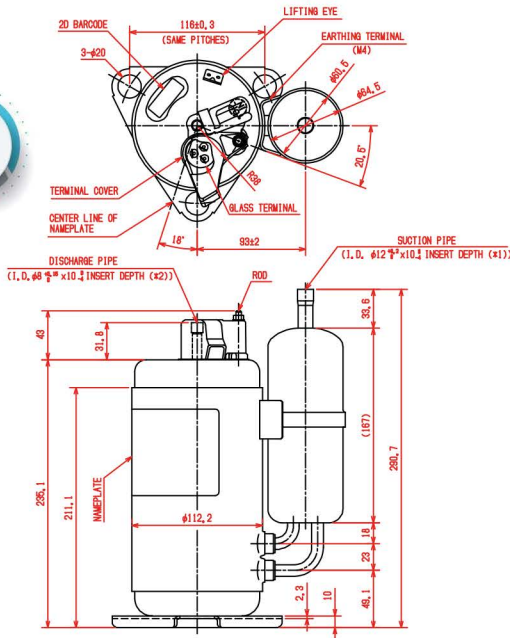
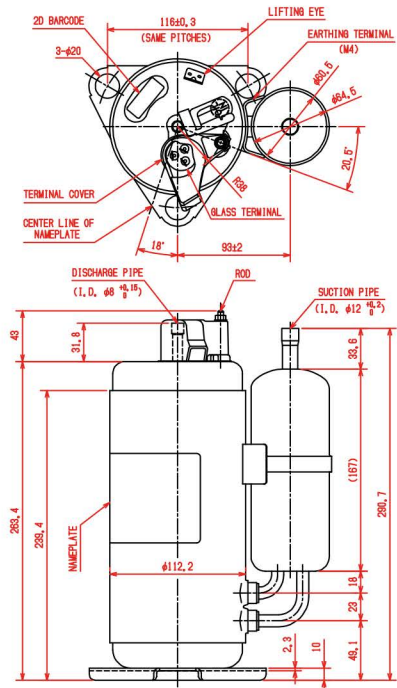


