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ROTARY COMPRESSOR Catalogue

SIAM COMPRESSOR INDUSTRY

MITSUBISHI ELECTRIC GROUP

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MITSUBISHI ELECTRIC GROUP

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MITSUBISHI ELECTRIC (GUANGZHOU) COMPRESSOR CO., LTD.

MITSUBISHI ELECTRIC CORPORATION,
SHIZUOKA WORKS (MELSHI)

SIAM COMPRESSOR INDUSTRY CO., LTD. (SCI)

Company Profile

Siam Compressor Industry Co., Ltd. (SCI) is Thailand's first manufacturer of rotary compressor for room air conditioner. SCI was founded on May 25, 1990 as a subsidiary of Mitsubishi Electric Corporation of Japan, a world leader in compressor technology with over 70 years of experience. So successful was SCI in the first year of production that we were able to open a second plant only five years later, on December 16, 1995. Further milestones since then have been the inauguration of our research and development centre in 1998, the launching of a new ozone-friendly compressor that does not use HCFC coolant in 1999, the opening of a third plant on October 16, 2002 and recently, the opening of the forth plant in June 2012.

Since 2003, SCI has been producing Advanced Scroll Compressor utilizing Frame-Complaint Mechanism technology, thus saving energy and minimizing energy loss due to friction. SCI remains at the forefront of the global compressor industry in terms of technical progress, efficiency of production, the competence of our trained staff and our ongoing expansion.

In 2013, SCI received the Good Factory Awards for Factory Management in Japan, SCI has been performing many outstanding activities such as the development, the supply chain management, production process, and working system in factories to help strengthen management system. SCI was the first compressor manufacturer in Thailand to receive this honorable award.

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 compressorto serve variety of applications. This is because of SCI R&D technology advancement, modernized production processand high- gradedmaterial 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

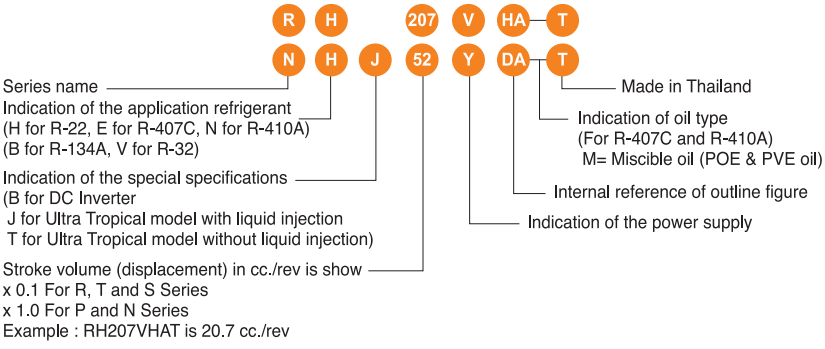
ASRE-T Testing Condition: Evaporating Temp. 7.2°C (45°F), Return Gas Temp. 35°C (95°F), Condensing Temp. 54.4°C (130°F), Liquid Temp. 46°C (115°F), Ambient Temp. 35°C (95°F)

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-22, Ultra Tropical

Model Code Diagram



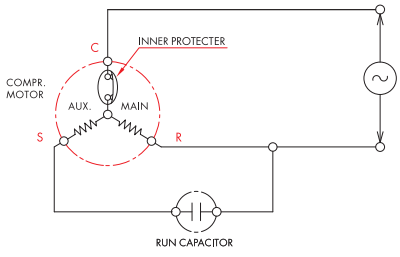
Power Supply Symbol

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	-

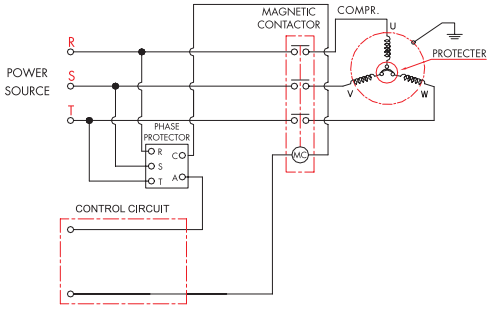
Note : A = Available in some model of R series
B = Available in some model of N series

Wiring Diagram

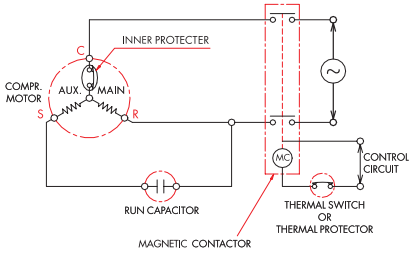
1 Phase



3 Phases

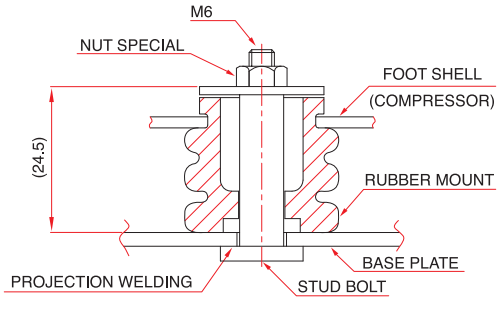


1 Phase of NHJ & NHT

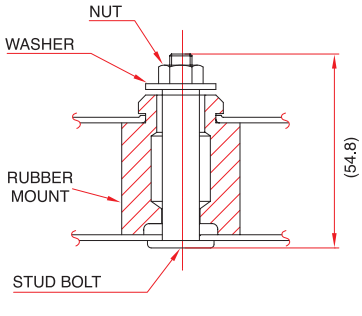


Mounting Assembly

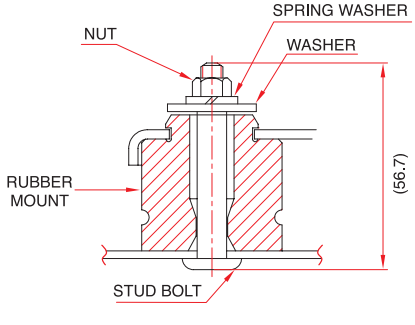
S Series



R & T Series



P & N Series



Compressor Accessories

R & T series & PHT & PH Compact & NH Compact

1 Terminal Cover 2 Packing 3 Flange Nut
4 Rubber Washer 5 Rubber Mount

PH & PE & NH & NE & NN

1 Terminal Cover 2 Gasket
3 Clip 4 Rubber Mount

SNB Series

1 Terminal Cover 2 Packing 3 Flange Nut
4 Rubber Washer 5 Rubber Mount

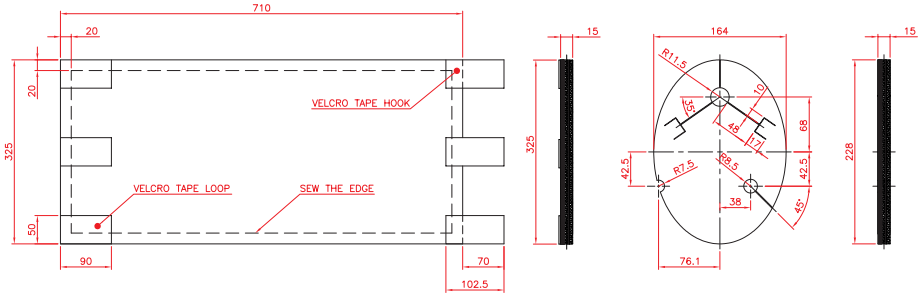
TNB Series

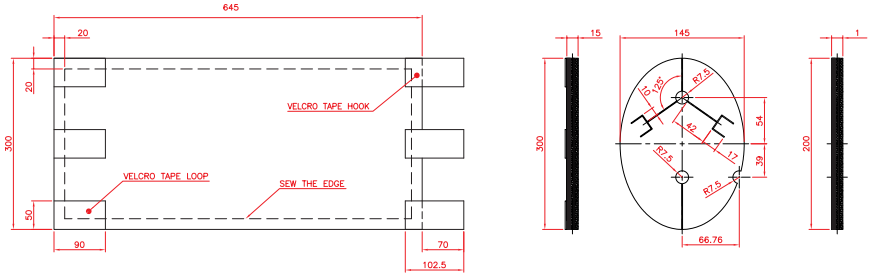
1 Terminal Cover 2 Packing 3 Flange Nut
4 Rubber Washer 5 Rubber Mount

Optional Accessories Thermoacoustic Shell

Selection Table for Thermoacoustic Shell

Series	Code no.	Group no.	Detail
S	SC00G241	G1	For SNB
T	SC00G242	G1	For TNB



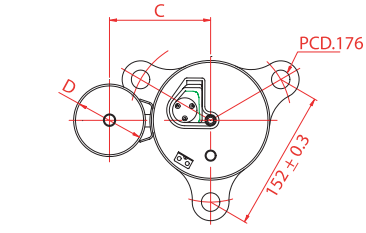


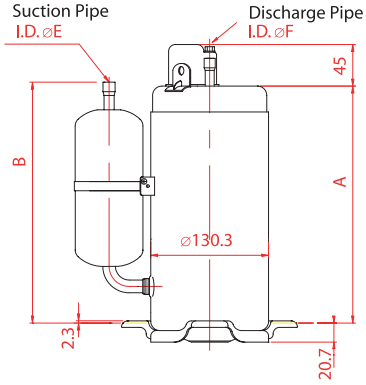
Models	Capacity			Input		Nominal Output		COP.	EER.	Run Cap.	Weight
	W	Kcal/hr	Btu/hr	Watt	Amps	HP	KW.	(W/W)	(Btu/hr*w)	(μF/VAC)	(kgs.)
High EER Models											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
RN092VHSMT	2,240	1,926	7,643	770	3.60	0.80	0.60	2.91	9.93	20 / 370	13.8
RN096VHSMT	2,340	2,012	7,984	805	3.70	0.87	0.65	2.91	9.92	20 / 370	13.8
RN099VHSMT	2,390	2,055	8,155	820	3.80	0.87	0.65	2.91	9.94	25 / 370	13.8
RN104VHSMT	2,510	2,158	8,564	865	4.00	0.94	0.70	2.90	9.90	25 / 370	13.8
RN110VHSMT	2,680	2,304	9,144	920	4.20	1.01	0.75	2.91	9.94	25 / 370	13.8
RN117VHSMT	2,850	2,450	9,724	975	4.40	1.07	0.80	2.92	9.97	25 / 370	13.8
RN125VHSMT	3,050	2,623	10,407	1,050	4.90	1.07	0.80	2.90	9.91	25 / 370	13.8
RN130VHSMT	3,160	2,717	10,782	1,080	5.00	1.14	0.85	2.93	9.98	30 / 370	15.9
RN135VHNMT	3,290	2,829	11,225	1,070	3.00	1.21	0.90	3.07	10.49	30 / 370	15.2
RN140VHNMT	3,450	2,967	11,771	1160	4.00	1.21	0.90	2.97	10.15	30 / 370	15.2
RN145VHSMT	3,570	3,070	12,181	1,220	5.80	1.34	1.00	2.93	9.98	30 / 370	15.8
RN154VHSMT	3,820	3,285	13,034	1,320	6.20	1.48	1.10	2.89	9.87	30 / 400	15.8
RN165VHSMT	4,070	3,499	13,887	1,410	6.60	1.48	1.10	2.89	9.85	30 / 400	15.8
RN174VHQMT	4,170	3,586	14,228	1,390	5.00	1.61	1.20	3.00	10.24	40 / 370	15.3
RN189VHQMT	4,400	3,784	15,013	1,550	6.00	1.74	1.30	2.84	9.69	40 / 370	15.3
RN196VHQMT	4,800	4,128	16,378	1,580	5.00	1.74	1.30	3.04	10.37	40 / 370	15.3
RN207VHQMT	5,190	4,462	17,708	1,700	8.10	1.88	1.40	3.05	10.42	45 / 420	15.3
RN220VHSMT	5,480	4,712	18,698	1,920	8.80	2.15	1.60	2.85	9.74	45 / 370	16.5
b) Electrical 60 Hz : 115 - 120 Volt : 1 Phase											
RN092WHDMT	2,856	2,456	9,745	959	8.45	0.87	0.65	2.98	10.16	70 / 220	13.8
RN099WHDMT	2,960	2,545	10,100	1,020	9.11	0.94	0.70	2.90	9.90	75 / 220	13.7
RN104WHDMT	3,119	2,682	10,642	1,065	9.40	0.94	0.70	2.93	9.99	75 / 220	13.8
RN110WHDMT	3,280	2,820	11,191	1,113	9.84	0.94	0.70	2.95	10.06	75 / 220	13.7
RN125WHDMT	3,770	3,241	12,863	1,280	11.42	1.07	0.80	2.95	10.05	80 / 220	13.7
c) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
RN092NHTMT	2,870	2,468	9,792	910	4.35	1.07	0.80	3.15	10.76	30 / 370	15.9
RN096NHTMT	3,010	2,588	10,270	960	4.64	1.14	0.85	3.10	10.59	30 / 370	15.9
RN110NHTMT	3,400	2,924	11,601	1,090	5.07	1.29	0.96	3.12	10.65	30 / 370	15.9
RN117NHTMT	3,680	3,165	12,556	1,160	5.40	1.37	1.02	3.17	10.82	30 / 370	15.9
RN125NHTMT	3,890	3,345	13,273	1,230	5.70	1.43	1.07	3.16	10.79	30 / 370	15.9
RN135NHTMT	4,270	3,672	14,569	1,320	6.13	1.57	1.17	3.23	11.04	35 / 400	16.0
RN140NHTMT	4,440	3,818	15,149	1,370	6.41	1.62	1.21	3.24	11.06	35 / 400	16.0
RN145NHTMT	4,590	3,947	15,661	1,410	6.55	1.68	1.25	3.26	11.11	35 / 370	16.0
RN154NHTMT	4,900	4,214	16,719	1,520	7.25	1.81	1.35	3.22	11.00	35 / 400	16.0
RN165NHTMT	5,220	4,489	17,811	1,640	7.88	1.90	1.42	3.18	10.86	35 / 400	16.0
RN174NHTMT	5,480	4,712	18,698	1,750	8.22	2.00	1.49	3.20	10.93	35 / 370	16.0
RN196NHTMT	6,170	5,306	21,052	1,940	9.17	2.23	1.66	3.18	10.85	45 / 400	16.0
RN220NHTMT	6,980	6,001	23,645	2,200	10.35	2.49	1.86	3.15	10.75	45 / 370	16.0

