78	1.53	5	ISO 10	CCC/VDE	171
		EM2X1125U	VLBP	220~240/50	6.09	302	259.7	1.76	1.51	5	ISO 10	CCC/VDE	171
	EMTE	EMTE2134U	VLBP	220~240/50	9.50	433	372.4	1.41	1.21	98(*)	ISO 22	CCC/VDE	171

4

1 中国产品系列 China Product Line

2 制冷剂类型 Grouped by Application Type

3 型号选择 Model Selection

4 制冷量 Cooling capacity

VES 变频科技产品系列
VES Fullmotion Product Line

VES 压缩机性能参数
Technical Data of VES Compressors

系列 Seris	型号 Model	测试条件：-23.3/54.4/32.2℃ Test condition : -23.3/54.4/32.2℃			油粘度 Oil Viscosity	认证 Certification	高度 Height "A"
		转速 Speed	冷量 Capacity	效率 COP			
		rpm	W	W/W			mm
VESA	VESA5C	@1300	31	1.60	ISO5	CCC/VDE	135
		@1600	40	1.68			
		@2000	50	1.72			
		@3000	80	1.74			
		@4500	121	1.64			
	VESA7C	@1300	49	1.63	ISO5	CCC/VDE	135
		@1600	62	1.72			
		@2000	80	1.79			
		@3000	121	1.80			
		@4500	183	1.75			
	VESA9C	@1300	65	1.70	ISO5	CCC/VDE	135
		@1600	81	1.77			
		@2000	104	1.79			
		@3000	159	1.80			
		@4500	223	1.69			
VESC	VESC9C	@1300	67	1.84	ISO5	CCC/VDE	135
		@1600	83	1.89			
		@2000	106	1.91			
		@3000	162	1.88			
		@4500	222	1.73			
	VESC11C	@1300	86	1.86	ISO5	CCC/VDE	135
		@1600	107	1.91			
		@2000	136	1.91			
		@3000	204	1.86			
		@4500	270	1.70			
VESD	VESD3C（☆）	@1300	38	2.68	ISO5	CCC/VDE	135
		@1600	48	2.78			
		@2000	61	2.81			
	VESD5C	@1300	32	1.66	ISO5	CCC/VDE	135
		@1600	41	1.73			
		@2000	52	1.75			
		@3000	81	1.78			
		@4500	124	1.71			
	VESD7C	@1300	49	1.81	ISO5	CCC/VDE	135
		@1600	63	1.90			
		@2000	79	1.92			
		@3000	121	1.88			
		@4500	177	1.82			
	VESD9C	@1300	65	1.84	ISO5	CCC/VDE	135
		@1600	81	1.89			
		@2000	105	1.90			
		@3000	160	1.89			
		@4500	211	1.79			
	VESD9C+	@1300	65	1.88	ISO5		135
		@1600	82	1.93			
		@2000	104	1.94			
		@3000	160	1.90			
		@4500	195	1.83			
	VESD11C	@1300	87	1.96	ISO5	CCC/VDE	135
		@1600	108	2.00			
		@2000	138	1.96			
		@3000	205	1.91			
		@4500	251	1.76			

