



RE-MI Series

*Permanent magnet motor &
Variable volume ratio
High COP & IPLV & SEER*

*Screw compressor dedicated to:
R134a, R513A, R450A
R1234ze, R1234yf, R515B*

RE-MI Series

Permanent Magnet VFD Screw Compressor



5580 Enterprise Pkwy., Fort Myers, FL 33905 Office (239) 694-0089 Fax: (239) 694-0031

www.mcscontrols.com

RE-MI Series Permanent Magnet VFD Screw Compressor

RE-MI Series adopts the latest screw rotor profiles, permanent magnet VFD motor, and variable volume ratio mechanism. These three main features maximize the operation efficiency regardless of full load or partial load. Its technical characteristics are as below:

High-efficiency screw rotor profile:

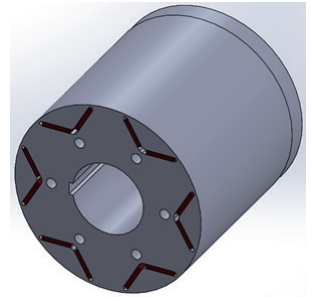
Low leakage rate achieves the optimal compression volumetric efficiency at full load.

High efficiency permanent magnet motor:

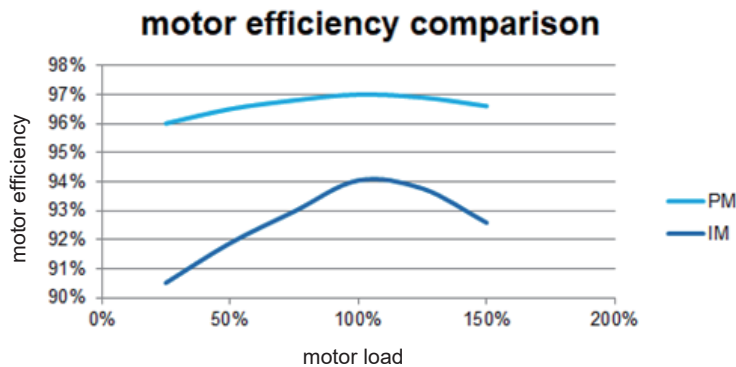
The new self-developed permanent magnet VFD motor ensures that RE-MI Series achieves optimal operation efficiency under full load or partial load.

1. Comparing with induction motors, the features of permanent magnet motors are without speed slip and with lower motor temperature. The motor has no speed slip to increase about 3% of motor efficiency at full load and the lower motor temperature reduces ineffective suction overheating to improve the volumetric efficiency.

2. Not only the efficiency of PM motor under full load, but also under partial load, the motor efficiency is higher than the induction motor under both operation status.



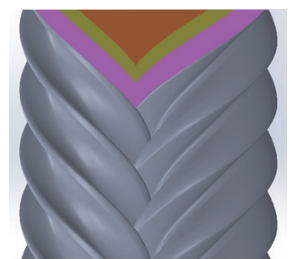
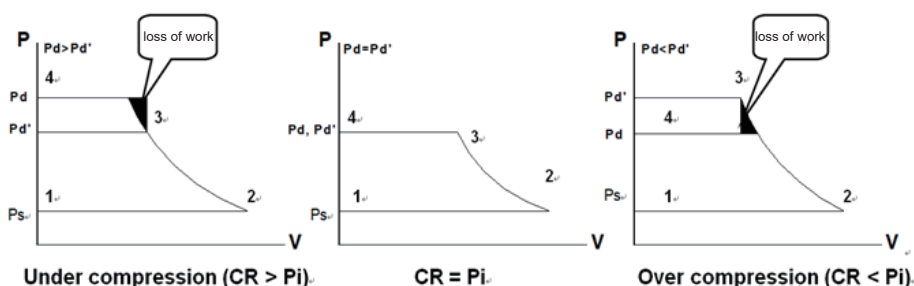
▲ Hanbell High efficiency permanent magnet motor



- The volume and weight of PM motors are smaller and lighter than induction motors under the same power output of motor spec., so the vibration level is improved at high motor speed outstandingly.
- RE-MI series compressor operating with external inverter, so the capacity modulation is more accurate with higher operation efficiency. VFD application not only reduces the starting current but also reduces the frequent starts/stops of compressor operation to make motor's life longer.
- The Maximum frequency of RE-MI is 4200 rpm, so chiller portfolios become more flexible and more competitive in markets.

Variable volume ratio mechanism

When the cooling water temperature or ambient temperature changed, the high pressure of system will be also changed accordingly. RE-MI series compressor adjusts the volume ratio of the internal mechanism automatically according to the different pressure differential to optimize the efficiency of the compression process without over-compression or under-compression. The variable volume ratio with VFD application achieves the maximum operation efficiency in different seasons or working condition.