Note :
1. Testing condition ASRE-T, for V code at 1 Phase 220 Volt 50 Hz, for N code at 1 Phase 220 Volt 60 Hz, for W code at 1 Phase 115 Volt 60 Hz
2. All figures indicated are nominal value, for detailed specification, please contact sales representative
3. Oil type is FV50S

	Dimension (mm.)					
	A	B	C	D	E	F
RN135-140VHNMT RN092-125VHSMT RN092-110WHDMT RN092-125NHDMT	213.1	243.8	101.0	60.5	9.6	9.6
RN174-196VHQMT RN130-220VHSMT RN092-220NHTMT	257.5	260.5	110.5	74.0	12.7	9.6
RN207VHQMT	256.2	287.5	110.5	78.0	12.7	9.6

RN



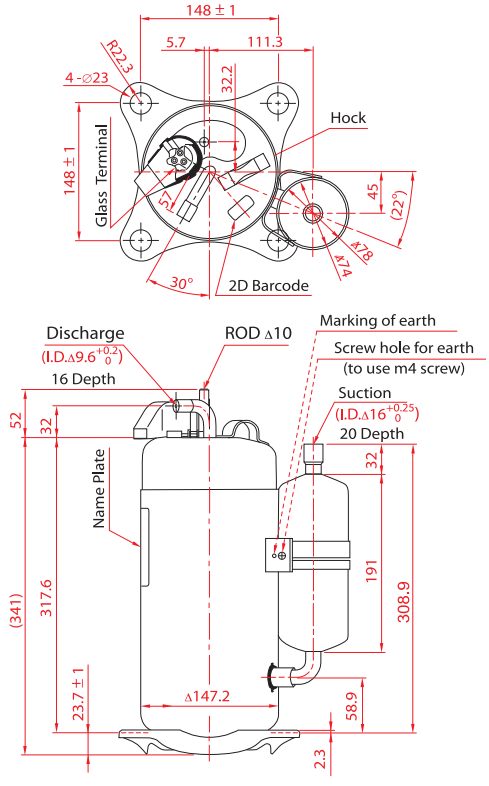


Specifications of PN Model

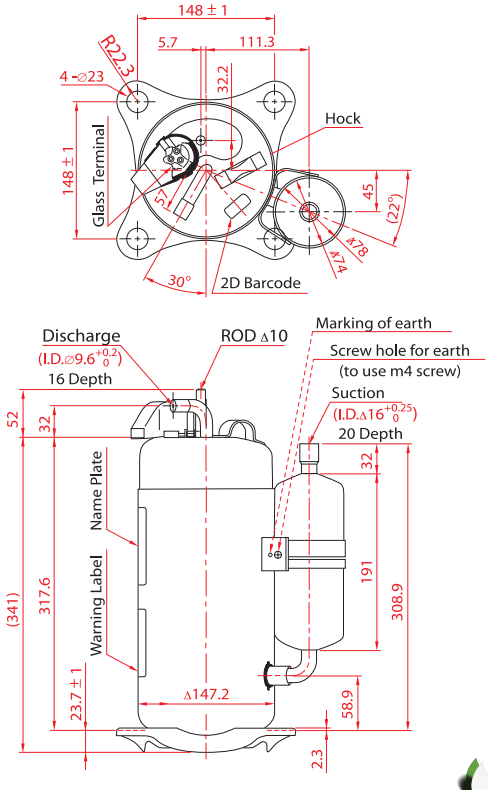
Models	Capacity			Input		Nominal Output		COP.	EER.	Run Cap.	Weight
	W	Kcal/hr	Btu/hr	Watt	Amps	HP	KW.	(W/W)	(Btu/hr*w)	(μF/VAC)	(kgs.)
High EER Models											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
PN23VAAMT	5,860	5,038	19,994	1,990	9.40	2.28	1.70	2.94	10.05	55 / 400	23.7
PN25VAAMT	6,360	5,468	21,700	2,165	10.00	2.41	1.80	2.94	10.02	60 / 450	23.7
PN27VAAMT	6,800	5,846	23,202	2,290	10.70	2.55	1.90	2.97	10.13	65 / 420	23.7
PN31VBBMT	7,900	6,794	26,955	2,660	12.30	2.95	2.20	2.97	10.13	65 / 420	24.0
PN33VABMT	8,490	7,301	28,968	2,920	13.30	3.08	2.30	2.91	9.92	65 / 420	24.5
b) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
PN23NABMT	7,165	6,160	24,447	2,440	11.30	2.01	1.50	2.94	10.02	40 / 400	23.7
PN25NABMT	7,660	6,586	26,136	2,645	12.30	2.15	1.60	2.90	9.88	40 / 400	23.7
PN27NABMT	8,320	7,153	28,388	2,810	13.00	2.28	1.70	2.96	10.10	45 / 400	23.7
c) Electrical 50 Hz : 380 - 415 Volt : 3 Phases											
PN31YBAMT	8,050	6,923	27,467	2,650	4.70	3.08	2.30	3.04	10.36	-	23.9
d) Electrical 50/60 Hz : 200/200 - 230 Volt : 3 Phases											
PN25TACMT	6,370	5,478	21,734	2,160	8.20	2.41	1.80	2.95	10.06	-	23.7

Note :
1. Testing condition ASRE-T, for V code at 1 Phase 220 Volt 50 Hz, for N code at 1 Phase 220 Volt 60 Hz, for Y code at 3 Phases 400 Volt 50 Hz.
2. All figures indicated are nominal value, for detailed specification, please contact sales representative
3. Oil type is FV50S

PN23-33VAAMT/VABMT/VBBMT/YBAMT/TACMT



PN23-27NABMT

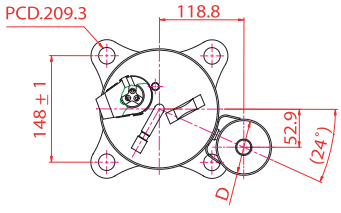


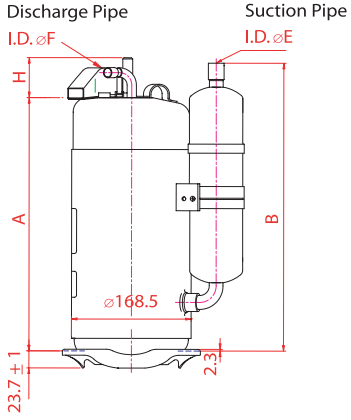
Models	Capacity			Input		Nominal Output		COP.	EER.	Run Cap.	Weight
	W	Kcal/hr	Btu/hr	Watt	Amps	HP	KW.	(W/W)	(Btu/hr*w)	(μF/VAC)	(kgs.)
High EER Models											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
NN21VBAMT	5,400	4,644	18,425	1,820	8.30	1.74	1.30	2.97	10.12	50 / 400	29.2
NN23VBAMT	5,800	4,988	19,790	1,950	9.20	2.01	1.50	2.97	10.15	50 / 400	29.2
NN25VBAMT	6,300	5,418	21,496	2,120	9.80	2.15	1.60	2.97	10.14	50 / 420	29.8
NN27VBAMT	6,720	5,779	22,929	2,260	10.40	2.28	1.70	2.97	10.15	55 / 400	30.4
NN29VAFMT	7,300	6,277	24,908	2,450	11.00	2.55	1.90	2.98	10.17	60 / 450	31.7
NN31VAFMT	8,000	6,878	27,296	2,660	12.20	2.95	2.20	3.01	10.26	60 / 450	31.8
NN33VAAMT	8,490	7,301	28,968	2,800	13.10	2.95	2.20	3.03	10.35	55 / 420	31.9
NN37VAFMT	9,400	8,082	32,073	3,160	14.20	3.49	2.60	2.97	10.15	65 / 420	32.0
NN40VAAMT	10,200	8,772	34,802	3,430	16.10	3.62	2.70	2.97	10.15	60 / 450	31.9
b) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
NN21NBBMT	6,500	5,590	22,178	2,150	9.90	1.74	1.30	3.02	10.32	45 / 400	29.8
NN23NBBMT	7,200	6,192	24,566	2,380	11.00	2.01	1.50	3.03	10.32	50 / 400	29.5
NN25NBBMT	7,810	6,716	26,648	2,580	11.70	2.15	1.60	3.03	10.33	55 / 400	30.7
NN27NBBMT	8,480	7,293	28,934	2,760	12.70	2.28	1.70	3.07	10.48	55 / 400	30.2
NN29NBBMT	9,100	7,826	31,049	2,950	13.50	2.55	1.90	3.08	10.53	55 / 400	31.3
NN31NAAMT	10,130	8,712	34,564	3,280	15.10	2.68	2.00	3.09	10.54	60 / 450	32.0
NN33NAAMT	10,900	9,374	37,191	3,500	16.10	2.95	2.20	3.11	10.63	60 / 450	32.0
NN37NAAMT	12,190	10,483	41,592	3,920	18.00	3.35	2.50	3.11	10.61	65 / 400	32.0
NN40NAAMT	13,220	11,369	45,107	4,270	19.60	3.62	2.70	3.10	10.56	65 / 400	32.0
c) Electrical 50/60 Hz : 380 - 415 Volt : 3 Phases											
NN21YDAMT	5,500	4,730	18,772	1,780	3.00	1.74	1.30	3.09	10.54	-	29.9
NN25YDAMT	6,580	5,659	22,451	2,120	3.70	2.15	1.60	3.10	10.59	-	29.8
NN27YDAMT	6,980	6,003	23,816	2,210	3.70	2.28	1.70	3.16	10.78	-	29.9
NN29YCCMT	7,400	6,363	25,249	2,460	4.50	2.55	1.90	3.01	10.25	-	32.1
NN31YCCMT	8,000	6,878	27,296	2,600	4.50	2.95	2.20	3.08	10.50	-	32.0
NN33YCAMT	8,600	7,396	29,343	2,730	4.70	2.95	2.20	3.15	10.75	-	30.1
NN37YCCMT	9,400	8,082	32,073	3,090	5.10	3.49	2.60	3.04	10.38	-	32.2
NN40YCAMT	10,400	8,944	35,484	3,300	5.70	3.62	2.70	3.15	10.75	-	31.9
NN44YCAMT	11,400	9,804	38,897	3,770	6.20	3.62	2.70	3.02	10.25	-	31.9
d) Electrical 50/60 Hz : 200-230 Volt : 3 Phases											
NN25TDBMT	6,600	5,676	22,519	2,092	7.20	2.28	1.70	3.15	10.76	-	29.7
NN27TDBMT	6,990	6,011	23,850	2,218	7.70	2.28	1.70	3.15	10.75	-	29.8
NN31TDBMT	7,960	6,929	27,160	2,570	8.80	2.68	2.00	3.14	10.70	-	30.4
NN40TKAMT	10,300	8,856	35,144	3,500	11.90	3.62	2.70	2.94	10.04	-	31.0

Note :
1. Testing condition ASRE-T, for V code at 1 Phase 220 Volt 50 Hz, for N code at 1 Phase 220 Volt 60 Hz, for Y code at 3 Phases 400 Volt 50 Hz and 460 Volt 60 Hz.
2. All figures indicated are nominal value, for detailed specification, please contact sales representative
3. Oil type is FV50S

	Dimension (mm.)					
	A	B	D	E	F	H
NN21-27VBAMT NN21-29NBBMT	327.8	318.6	74.0	16.0	9.6	52.0
NN29-33VAAMT NN31-33NAAMT NN29-37VAFMT NN29-31YCCMT	342.8	393.6	74.0	16.0	9.6	52.0
NN37-40VAAMT NN37-40NAAMT	342.8	393.6	74.0	19.1	9.6	52.0
NN21-27YDAMT	327.8	318.6	74.0	16.0	9.6	None
NN31-33YCAMT NN25-31TDBMT	342.8	393.6	74.0	16.0	9.6	None
NN40-44YCAMT NN37YCCMT NN40TKAMT	342.8	393.6	74.0	19.1	9.6	None

