

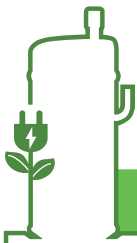
SCROLL

COMPRESSOR



**SIAM COMPRESSOR
INDUSTRY CO., LTD.**

 **GREENER**
SOLUTION PROVIDER



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Global Mitsubishi Compressor Production Bases



Japan

MITSUBISHI ELECTRIC, SHIZUOKA WORKS (MELSHI)



Thailand

SIAM COMPRESSOR INDUSTRY CO., LTD. (SCI)



China

MITSUBISHI ELECTRIC (GUANGZHOU) COMPRESSOR CO., LTD. (MGC)

SCI EXPERTISE AND EXPERIENCES

Siam Compressors Industry Co., Ltd. (SCI) has been holding on the Mitsubishi Electric group's mission in manufacturing exceptional-quality products and services to customers for over 32 years. Its compressors ensure maximum efficiency, and energy savings during operation as sharing the technology from Mitsubishi Electric.

Every stage of the manufacturing process is monitored and controlled by well-trained staff and modern technologies. Additionally, the Research and Development Center was established to promote the development of novel compressor technology, such as inverter technology for energy savings and frame compliant mechanism for efficiency and reliability improvement.

While maintaining a high standard for our products, SCI has taken a mutual interest in ensuring that the modern manufacturing is environmentally friendly. Many awards and recognitions recognize our commitment to environmental preservation, including the Thailand Energy Award 2020 for Energy Conservation of a Designated Factory, and the ASEAN Energy Awards 2020 for Best Practices in Energy Management.

To adequately supply SCI compressors to all customers and to respond to recent significant business growth, SCI is committed to expanding its market reach from Thailand to many countries around the world.



Scroll Compressor Line-up

Series	Compressor Series	KW	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	94
D	Inverter	1.6	23.4																	
A	Fixed Speed	7.6	21																	
	Inverter	1.8	86.4																	
B	Fixed Speed	13.9	20.8																	
	Inverter	17.1	93.7																	

ARI Condition

Technologies of SCI Compressor

1 Frame Compliant Mechanism Technology

This mechanism has been designed to operate moving parts at precise thrust forces (by using two middle pressure chambers to balance the force for each part), resulting in improved compressor reliability by allowing it to operate at higher condensing temperatures of up to 65°C for an indefinite period of time, as well as higher compressor performance with lower power input by minimizing friction loss to its bare minimum.

2 Injection Technology

This technology enables injection of medium-temperature gas refrigerant into the compressor to increase the discharge refrigerant gas flow and decrease the discharge temperature. As a result, at low temperatures, it can significantly improve unit capacity and efficiency.

3 Low Motor Noise Technology

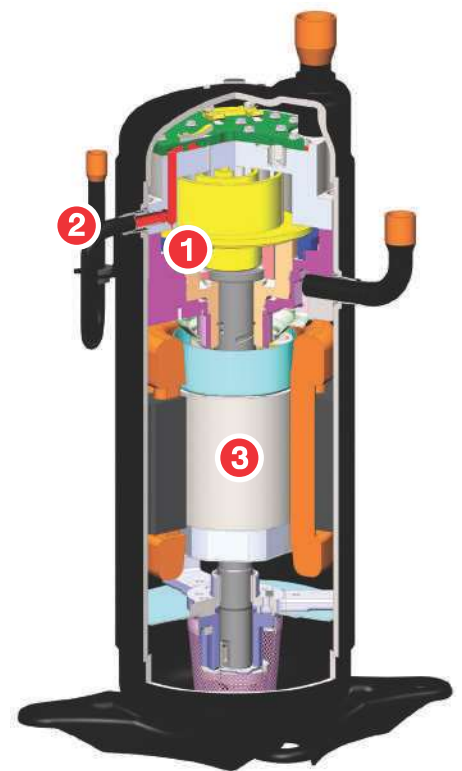
Noise is reduced by a new motor design to a unique shape and slit holes are inserted into the rotor core to allow for smoother torque and quieter operation.

4 Oval Scroll Technology

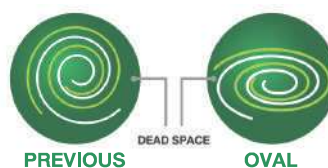
Mitsubishi's patent, allows for greater stroke volume and capacity in the same unit size by transforming a typical scroll shape into an oval. This is available in big stroke volume compressor.