注：（☆）测试条件与其他不同，为 -10/40/32.2℃

EM 产品系列
EM Product Line

家用压缩机性能参数
Technical Data of Household Compressors

制冷剂 Refrigerant	系列 Series	型号 Model	电压 / 频率 Vol./Freq.	汽缸容积 Displacement	性能参数 Performance				运行电容 Capacitor	油粘度 Oil Viscosity	认证 Certification	高度 Height "A"
					冷量 Capacity		效率 COP					
			V/Hz	cm^3	W	Kcal/h	W/W	kcal/wh	μF			mm
R600a	EMT	EMT 46 CLP	220~240/50	7.96	142	122.1	1.35	1.16	0	ISO 5	CCC	158
		EMT 45 CLP	100/50	5.96	99	85.1	1.38	1.19	0	ISO 5	CCC	158
			100/60	5.96	114	98.0	1.51	1.30	0	ISO 5	CCC	158
		EMT 55 CLP	220~240/50	9.05	162	139.3	1.40	1.20	0	ISO 5	CCC	158
	EMU	EMU32CLP	220~240/50	5.96	100	85.1	1.49	1.28	0	ISO 5	CCC/VDE	158
			200~230/50	5.96	102	87.7	1.41	1.21	0	ISO 22	CCC/VDE	166
		EMU 46 CLP	220~240/50	7.96	142	122.1	1.49	1.28	4	ISO 5	CCC/VDE	158
	EMY	EMY 32 CLP	220~240/50	5.96	99	85.1	1.60	1.38	0	ISO 5	CCC	166
		EMY 40 CLP	220~240/50	7.24	125	107.5	1.6	1.376	4	ISO 5	CCC	166
		EMY 45 CLP	100/50	5.96	99	85.1	1.55	1.33	12	ISO 5	CCC	166
			100/60	5.96	114	98.0	1.63	1.40	12	ISO 5	CCC	166
			100/50	5.96	99	85.1	1.50	1.29	0	ISO 5	CCC	166
			100/60	5.96	114	98.0	1.57	1.35	0	ISO 5	CCC	166
		EMYS 45 CLP	100/50	5.96	99	85.1	1.57	1.35	12	ISO 5	CCC	166
			100/60	5.96	114	98.0	1.65	1.42	12	ISO 5	CCC	166
		EMYS 46 CLC	100/50	7.96	139	119.5	1.57	1.35	20	ISO 5	CCC	158
		EMY 46 CLP	220~240/50	7.96	142	122.1	1.60	1.38	0	ISO 5	CCC	166
		EMYS 46 CLP	220~240/50	7.96	142	122.1	1.60	1.38	4	ISO 5	CCC	166
		EMY 46 CLP	220~240/50	7.96	142	122.1	1.60	1.38	4	ISO 5	CCC/VDE	166
		EMY 55 CLP	220~240/50	9.05	162	139.3	1.60	1.38	4	ISO 5	CCC/VDE	166
	EMR	EMR 32 CLP	220~240/50	5.96	100	86.0	1.68	1.44	2.5	ISO 5	CCC/VDE	166
		EMR 40 CLP	220~240/50	7.24	128	110.1	1.68	1.44	4	ISO 5	CCC/VDE	166
		EMR 46 CLP	220~240/50	7.96	142	122.1	1.66	1.43	4	ISO 5	CCC/VDE	166
		EMR 55 CLP	220~240/50	9.05	165	141.9	1.67	1.44	4	ISO 5	CCC/VDE	166
R600a	EMS	EMS 32 CLP	220~240/50	5.96	100	86.0	1.71	1.47	2.5	ISO 5	CCC	158
		EMS 40 CLP	220~240/50	7.24	128	110.1	1.75	1.51	4	ISO 5	CCC	158
	EMZ	EMZ 32 CLP	220~240/50	5.96	100	86.0	1.71	1.47	2.5	ISO 5	CCC	166
		EMZ 40 CLP	220~240/50	7.24	128	110.1	1.72	1.48	4	ISO 5	CCC/VDE	166
		EMZ 66 CLP	220~240/50	10.61	190	163.4	1.74	1.50	4	ISO 5	CCC/VDE	171
	EMX	EMX 32 CLC	220~240/50	5.96	102	87.7	1.78	1.53	2.5	ISO 5	CCC	166
		EMX 40 CLC	220~240/50	7.24	128	110.1	1.80	1.55	4	ISO 5	CCC	166
	EMM	EMM 32 CLC	220~240/50	5.96	98	84.3	1.86	1.60	2.5	ISO 5	CCC	166
	EMB	EMB 32 CLC	220~240/50	5.96	103	88.6	1.88	1.62	2.5	ISO 5	CCC/VDE	166
		EMB 40 CLC	220~240/50	7.24	128	110.1	1.90	1.63	3	ISO 5	CCC/VDE	171
		EMB46CLC	100/50	7.96	139	119.5	1.67	1.44	20	ISO 5	CCC	166
			100/60		158	135.9	1.70	1.46				
		EMB 46 CLC	220~240/50	7.96	142	122.1	1.90	1.63	4	ISO 5	CCC/VDE	171
		EMB 55 CLC	220~240/50	9.05	162	139.3	1.88	1.62	4	ISO 5	CCC/VDE	171
		EMB 66 CLC	220~240/50	10.61	190	163.4	1.82	1.57	4	ISO 5	CCC/VDE	171
			220~240/50	10.61	190	163.4	1.87	1.61	4	ISO 5	CCC/VDE	171
		EMB46CLC	100/50	7.96	139	119.5	1.67	1.44	20	ISO 5	CCC	166
		EMB 55 CLC	100/50	9.05	158	135.9	1.66	1.44	20	ISO 5	CCC	171
			100/60	9.05	179	153.9	1.72	1.49	20	ISO 5	CCC	171
	EMC	EM2C 32 CLT	220~240/50	5.96	98	84.3	1.93	1.66	2.5	ISO 5	CCC/VDE	171
		EM2C 40 CLT	220~240/50	7.24	124	106.6	1.94	1.67	3	ISO 5	CCC	171
	EMD	EMD 32 CLT	220~240/50	5.96	98	84.0	1.96	1.68	2.5	ISO 5	CCC	171
					85(#)	73#)	2.12(#)	1.82(#)				
		EMD 80 CLT	220~240/50	12.21	222	190.9	1.89	1.63	5	ISO 5	CCC/VDE	171
	EME	EME 32CLT	220~240/50	5.96	99	85.0	2.03	1.75	2.5	ISO 5	CCC/VDE	171
					87(#)	75(#)	2.15(#)	1.85(#)				

注：(#)：中国工况下 /in China system condition (-28/40℃)