NN





Operation Standards and Limits of R-410A Compressor RN, PN, NN Model

Models	RN	PN	NN
Compressor			
Type	Rolling Piston Type Rotary		
Displacement (cc/rev.)	9.2 ~ 22.0	23.0 ~ 27.0	21.9 ~ 44.4
Refrigerant type	R-410A		
Pressure			
Condensing	0.2 ~ 4.15 MPaG (29 ~ 602 psiG)		
Evaporating	0.2 ~ 1.60 MPaG (29 ~ 232.1 psiG)		
Compression Ratio	9 or less (See Note 1)		
Abnormal Rise in pressure	5.88 MPaG (852.8 psiG) or less		
Temperature			
Condensing	-27°C ~ + 65°C		
Evaporating	-27°C ~ + 65°C		
Discharged Gas (max)	120°C (248°F), In case of Heat pump or De-humidipier, this limit is 115°C (239°F) (See Note 2)		
Suction Gas (max)	must be over 0°C (No liquid back) (See Note 2)		
Discharged gas's superheat	20°C or more		
Outdoor Ambient Temp.	Air cond : 20°C ~ 43°C (68°F ~ 109.4°F)		Heat Pump : -10°C ~ 43°C (14°F ~ 109.4°F)
Electrical			
Supply voltage during operation	Rated voltage ±10%		
Starting voltage	Minimum 80% of rated voltage (at 1.64 MPa balancing pressure) In case of 208-230 V Rated Voltage (N-code compressor), the starting voltage shall be 85% or more. This shall be measured at compressor terminnal at instance of start		
Reverse phase (rotation)	Not possible		
Frequency range	Rated Frequency ± 2%		
ON/OFF			
ON/OFF Frequency	Less than 170,000 cycles		
ON/OFF Cycle	The ON/OFF cycle shall be a maximum of 10 time/hour. OFF time shall be the time until the high side pressure reach to balance pressure (more than 3 min)		
Pipe Stress	3.5 kg/mm² or less at start and stop condition (1.8 kg/mm² during operation)		
Refrigerant Circuit			
Maximum Refrigerant Charge	See in General Spec		
Evacuation level	Degree of vaccum equivalent to about 133 Pa (abs) (1.0 mmHg)		
Piping length between indoor and outdoor units	Max. 15 m. for RN092 - RN125 Max. 20 m. for RN130 - RN220		Max. 30 m. (See also Note 3)
Elevation between indoor and outdoor units	Max. 7 m. for RN092 - RE125 Max. 15 m. for RN130 - RN 220		Max. 30 m. (See also Note 3)
Piping vibration	Maximum 0.8 mm.		
Inclination of compressor	Within 5°		

Note :
1. High compression ratio test ; C.T./E.T. = 62/-12°C ; has been performed already.
2. The temperature must be lower than this critical value even the unit has been using for many years.
3. These Piping Length and Elevation for all series are based on pipe size following this ; Liquid : Ø 9.52 mm. (3/8") Gas : Ø15.88 mm. (5/8")

Inverter Technology

Inverter-driven systems can promote maximum compressor efficiency in term of smooth operation. The system can detect subtle temperatures and adjust its capacity output automatically which lead to stable temperature while 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 the inverter, motor speed changing technology, inverter compressor is more compact size and light weight comparing to other Variable Refrigerant Flow (VRF) technology by more than 30%.

Inverter › Technology for the Future

Inverter technology is becoming the new trend in HVAC&R industry in many recently years. The system enhances smoothing performance for every cooling or heating applications. This technology, not only decrease energy usage, but also support those future HVAC requirements such as Multi-system AC, more compact unit, Buliding integration, indoor air quality (IAQ) etc.

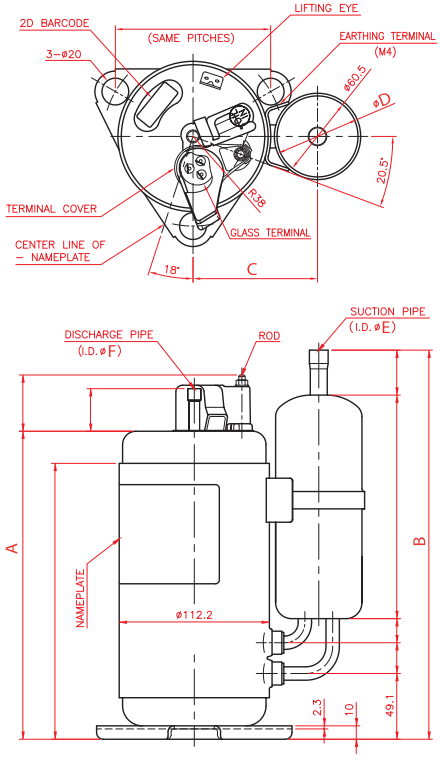
Specifications of Inverter Twin Rotary Compressor

Models	Capacity Range (min~max)			Performance at 60 rps						Weight
				Capacity		Input		COP. (w/w)	EER. (Btu/hr*w)	
	Watt	Kcal/hr	BTU/hr	W	BTU/hr	Watt	Amps			(kgs.)
a) DC Inverter										
SNB092FQAMT	608~6,462	522 ~5,550	2,074~22,048	2,510	8,564	820	2.90	3.06	10.44	8.0
SNB110FGYMT	723~8,046	621~6,918	2,466~27,453	3,400	11,601	1,035	0.70	3.29	11.21	7.8
SNB130FGBMT	868~9,679	746~8,322	2,961~ 33,025	3,630	12,386	1,140	5.40	3.18	10.86	7.9
SNB140FRUMT	907~ 5,364	779 ~ 4,607	3,094~18,301	3,880	13,239	1,230	3.80	3.15	10.76	8.2
SNB172FEKMT	1,330~10,835	1,143~9,315	4,538~36,970	4,830	16,480	1,560	6.70	3.10	10.56	8.6
TNB220FLHMT	1,602~14,392	1,377~12,374	5,466~49,106	7,130	24,328	2,200	9.70	3.24	11.06	14.0
TNB306FPGMT	2,245~20,676	1,930~17,777	7,660~70,548	9,880	33,711	3,010	13.50	3.28	11.20	16.0

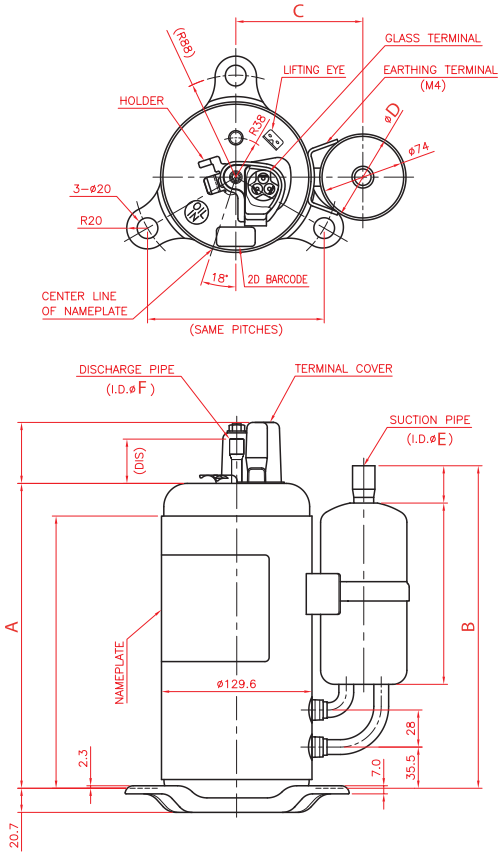
Note : 1. Oil type is FV50S
2. At ASHRE-T Condition, min-max frequency 15-130 RPS for SNB092FQAMT, SNB110FGYMT, SNB172FEKMT ; 10-130 RPS for SNB130FGBMT ; 15-107 RPS for SNB140FRUMT ; 15-120 RPS for TNB220FLHMT, TNB306FPGMT ; for other conditions please contact sales representative

	Dimension (mm.)					
	A	B	C	D	E	F
SNB092-130	230.1	290.7	93.0	64.5	12.0	8.0
SNB140-172	235.1	290.7	93.0	64.5	12.0	8.0
TNB220	234.8	273.0	110.5	78.0	16.0	9.5
TNB306	267.6	273.0	110.5	78.0	16.0	9.5

SNB



TNB



Models	SNB	TNB
Compressor		
Type	Rotary DC inverter	
Displacement (cc/rev.)	11.0 ~ 17.2	22.0 ~ 30.6
Refrigerant type	R-410A	
Pressure		
Condensing	1.68 ~ 4.15 MPaG (243.6 ~ 602 psiG)	0.2 ~ 4.15 MPaG (29 ~ 602 psiG)
Evaporating	0.47 ~ 1.15 MPag (68.1 ~ 166.8 psiG)	0.2 ~ 1.6 MPag (29 ~ 232.1 psiG)
Compression Ratio	9 or less (See Note1)	
Abnormal Rise in pressure	6.86 MPaG (994.9 psiG) or less	5.88 MPaG (852.8 psiG) or less
Temperature		
Condensing	28°C ~ 65°C	-27°C ~ 65°C
Evaporating	-10°C ~ 15°C	-27°C ~ 26°C
Discharged Gas (max)	120°C (248°F), In case of Heat pump or De-humidipier, this limit is 115°C (239°F) (See Note 2)	
Suction Gas (max)	must be over 0°C (No liquid back) (See Note 2)	
Discharged gas 's superheat	20°C or more	
Outdoor Ambient Temp.	Air cond : 20°C ~ 43°C (68°F ~ 109.4°F)	Heat Pump : -10°C ~ 43°C (14°F ~ 109.4°F)
Electrical		
Supply voltage during operation	The compressor must be operated on the proper voltage in accordance with the frequency (or the revolution) as shown the performance curve. The applied voltage's phase of the compressor must be neally accoded with the phase of rotor in the compressor. The operating voltage shall be the terminal voltage of the compressor during operation.	
Starting voltage	(Asynchronous drive at start-up). The compressor motor must be operated by suitable power supply v oltage and revolution for unit condition without reverse rotation. The unit condition at start-up must be balanced the high/low pressure at 1.64 MPa for SNB and 2.49 MPa for TNB	
Reverse phase (rotation)	Not possible	
Frequency range	See in compressor specification	
ON/OFF		
ON/OFF Frequency	Less than 170,000 cycles	
ON/OFF Cycle	The ON/OFF cycle shall be a maximum of 10 time / hour. OFF time shall be the time until the high side pressure reach to balance pressure (more than 3 min)	
Pipe Stress	3.5 Kg/mm² or less at start and stop condition (1.8kg/mm² during operation) Refrigerant Circuit	
Refrigerant Circuit		
Evacuation level	Degree of vaccum equivalent to about 133 Pa (abs) (1.0 mmHg)	
Piping length between indoor and outdoor units	Max. 20 m.	
Elevation between indoor and outdoor units	Max. 15 m.	
Piping vibration	Maximum 0.8 mm.	
Inclination of compressor	Within 5°	

Note :
1. High compression ratio test ; C.T./E.T. = 62/-12°C ; has been performed already.
2. The temperature must be lower than this critical value even the unit has been using for many years.
3. These Piping Length and Elevation for all series are based on pipe size following this ; Liquid : Ø 9.52 mm. (3/8") Gas : Ø15.88 mm. (5/8")

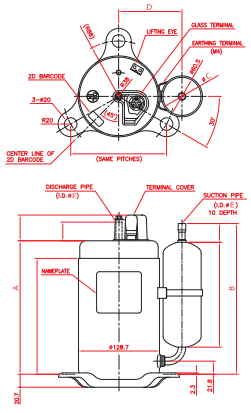
Specifications of RB Model & Operation Standards and Limits of R-134A Compressor RB Model

Models	Capacity			Input		Norminal Output		COP.	EER.	Run Cap.	Weight
	W	Kcal/hr	Btu/hr	Watt	Amps	HP	KW.	(W/W)	(Btu/hr*w)	(μF/VAC)	(kgs.)
High EER Models											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
RB135VRYMT	1,560	1,341	5,323	500	2.30	0.58	0.43	3.12	10.65	25 / 370	12.7
RB145VHSMT	1,700	1,462	5,800	560	2.60	0.67	0.50	3.04	10.36	25 / 370	13.2
RB154VHSMT	1,740	1,496	5,937	610	2.80	0.74	0.55	2.85	9.73	25 / 370	13.2
RB165VHSMT	1,920	1,651	6,551	650	3.00	0.79	0.59	2.95	10.08	25 / 370	13.2
RB174VRXMT	2,000	1,720	6,824	640	3.00	0.80	0.60	3.13	10.66	25 / 370	13.5
RB189VHSMT	2,210	1,900	7,541	720	3.30	0.82	0.61	3.07	10.47	30 / 370	15.1
RB247VRYMT	2,880	2,476	9,827	900	4.20	1.14	0.85	3.20	10.92	30 / 400	15.4
RB277VHSMT	3,240	2,786	11,055	1,060	5.10	1.23	0.92	3.06	10.43	40 / 370	15.1
RB313VHSMT	3,730	3,207	12,727	1,290	6.10	1.27	0.95	2.89	9.87	45 / 370	15.7

Note :
1. Testing condition ASRE-T, for V code at 1 Phase 220 Volt 50 Hz.
2. All figures indicated are nominal value, for detailed specification, please contact sales representative.
3. Oil type is FV50S.