5 Oil Level Sensor Technology

Oil Level Sensor in SCI compressor can control both minimum oil level and liquid back protection. It can increase reliability and performance from optimal oil management. This is available in refrigeration compressor.



OVAL SCROLL TECHNOLOGY 4



"OVAL SWIRL" for Scroll Compressor which is Leading-edge Technology. It is able to widen stroke volume, which leads to Downsizing Compressor.

5



Scroll Compressor

Model Code Diagram

For Example **A** **N** **B** **33** **F** **CA** **M** **T**
 1 2 3 4 5 6 7 8

1. Series Name

D D Series **A** A Series **B** B Series

2. Refrigerant

Symbol	Refrigerants
N	R410A
P	R290
D	R404A
G	R404A / R448A / R449A
V	R32
R	R454B
J	R134A / R513A / R1234yf

3. Special Specifications

Symbol	Specifications
B	DC Inverter
H	Fixed Speed Compressor
K	Inverter Injection
Z	Fixed Speed Horizontal Compressor
W	Inverter Horizontal Compressor

* Contact us regarding other special specifications.

4. Stroke volume of compressor (Indicated in cm³)

For example, "33" indicates 33 cm³.
 A two-digit volume is given for the D, A, B series.

5. Power supply

Symbol	Phase	Rated voltage (v)	Rated Frequency (Hz)
N	1	208 - 230	60
V	1	220 - 240	50
T	3	200/200 - 230	50/60
Y	3	380 - 415/460	50/60
X	3	380	60
F	3	Inverter	Variable

6. Special specifications

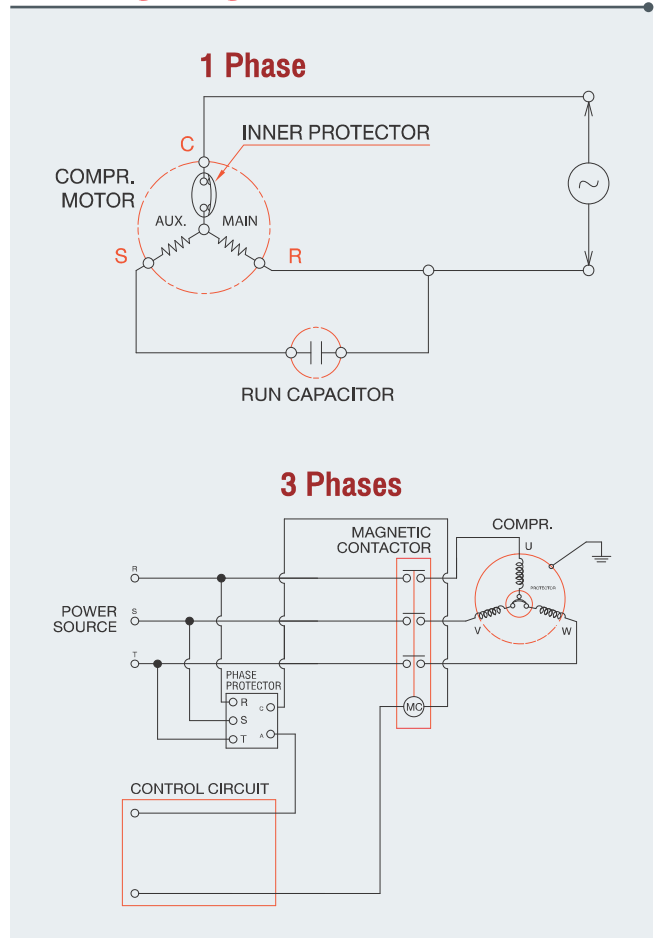
Symbols are used here to indicate any special specifications the customer may have ordered.

7. Refrigerant oil code

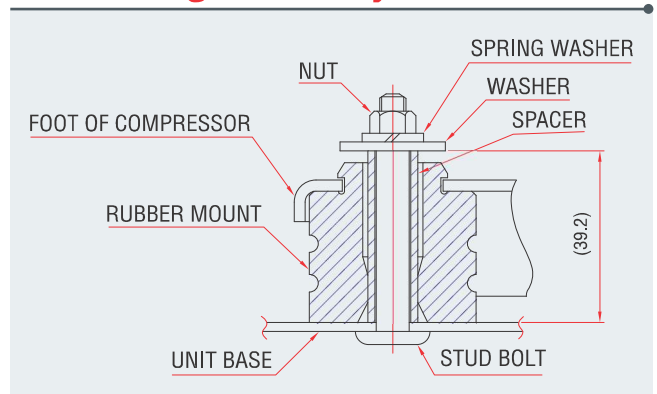
M : Miscible oil (PVE oil)