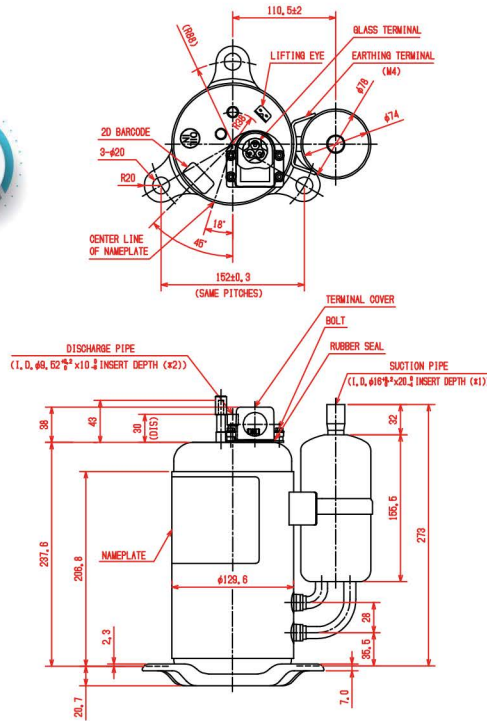
Drawing Number
34



Drawing Number
49



Drawing Number
54



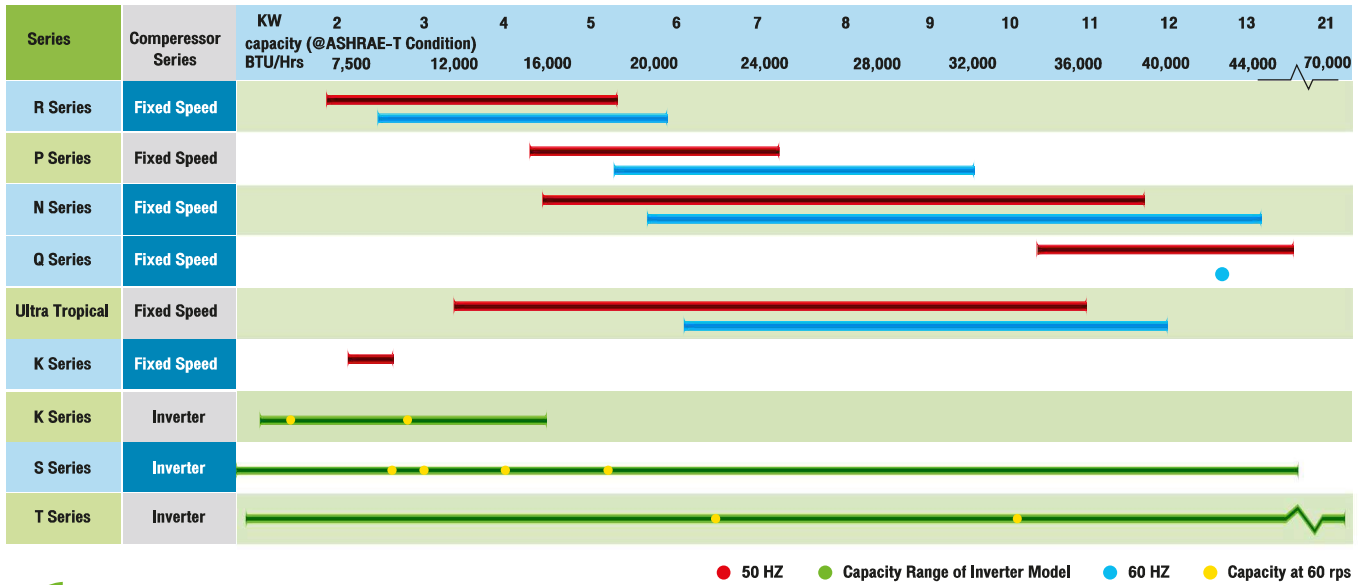
R-290 Inverter Rotary Compressor

Models	Capacity Range						Performance at 60 rps						Weight (kgs.)	Oil (cc.)	Drawing Number
	(min ~ max)						Capacity		Input		COP.	EER.			
	Watt		Kcal/hr		Btu/hr		W	BTU/hr	Watt	Amps	(w/w)	(Btu/hr*w)			
a) DC Inverter 200V	Min	Max	Min	Max	Min	Max									
SPB172FCKMT (15-120 RPS)	775	6,200	666	5,331	2,644	21,154	3,100	10,577	880	4.10	3.52	12.02	8.5	300	34
SPB220F01MT (15-120 RPS)	988	7,900	849	6,792	3,369	26,955	3,950	13,477	1,130	4.10	3.50	11.93	10.3	460	49
TPB220FCHMT (15-120 RPS)	990	7,920	851	6,810	3,378	27,023	3,960	13,512	1,240	5.40	3.19	10.90	13.6	450	54
TPB306FCHMT (15-120 RPS)	1,390	11,120	1,195	9,561	4,743	37,941	5,560	18,971	1,710	7.30	3.25	11.09	13.7	450	54

ARI Condition



Rotary Compressor Line - Up



SCI Rotary Compressor

Under Mitsubishi Electric Technology, SCI rotary compressors have a smoothly operating system, with a great performance and durability even in a tough environment zone, suitably match for variety of applications such as air-conditioning, heat pump, refrigerating showcase and ice making machine.

Efficiency : SCI has developed and designed full line - up range of superior performance compressor to serve variety of applications. This is because of SCI R&D technology advancement, modernized production process and high - graded material selection.

Alternative Refrigerant : Since SCI pays high respect to the nature and environment, SCI has developed new compressors for environmental friendly refrigerants, R-410A, R-32 and R-290 which all have low GWP and ODP rate to make sustainable world.