EM 产品系列
EM Product Line

家用压缩机性能参数
Technical Data of Household Compressors

制冷剂 Refrigerant	系列 Series	型号 Model	电压 / 频率 Vol./Freq.	汽缸容积 Displacement	性能参数 Performance				运行电容 Capacitor	油粘度 Oil Viscosity	认证 Certification	高度 Height "A"
					冷量 Capacity		效率 COP					
			V/Hz	cm^3	W	Kcal/h	W/W	kcal/wh	μF			mm
R134a	EMT	EMT 40 HLP	200~240/50	4.15	130	111.8	1.30	1.12	0	ISO 22	CCC/(VDE)	158
		EMT 45 HLP	220~240/50	4.85	145	124.7	1.40	1.20	0	ISO 22	CCC/VDE	158
		EMT55HLC	200~240/50	5.20	155	133.3	1.43	1.23	5	ISO 22	CCC / VDE	166
		EMT65HLC	200~240/50	5.96	182	156.5	1.38	1.19	5	ISO 22	CCC / VDE	166
	EMU	EMU 45 HLP	220~240/50	4.85	145	124.7	1.50	1.29	4	ISO 22	CCC/VDE	158
		EMU 55 HLP	220~240/50	5.20	160	137.6	1.50	1.29	4	ISO 22	CCC/VDE	166
		EMU 65 HLP	220~240/50	5.96	185	159.1	1.47	1.26	0	ISO 22	CCC/VDE	166
		EMU 45 HLP	200~230/50	4.85	145	124.7	1.44	1.24	0	ISO 22	CCC/VDE	166
		EMU 55 HLP	200~230/50	5.20	160	137.6	1.44	1.24	0	ISO 22	CCC/VDE	166
		EMU 60 HEP	115/60	4.85	178	153.1	1.52	1.31	12	ISO 10	UL	166
		EMU 65 HLP	200~230/50	5.96	185	159.1	1.44	1.24	0	ISO 22	CCC/VDE	166
	EMY	EMY 55 HLC	220~240/50	5.20	160	137.6	1.60	1.38	4	ISO 7	CCC/VDE	166
		EMY 65 HLC	220~240/50	5.96	185	159.1	1.60	1.38	4	ISO 7	CCC/VDE	166
		EMY 75 HLC	220~240/50	7.00	215	184.9	1.60	1.38	4	ISO 7	CCC/VDE	171
			200~230/50	7.00	222	190.9	1.52	1.31	4	ISO 22	CCC/VDE	171
		EMY 55 HLC	200~230/50	5.20	158	135.9	1.68	1.44	5	ISO 7	CCC/VDE	171
			200~230/60		185	159.1	1.68	1.44				
		EMY 65 HLC	200~230/50	5.96	180	154.8	1.67	1.44	5	ISO 7	CCC/VDE	171
			200~230/60		208	178.9	1.66	1.43				
		EMY 75 HLC	200~230/50	7.00	215	184.9	1.50	1.29	5	ISO 7	CCC/VDE	171
			200~230/60	7.00	254	218.4	1.62	1.39				
	EMR	EMR 40 HLC	220~240/50	4.15	110	94.6	1.65	1.42	4	ISO 7	CCC/VDE	171
		EMR 50 HLC	200~230/50	4.85	150	129.0	1.70	1.46	4	ISO 22	CCC/VDE	171
		EMR 60 HLC	200~230/50	5.54	170	146.2	1.70	1.46	4	ISO 22	CCC/VDE	171
	EMU	EMU 55 HLP	115/60	4.15	142	122.1	1.46	1.26	0	ISO 7	CCC/UL	158
	EMY	EMY 50 HLP	115/60	4.15	140	120.4	1.60	1.38	12	ISO 7	CCC/UL	158
		EMY 55 HLP	115/60	4.50	160	137.6	1.60	1.38	12	ISO 7	CCC/UL	158
		EMY 60 HLP	115/60	4.85	175	150.5	1.60	1.38	12	ISO 7	CCC/UL	166
	EMH	EMH 60 HER	115~127/60	5.19	189	162.5	1.47	1.26	0	ISO 7	CCC /UL	166
	EM2	EM2Y60HLP	115/60	5.54	192	165.1	1.65	1.42	12	ISO 10	CCC /UL	166
		EM2Z60HLT	115/60	5.54	198	170.3	1.72	1.48	12	ISO 10	CCC /UL	171
		EM2Z80HLT	115/60	6.76	240	206.4	1.76	1.51	12	ISO 10	CCC /UL	171
	EM3	EM3Y60HLP	115/60	5.19	188	161.7	1.69	1.45	12	ISO 10	UL	171

EM 产品系列
EM Product Line

商用压缩机性能参数
Technical Data of Commercial Compressors

制冷剂 Refrigerant	系列 Series	型号 Model	应用工况 Application	电压 / 频率 Vol./Freq.	汽缸容积 Displacement	性能参数 Performance				运行电容 Capacitor	油粘度 Oil Viscosity	认证 Certification	高度 Height "A"
						冷量 Capacity		效率 COP					
				V/Hz	cm^3	W	Kcal/h	W/W	kcal/wh	μF			mm
R290	EMT	EMT 2121 U	VLBP	220~240/50	5.56	265	227.8	1.53	1.32	47(*)	ISO 22	CCC/VDE	166
		EMT 2125 U	VLBP	220~240/50	5.96	295	253.7	1.48	1.28	57(*)	ISO 22	CCC/VDE	166
	EM2X	EM2X1121U	VLBP	220~240/50	5.54	265	227.9	1.78	1.53	5	ISO 10	CCC/VDE	171
		EM2X1125U	VLBP	220~240/50	6.09	302	259.7	1.76	1.51	5	ISO 10	CCC/VDE	171
	EMTE	EMTE2134U	VLBP	220~240/50	9.50	433	372.4	1.41	1.21	98(*)	ISO 22	CCC/VDE	171
		EMTE6181U	MBP	220~240/50	7.55	998	858.3	2.67	2.3	98(*)	ISO 22	CCC/VDE	171
R134a	EMT	EMT 6170 Z	HBP	220~240/50	7.96	806	693.2	2.26	1.94	57(*)	ISO 22	CCC/VDE	166
		EMT 6170 Z	HBP	100/50	7.96	803	690.6	2.67	2.30	20/98(*)	ISO 22	CCC	171
			HBP	100/60	7.96	922	792.9	2.54	2.18	20/98(*)	ISO 22	CCC	171
		EMT 45 HDR	HBP	220~240/50	4.15	435	374.1	2.62	2.25	70(*)	ISO 22	CCC/VDE	166
		EMT 45HLR	LBP	220~240/50	4.85	146	125.6	1.31	1.13	0	ISO 22	CCC/VDE	166
		EMT 55HLR	LBP	220~240/50	5.19	153	131.6	1.35	1.16	0	ISO 22	CCC/VDE	166
		EMT 65HLR	LBP	220~240/50	5.96	175	150.5	1.30	1.12	0	ISO 22	CCC/VDE	166
		EMT 6160 Z	HBP	220~240/50	6.99	701	602.9	2.26	1.94	57(*)	ISO 22	CCC/VDE	166
	EMS	EMS 6170 Z	HBP	220~240/50	7.96	806	693.2	2.18	1.87	57(*)	ISO 22	CCC	166
	EMTE	EMTE6187Z	HBP	220~240/50	9.50	943	811.0	2.52	2.17	98(*)	ISO 22	CCC/VDE	171
R1234yf	EMT	EMT 6170 L	HBP	100/50	7.96	803	690.6	2.67	2.30	20/98(*)	ISO 22	CCC	171
			HBP	100/60	7.96	922	792.9	2.54	2.18	20/98(*)	ISO 22	CCC	171