8. T : Thailand

Wiring Diagram



Mounting Assembly



Basic Accessories



R410A Compact Inverter Scroll for A/C Application Specifications

DNB Inverter Compact Scroll for R410A

Models	Capacity Range						Performance at 60 rps						Weight (kgs.)	Oil (cc.)	Drawing Number	STD.
	(min ~ max)						Capacity		Input		COP.	EER.				
	Watt	Kcal/hr	BTU/hr	W	BTU/hr	Watt	Amps	(w/w)	(Btu/hr*w)							
a) DC Inverter 200 Volt																
Horizontal Suction	Min	Max	Min	Max	Min	Max										
DNB22FASMT (15-100RPS)	1,600	11,730	1,376	10,085	5,459	40,023	7,000	23,884	2,150	6.70	3.26	11.11	22.7	900	39	
DNB28FAAMT (15-120RPS)	2,250	18,300	1,935	15,734	7,677	62,440	9,030	30,810	2,800	13.40	3.23	11.00	22.8	1,400	39	
DNB36FDAMT (15-120RPS)	2,500	23,240	2,150	19,982	8,530	79,295	11,600	39,579	3,550	15.90	3.27	11.15	23.9	1,400	51	
DNB22FAHMT (15-120RPS)	1,750	13,900	1,505	11,951	5,971	47,427	6,950	23,713	2,240	6.70	3.10	10.59	22.9	1,400	39	UL
DNB28FAGMT (15-120RPS)	1,920	18,130	1,651	15,588	6,551	61,860	9,050	30,879	2,800	12.40	3.23	11.03	22.8	1,400	39	UL
DNB36FAGMT (15-120RPS)	2,870	23,000	2,468	19,775	9,792	78,476	11,500	39,238	3,600	15.90	3.19	10.90	23.9	1,400	39	UL
b) DC Inverter 400 Volt																
Horizontal Suction	Min	Max	Min	Max	Min	Max										
DNB22FAVMT (15-120RPS)	1,725	13,800	1,483	11,865	5,886	47,086	6,900	23,543	2,230	6.70	3.09	10.56	22.9	1,400	39	
DNB28FANMT (15-120RPS)	2,270	18,110	1,952	15,571	7,745	61,791	9,060	30,913	2,850	7.80	3.18	10.85	22.7	1,000	39	
DNB36FANMT (15-120RPS)	3,170	23,300	2,726	20,033	10,816	79,500	11,600	39,579	3,590	9.70	3.23	11.02	23.2	1,000	39	

DNK Inverter Compact Scroll with Injection for R410A

Models	Capacity Range						Performance at 60 rps						Weight (kgs.)	Oil (cc.)	Drawing Number	STD.
	(min ~ max)						Capacity		Input		COP.	EER.				
	Watt	Kcal/hr	BTU/hr	W	BTU/hr	Watt	Amps	(w/w)	(Btu/hr*w)							
a) DC Inverter 200 Volt																
Horizontal Suction	Min	Max	Min	Max	Min	Max										
DNK22FDBMT (15-100RPS)	1,910	11,600	1,642	9,974	6,517	39,579	7,000	23,884	2,200	6.70	3.18	10.86	22.9	1,400	47	
DNK28FBAMT (15-120RPS)	2,270	18,110	1,952	15,571	7,745	61,791	8,950	30,537	2,780	8.30	3.22	10.98	22.8	1,000	44	
DNK36FAAMT (15-120RPS)	3,010	23,140	2,588	19,896	10,270	78,954	11,640	39,716	3,590	16.90	3.24	11.06	23.9	1,400	38	
b) DC Inverter 400 Volt																
Horizontal Suction	Min	Max	Min	Max	Min	Max										
DNK22FAFMT (15-120RPS)	1,600	14,140	1,376	12,158	5,459	48,246	7,000	23,884	2,290	5.20	3.06	10.43	22.9	1,400	38	UL
DNK28FDEMT (15-120RPS)	2,070	18,130	1,780	15,588	7,063	61,860	9,000	30,708	2,850	7.80	3.16	10.77	23.9	1,400	47	
DNK36FAEMT (15-120RPS)	2,660	23,400	2,287	20,119	9,076	79,841	11,500	39,238	3,650	9.70	3.15	10.75	23.9	1,400	38	

