

THACOM QUALITY ROTARY COMPRESSORS

INTRODUCTION

Thai Compressor Manufacturing Co. Ltd. (THACOM) was established in 1988.

As a Thai-Japanese joint venture approved by the Thai Board of Investment, it is the first manufacturer of rotary compressors for air-conditioners in Thailand. Production commenced early in 1990.

The compressors are manufactured under licence from Mitsubishi Heavy Industries Ltd. (MHI) which is the major shareholder in the new venture. MHI is one of the world's leading manufacturers of heavy machinery and has more than half a century of experience in the air-conditioning and refrigeration industry.

THACOM is producing the RM series of compressors, offering super 6 quality and reliability, together with quiet operation, compactness, protection against gas leakage and a wide range of applications. These high standards are achieved by ultraprecise machining and an integrated production and quality control system which has already been firmly rooted in THACOM's manufacturing philosophy.

THACOM is dedicated to producing the highest quality rotary compressors to serve the present and future needs of the air-conditioning industry both domestically and internationally.

ADVANTAGES OF ROTARY COMPRESSORS

Six reasons why they are ideal for air-conditioning and heat pump applications

1 Few Moving Parts, Compact

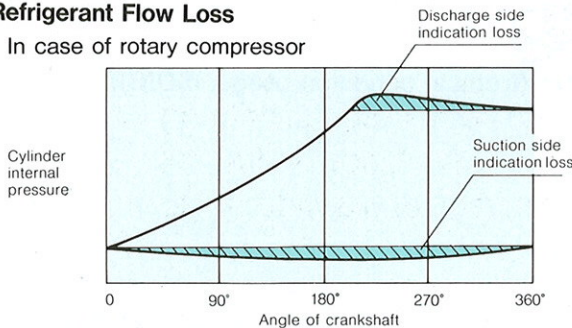
Compared with reciprocating compressors, rotary compressors have fewer moving parts. Furthermore, these moving parts can be balanced more precisely, thus reducing a major cause of vibration. And, since the compressor mechanism and motor are attached directly to the housing, the whole assembly is extremely compact and lightweight.

2 High Efficiency

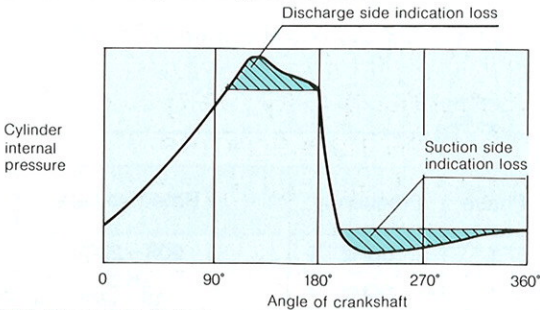
Unlike in reciprocating compressors, compression and suction are carried out through a full 360° range, so refrigerant flow is smooth on both suction and discharge sides, with little flow loss. Discharge valves of superior construction also contribute to high efficiency. Since rotary compressors are direct suction types, superheat loss of suction gas is minimal and compression power is low. This means superior volumetric efficiency.

● Refrigerant Flow Loss

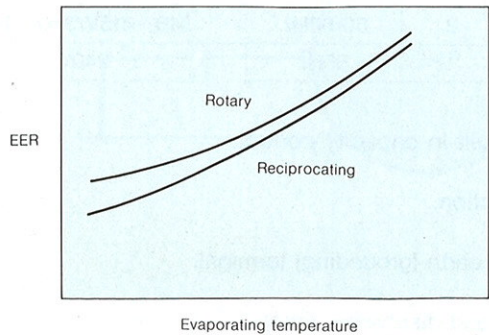
In case of rotary compressor



In case of reciprocating compressor



● EER Characteristics



3 High Reliability

Rotary compressors feature tougher construction than reciprocating types, particularly in the sense that they are more resistant to damage caused by liquid slugging. During liquid compression, the rotary compressor's vane skips the compression stage, letting high side pressure escape to the low side. Accordingly, inner cylinder pressure does not increase as much as in the reciprocating compressor. In THACOM rotary compressors, the vanes are of wear-resistant materials, specially tempered for outstanding durability. In reciprocating compressors, inner cylinder pressure increases excessively during liquid compression, leading to malfunctions such as cracking of valves, blowing of gaskets, and breakage of connecting rods.

■ The number of components used in a rotary compressor is only about half of that in a reciprocating compressor, meaning there are less causes of possible malfunctions.

■ An accumulator at the suction entrance reduces the possibility of liquid slugging. In addition, a 100-mesh net inside the accumulator prevents the intrusion of foreign matter.

4 Easy Noise Suppression

Noise from a rotary compressor is mainly high frequency sound, so noise suppression measures are quite simple.

5 Wide Range of Models

THACOM rotary compressors are available from 1/2 HP to 2 1/2 HP, covering a wide range of applications.