	Dimension (mm.)					
	A	B	C	D	E	F
RB135-174VHSMT RB135VRYMT	211.3	240.8	101.0	65.1	9.6	8.0
RB189-277	256.2	260.5	110.5	78.0	12.7	8.0
RB313VHSMT	261.2	287.5	110.5	78.0	12.7	9.6
RB174VRXMT	211.3	242.8	110.5	78.0	12.7	8.0

RB



Models	RB
Compressor	
Type	Rolling Piston Type Rotary
Displacement (cc/rev.)	13.5 ~ 31.3
Refrigerant type	R-134A
Pressure	
Maximum Condensing	0.03 ~ 2.60 MPaG (4.4 ~ 377.1psiG)
Evaporating	0.03 ~ 0.69 MPaG (4.4~100.1 psiG)
Compression Ratio	10 or less (See Note 1)
Abnormal Rise in pressure	2.94 MPaG (426.4 psiG) or less
Temperature	
Condensing	-20°C ~ 81°C
Evaporating	-20°C ~ 31°C
Discharged Gas (max)	115°C (239°F), In case of Heat pump or De-humidipier, this limit is 110°C (230°F) (See Note 2)
Suction Gas (max)	must be over 0°C (No liquid back) (See Note 2)
Discharged gas 's superheat	20°C or more
Outdoor Ambient Temp.	Air cond : 20°C ~ 43°C (68°F ~ 109.4°F) Heat Pump : -10°C ~ 43°C (14°F ~ 109.4°F)
Electrical	
Supply voltage during operation	Rated voltage ±10%
Starting voltage	Minimum 80% of rated voltage (at 1.01MPa balancing pressure) In case of 208 - 230 V Rated Voltage (N-code compressor), the starting voltage shall be 85% or more. This shall be measured at compressor terminal at instance of start
Reverse phase (rotation)	Not possible
Frequency range	Rated Frequency ± 2%
ON/OFF	
ON/OFF Frequency	Less than 170,000 cycles
ON/OFF Cycle	The ON/OFF cycle shall be a maximum of 10 time/hour. OFF time shall be the time until the high side pressure reach to balance pressure (more than 3 min)
Pipe Stress	3.5 kg/mm² or less at start and stop condition (1.8 kg/mm² during operation)
Refrigerant Circuit	
Maximum Refrigerant Charge	See in General Spec
Evacuation level	Degree of vaccum equivalent to about 133 Pa (abs) (1.0mmHg)
Piping length between indoor and outdoor units	Max. 15 m. for RB135 - RB165 Max. 20 m. for RB174 - RB 313
Elevation between indoor and outdoor units	Max. 7 m. for RB135 - RB165 Max. 15 m. for RB174 - RB 313
Piping vibration	Maximum 0.8 mm.
Inclination of compressor	Within 5°

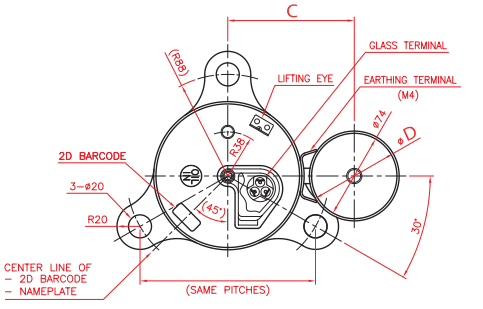
Note :
1. High compression ratio test ; C.T./E.T. = 62/-12°C ; has been performed already.
2. The temperature must be lower than this critical value even the unit has been using for many years.
3. These Piping Length and Elevation for all seriesare based on pipe size following this ; Liquid : Ø 9.52 mm. (3/8") Gas : Ø15.88 mm. (5/8")

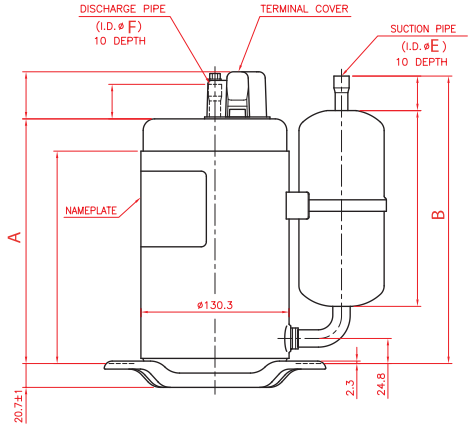
Models	Capacity			Input		Norminal Output		COP.	EER.	Run Cap.	Weight
	W	Kcal/hr	Btu/hr	Watt	Amps	HP	KW.	(W/W)	(Btu/hr*w)	(μF/VAC)	(kgs.)
High EER Models											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
RV092VDCMT	2,240	1,926	7,643	820	3.80	0.94	0.70	2.73	9.32	25/370	14.7
RV125VABMT	2,950	2,537	10,065	1,100	5.10	1.21	0.90	2.68	9.15	30/370	16.0
RV130VCAMT	3,270	2,812	11,157	1,140	5.20	1.21	0.90	2.87	9.79	30/370	15.8
RV135VCAMT	3,400	2,924	11,601	1,180	5.50	1.21	0.90	2.88	9.83	30/370	15.8
RV174VAAMT	4,460	3,836	15,218	1,530	7.20	1.74	1.30	2.92	9.95	40/370	15.9
RV220VBBMT	5,510	4,739	18,800	1,950	9.10	2.15	1.60	2.83	9.64	45/400	16.6
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
PV23VAAMT	5,880	5,057	20,063	2,080	9.40	2.41	1.80	2.83	9.65	60/420	23.7

Note :
1. Testing condition ARI, for V code at 1 Phase 220 Volt 50 Hz.
2. All figures indicated are nominal value, for detailed specification, please contact sales representative.
3. Oil type is FW68S.

	Dimension (mm.)					
	A	B	C	D	E	F
RV092	213.1	243.8	101.0	65.1	9.6	9.6
RV125-135	257.5	260.5	110.5	78.0	12.7	9.6
RV174-189	257.5	287.5	110.5	78.0	12.7	9.6
RV220	269.5	287.5	110.5	78.0	12.7	9.6
PV23	317.6	308.9	-	79.0	16.0	9.6

RV





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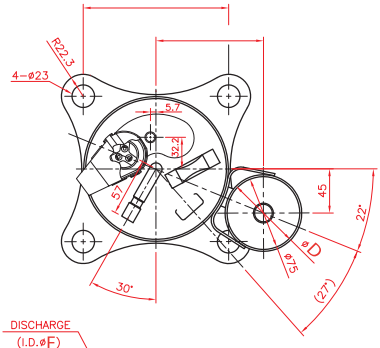
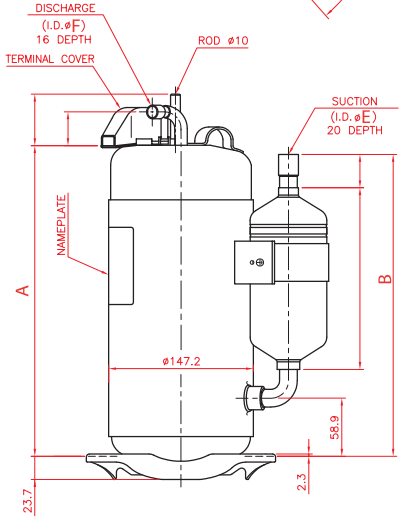




R-32

Operation Standards and Limits of R-32 Compressor RV, PV Model

Models	RV	PV
Compressor		
Type	Rolling Piston Type Rotary	
Displacement (cc/rev.)	9.2 ~ 22.0	23.0
Refrigerant type	R-32	
Pressure		
Condensing	0.21 ~ 4.28 MPaG (30.5 ~ 620.8 psiG)	
Evaporating	0.21~ 1.63 MPaG (30.5 ~ 236.4 psiG)	
Compression Ratio	9 or less	
Abnormal Rise in pressure	5.88 MPaG (852.8 psiG) or less	
Temperature		
Condensing	-27°C ~ + 65°C	
Evaporating	-27°C ~ +26°C	
Discharged Gas (max)	120°C (248°F), In case of Heat pump or De-humidipier, this limit is 115°C (239°F) (See Note 2)	
Suction Gas (max)	must be over 0°C (No liquid back) (See Note 2)	
Discharged gas 's superheat	20°C or more	
Outdoor Ambient Temp.	Air cond : 20°C ~ 50°C (68°F ~ 122°F), Heat Pump : -10°C ~ 50°C (14°F ~ 122°F)	
Electrical		
Supply voltage during operation	Rated voltage ±10%	
Starting voltage	Minimum 80% of rated voltage (at 1.64 MPa balancing pressure) In case of 208 - 230 V Rated Voltage (N-code compressor), the starting voltage shall be 85% or more. This shall be measured at compressor terminnal at instance of start	
Reverse phase (rotation)	Not possible	
Frequency range	Rated Frequency ± 2%	
ON/OFF		
ON/OFF Frequency	Less than 170,000 cycles	
ON/OFF Cycle	The ON/OFF cycle shall be a maximum of 10 time/hour. OFF time shall be the time until the high side pressure reach to balance pressure (more than 3 min)	
Pipe Stress	3.5 kg/mm² or less at start and stop condition (1.8 kg/mm² during operation)	
Refrigerant Circuit		
Maximum Refrigerant Charge	See in General Spec	
Evacuation level	Degree of vaccum equivalent to about 133 Pa (abs) (1.0 mmHg)	
Piping length between indoor and outdoor units	Max. 15 m. for RV130-RV165 Max. 20 m. for RV16-RV 313	Max. 30 m. (See also Note 3)
Elevation between indoor and outdoor units	Max. 7 m. for RV130-RV165 Max. 15 m. for RV167-RV 313	Max. 30 m. (See also Note 3)
Piping vibration	Maximum 0.8 mm.	
Inclination of compressor	Within 5°	

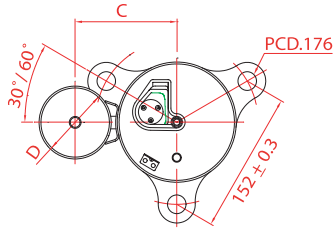
Note :
1. High compression ratio test ; C.T./E.T. = 62/-12°C ; has been performed already.
2. The temperature must be lower than this critical value even the unit has been using for many years.
3. These Piping Length and Elevation for all series are based on pipe size following this ; Liquid : Ø 9.52 mm. (3/8") Gas : Ø15.88 mm. (5/8")

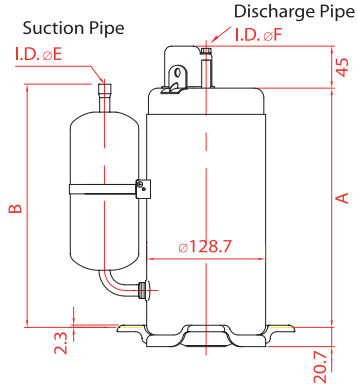
Models	Capacity			Input		Norminal Output		COP.	EER.	Run Cap.	Weight
	W	Kcal/hr	Btu/hr	Watt	Amps	HP	KW.	(W/W)	(Btu/hr*w)	(μF/VAC)	(kgs.)
High EER Models											
RE											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
RE135VHSMT	2,240	1,926	7,463	730	3.30	0.87	0.65	3.07	10.47	25 / 370	13.2
RE145VHSMT	2,420	2,081	8,257	790	3.60	0.94	0.70	3.06	10.45	25 / 370	13.2
RE154VHSMT	2,580	2,219	8,803	840	3.80	1.01	0.75	3.07	10.48	25 / 370	13.2
RE165VHSMT	2,770	2,382	9,451	890	4.10	1.07	0.80	3.11	10.62	25 / 370	13.2
RE174VHSMT	2,920	2,511	9,963	940	4.30	1.07	0.80	3.11	10.60	25 / 370	13.2
RE189VHSMT	3,210	2,761	10,953	1,010	4.80	1.14	0.85	3,18	10.84	30 / 370	15.1
RE197VHSMT	3,330	2,864	11,362	1,050	5.00	1.21	0.90	3.17	10.82	30 / 370	15.1
RE207VHSMT	3,520	3,027	12,010	1,110	5.20	1.34	1.00	3.17	10.82	30 / 370	15.1
RE231VHSMT	3,940	3,388	13,443	1,250	5.90	1.48	1.10	3.15	10.75	30 / 400	15.1
RE247VHSMT	4,220	3,629	14,399	1,340	6.40	1.61	1.20	3.15	10.75	35 / 400	15.1
RE277VHSMT	4,700	4,042	16,036	1,520	7.20	1.74	1.30	3.09	10.55	40 / 370	15.1
RE313VADMT	5,380	4,626	18,357	1,770	8.34	1.74	1.30	3.04	10.37	45 / 370	15.7
b) Electrical 60 Hz : 115 - 120 Volt : 1 Phase											
RE135WHHMT	2,850	2,451	9,724	890	7.89	0.87	0.65	3.20	10.93	75 / 220	13.3
RE174WHHMT	3,640	3,130	12,420	1,130	9.93	1.14	0.85	3.22	10.99	85 / 220	13.2
c) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
RE135NHHMT	2,720	2,338	9,281	868	4.12	0.87	0.65	3.13	10.67	25 / 370	13.3
RE174NHHMT	3,610	3,104	12,317	1,138	4.19	1.07	0.80	3.17	10.82	25 / 370	13.2
RE189NRAMT	4,000	3,439	13,648	1,280	6.00	1.20	0.90	3.13	10.66	30 / 370	15.1
RE207NRAMT	4,250	3,654	14,501	1,350	6.34	1.34	1.00	3.15	10.74	30 / 370	15.1
RE231NRAMT	4,760	4,093	16,241	1,511	6.96	1.48	1.10	3.15	10.75	30 / 370	15.1
RE277NRAMT	5,660	4,867	19,312	1,805	8.55	1.74	1.30	3.14	10.70	40 / 370	15.4

Note :
1. Testing condition ASRE-T, for V code at 1Phase 220Volt 50Hz, for N code at 1Phase 220Volt 60Hz, for W code at 1Phase 115Volt 60Hz
2. All figures indicated are nominal value, for detailed specification, please contact sales representative
3. Oil type is FV50S(5/8")

	Dimension (mm.)					
	A	B	C	D	E	F
RE135-174VHSMT RE135-174WHHMT RE135-174NHHMT	211.3	240.8	101.0	60.5	9.6	8.0
RE189-277VHSMT RE207-277NRAMT	256.2	260.5	110.5	74.0	12.7	8.0
RE313VADMT	261.2	282.5	110.5	74.0	12.7	9.7