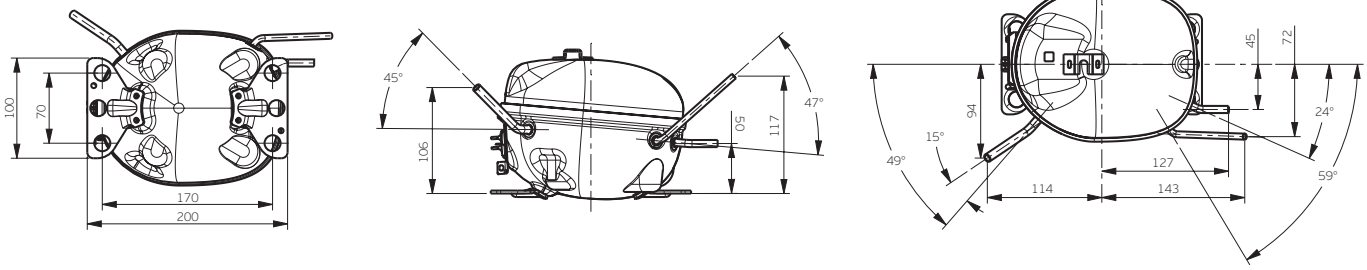
注：(*)：启动电容 Start capacitor
(#)：中国工况下 /in China system condition (-28/40℃)

安装信息

INSTALL INFORMATION

VES 变频科技产品系列
VES Fullmotion Product Line

VES 外观图 /VES External Views

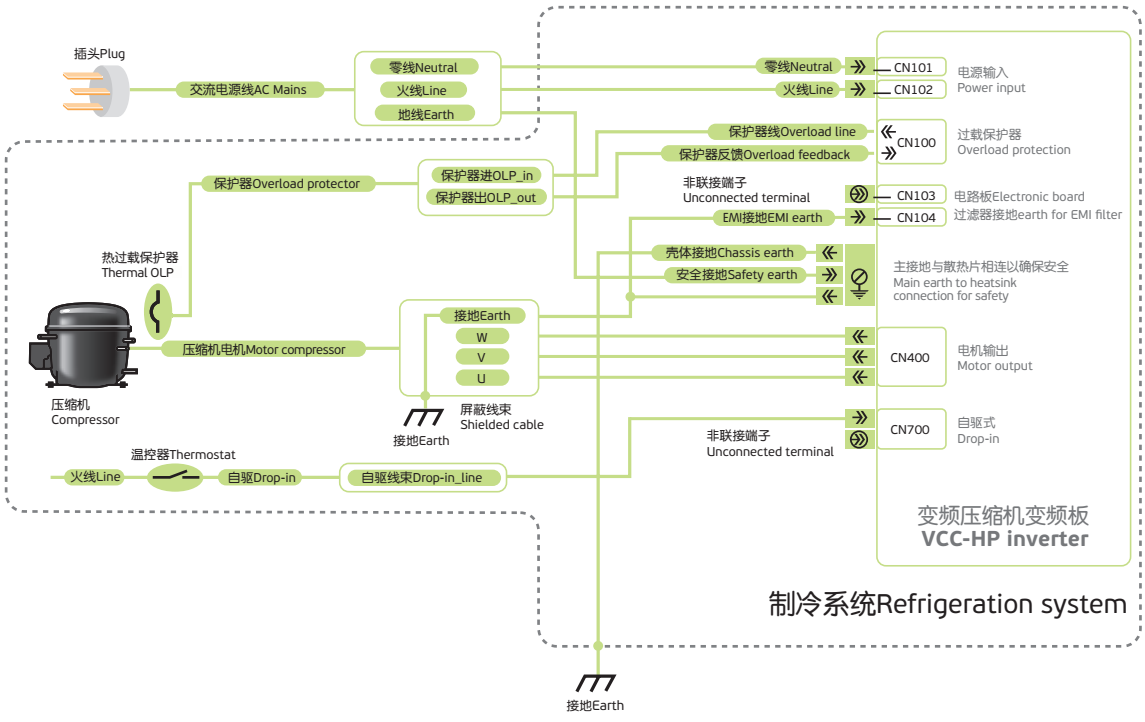


VES 连接图 /VES Connections

启动变频压缩机应用
Turning on your VCC Applications

属性 /Features	控制模式 /Control models		
	自驱式 /Drop-in	频率控制式 /Frequency	串口通信式 /Serial
是否满足机械温控应用场合（开停式） Able for mechanical thermostat contact (on/off)	是 Yes	否 No	否 No
由变频板决定最佳转速 Inverter decides the best speed	是 Yes	否 No	否 No
由温控器控制最佳转速 Thermostate decides the best speed	否 No	是 Yes	是 Yes
变频板能否反馈性能参数（功率，电压，故障） Inverter send functional datas (power, voltage, fails)	否 No	否 No	是 Yes