Reliability : SCI state - of - the - art facilities, with automatic line control and customized production technique, lead to very low defective rate and reliable product with less deviation performance. Quality control process of SCI including robot and experienced staff always assure every compressor in every production process before reaching the customers. This is a reason why Mitsubishi Electric stands for a high quality brand for more than 90 years.

Durability : SCI rotary compressors are verified by a life testing by SCI Research and Development Center that can guarantee great long term operation.

Product Variety : SCI rotary compressors are designed to customize to match different needs in each conditions of different applications such as refrigerants, operating temperature sizing, electrical supply and other special requirements.



Testing Condition

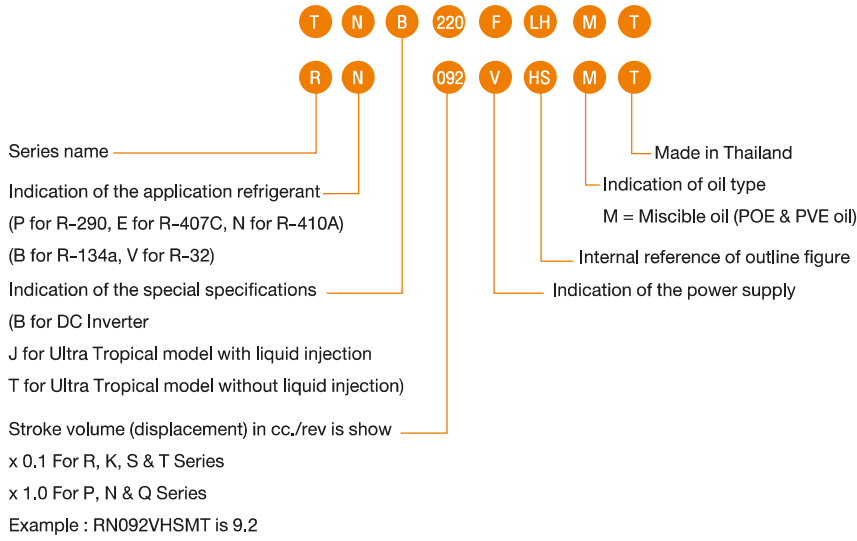
ASRE-T Testing Condition : Evaporating Temp. 7.2°C (45°F), Return Gas Temp. 35°C (95°F), Condensing Temp. 54.4°C (130°F), Liquid Temp. 46°C (115°F), Ambient Temp. 35°C (95°F)

ARI Testing Condition : Evaporating Temp. 7.2°C (45°F), Return Gas Temp. 18.3°C (65°F), Condensing Temp. 54.4°C (130°F), Liquid Temp. 46°C (115°F), Ambient Temp. 35°C (95°F)