▲ Different discharge ports (different VI) of slide valve

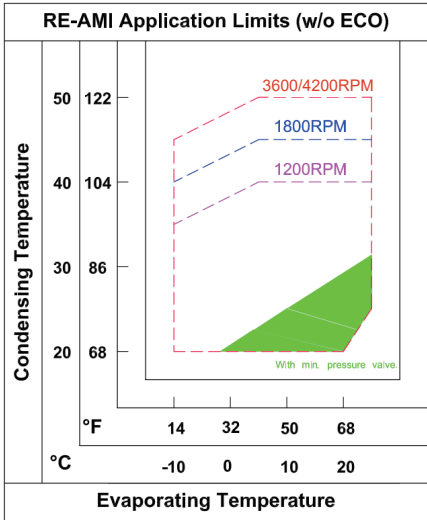
RE-MI Compressor specifications

MODEL	COMPRESSOR			MOTOR			LUBRICANT CHARGE	WEIGHT	
	Displacement at 3,600 RPM	Rotation Speed Range	Vi Control	Nominal HP		Starting			Primary Voltage
	m ³ /hr	rpm	Step	A motor	B motor				V
RE-340A(P)MI	423	1200 ~ 3600	Low Mid High	VFD Starting	380 ~ 480	80	108	16	550
RE-340B(P)MI									
RE-380A(P)MI	471					90	122	16	570
RE-380B(P)MI									
RE-420A(P)MI	501					97	146	16	600
RE-420B(P)MI									
RE-480A(P)MI	579					107	166	17	630
RE-480B(P)MI									
RE-550A(P)MI	666					131	185	19	670
RE-550B(P)MI									
RE-620A(P)MI	752					146	215	23	870
RE-620B(P)MI									
RE-710A(P)MI	857					166	233	26	920
RE-710B(P)MI									
RE-820A(P)MI	987					196	257	28	1050
RE-820B(P)MI									
RE-920A(P)MI	1112	215	298	28	1135				
RE-920B(P)MI									
RE-1050A(P)MI	1254	241	322	40	1480				
RE-1050B(P)MI									
RE-1150A(P)MI	1374	264	354	40	1500				
RE-1150B(P)MI									

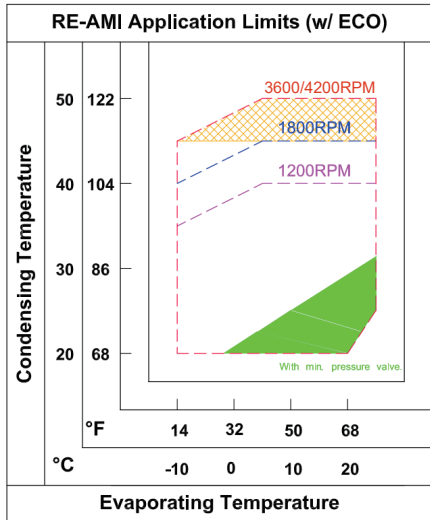
Note:

1. Motor type: 3 phase, 6 pole permanent-magnet synchronous motor
2. Motor insulation: Class F
3. Motor protection: PTC Motor temperature thermistor, PT1000/PT100 Motor temperature sensor (Optional)
4. Allowable pressure : 21kgf/cm²G
5. Pneumatic pressure test: 26kgf/cm²G
6. RE-APMI / RE-BPMI without lubricant
7. The nominal motor hp is not equal to the maximum compressors hp. Please refer to the output of Hanbell selection software for operation current and at chiller designed conditions to select the capacity of Inverter, magnetic contactor, cable size, fuse, wire and relays...etc

RE-340AMI ~ RE-1150AMI (R134a/R513A/R450A/R1234yf)

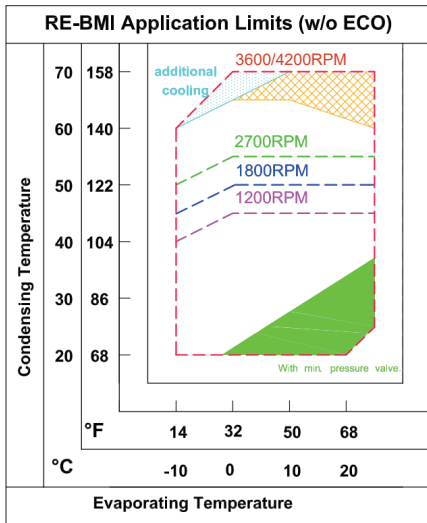


RE-340AMI~1150AMI

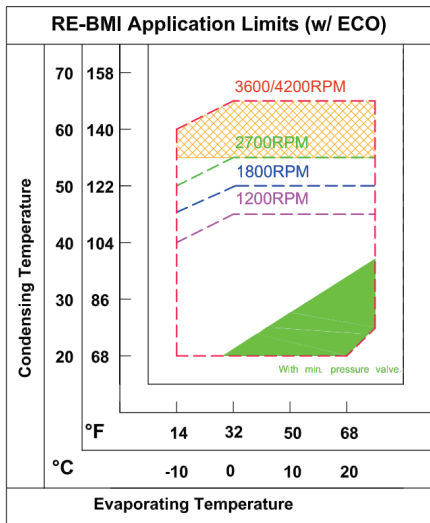


RE-340AMI~1150AMI

RE-340BMI ~ RE-1150BMI (R134a/R513A/R450A/R1234yf)



RE-340~1150BMI



RE-340~1150BMI