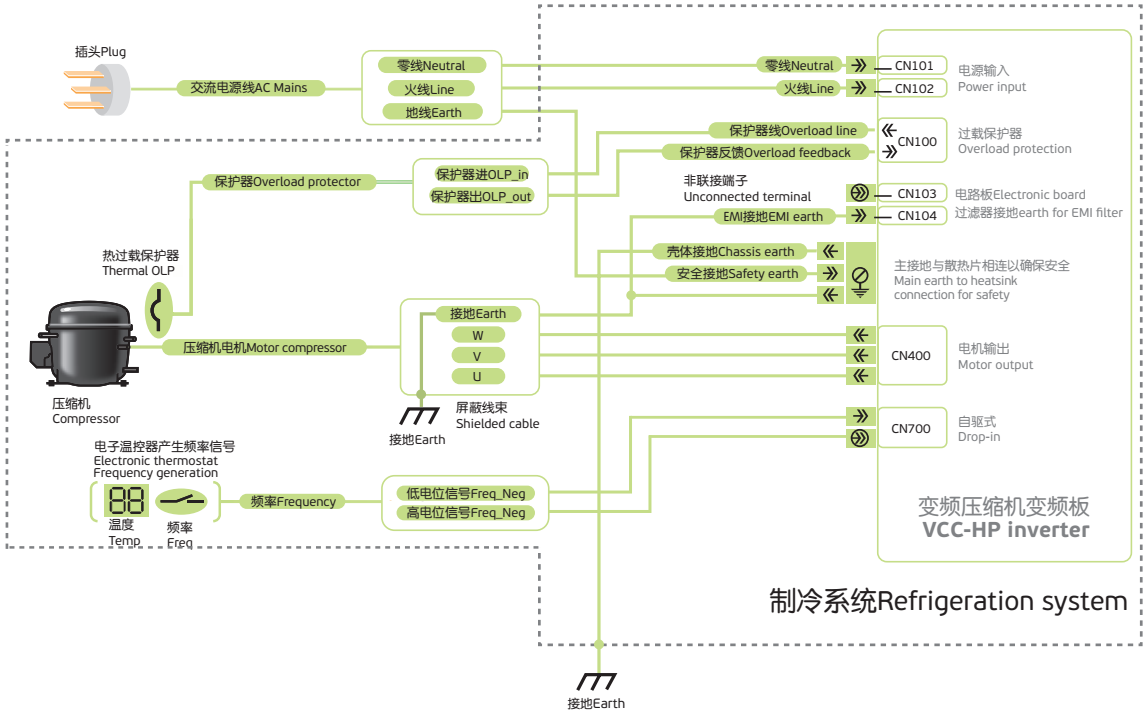
自驱控制式联接方式 /Drop-in mode Connections



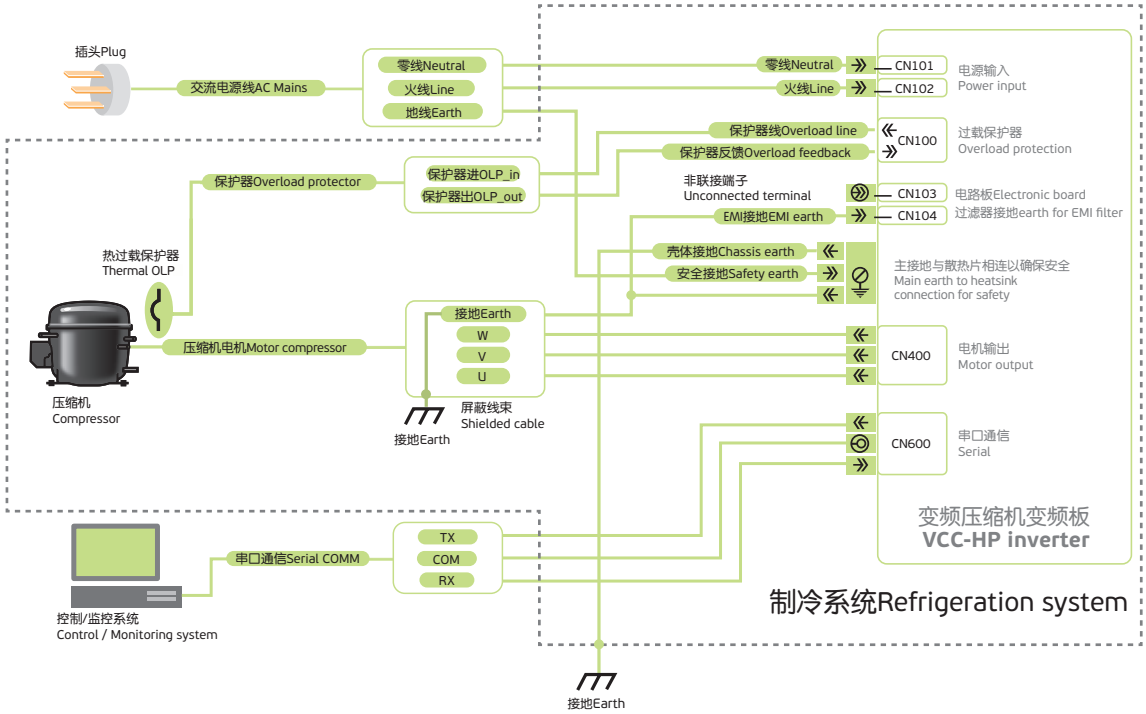
VES 变频科技产品系列
VES Fullmotion Product Line

VES 连接图 /VES Connections

频率控制联接方式 /Frequency mode Connections

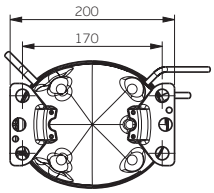


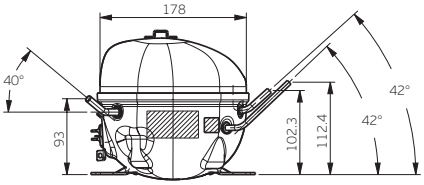
串口控制联接方式 /Serial mode Connections

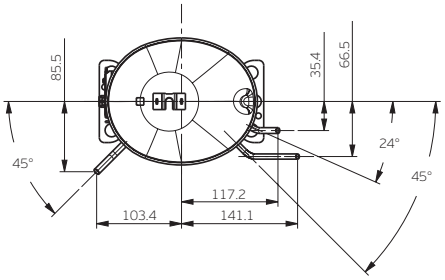


EM 产品系列
EM Product Line

EM 外观图（可多种选择）/EM External Views

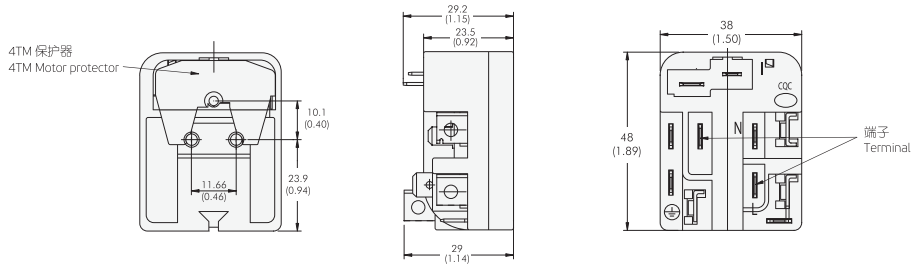






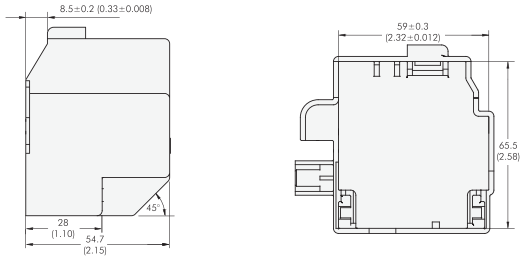
附件图纸 /Components Drawings

组合式接线盒 /PTC (COMBO)