Rotary Compressor

General Information SCI R-410A, R-134a, R-32, R-407C, R-290, Ultra Tropical

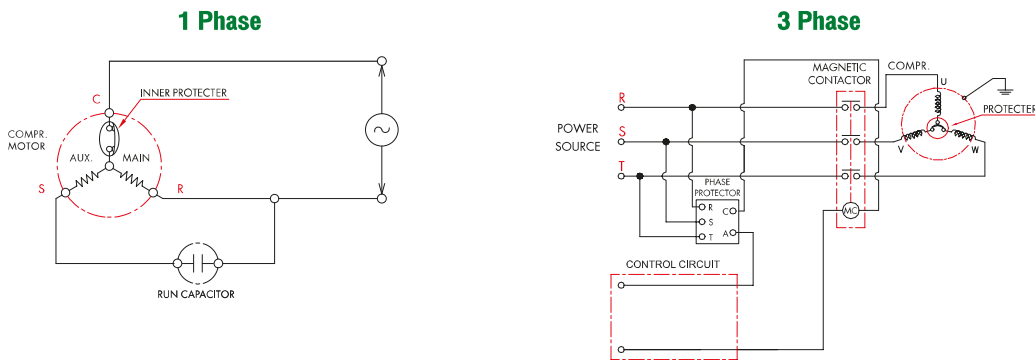


Power Supply Symbol

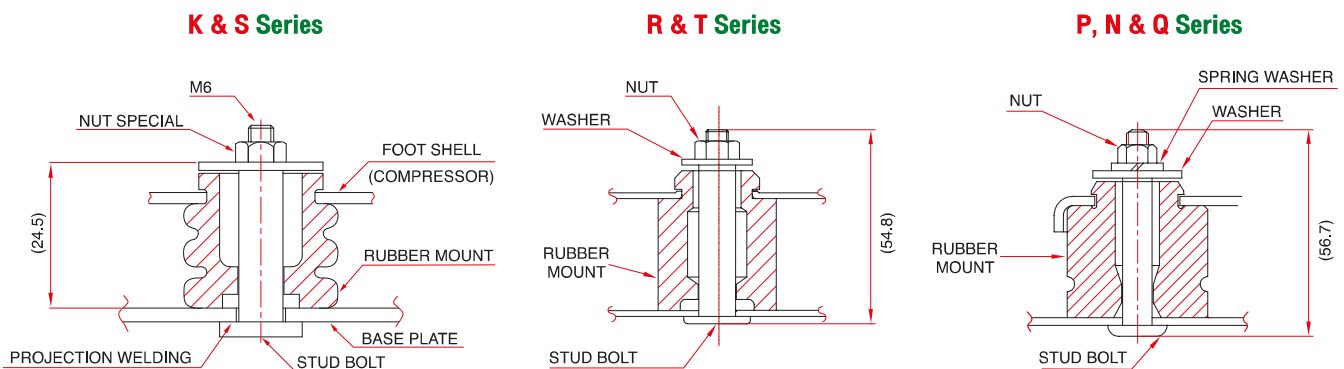
Symbol	Phase	Rated Voltage (V)	Rated Frequency (Hz)	Note
N	1	208 - 230	60	-
V	1	220 - 240	50	-
W	1	115 - 120	60	A
C	1	200 - 220	50	A
H	1	265 - 277	60	A
T	3	200/200 - 230	50/60	B
Y	3	380 - 415/400(460)	50/60	B
F	3	Inverter	Variable	-

Note : A = Available in some model of R series
B = Available in some model of N series

Wiring Diagram



Mounting Assembly





Rotary Compressor Accessories

Compressor Accessories :

<p>R Series</p>  <p>1 Terminal Cover 2 Packing 3 Flange Nut 4 Rubber Washer 5 Rubber Mount</p>	<p>K series</p>  <p>1 Terminal Cover 2 Packing 3 Flange Nut 4 Rubber Washer 5 Rubber Mount</p>	<p>P & N & Q Series</p>  <p>1 Terminal Cover 2 Gasket 3 Clip 4 Rubber Mount</p>
<p>S Series</p>  <p>1 Terminal Cover 2 Packing 3 Flange Nut 4 Rubber Washer 5 Rubber Mount</p>	<p>T Series</p>  <p>1 Terminal Cover 2 Packing 3 Flange Nut 4 Rubber Washer 5 Rubber Mount</p>	



Thermoacoustic shell

Features :

- 10dBA sound reduction compare with same compressor model without thermoacoustic shell
- Easy to fit
- Optional for sound sensitive application such as metropolitan shops and retailers in residential areas
- Stable compressor operation, performance reliability for heating application (Heat pump)
- Increase efficiency for heating application

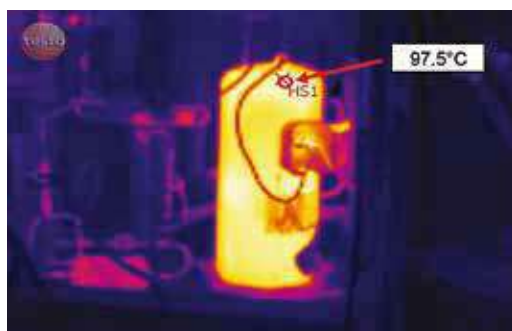
Heat loss by thermo camera :