RE





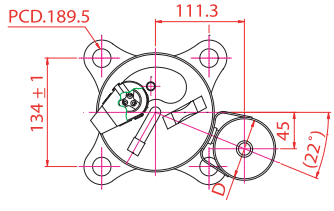
Specifications of PE, NE Model

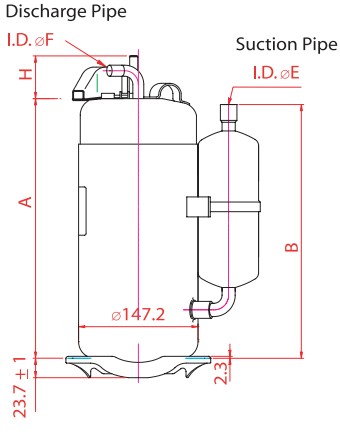
Models	Capacity			Input		Norminal Output		COP.	EER.	Run Cap.	Weight
	W	Kcal/hr	Btu/hr	Watt	Amps	HP	KW.	(W/W)	(Btu/hr*w)	(μF/VAC)	(kgs.)
High EER Models											
PE											
4Legs											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
PE33VPEMT	5,777	4,967	19,711	1,850	8.60	2.01	1.50	3,12	10.65	50 / 370	22.7
PE36VPEMT	6,227	5,354	21,247	2,010	9.40	2.15	1.60	3.10	10.57	55 / 400	22.7
PE39VPEMT	6,664	5,730	22,738	2,150	10.10	2.28	1.70	3.10	10.58	60 / 450	22.7
PE41VPJMT	7,360	6,328	25,114	2,305	10.80	2.55	1.90	3.19	10.89	60 / 450	22.3
b) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
PE33NPBMT	6,877	5,917	23,464	2,210	10.40	2.01	1.50	3.11	10.62	35 / 370	22.7
PE36NPBMT	7,427	6,386	25,341	2,400	11.30	2.15	1.60	3.09	10.56	35 / 370	22.7
PE39NPBMT	7,981	6,862	27,231	2,580	12.10	2.28	1.70	3.09	10.55	35 / 370	22.7
3Legs											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
PE33VTEMT	5,777	4,967	19,711	1,850	8.60	2.01	1.50	3.12	10.65	50 / 370	22.7
PE36VTEMT	6,227	5,354	21,247	2,010	9.40	2.15	1.60	3.10	10.57	55 / 400	22.7
PE39VTEMT	6,664	5,730	22,738	2,150	10.10	2.28	1.70	3.10	10.58	60 / 450	22.7
PE41VTJMT	7,360	6,328	25,114	2,305	10.80	2.55	1.90	3.19	10.89	60 / 450	22.3
b) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
PE33NTBMT	6,877	5,913	23,464	2,210	10.40	2.01	1.50	3.11	10.62	35 / 370	22.7
PE36NTBMT	7,427	6,386	25,341	2,400	11.30	2.15	1.60	3.09	10.56	35 / 370	22.7
PE39NTBMT	7,981	6,862	27,231	2,580	12.10	2.28	1.70	3.09	10.55	35 / 370	22.7
High EER Models											
NE											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
NE41VNHMT	7,270	6,252	24,805	2,330	10.60	2.55	1.90	3.12	10.65	45 / 420	31.3
NE44VNHMT	7,850	6,751	26,784	2,500	11.70	2.68	2.00	3.14	10.71	50 / 420	31.3
NE47VNHMT	8,380	7,207	28,593	2,670	12.40	2.95	2.20	3.14	10.71	50 / 420	32.2
NE52VNHMT	9,380	8,067	32,005	3,020	14.10	3.35	2.50	3.11	10.60	60 / 450	32.2
NE56VNHMT	10,260	8,824	35,007	3,360	15.90	3.62	2.70	3.05	10.42	60 / 420	32.2
b) Electrical 50/60 Hz : 380 - 415 Volt : 3 Phases											
NE41YDNMT	7,150	6,149	24,396	2,210	3.80	2.55	1.90	3.24	11.04	-	30.3
NE44YDNMT	7,790	6,699	26,579	2,420	4.10	2.68	2.00	3.22	10.98	-	30.3
NE47YDNMT	8,350	7,181	28,490	2,580	4.50	2.95	2.20	3.24	11.04	-	30.3
NE52YDNMT	9,480	8,153	32,346	2,950	5.20	3.35	2.50	3.21	10.96	-	31.3
NE56YDNMT	10,200	8,772	34,802	3,240	5.60	3.62	2.70	3.15	10.74	-	32.2

Note :
1. Testing condition ASRE-T, for V code at 1Phase 220Volt 50Hz, for N code at 1Phase 220Volt 60Hz.
2. All figures indicated are nominal value, for detailed specification, please contact sales representative.
3. Oil type is FV50S.

		Dimension (mm.)					
		A	B	D	E	F	H
PE (4Legs)	PE33-39VPEMT PE33-39NPBMT	316.3	308.9	74.0	16.0	9.6	52.0
	PE41VPJMT	316.3	308.9	74.0	16.0	9.6	None
PE (3Legs)	PE33-39VTEMT PE33-39NTBMT	316.3	308.9	74.0	16.0	9.6	52.0
	PE41VTJMT	316.3	308.9	74.0	16.0	9.6	None
NE	NE41-56VNHMT	341.3	392.3	74.0	16.0	9.6	52.0
	NE41-56YDNMT	341.3	392.3	74.0	16.0	9.6	None

PE (4Legs)

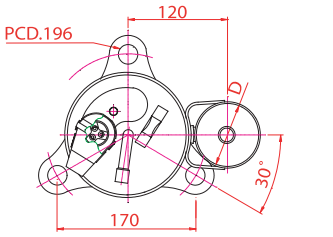


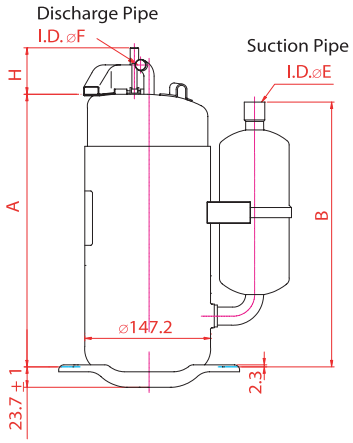


Models	RE	PE	NE
Compressor			
Type	Rolling Piston Type Rotary		
Displacement (cc/rev.)	13.5 ~ 31.3	28.1 ~ 41.7	28.0 ~ 38.8, 41.8 ~ 56.9
Refrigerant type	R-407C		
Pressure			
Maximum Condensing	1.10 ~ 2.83 MPaG (159.5 ~ 410.4 psiG)		
Evaporating	0.26 ~ 0.73 MPaG (37.7~105.9 psiG)		
Compression Ratio	6 or less	8 or less (See Note 1)	
Abnormal Rise in pressure	4.9 MPaG (710.6 psiG) or less		
Temperature			
Condensing	28°C ~ + 65°C		
Evaporating	-10°C ~ 15°C		
Discharged Gas (max)	120°C (248°F), In case of Heat pump or De-humidipier, this limit is 115°C (239°F) (See Note 2)		
Suction Gas (max)	must be over 0°C (No liquid back) (See Note 2)		
Discharged gas 's superheat	20°C or more		
Outdoor Ambient Temp.	Air cond : 20°C ~ 43°C (68°F ~ 109.4°F) Heat Pump : -10°C ~ 43°C (14°F ~ 109.4°F)		
Electrical			
Supply voltage during operation	Rated voltage ±10%		
Starting voltage	Minimum 80% of rated voltage (at 1.01 MPa balancing pressure) In case of 208- 230 V Rated Voltage (N-code compressor), the starting voltage shall be 85% or more. This shall be measured at compressor terminal at instance of start		
Reverse phase (rotation)	Not possible		
Frequency range	Rated Frequency ± 2%		
ON/OFF			
ON/OFF Frequency	Less than 170,000 cycles		
ON/OFF Cycle	The ON/OFF cycle shall be a maximum of 10 time/hour. OFF time shall be the time until the high side pressure reach to balance pressure (more than 3 min)		
Pipe Stress	3.5 kg/mm² or less at start and stop condition (1.8 kg/mm² during operation)		
Refrigerant Circuit			
Maximum Refrigerant Charge	See in General Spec		
Evacuation level	Degree of vaccum equivalent to about 133 Pa (abs) (1.0 mmHg)		
Piping length between indoor and outdoor units	Max. 15 m. for RE130 - RE165 Max. 20 m. for RE167 - RE 313	Max. 30 m. (See also Note 3)	
Elevation between indoor and outdoor units	Max. 7 m. for RE130 - RE165 Max. 15 m. for RE167 - RE 313	Max. 30 m. (See also Note 3)	
Piping vibration	Maximum 0.8 mm.		
Inclination of compressor	Within 5°		

Note :
1. High compression ratio test ; C.T./E.T. = 62/-12°C ; has been performed already.
2. The temperature must be lower than this critical value even the unit has been using for many years.
3. These Piping Length and Elevation for all series are based on pipe size following this ; Liquid : Ø 9.52 mm. (3/8") Gas : Ø15.88 mm. (5/8")

PE (3Legs)





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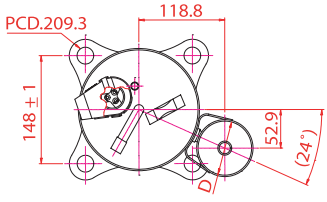
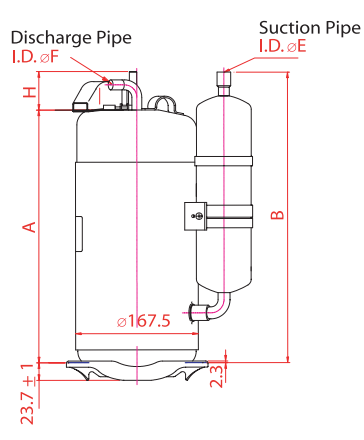


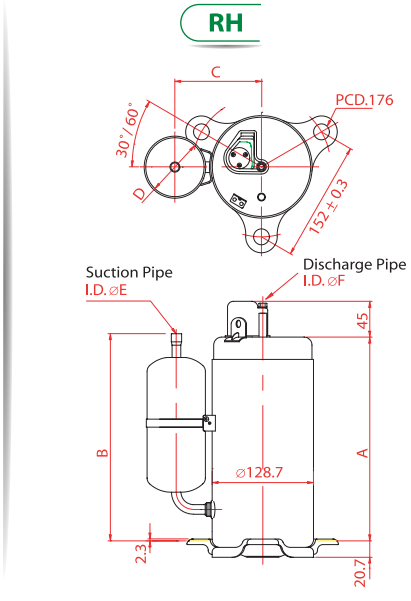


Specifications of RH Model

Models	Capacity			Input		Norminal Output		COP.	EER.	Run Cap.	Weight
	W	Kcal/hr	Btu/hr	Watt	Amps	HP	KW.	(W/W)	(Btu/hr*w)	(μF/VAC)	(kgs.)
High EER Models											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
RH130VHST	2,255	1,939	7,694	700	3.22	0.87	0.65	3.22	10.99	25/370	13.3
RH135VHST	2,325	1,999	7,933	720	3.31	0.87	0.65	3.23	11.02	25/370	13.3
RH145VHST	2,488	2,139	8,489	770	3.56	0.94	0.70	3.23	11.02	25/370	13.3
RH154VHST	2,662	2,289	9,083	820	3.79	1.01	0.75	3.25	11.08	25/370	13.3
RH165VHST	2,872	2,469	9,799	890	4.12	1.07	0.80	3.23	11.01	25/370	13.3
RH174VHST	2,998	2,578	10,229	930	4.30	1.14	0.85	3.22	11.00	25/370	13.3
RH197VHST	3,468	2,982	11,833	1,058	4.92	1.34	1.00	3.28	11.18	30/370	15.4
RH207VHST	3,670	3,156	12,522	1,140	5.30	1.34	1.00	3.22	10.98	30/370	15.4
RH220VHST	3,906	3,359	13,327	1,210	5.65	1.41	1.05	3.23	11.01	30/370	15.4
RH247VHST	4,372	3,759	14,917	1,360	6.32	1.61	1.20	3.21	10.97	35/370	15.4
RH277VHST	4,848	4,169	16,541	1,530	7.10	1.74	1.30	3.17	10.81	40/370	15.4
RH313VAGT	5,640	4,850	19,244	1,746	8.43	1.74	1.30	3.23	11.02	45/370	15.7
RH313VAJT	5,640	4,850	19,244	1,746	8.43	1.74	1.30	3.23	11.02	45/370	15.7
b) Electrical 60 Hz : 115 - 120 Volt : 1 Phase											
RH130WHHT	2,697	2,319	9,202	850	7.50	0.87	0.65	3.17	10.83	75/220	13.3
RH140WHHT	2,918	2,509	9,956	920	8.15	0.94	0.70	3.17	10.82	80/220	13.3
RH145WHHT	3,046	2,619	10,393	960	8.50	0.94	0.70	3.17	10.83	80/220	13.3
RH165WHHT	3,453	2,969	11,782	1,090	9.65	1.07	0.80	3.17	10.81	85/220	13.3
RH189WRAT	4,011	3,449	13,686	1,270	11.25	1.21	0.90	3.16	10.78	100/220	15.4
RH197WRAT	4,081	3,509	13,924	1,300	11.50	1.21	0.90	3.14	10.71	100/220	15.4
c) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
RH130NHHT	2,697	2,319	9,202	840	3.85	0.87	0.65	3.21	10.95	25/370	13.3
RH135NHHT	2,825	2,429	9,639	885	4.10	0.87	0.65	3.19	10.89	25/370	13.3
RH140NHHT	3,000	2,580	10,236	935	4.30	0.94	0.70	3.21	10.95	25/370	13.3
RH145NHHT	3,070	2,640	10,475	950	4.40	0.94	0.70	3.23	11.03	25/370	13.3
RH154NHHT	3,220	2,769	10,987	995	4.58	1.01	0.75	3.24	11.04	30/370	13.3
RH167NRAT	3,558	3,059	12,140	1,100	5.06	1.07	0.80	3.23	11.04	30/370	15.4
RH174NHHT	3,745	3,220	12,778	1,160	5.35	1.07	0.80	3.23	11.02	25/370	13.3
RH189NRAT	4,047	3,480	13,808	1,250	5.76	1.21	0.90	3.24	11.05	30/370	15.4
RH197NRAT	4,209	3,619	14,361	1,305	6.00	1.21	0.90	3.23	11.00	30/370	15.4
RH207NRAT	4,418	3,799	15,074	1,370	6.35	1.34	1.00	3.22	11.00	30/370	15.4
RH220NRAT	4,674	4,019	15,948	1,450	6.70	1.48	1.10	3.22	11.00	35/370	15.4
RH231NRAT	4,941	4,248	16,859	1,540	7.16	1.48	1.10	3.21	10.95	35/370	15.4
RH247NRAT	5,267	4,529	17,971	1,650	7.65	1.61	1.20	3.19	10.89	35/370	15.4
RH277NRAT	5,884	5,059	20,076	1,840	8.55	1.74	1.30	3.20	10.91	40/370	15.4
RH313NRAT	6,700	5,761	22,860	2,140	9.91	2.41	1.80	3.13	10.68	45/400	15.7
Premium High EER Models											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
RH197VHRT	3,610	3,104	12,317	1,060	5.12	1.34	1.00	3.41	11.62	30/370	15.1
RH207VHRT	3,712	3,192	12,665	1,097	5.21	1.34	1.00	3.38	11.55	30/370	15.1
RH207VRJT	3,740	3,216	12,761	1,090	5.14	1.34	1.00	3.43	11.71	30/370	15.1
RH277VRNT	4,780	4,110	16,309	1,480	6.85	1.70	1.30	3.23	11.02	40/370	15.3
RH277VHRT	4,930	4,239	16,821	1,507	7.16	1.74	1.30	3.27	11.16	40/370	15.4
RH313VAMT	5,650	4,858	19,278	1,700	7.95	1.70	1.30	3.32	11.34	50/370	16.1
b) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
RH207NRHT	4,580	3,938	15,627	1,355	6.28	1.34	1.00	3.38	11.53	35/370	15.4
Compact Models											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
RH207VRFT	3,600	3,095	12,283	1,150	5.30	1.34	1.00	3.13	10.68	40/400	12.4
RH220VRFT	3,850	3,310	13,136	1,240	5.80	1.34	1.00	3.10	10.59	40/400	12.4