单位：毫米（英寸）
Unit: mm (inches)

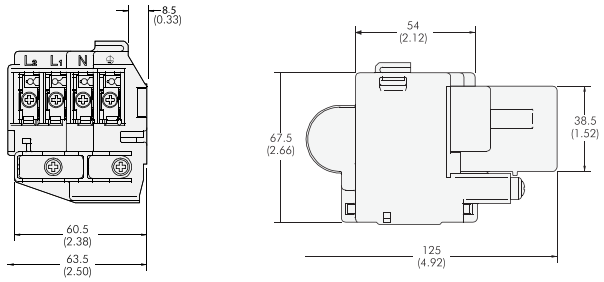
盒盖 4TM 组合与 TSD/Cover (4TM COMBO & TSD)



材质 /Material	改性聚苯醚 Poli-Feniene OXID
UL 可燃性级别 UL flammability classification	UL-94 V-0
颜色 /Color	黑 /Black

单位：毫米（英寸）
Unit: mm (inches)

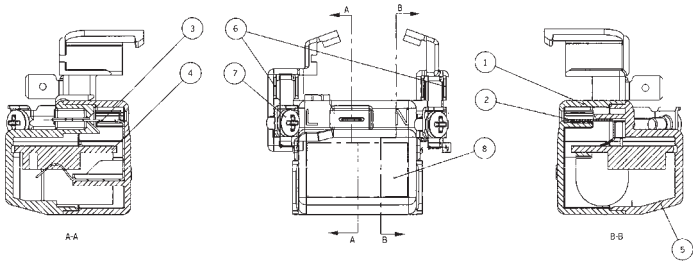
接线盒 /Terminal board



材质 /Materials	变性聚苯醚 /MPPO
盒体 /Body	Noryl: PX9406 J
颜色 /Color	灰 /Gray
UL 可燃性级别 UL flammability classification	UL-94 V-0
端子尺寸 /Terminal size	6.3 x 0.8mm or 4.8 x 0.8mm

单位：毫米（英寸）
Unit: mm (inches)

TSD



位置 Pos.	命名	Denomination
1	盒体	Body
2	连接端子	Connection terminal
3	连接端子	Connection terminal
4	220V 电路板	Electronic board 220V
5	盒盖	Cover
6	连接端子	Connection terminal
7	螺栓	Screw
8	盒体	Body

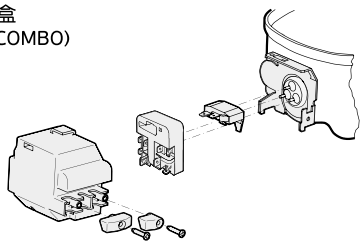
EM 产品系列
EM Product Line

接线图 /Electrical Drawings

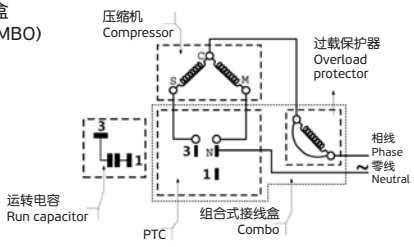
下面这张图里的压缩机都配备单相、双极，RSIR 或 RSCR（带运行电容）、CSIR（带启动电容）、CSCR（既带启动电容又带运行电容）、低启动力矩（LST）的电机，可应用于毛细管节流系统，要求在平衡压力下启动。

The compressors in this chart are equipped with monophase, two poles, RSTR or RSCR (with capacitor), CSIR(with run capacitor), CSCR (with start capacitor and run capacitor), Low starting torque (LST) motors, suitable to use with capillary tubes systems, requiring equalized pressures to start.

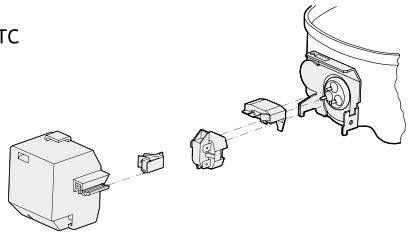
组装–组合式接线盒
Assembly - PTC (COMBO)



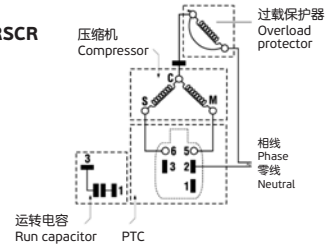
接线 – 组合式接线盒
Diagram - PTC (COMBO)
CSIR/RSCR



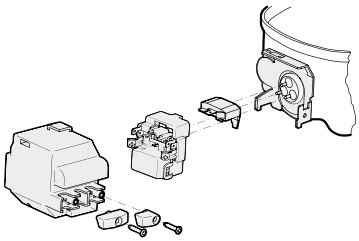
组装–PTC
Assembly - PTC



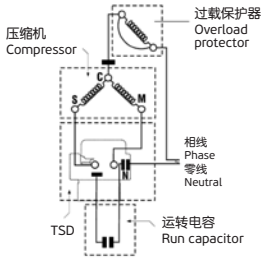
接线 – PTC
Diagram - PTC **CSIR/RSCR**



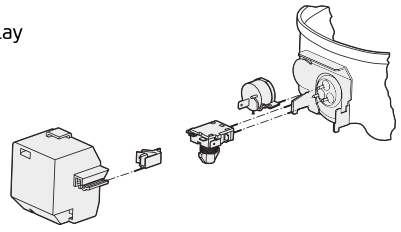
组装–TSD
Assembly - TSD



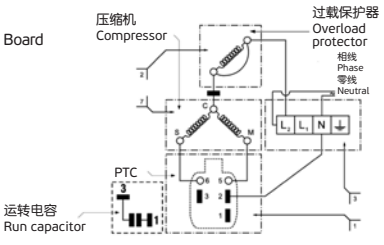
接线 – TSD
Diagram - TSD **RSCR**



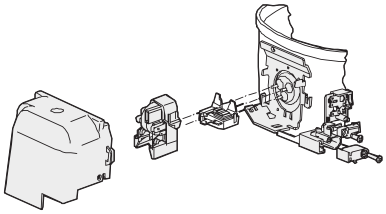
组装–继电器
Assembly - Relay



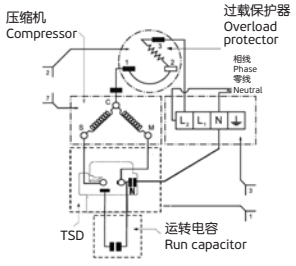
接线 – PTC 接线座
Diagram - PTC with Terminal Board
CSIR/RSCR