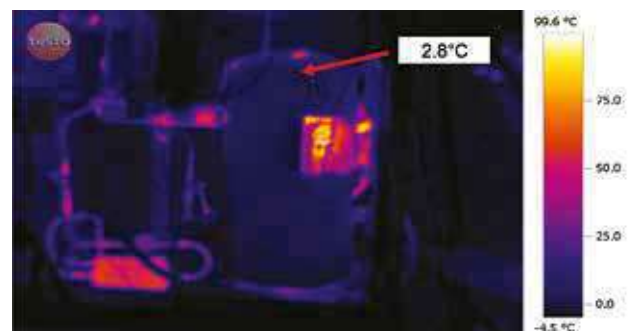
Model for S-Series



Model for T-Series



Without insulation



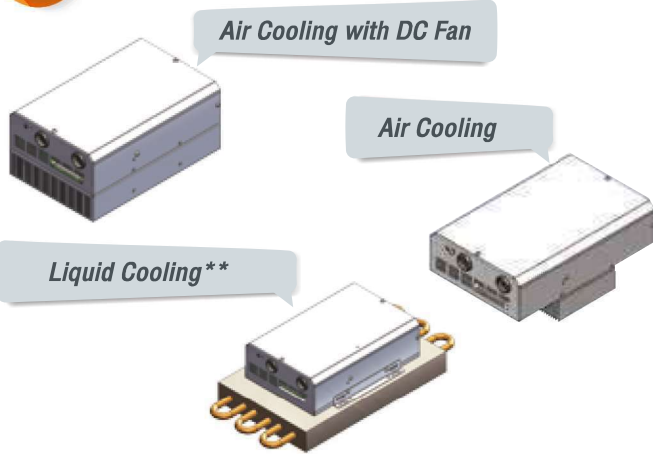
Thermoacoustic Shell



SCI Inverter Driver

- Complete Matching between driver & Compressor
- Compressor Package Solution

Standard :



Optional :



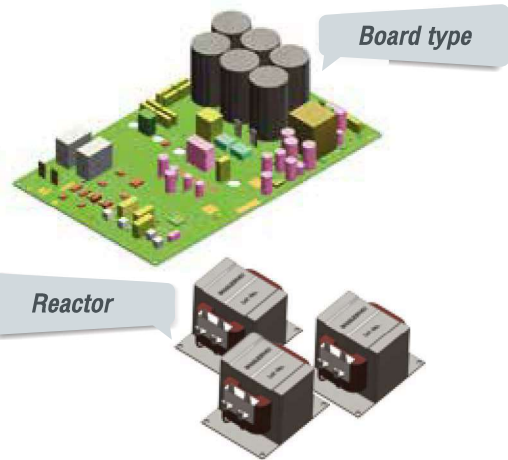
EMC Standard : IEC61800-3

- Emission Class C1
- Radiation Class B (Household)

Leakage Current <3mA

Feature :

- Operating temperature -20°C to $+60^{\circ}\text{C}$, 2 to 95%RH (Non-condensing, Non-freezing)
- Efficiency more than 95%
- Low harmonic distortion (Power factor up to 0.99)
- Built-in Overcurrent protection
- Built-in Compressor control envelop
- Built-in Motor Heat function
- Built-in Oil management control
- Water/Refrigerant loop cooling for liquid cooling type



- AC Reactor (3pcs/set) : IEC61000-3-2 ($\leq 16\text{A}$ input)
- DC Reactor (1pc/set) : IEC61000-3-12 ($\leq 75\text{A}$ input)

SCI Inverter Driver Line-up :