Note :
1. Testing condition ASRE-T, for V code at 1Phase 220 Volt 50 Hz, for N code at 1 Phase 220 Volt 60 Hz, for W code at 1 Phase 115 Volt 60 Hz.
2. All figures indicated are nominal value, for detailed specification, please contact sales representative.
3. Oil type is NM 56 EP.

	Dimension (mm.)					
	A	B	C	D	E	F
RH130-174VHST RH130-165WHHT RH130-174NHHT	211.3	240.8	101.0	60.5	9.6	8.0
RH207-220VRFT	211.3	240.8	101.0	60.5	12.7	8.0
RH189-277NRAT RH277NRHT	246.2	258.5	101.0	60.5	9.6	8.0
RH189-277VHST RH189-197WRAT RH197-207VHRT RH207VRJT	256.2	260.5	110.5	74.0	12.7	8.0
RH277VHRT	256.2	265.5	110.5	74.0	12.7	8.0
RH313VAGT RH313VAJT	261.2	282.5	110.5	74.0	12.7	9.6
RH313NRAT	261.2	289.5	110.5	74.0	16.0	9.6
RH313VAMT	268.2	287.5	110.5	74.0	12.7	9.6

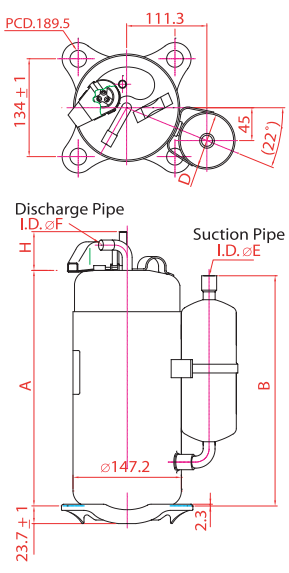


Models	Capacity			Input		Norminal Output		COP.	EER.	Run Cap.	Weight
	W	Kcal/hr	Btu/hr	Watt	Amps	HP	KW.	(W/W)	(Btu/hr*w)	(μF/VAC)	(kgs.)
High EER Models											
4Legs											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
PH33VPET	5,978	5,140	20,397	1,850	8.60	2.01	1.50	3.23	11.03	50/370	22.3
PH36VPET	6,466	5,560	22,062	2,015	9.30	2.15	1.60	3.21	10.95	55/400	22.3
PH39VPET	6,885	5,920	23,492	2,150	10.00	2.28	1.70	3.20	10.93	60/400	22.3
PH41VPJT	7,519	6,465	25,655	2,355	11.00	2.55	1.90	3.19	10.89	60/400	22.3
b) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
PH33NPBT	7,118	6,120	24,287	2,200	10.80	2.01	1.50	3.24	11.04	35/370	21.8
PH36NPBT	7,734	6,650	26,388	2,390	11.60	2.15	1.60	3.24	11.04	35/370	22.1
PH39NPBT	8,257	7,100	28,173	2,560	12.60	2.28	1.70	3.23	11.01	35/370	22.1
PH41NPBT	8,930	7,678	30,469	2,850	13.40	2.55	1.90	3.13	10.69	45/420	22.1
3Legs											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
PH33VTET	5,978	5,140	20,397	1,850	8.60	2.01	1.50	3.23	11.03	50/370	22.3
PH36VTET	6,466	5,560	22,062	2,015	9.30	2.15	1.60	3.21	10.95	55/400	22.3
PH39VTET	6,885	5,920	23,492	2,150	10.00	2.28	1.70	3.20	10.93	60/400	22.3
PH41VTJT	7,519	6,465	25,655	2,355	11.00	2.55	1.90	3.19	10.89	60/400	22.3
b) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
PH33NTBT	7,118	6,120	24,287	2,200	10.80	2.01	1.50	3.23	11.04	35/370	21.8
PH36NTBT	7,734	6,650	26,388	2,390	11.60	2.15	1.60	3.23	11.04	35/370	22.1
PH39NTBT	8,257	7,100	28,173	2,560	12.60	2.28	1.70	3.22	11.01	35/370	22.1
PH41NTJT	8,930	7,678	30,469	2,850	13.40	2.55	1.90	3.13	10.69	45/420	22.1
Premium High EER Models											
4Legs											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
PH36VPTT	6,685	5,748	22,809	1,970	9.00	2.15	1.60	3.39	11.58	60/450	22.5
PH36VPXT	6,685	5,748	22,809	2,000	9.30	2.15	1.60	3.34	11.40	55/400	22.4
PH39VPXT	7,170	6,165	24,464	2,145	10.00	2.30	1.70	3.34	11.41	60/450	22.8
Compact Models											
4Legs											
a) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
PH33NXBT	7,118	6,120	24,287	2,200	10.80	2.01	1.50	3.24	11.04	50/400	20.9
PH36NXBT	7,734	6,650	26,388	2,390	11.60	2.15	1.60	3.24	11.04	60/450	21.4
3Legs											
a) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
PH36NWBT	7,734	6,650	26,388	2,390	11.60	2.15	1.60	3.24	11.04	60/450	20.9

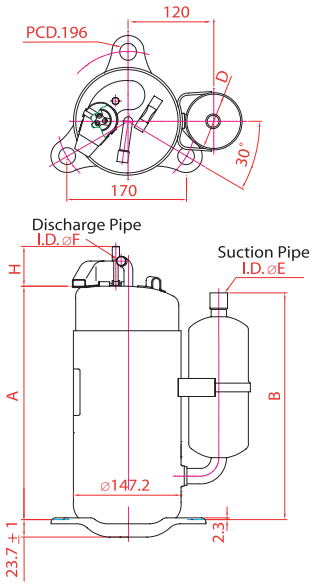
Note :
1. Testing condition ASRE-T, for V code at 1 Phase 220 Volt 50Hz, for N code 1 Phase 220 Volt 60 Hz.
2. All figures indicated are nominal value, for detailed specification, please contact sales representative.
3. Oil type is NM56EP.

		Dimension (mm.)					
		A	B	D	E	F	H
PH (4Legs)	PH33-39VPET PH33-41NPBT PH33-39VPXT	316.3	308.9	74.0	16.0	9.6	52.0
	PH41VPJT	316.3	308.9	74.0	16.0	9.6	None
PH (3Legs)	PH33-39VTET PH33-39NTBT	316.3	308.9	74.0	16.0	9.6	52.0
	PH41VTJT PH41NTJT	316.3	308.9	74.0	16.0	9.6	None
PH (4Legs) Compact	PH33-36NXBT	282.2	295.8	74.0	16.0	9.6	45.0
PH (3Legs) Compact	PH36NWBT	281.3	293.9	74.0	16.0	9.6	45.0

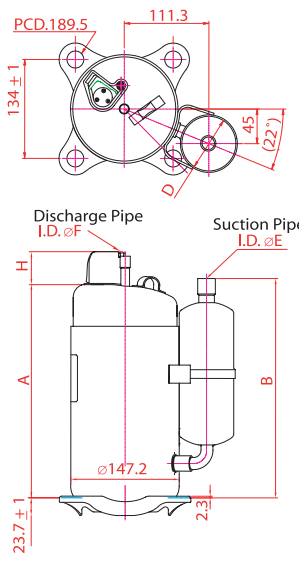
PH (4Legs)



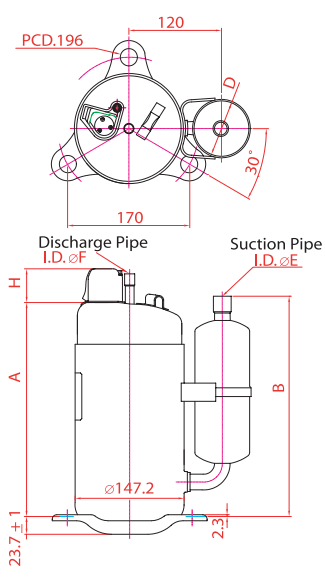
PH (3Legs)



PH Compact (4Legs)



PH Compact (3Legs)