组装–TSD
Assembly - TSD

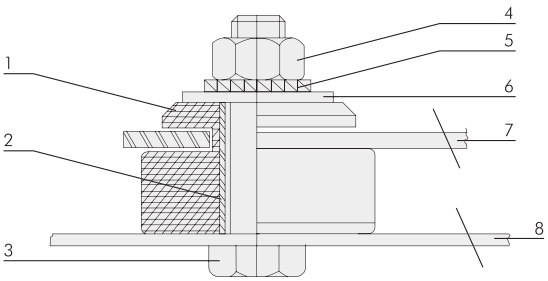


接线 – TSD 接线座
Diagram - **TSD** with Terminal Board
RSCR



EM 产品系列
EM Product Line

组装附件 /Mounting Accessories



编号 Number	附件 Component	规格 Specification
1	胶脚 Rubber grommet	H: 16.5±0.5
2	金属衬套 Spacer (metal bushing)	H: 17.0±0.5
3	螺栓 Fixing bolt	M6x30
4	螺母 Hexagon nut	M6
5	外齿垫圈 Washer with ext.teeth	ø 6.4
6	平垫圈 Flat washer	ø 6.4
7	底脚板 Compressor base plate	
8	安装底板 Mounting base	

一般技术参数
General Technical Information

1. 启动、运转电压

压缩机能在 0.3Mpa（R-600a、表压）或 0.6Mpa（R-134a、表压）或 0.77Mpa （R290、表压）平衡压力下在标称电压的 85% 下启动。在不同的系统工况下可在 170V~240V 的电压下运转。

2. 电机

本手册里的压缩机都配备单相、双极，RSIR 或 RSCR（带运行电容）、CSIR（带启动电容）、CSCR（既带启动电容又带运行电容）、低启动力矩（LST）的电机，可应用于毛细管节流系统，要求在平衡压力下启动。

3. 附件发货条件

3.1 压缩机带油并充干燥空气保压
3.2 提供附件（如胶脚、启动 PTC、PTC 盖、过载保护器等），但不组装在压缩机上

4. 搬运

压缩机不能倒置或倾斜储存
压缩机必须平放安装

5. 注意事项

压缩机胶堵的拔出顺序必须为排气管、吸气管、工艺管。
压缩机经过抽真空状态后不能通过高压电或进行启动试验。
压缩机内不得注入防冻剂；防冻剂对绝缘材料有各种影响。
胶堵只应在焊接三管前拔掉。

1. Starting and operating condition voltage

The EM compressors can start at 85% nominal voltage, with equalized pressures of up to 0.3Mpa (R-600a, gauge pressure), 0.6Mpa (R-134a,gauge pressure), 0.77Mpa (R-290, gauge pressure), Depending on the working conditions and systems characteristics, the compressor can operate at voltages as low as 170V and as high as 240V.

2. Motor

The compressors in this chart are equipped with monophase, two poles, RSIR or RSCR (with run capacitor), CSIR (with start capacitor), CSCR (with start capacitor and run capacitor), low starting torque (LST) motors, suitable to use with capillary tubes systems, requiring equalized pressures to start.

3. Delivery conditions of accessory parts

3.1 Compressors are delivered with oil and holding charge of dry air.
3.2 Other components, eg. Rubber grommets, starting PTC, PTC cover, overload protector and spacers are supplied not assembled to the compressor.

4. Handling

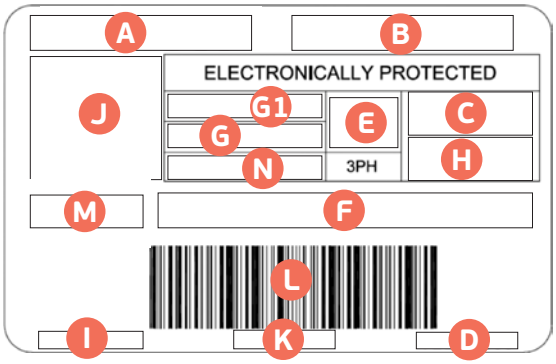
Compressor must not be turned upside down or inclined for storage. Compressor must be mounted in the upright position.

5. Warnings

The sequence of removing the "rubber plug", should be discharge tube, process tube and suction tube.
Compressor must not be subjected to high voltage or starting test while under vacuum.Compressor must not be charged with antifreeze agents,as their use can have adverse effects on the insulating materials. Plugs should only be removed immediately before brazing connectors to system tubes.