ARI Condition



R410A Inverter Scroll for A/C Application Specifications

ANB Inverter Scroll for R410A

Models	Capacity Range						Performance at 60 rps						Weight (kgs.)	Oil (cc.)	Drawing Number	STD.
	(min ~ max)						Capacity		Input		COP.	EER.				
	Watt	Kcal/hr	BTU/hr	W	BTU/hr	Watt	Amps	(w/w)	(Btu/hr*w)							
a) DC Inverter 200 Volt																
Horizontal Suction	Min	Max	Min	Max	Min	Max										
ANB33FNUJMT (20-120RPS)	3,200	20,700	2,751	17,798	10,918	70,628	10,600	36,167	3,350	14.80	3.16	10.80	33.6	2,300	30	
ANB42FQQMT (20-120RPS)	3,920	27,710	3,370	23,825	13,375	94,547	12,900	44,015	4,080	18.40	3.16	10.79	32.9	1,700	26	
Vertical Suction	Min	Max	Min	Max	Min	Max										
ANB66FVCMT (15-120RPS)	5,370	43,000	4,617	36,971	18,322	146,716	21,500	73,358	6,460	31.30	3.33	11.36	39.3	2,300	42	UL
ANB78FVCMT (15-120RPS)	6,350	50,800	5,460	43,678	21,666	173,330	25,400	86,665	7,640	36.50	3.32	11.34	39.3	2,300	42	UL
ANB87FVPMT (15-120RPS)	6,670	56,000	5,735	48,149	22,758	191,072	28,000	95,536	8,450	30.50	3.31	11.31	39.8	2,000	43	UL
b) DC Inverter 400 Volt																
Horizontal Suction	Min	Max	Min	Max	Min	Max										
ANB33FLGMT (20-120RPS)	3,060	19,860	2,631	17,076	10,441	67,762	10,200	34,802	3,350	12.60	3.04	10.39	32.2	1,400	33	UL
ANB42FLGMT (20-120RPS)	4,180	26,650	3,594	22,914	14,262	90,930	13,500	46,062	4,200	16.10	3.21	10.97	31.0	1,400	33	UL
Vertical Suction	Min	Max	Min	Max	Min	Max										
ANB52FVRMT (15-120RPS)	3,840	33,410	3,302	28,726	13,102	113,995	16,500	56,298	5,200	18.50	3.17	10.83	35.1	1,900	42	UL
ANB66FVQMT (15-120RPS)	5,060	42,200	4,351	36,284	17,265	143,986	21,000	71,652	6,500	21.50	3.23	11.02	38.8	1,900	42	UL
ANB78FVQMT (15-120RPS)	6,050	49,910	5,202	42,913	20,643	170,293	24,900	84,959	7,640	26.00	3.26	11.12	39.3	1,900	42	UL
ANB87FVLMT (15-120RPS)	6,670	56,090	5,735	48,226	22,758	191,379	28,000	95,536	8,500	30.50	3.29	11.24	39.8	2,300	42	UL
ANB100FVXMT (15-120RPS)	6,230	57,080	5,357	49,077	21,257	194,757	31,000	105,772	9,850	31.90	3.15	10.74	39.9	2,300	12	