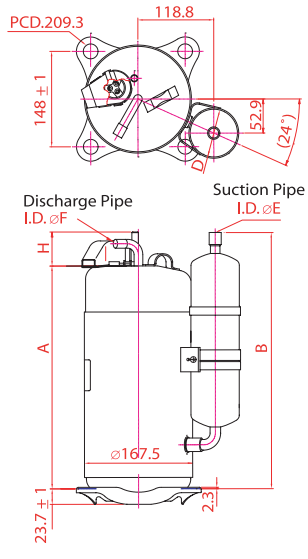
Specifications of NH Model

Models	Capacity			Input		Norminal Output		COP.	EER.	Run Cap.	Weight
	W	Kcal/hr	Btu/hr	Watt	Amps	HP	KW.	(W/W)	(Btu/hr*w)	(μF/VAC)	(kgs.)
High EER Models											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
NH41VNHT	7,570	6,510	25,829	2,410	10.90	2.55	1.90	3.14	10.72	45/420	31.3
NH44VNHT	7,800	6,708	26,614	2,440	11.00	2.68	2.00	3.20	10.91	50/420	30.3
NH47VNHT	8,500	7,310	29,002	2,700	12.60	2.95	2.20	3.15	10.74	50/420	31.2
NH52VNHT	9,674	8,320	33,008	3,100	14.20	3.35	2.50	3.12	10.65	60/450	31.2
NH56VNHT	10,572	9,092	36,072	3,450	15.80	3.62	2.70	3.06	10.46	60/450	32.2
b) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
NH41NAHT	9,405	8,088	32,090	2,894	12.90	2.55	1.90	3.25	11.09	50/400	32.2
NH44NAHT	9,884	8,500	33,724	3,095	14.10	2.68	2.00	3.19	10.90	55/380	31.8
NH47NAHT	10,570	9,090	36,065	3,340	15.10	2.95	2.20	3.16	10.80	60/450	31.8
NH52NAHT	11,692	10,055	39,893	3,710	16.81	3.35	2.50	3.15	10.75	65/400	31.8
NH56NAHT	12,860	11,060	43,878	4,100	18.68	3.62	2.70	3.14	10.70	65/400	32.2
c) Electrical 50 Hz : 380 - 415 Volt : 3 Phases											
NH41YDTT	7,450	6,407	25,419	2,310	3.95	2.55	1.90	3.23	11.00	-	30.3
NH44YDTT	8,100	6,966	27,637	2,510	4.30	2.68	2.00	3.23	11.01	-	29.3
NH47YDTT	8,650	7,439	29,514	2,680	4.60	2.95	2.20	3.23	11.01	-	29.3
NH52YDTT	9,710	8,351	33,131	3,010	5.30	3.35	2.50	3.23	11.01	-	30.3
NH56YDTT	10,650	9,159	36,338	3,300	5.85	3.62	2.70	3.23	11.01	-	32.2
d) Electrical 50/60 Hz : 200/200-230 Volt : 3 Phases											
NH38TKAT	6,744	5,801	23,011	2,210	7.50	2.28	1.70	3.05	10.41	-	29.2
NH41TKAT	7,267	6,250	24,795	2,420	8.00	2.55	1.90	3.00	10.25	-	29.2
NH44TKAT	7,919	6,810	27,020	2,550	8.80	2.68	2.00	3.11	10.60	-	28.5
NH47TKAT	8,372	7,200	28,565	2,790	10.00	2.95	2.20	3.00	10.24	-	28.2
NH52TKAT	9,442	8,120	32,216	3,160	10.90	3.35	2.50	2.99	10.19	-	29.3
NH56TKAT	10,291	8,850	35,113	3,420	11.60	3.62	2.70	3.01	10.27	-	31.0
Premium High EER Models											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
NH41VNWT	7,529	6,475	25,689	2,216	10.20	2.55	1.90	3.40	11.59	45/420	30.2
NH44VNWT	8,270	7,111	28,217	2,475	11.60	2.80	2.10	3.34	11.40	50/420	30.7
NH47VNWT	8,800	7,568	30,026	2,634	12.20	2.95	2.20	3.34	11.40	55/400	30.7
NH52VNWT	9,850	8,471	33,608	3,000	13.90	3.35	2.50	3.28	11.20	55/400	30.7
Ultra Tough Models											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
NH41VXBT	7,570	6,510	25,829	2,410	10.90	2.55	1.90	3.14	10.72	45/420	31.3
NH44VXBT	8,100	6,966	27,637	2,550	11.80	2.68	2.00	3.18	10.84	50/420	31.2
NH47VXBT	8,650	7,439	29,514	2,750	12.60	2.95	2.20	3.15	10.73	50/420	31.2
NH52VXBT	9,674	8,320	33,008	3,100	14.20	3.35	2.50	3.12	10.65	60/450	31.2
NH56VXBT	10,572	9,092	36,072	3,450	15.80	3.62	2.70	3.06	10,47	60/450	31.2
b) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
NH44NXBT	9,884	8,500	33,724	3,095	14.10	2.68	2.00	3.19	10.90	55/380	31.8
NH47NXBT	10,570	9,090	36,065	3,340	15.10	2.95	2.20	3.16	10.80	60/450	31.8
NH52NXBT	11,692	10,055	39,893	3,710	16.81	3.35	2.50	3.15	10.75	65/400	31.8
NH56NXBT	13,050	11,223	44,527	4,200	18.68	3.62	2.70	3.11	10.60	65/400	32.2
c) Electrical 50 Hz : 380 - 415 Volt : 3 Phases											
NH41YXCT	7,450	6,407	25,419	2,310	3.95	2.55	1.90	3.23	11.00	-	30.3
NH47YXCT	8,650	7,439	29,514	2,680	4.60	2.95	2.20	3.23	11.01	-	29.3
NH52YXCT	9,710	8,351	33,131	3,010	5.30	3.35	2.50	3.23	11.01	-	30.6
NH56YXCT	10,650	9,159	36,338	3,300	5.85	3.62	2.70	3.23	11.01	-	31.3

Note :
1. Testing condition ASRE-T, for V code at 1 Phase 220 Volt 50 Hz, for N code 1 Phase 220 Volt 60 Hz, for Y code at 3 Phases 400 Volt 50 Hz.
2. All figures indicated are nominal value, for detailed specification, please contact sales representative.
3. Oil type is NM56EP.

	Dimension (mm.)					
	A	B	D	E	F	H
NH41-47VNHT NH44-47NXBT NH41-47NAHT NH38-47TKAT	341.3	392.3	74.0	16.0	9.6	52.0
NH41-47YDTT NH41-47YXCT	341.3	392.3	74.0	16.0	9.6	None
NH52-56VNHT NH44-52VNWT NH41-56VXBT NH52-56NAHT NH52-56NXBT NH52-56TKAT	341.3	392.3	74.0	19.1	9.6	52.0
NH52-56YDTT NH52-56YXCT	341.3	392.3	74.0	19.1	9.6	None
NH41VNWT	341.3	392.3	74.0	19.1	9.5	None

NH



Models	RH	PH	NH
Compressor			
Type	Rolling Piston Type Rotary		
Displacement (cc/rev.)	13.0 ~ 31.3	28.1 ~ 44.1	28.1 ~ 38.8, 41.8 ~ 56.9
Refrigerant type	R-22		
Pressure			
Condensing	1.03 ~ 2.60 MPaG (149.3 ~ 377 psiG)		
Evaporating	0.26 ~ 0.69 MPaG (37.7 ~ 100 psiG)		
Compression Ratio	6 or less	8 or less (See Note 1)	
Abnormal Rise in pressure	3.92 MPaG (568.5psiG) or less		
Temperature			
Condensing	28°C ~ 65°C (82.4°F ~ 149°F)		
Evaporating	-10°C ~ 15°C (14°F ~ 59°F)		
Discharged Gas (max)	120°C (248°F), In case of Heat pump or De-humidipier, this limit is 115°C (239°F) (See Note 2)		
Suction Gas (max)	must be over 0°C (No liquid back) (See Note 2)		
Discharged gas 's superheat	20°C or more		
Outdoor Ambient Temp.	Air cond : 20°C ~ 43°C (68°F ~ 109.4°F) Heat Pump : -10°C ~ 43°C (14°F ~ 109.4°F)		
Electrical			
Supply voltage during operation	Rated voltage ±10%		
Starting voltage	Minimum 80% of rated voltage (at 1.01MPa balancing pressure). In case of 208 - 230 V Rated Voltage (N-code compressor), the starting voltage shall be 85% or more. This shall be measured at compressor terminal at in stance of start		
Reverse phase (rotation)	Not possible		
Frequency range	Rated Frequency ± 2%		
ON/OFF			
ON/OFF Frequency	Less than 170,000 cycles		
ON/OFF Cycle	The ON/OFF cycle shall be a maximum of 10 time/hour. OFF time shall be the time until the high side pressure reach to balance pressure (more than 3 min)		
Pipe Stress	3.5 kg/mm² or less at start and stop condition (1.8 kg/mm² during operation)		
Refrigerant Circuit			
Maximum Refrigerant Charge	See in General Spec		
Evacuation level	Degree of vaccum equivalent to about 133 Pa (abs) (1.0 mmHg)		
Piping length between indoor and outdoor units	Max. 15 m. for RH130-RH165 Max. 20 m. for RH167-RH 313	Max. 30 m. (for Ultra Tough Model, Max. 50 m.) (See also Note 3)	
Elevation between indoor and outdoor units	Max. 7 m. for RH130-RH165 Max. 15 m. for RH167-RH 313	Max. 30 m. (See also Note 3)	
Piping vibration	Maximum 0.8 mm.		
Inclination of compressor	Within 5°		

Note :
1. High compression ratio test; C.T./E.T. = 62/-12°C ; has been performed already.
2. The temperature must be lower than this critical value even the unit has been using for many years.
3. These Piping Length and Elevation for all series are based on pipe size following this; Liquid : Ø 9.52 mm. (3/8") Gas : Ø15.88 mm. (5/8")

These ultra tropical rotary compressors which are suitably invented for high ambient zone, are prized for their extremely high reliable mechanism bringing to longer product life-time, powerful motor with compact size and light weight. All of these ultra tropical advanced features are resulting from our tropical market insight and our expert technology owned by MITSUBISHI ELECTRIC.

- Higher operating ambient temperature

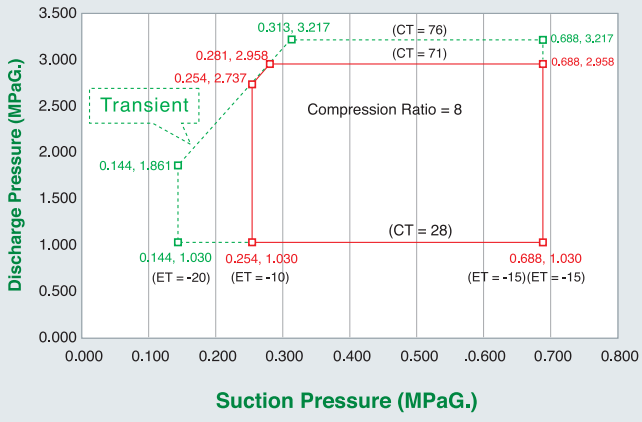
Up to 55°C (CT 68°C & CT 75°C for Transient) for R-410A
Up to 52°C (CT 68°C) for R-32
Up to 55°C (CT 71°C & CT 76°C for Transient) for R-22

- Higher operating pressure

Up to 5.00 MPaG (725.2 psiG) for R-410A
Up to 4.56 MPaG (661.4 psiG) for R-32
Up to 3.22 MPaG (468.5 psiG) for R-22

These ultra tropical compressors can superbly perform even in the very high temperature such as desert area. The well designed compressors are an ideal solution for every air-conditioning system in the world toughest tropical zone.

Operation Area of Ultra Tropical Model for R-22



- Mechanical Part Strenghtening

During high ambient temperature operation, parts of compressor contacting together are corrosion easily. With Mitsubishi technology, all critical parts are treated with specialized material and specific hardening process causing compressor to be more durable.

- High Torque Motor

Get greatest efficency from the high performance motor with our ultra tropical compressor, which torque optimized for higher high temperature condition.

Our Ultra Tropical Model Comprises of Non-Liquid Injection Model and Liquid Injection Model

The Non-Liquid injection model is designed for smaller capacity, with special motor that is able to withstand high temperature operation without extra cooling down feature.

The Liquid injection model is specially designed for higher motor capacity that liquid refrigerant injecting is needed to reduce an extremely high temperature in limited area of operation.

Non-Liquid Injection model

Liquid Injection model

From our compressor expertise and our experience in tropical design with full array of modern production line bring our ultra tropical compressor to be the genuine tropical compressor in the market.

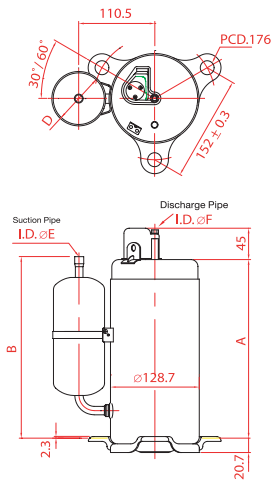
Models	Capacity			Input		Norminal Output		COP.	EER.	Run Cap.	Weight
	W	Kcal/hr	Btu/hr	Watt	Amps	HP	KW.	(W/W)	(Btu/hr*w)	(μF/VAC)	(kgs.)
Ulra Tropical R-410A											
RNT											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
RNT174V--MT*	4,170	3,586	14,228	1,390	6.40	1.61	1.20	3.00	10.24	40/370	15.3
RNT189V--MT*	4,400	3,784	15,013	1,550	7.20	1.74	1.30	2.84	9.69	40/370	15.3
RNT196V--MT*	4,860	4,180	16,582	1,640	7.80	1.74	1.30	2.96	10.11	50/370	15.7
RNT207V--MT*	5,380	4,627	18,357	1,720	8.10	1.88	1.40	3.13	10.67	45/420	14.9
b) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
RNT174N--MT*	5,140	4,420	17,538	1,670	7.70	2.00	1.49	3.08	10.50	40/370	15.8
RNT207N--MT*	6,190	5,323	21,120	2,040	9.30	2.36	1.76	3.03	10.35	55/400	16.0
RNT220N--MT*	6,650	5,719	22,690	2,130	9.90	2.49	1.86	3.12	10.65	55/400	15.8
PNT											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
PNT24V--MT*	6,220	5,349	21,223	2,040	9.40	2.41	1.80	3.05	10.40	60/420	23.7
PNT25V--MT*	6,400	5,504	21,837	2,100	9.60	2.41	1.80	3.05	10.40	60/420	23.7
PNT27V--MT*	6,700	5,762	22,860	2,260	10.30	2.55	1.90	2.96	10.12	60/420	24.1
PNT33V--MT*	8,490	7,301	28,968	2,920	13.30	3.08	2.30	2.91	9.92	65/420	24.5
b) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
PNT23N--MT*	7,120	6,123	24,293	2,355	10.70	2.68	2.00	3.02	10.32	50/400	24.1
NNT											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
NNT37V--MT*	9,350	8,041	31,902	3,220	15.00	3.75	2.80	2.90	9.91	60/420	31.6
NNT40V--MT*	10,250	8,815	34,973	3,500	16.30	4.02	3.00	2.93	9.99	60/420	31.6
NNT44V--MT*	11,300	9,718	38,556	3,870	18.80	4.43	3.30	2.92	9.96	65/440	31.6
b) Electrical 50 Hz : 380-415 Volt : 3 Phases											
NNT37Y--MT*	9,350	8,041	31,902	3,110	5.30	3.62	2.70	3.01	10.26	-	31.0
NNT40Y--MT*	10,250	8,815	34,973	3,410	5.80	3.89	2.90	3.01	10.26	-	31.9
Ultra Tropical R-32											
RVT											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
RVT125V--MT*	3,010	2,589	10,270	1,110	5.10	1.21	0.90	2.77	9.45	30/370	15.9
RVT135V--MT*	3,400	2,924	11,601	1,180	5.50	1.21	0.90	2.88	9.83	30/370	15.7
RVT174V--MT*	4,320	3,715	14,740	1,510	7.20	1.74	1.30	2.86	9.76	40/370	16.0
RVT189V--MT*	4,730	4,068	16,139	1,680	8.00	1.88	1.40	2.82	9.61	45/370	16.2
RVT220VBBMT	5,590	4,807	19,073	1,950	9.00	1.88	1.40	2.87	9.78	50/400	16.9
PVT											
PVT23V--MT*	5,940	5,108	20,267	2,160	10.00	2.41	1.80	2.75	9.38	55/400	24.2
PVT25V--MT*	6,380	5,487	21,769	2,260	9.60	2.55	1.90	2.82	9.63	60/420	24.4
Ultra Tropical R-22											
RHT											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
RHT313VADT	5,580	4,798	19,039	1,835	8.50	1.74	1.30	3.04	10.38	50/400	15.7
b) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
RHT277NAAT	5,880	5,056	20,063	1,840	8.55	1.74	1.30	3.20	10.90	40/370	15.4
PHT											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
4Legs											
PHT33VXET	6,000	5,159	20,472	1,880	8.80	2.01	1.50	3.19	10.89	60/450	20.9
PHT41VBAT	7,519	6,465	25,655	2,355	11.00	2.55	1.90	3.19	10.89	60/450	22.7
3Legs											
PHT33VWET	6,000	5,159	20,472	1,880	8.80	2.01	1.50	3.19	10.89	60/450	20.9
PHT41VDAT	7,519	6,465	25,655	2,355	11.00	2.55	1.90	3.19	10.89	60/450	22.7
b) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
4Legs											
PHT33NXBT	7,118	6,120	24,287	2,200	10.80	2.01	1.50	3.24	11.04	50/400	20.9
PHT36NXBT	7,734	6,650	26,388	2,390	11.60	2.15	1.60	3.24	11.04	60/450	20.9
3Legs											
PHT33NWBT	7,118	6,120	24,287	2,200	10.80	2.01	1.50	3.24	11.04	50/400	20.9
PHT36NWBT	7,734	6,650	26,388	2,390	11.60	2.15	1.60	3.24	11.04	60/450	20.9
NHT											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
NHT41VBAT	7,640	6,569	26,068	2,380	11.20	2.55	1.90	3.21	10.95	55/420	31.2
NHT44VBAT	7,850	6,750	26,784	2,490	11.60	2.68	2.00	3.15	10.76	55/420	31.2
NHT47VBAT	8,400	7,223	28,661	2,700	13.00	2.95	2.20	3.11	10.62	60/450	31.2
NHT52VBAT	9,320	8,014	31,800	2,970	14.10	3.35	2.50	3.14	10.71	60/450	31.2
b) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
NHT44NBBT	9,800	8,426	33,438	3,060	14.10	2.68	2.00	3.20	10.93	55/420	31.2
Ultra Tropical Lquid Injection R-22											
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase											
NHJ56VNHT	10,572	9,090	36,072	3,450	15.80	3.62	2.70	3.06	10.46	60/450	32.2
b) Electrical 60 Hz : 208 - 230 Volt : 1 Phase											
NHJ47NAHT	10,570	9,090	36,065	3,340	15.10	2.95	2.20	3.16	10.80	60/450	32.2
NHJ52NAHT	11,692	10,055	39,893	3,710	16.81	3.35	2.50	3.15	10.75	65/400	32.2
NHJ56NAHT	12,860	11,060	43,878	4,100	18.68	3.62	2.70	3.14	10.70	65/400	32.2