	4.2 kW	6 kW 6.6 kW	10.5 kW	14 kW			
3P 400 V							
1P 230 V							
Capacity R-290	8	12	14	16	20	(kW)	
Displacement	22	30.6	36	42	52	(cm ³)	
Capacity R-404A		14		18	28	32 (kW)	
Displacement		33		42	66	78 (cm ³)	
Capacity R-448A		12	16	22	26	32	36 (kW)
R-449A		33	42	52	66	78	87 (cm ³)
Displacement							
Capacity R-410A	10	12	16	18	24	26	34 (kW)
R-32	17.2	22	30.6	28	36	42	52 (cm ³)
Displacement							

*At ARI Condition



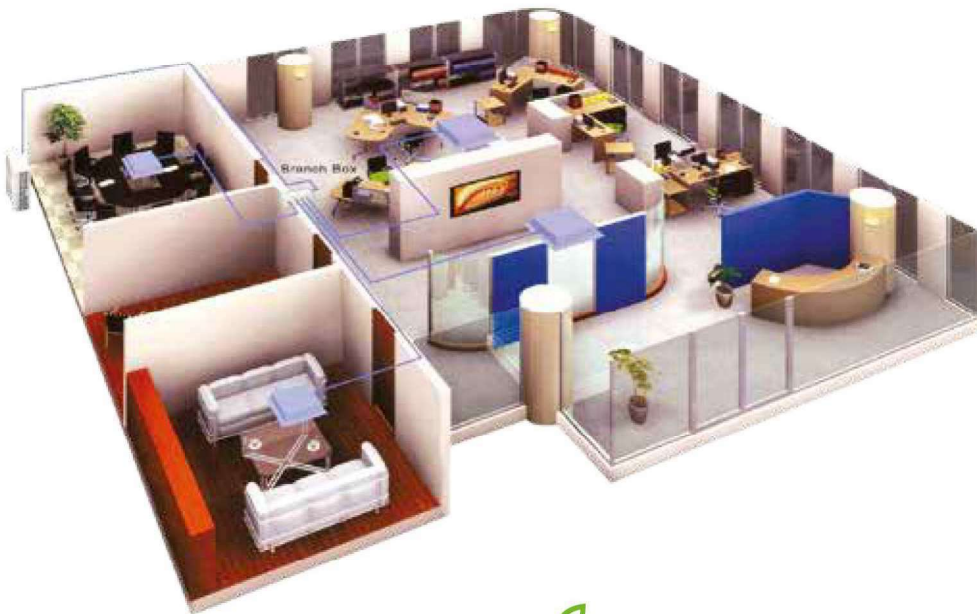
Inverter Technology

Inverter-driven system promotes maximum compressor efficiency. The system detects subtle temperature changes and automatically adjust its capacity output. These lead to stabilizing temperature, minimizing power consumption, and optimizing humidity control.

Inverter system can control over room temperature to deliver appropriate capacity which is a smart technology that can suitably match cooling and heating performance with operating requirements at specific location so the system can ensure that a room will stay with steady temperature and comfort.

Conventional compressor operates at a fixed speed with on and off repetitively, on the other hand, inverter compressor has controller which can control power output to fit with variable operating environment as well as optimize system therefore amazingly performance in any variant load is ensured throughout the system by means of unit customization and design.

With a proper design concept, the system can reach as higher SEER as 64% comparing with other VRF technology.



Inverter Benefits

- 1) Precision Temperature Control : unnoticeable swing in temperature because of its adaptation of capacity to match with any variable conditions automatically.
- 2) High Efficiency : deliver only the energy needed to satisfy the cooling or heating condition, thereby saving both energy and cash.
- 3) Humidity Control : enjoy greater comfortable climate with desired level of humidity at a glance.
- 4) Compact size and light weight : Owing to motor speed changing technology of inverter compressor, the inverter compressor is more compact size and light weight more than 30% comparing with other Variable Refrigerant Flow (VRF) technology.



Touch with Advanced Inverter Technology

Optimum inverter system is accompanied with delicate design and easy for development. Our inverter designing service team has customized full solution offering, inverter consulting and intense unit testing service. Our long reputation services and experienced supports are the reasons why anyone can touch MITSUBISHI INVERTER TECHNOLOGY.