Series	RM-S	RM-M
Output	1/2 - 1 1/5 HP	1 1/3 - 2 1/2 HP

6 Capacity Control Capability

The RM-S and RM-M series have capacity control capability. THACOM compressors offer unloading percentages from 20% to 33%. By using capacity control effectively so the compressor does not stop, improved air-conditioning efficiency and EER will result.

MODEL DESIGNATION SYSTEM

EXAMPLE OF MODEL NUMBER: RM 5 5 12 G N V H E 1
(a) (b) (c) (d) (e) (f) (g) (h) (i) (j)

KEY:

(a) Indicates rotary hermetic compressor series.

RM-S : Inside diameter of housing = 4.13 in (105 mm)
RM-M : Inside diameter of housing = 4.92 in (125 mm)

(b) Application

- ① L.B.P. (−10°F) Normal torque motor
- ② L.B.P. (−10°F) High torque motor
- ③ H.B.P. (45°F) Normal torque motor
- ④ H.B.P. (45°F) High torque motor
- ⑤ AIR-CONDITIONER Normal torque motor
- ⑥ AIR-CONDITIONER High torque motor (tropical condition usage, ISO(B))

- (c) Number of digits in rated 60Hz capacity of compressor (BTU/hr)
- (d) Rated capacity to two significant figures (BTU/hr)
In this example the capacity is 12,000 BTU/hr.
- (e) Type of refrigerant used

A,	B,	C,	D	R-12
E,	F,	G,	H	R-22
J,	K,	L		R-502

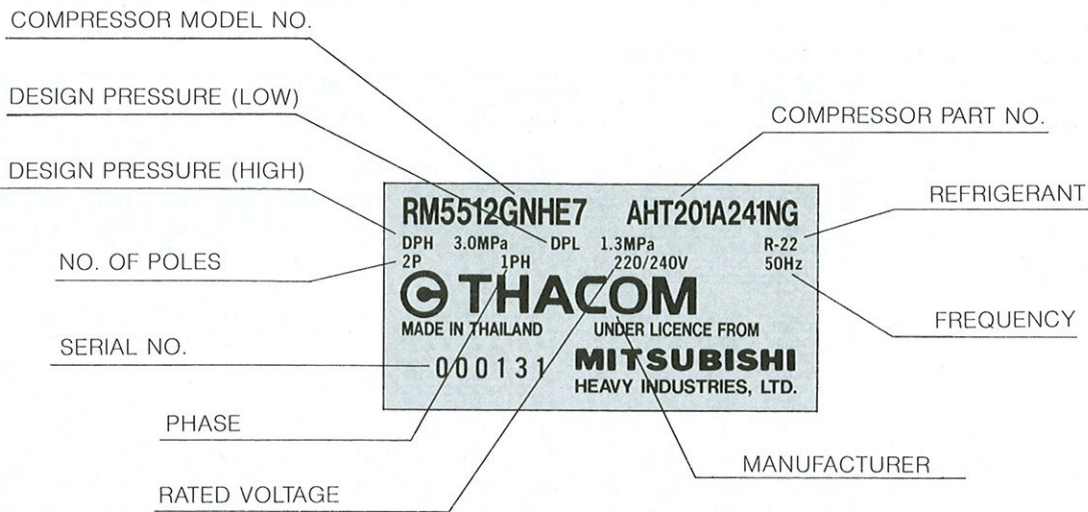
(f) Power source

Letter code	Phase	Frequency	Rated voltage	Letter code	Phase	Frequency	Rated voltage
J	1	50/60Hz	100V	P	1	60Hz	208~230V
K	1	50/60Hz	200V	Q	1	60Hz	(115) 110~120V
L	3	50/60Hz	200V	R	1	50/60Hz	220~240V/(208)220~230V
M	3	50/60Hz	230/208~240V	S	3	50/60Hz	346~415V/380~440V
N	1	50Hz	220V, 220~240V	T	1	50Hz	240V

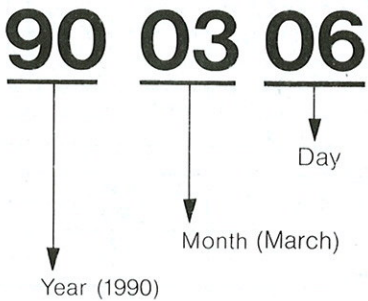
- (g) V indicates built-in capacity control. Absence of V indicates no built-in capacity control.
- (h) H indicates liquid injection. Absence of H indicates no liquid injection.
- (i) E indicates earth (grounding) terminal. Absence of E indicates no earth (grounding) terminal.
- (j) Indicates minor model variations in relation to legs, accumulators and discharge piping.

NAMEPLATE AND DATE

EXAMPLE OF NAMEPLATE



DATE OF PRODUCTION



WIRING DIAGRAM (MOTOR PROTECTION)