Note :
1. Testing condition ARI for RVT, PVT; ASRE-T for RNT, PNT, NNT, RHT, PHT, NHT, NHJ; for V code at 1 Phase 220 Volt 50 Hz, for N code at 1 Phase 220 Volt 60 Hz.
2. Oil type EV50S for RNT, PNT, NNT; FW68S for RVT, PVT; NM56EP for RHT, PHT, NHT, NHJ
3. For full model name, please contact sales representative

Specifications of Ultra Tropical Compressor (R-410A, R-32, R-22)

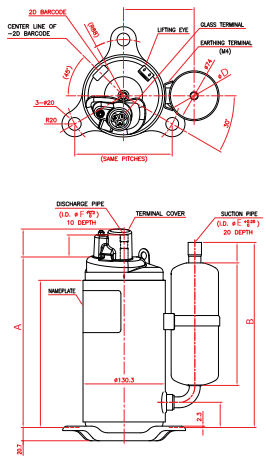
		Dimension (mm.)				
		A	B	D	E	F
RNT	RNT207V	262.2	287.5	78.0	12.7	9.6
	RNT174-189V	264.7	287.5	78.0	12.7	9.6
	RNT174-220N, RNT196V	268.2	287.5	78.0	12.7	9.6
PNT	PNT23N	316.3	308.9	78.0	16.0	9.6
	PNT24-33V	317.6	308.9	78.0	16.0	9.6
NNT	NNT37-44	342.8	393.6	78.0	19.1	9.6
RVT	RVT125-135	256.2	260.5	78.0	12.7	9.6
	RVT174	264.7	287.5	78.0	12.7	9.6
	RVT220	276.7	289.5	78.0	16.0	9.6
PVT	PVT23-25	317.6	308.9	78.0	16.0	9.6
RHT	RHT313VADT	261.2	282.5	74.0	12.7	9.7
	RHT277NAAT	256.2	260.5	74.0	12.7	8.0
PHT (4Legs)	PHT33VXET	305.9	295.8	74.0	16.0	9.6
	PHT33-36NXBT					
	PHT41VBAT	340.0	308.9	74.0	16.0	9.5
PHT (3Legs)	PHT33VWET	303.0	293.9	74.0	16.0	9.6
	PHT33-36NWBT					
	PHT41VDAT	340.0	308.9	74.0	16.0	9.6
NHT	NHT41-47VBAT	341.3	392.3	74.0	16.0	9.6
	NHT44NBBT					
	NHT41-47YBAT					
	NHT52VBAT	341.3	392.3	74.0	19.1	9.6
	NHT52-56YBAT					
NHJ	NHJ47 NAHT	341.3	392.3	74.0	16.0	9.6
	NHJ52-56NAHT	341.3	392.3	74.0	19.1	9.6
	NHJ56VNHT					

RHT/RNT

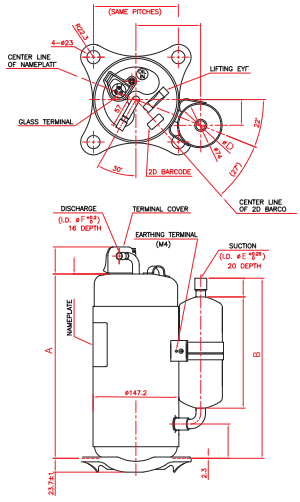


<< Drawing from Page 25

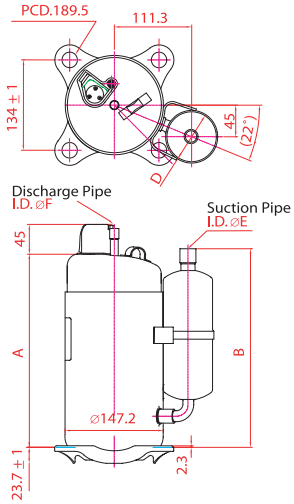
RVT



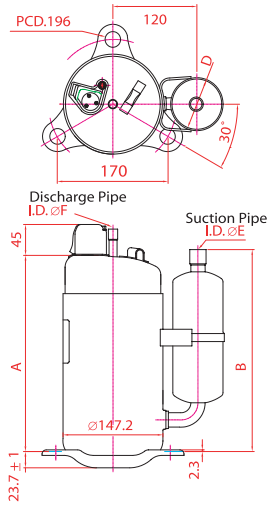
PVT



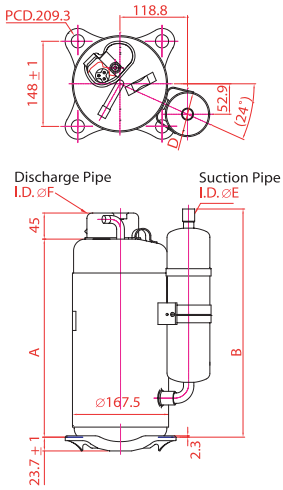
PHT (4Legs)/PNT24-23V



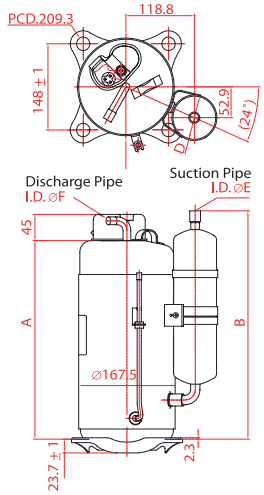
PHT (3Legs)/PNT23N



NHT/NNT



NHJ



Models	RNT	PNT	NNT	RVT	PVT	RHT	PHT	NHT/NHJ
Compressor								
Type	Rolling Piston Type Rotary							
Displacement (cc/rev.)	17.4~22.0	24.0~33.0	37.0~44.0	12.5~22.0	23.0~25.0	27.7~31.3	33.0~41.0	41.0~56.0
Refrigerant type	R-410A			R-32		R-22		
Pressure								
Condensing	Nornal Range : 1.68~4.30 MPaG (243.7~623.7 psiG) Maximum limit (transient): 5.00 Mpag (752 psiG)			0.21~5.0 MPaG (30.5~725.2 psiG)	1.69~4.15 MPaG (245.1~602 psiG)	Nornal Range 1.03~2.60 MPaG (149.3~377 psiG) Tropical Range 1.03~2.95 MPaG (149.3~427.8 psiG) Maximum Limit (transient) 3.23 MPaG (468.4 psiG)		
Evaporating	0.47~1.15 MPaG (68.2 ~166.8 psiG)			0.21~1.62 MPaG (30.5~236.4 psiG)	0.47-1.15 MPaG (68.1~166.8 psiG)	0.26~0.69 MPaG (37.7~100.1 psiG)		
Compression Ratio	6 or less			9 or less	8 or less	6 or less	8 or less (See Note 1)	
Abnormal Rise in pressure	5.88 MPaG (852.8 psiG) or less			5.88 MPaG (852.8 psiG) or less	5.88 MPaG (852.8 psiG) or less	3.29 MPaG (568 psiG) or less		
Temperature								
Condensing	Normal Range : 28°C~68°C (82.4°F~154.4°F) Maximum limit (transient): 75°C (167°F)			-27°C~65°C (16.6°F~149°F)	-28°C~65°C (82.4°F~149°F)	Normal Range 28°C~65°C (82.4°F~149°F) Tropical Range 28°C~71°C (82.4°F~160°F) Maximum Limit (transient) 76°C (169°F)		
Evaporating	10°C~15°C (14°F~59°F)			-27°C~26°C (16.6°F~78.8°F)	-10°C~15°C (14°F~59°F)	-10°C~15°C (14°F~59°F)		
Discharged Gas (max)	115°C (239°F)			125°C (257°F), in case of Heat pump or De-humidipter, this limit is 115°C (239°F) See Note 2)		120°C (248°F) (See Note 2)		
Suction Gas (max)	must be over 0°C (No liquid back) See Note 2)							
Discharged gas's superheat	20°C or more							
Outdoor Ambient Temp.	Air Cond : 20°C~55°C (68°F~131°F), Heat Pump : -10°C~55°C (14°F~131°F)			Air Cond : 20°C~52°C (68°F~125.6°F), Heat Pump : -10°C~52°C (14°F~125.6°F)	Air Cond : 20°C~43°C (68°F~109.4°F), Heat Pump : -10°C~43°C (14°F~109.4°F)	Air Cond : 20°C~55°C (68°F~131°F), Heat Pump : -10°C~55°C (14°F~131°F)		
Electrical								
Supply voltage during operation	Normal Range Rated voltage -15%, ± 10% in 220-240V (V-code) and Rated Voltage ±10% in 208-230V (N-code) Tropical Range Rated voltage ± 10% in 220-240V (V-code) and Rated Voltage -5% ±10% in 208-230V (N-code)							
Starting voltage	Minimum 70% of Rated voltage (at 1.01 MPa balancing pressure) In case of 208-230 V Rated Volted (N-code compressor), the starting voltage shall be 75% or more. This shall be measured at compressor terminal at instance of start.							
Reverse phase (rotation)	Not possible							
Frequency range	Rated Frequency ± 2%							
ON/OFF								
ON/OFF Frequency	Less than 170,000 cycles							
ON/OFF Cycle	The ON/OFF cycle shall be a maximum of 10 time/hour. OFF time shall be the time until							
Refrigerant Circuit								
Maximum Refrigerant Charge	See in General Spec							
Evacuation level	Degree of vaccum equivalent to about 133 pa (abs) (1.0mmHg)							
Piping length between indoor and outdoor units	Max. 20 m	Max. 30 m (See also Note 3)		Max. 20 m	Max. 30 m (See also Note 3)	Max. 20 m	Max. 30 m (See also Note 3)	
Elevation between indoor and outdoor units	Max. 15 m	Max. 30 m (See also Note 3)		Max. 15 m	Max. 30 m (See also Note 3)	Max. 15 m	Max. 30 m (See also Note 3)	
Piping vibration	Maximum 0.8 mm.							
Inclination of compressor	within 5°							

Note :
1. High compression ratio test ; C.T./E.T. = 62/-12°C ; has been performed already.
2. The temperature must be lower than this critical value even the unit has been using for many years.
3. These Piping Length and Elevation for all seriesare based on pipe size following this ; Liquid : Ø 9.52 mm. (3/8") Gas : Ø15.88 mm. (5/8")

SIAM COMPRESSOR INDUSTRY

MITSUBISHI ELECTRIC GROUP

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