ANB BNK Inverter Scroll with Injection for R410A

Models	Capacity Range						Performance at 60 rps						Weight (kgs.)	Oil (cc.)	Drawing Number	STD.	
	(min ~ max)						Capacity		Input		COP.	EER.					
	Watt	Kcal/hr	BTU/hr	W	BTU/hr	Watt	Amps	(w/w)	(Btu/hr*w)								
a) DC Inverter 200 Volt																	
Horizontal Suction	Min	Max	Min	Max	Min	Max											
ANB33FJSMT (20-120RPS)	3,200	20,700	2,751	17,798	10,918	70,628	10,600	36,167	3,240	11.60	3.27	11.16	33.6	2,300	34		
ANB42FJWMT (20-120RPS)	4,020	27,810	3,456	23,911	13,716	94,888	12,800	43,674	4,080	18.40	3.14	10.70	33.4	2,300	34		
Vertical Suction	Min	Max	Min	Max	Min	Max											
ANB52FZPMT(15-120RPS)	3,840	36,300	3,302	31,211	13,102	123,856	16,600	56,639	5,300	36.60	3.13	10.69	35.8	2,300	48		
ANB66FZPMT(15-120RPS)	5,060	46,150	4,351	39,680	17,265	157,464	21,000	71,652	6,450	24.70	3.26	11.11	39.5	2,300	48		
ANB78FZPMT(15-120RPS)	6,050	54,300	5,202	46,687	20,643	185,272	25,200	85,982	7,550	29.10	3.34	11.39	39.4	2,300	48		
b) DC Inverter 400 Volt																	
Horizontal Suction	Min	Max	Min	Max	Min	Max											
ANB33FUBMT (20-120RPS)	7,100	22,100	6,105	19,002	24,225	75,405	10,800	36,850	3,350	12.50	3.22	11.00	32.9	1,900	35		
ANB42FUBMT (20-120RPS)	9,000	27,900	7,738	23,988	30,708	95,195	13,700	46,744	4,380	15.40	3.13	10.67	33.6	1,900	35		
Vertical Suction	Min	Max	Min	Max	Min	Max											
ANB52FZKMT (15-120RPS)	3,840	36,200	3,302	31,125	13,102	123,514	16,500	56,298	5,400	21.00	3.06	10.43	35.3	2,300	37		
ANB66FZHMT (15-120RPS)	5,060	45,950	4,351	39,508	17,265	156,781	21,300	72,676	6,650	21.50	3.20	10.93	39.3	2,300	37	UL	
ANB78FZHMT (15-120RPS)	6,050	54,300	5,202	46,687	20,643	185,272	25,200	85,982	7,700	26.00	3.27	11.17	39.6	2,300	37		
ANB87FZKMT (15-120RPS)	6,640	61,600	5,709	52,964	22,656	210,179	28,000	95,536	8,500	30.50	3.29	11.24	40.5	2,300	37		
ANB100FZSMT (15-120RPS)	6,230	77,800	5,357	66,892	21,257	265,454	31,700	108,160	9,900	31.90	3.20	10.93	41.1	2,300	6		
ANB119FN1MT (15-120RPS)	8,910	86,460	7,661	74,338	30,401	295,002	37,000	126,244	11,650	32.40	3.18	10.84	44.0	2,300	6		
c) DC Inverter 400 Volt																	
Vertical Suction	Min	Max	Min	Max	Min	Max											
BNK110FN1MT (10-120RPS)							Under development										2
BNK128FAAMT (10-120RPS)							Under development										2

ARI Condition



R32 Compact Inverter Scroll for A/C Application Specifications

DVB Inverter Compact Scroll for R32

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 200 Volt															
Horizontal Suction	Min	Max	Min	Max	Min	Max									
DVB22FCNMT (30-110RPS)	4,400	8,920	3,783	7,669	15,013	30,435	7,400	25,249	2,280	7.00	3.25	11.07	22.0	1,000	45
DVB28FCQMT (20-110RPS)	2,950	18,220	2,536	15,666	10,066	62,169	9,600	32,755	2,970	7.13	3.23	11.03	21.9	1,000	45
DVB36FCPMT (20-120RPS)	3,800	23,360	3,267	20,085	12,966	79,708	12,430	42,411	3,800	8.78	3.27	11.16	22.2	1,000	45

ARI Condition

R32 Inverter Scroll for A/C Application Specifications

AVB BVB Inverter Scroll for R32

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 200 Volt															
Horizontal Suction	Min	Max	Min	Max	Min	Max									
AVB33FACMT (15-120RPS)	2,500	22,800	2,150	19,603	8,530	77,794	10,900	37,191	3,470	6.60	3.14	10.72	32.8	1,400	49
b) DC Inverter 400 Volt															
Vertical Suction	Min	Max	Min	Max	Min	Max									
AVB52FLAMT (15-120RPS)	3,880	35,590	3,336	30,600	13,239	121,433	17,800	60,734	5,550	16.00	3.21	10.94	38.5	2,300	54
AVB66FLAMT (15-120RPS)	5,400	45,900	4,643	39,465	18,425	156,611	22,990	78,442	6,960	22.60	3.30	11.27	40.3	2,300	54
AVB78FLBMT (15-120RPS)	6,400	53,600	5,503	46,085	21,837	182,883	27,300	93,148	8,110	26.90	3.37	11.49	40.1	2,300	54
AVB87FLCMT (15-120RPS)	7,050	61,100	6,062	52,534	24,055	208,473	29,800	101,678	8,950	32.40	3.33	11.36	39.7	1,900	22
AVB100FM1MT (15-120RPS)	7,890	67,820	6,784	58,312	26,921	231,402	34,400	117,373	10,420	31.90	3.30	11.26	40.7	1,900	7
c) DC Inverter 400 Volt															
Vertical Suction	Min	Max	Min	Max	Min	Max									
BVB110FK1MT(30-120RPS)	17,110	77,570	14,711	66,695	58,379	264,669	38,300	130,680	11,800	33.90	3.25	11.07	64.6	3,500	11
BVB128FK1MT(30-120RPS)	20,530	93,000	17,652	79,961	70,048	317,316	44,600	152,175	13,700	39.40	3.26	11.11	64.6	3,500	11