标牌信息
Identification Label

VES 系列



- A 商标 /Embraco's logo
- B 压缩机型号 /Compressor model
- C 电压 /Voltage
- D 序列号 /Sequential number
- E 制冷剂类型 /Type of refrigerating gas
- F PTC 使用警告 /PTC use warning
- G 堵转电流 /LRA (Locked rotor Amperage)
- G1 额定负载电流 /RLA (Rated load amperes)
- H 频率 /Frequency
- I 产品编号 /Code of the product
- J 认证符号 /Field reserved for approval symbols
- K 生产及生产日期标记 /Plant and manufacturing date indication
- L 条形码 /Bar code
- M 吸气管方向指示 /Suction line indicator
- N 油类型及注油量 /Oil type and oil charge indication

EM 系列

- A 商标 /Embraco's logo
- B 压缩机型号 /Compressor model
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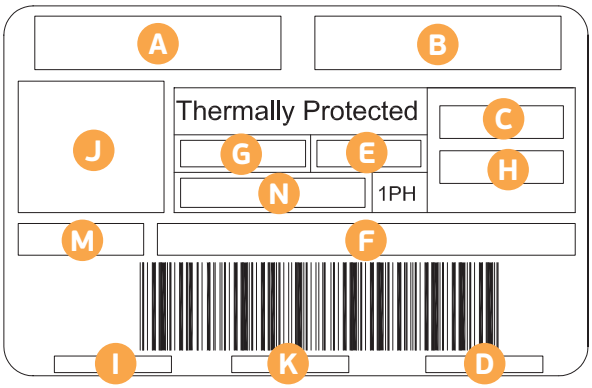
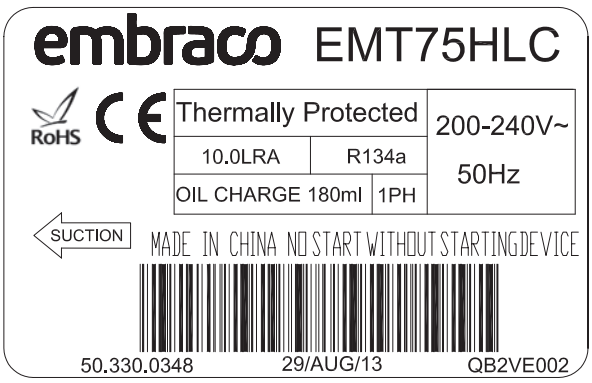




压缩机包装信息
Compressor Packing

包装代码 /Packing Code

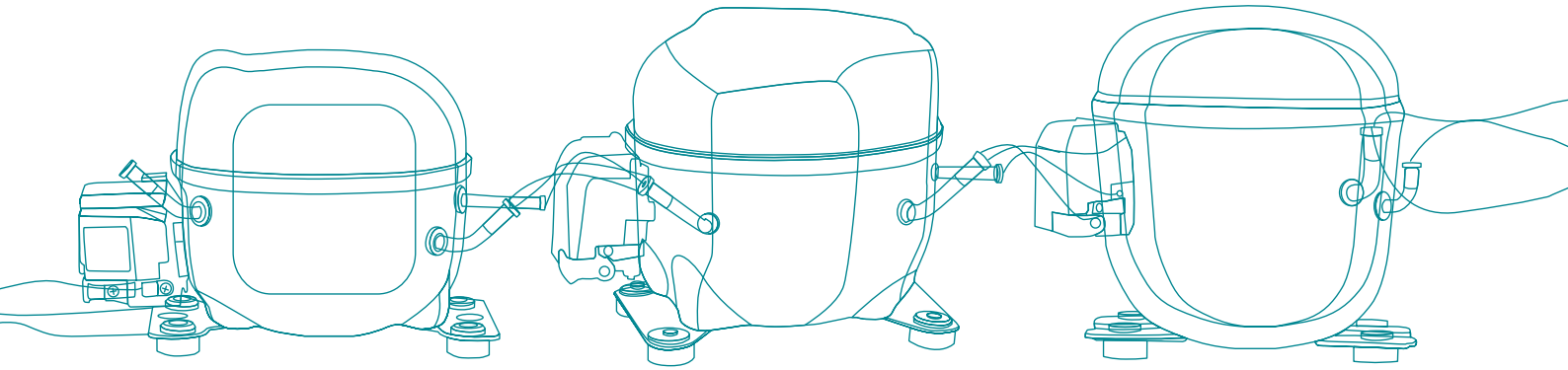
VES				
单台多台包装 SINGLE MUTIPLE PACK	代码 CODE	压缩机数量 QTY COMPRESSORS	包装层数 LAYERS	备注 NOTES
单台包装 /SINGLE PACK	A	1	-	纸箱 /Carbon box.
多台包装 /MULTIPLE PACK	E	120	20+20+20+20+20+20	出口，EPS 内部框架 /Export, EPS internal frame.
	U	120	20+20+20+20+20+20	国内，EPS 内部框架 /Domestic, EPS internal frame.

EM				
单台多台包装 SINGLE MUTIPLE PACK	代码 CODE	压缩机数量 QTY COMPRESSORS	包装层数 LAYERS	备注 NOTES
单台包装 /SINGLE PACK	A	1	-	纸箱 /Carbon box.
多台包装 /MULTIPLE PACK	E	100	20+20+20+20+20	出口，EPS 内部框架 /Export, EPS internal frame.
	U	100	20+20+20+20+20	国内，EPS 内部框架 /Domestic, EPS internal frame.
	P	100	20+20+20+20+20	出口，木制内部框架 /Export, wooden internal frame.

商用 /Commercial				
单台多台包装 SINGLE MUTIPLE PACK	代码 CODE	压缩机数量 QTY COMPRESSORS	包装层数 LAYERS	备注 NOTES
单台包装 /SINGLE PACK	A	1	-	纸箱 /Carbon box.
多台包装 /MULTIPLE PACK	E	100	20+20+20+20+20	出口，EPS 内部框架 /Export, EPS internal frame.
	U	100	20+20+20+20+20	国内，EPS 内部框架 /Domestic, EPS internal frame.

Remark:
可以根据客户的需要安装，电器附件和胶脚不安装。
Not to install electrical components and rubber grommets are standard，but can be installed according to customer needs.

20 尺集装箱包装参数 /Load Characteristics for 20' container

SERIES	第一层压机数量 FIRST LAYER PACK N-N COMP.	第二层压机数量 SECOND LAYER PACK N-N COMP.	压缩机总数 TOTAL N OF COMPRESSORS
VES	12-120	9-120	2520
EM	14-100	12-100	2600
Commercial	14-100	12-100	2600

Remark:
不同的装载结构是由客户的需求 (有或没有配件 / 装不装变频板) 和不同港口装载能力决定。
The different load structure is determined by the demand from customer (with or without accessaries / mounted inverter or not) and the loading ability in different ports.