AVB BVK Inverter Scroll with Injection for R32

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 200 Volt															
Horizontal Suction	Min	Max	Min	Max	Min	Max									
AVB33FJAMT (10-120RPS)	1,850	22,220	1,591	19,105	6,312	75,815	11,110	37,907	3,380	9.50	3.29	11.22	32.8	1,400	55
AVB36FJBMT (10-120RPS)	2,010	24,200	1,728	20,807	6,858	82,570	12,100	41,285	3,670	12.60	3.30	11.25	32.8	1,400	55
b) DC Inverter 400 Volt															
Vertical Suction	Min	Max	Min	Max	Min	Max									
AVB52FT5MT(15-120RPS)	4,550	36,400	3,912	31,297	15,525	124,197	18,200	62,098	5,560	21.32	3.27	11.17	36.2	2,300	53
AVB66FT5MT(15-120RPS)	5,720	45,980	4,918	39,534	19,517	156,884	22,990	78,442	6,890	22.60	3.34	11.38	39.9	2,300	53
AVB78FT5MT(15-120RPS)	6,820	54,600	5,864	46,945	23,270	186,295	27,300	93,148	8,110	26.90	3.37	11.49	39.7	2,300	53
AVB87FT5MT(15-120RPS)	7,600	60,800	6,534	52,276	25,931	207,450	30,400	103,725	8,950	32.40	3.40	11.59	40.4	2,300	53
c) DC Inverter 400 Volt															
Vertical Suction	Min	Max	Min	Max	Min	Max									
BVK110FBAMT(30-120RPS)	17,110	78,270	14,711	67,297	58,379	267,057	38,300	130,680	11,800	33.90	3.25	11.07	64.6	3,500	2
BVK128FBAMT(30-120RPS)	20,530	93,700	17,652	80,563	70,048	319,704	44,600	152,175	13,700	39.40	3.26	11.11	64.6	3,500	2

ARI Condition



R410A Fixed Speed Scroll for A/C Application Specifications

AN Fixed Speed Scroll for R410A

Models	Capacity			Input		Nominal Output		COP. (w/w)	EER. (Btu/hr*w)	Run Cap. (mF/VAC)	Weight (kgs.)	Oil (cc.)	Drawing Number	STD.
	W	Kcal/hr	BTU/hr	Watt	Amps	HP	KW.							
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase														
Horizontal Suction														
AN30VEJMT	7,670	6,595	26,170	2,570	11.90	3.08	2.30	2.98	10.18	50 / 420	36.3	900	28	
AN33VEJMT	8,500	7,308	29,002	2,790	13.00	3.35	2.50	3.05	10.39	50 / 420	36.3	900	28	
AN36VEJMT	9,450	8,125	32,243	3,100	14.60	3.55	2.65	3.05	10.40	55 / 420	36.3	900	28	
AN42VEJMT	10,700	9,200	36,508	3,540	16.90	4.02	3.00	3.02	10.31	60 / 450	36.7	900	28	
b) Electrical 50/60 Hz : 380 - 415/460 Volt : 3 Phases														
Horizontal Suction														
AN33YBUMT (50HZ)	8,430	7,248	28,763	2,710	4.70	3.35	2.50	3.11	10.61	-	37.1	1,700	32	
AN33YBUMT (60HZ)	10,300	8,856	35,144	3,280	4.80	3.35	2.50	3.14	10.71	-	37.1	1,700	32	
AN42YBUMT (50HZ)	10,800	9,286	36,850	3,490	5.90	4.02	3.00	3.09	10.56	-	38.3	1,700	32	
AN42YBUMT (60HZ)	12,930	11,117	44,117	4,140	6.00	4.02	3.00	3.12	10.66	-	38.3	1,700	32	
AN47YBUMT (50HZ)	12,130	10,429	41,388	3,830	6.60	4.49	3.35	3.17	10.81	-	38.3	1,700	32	
AN47YBUMT (60HZ)	14,680	12,622	50,088	4,580	6.70	4.49	3.35	3.21	10.94	-	38.3	1,700	32	
AN52YBUMT (50HZ)	13,600	11,693	46,403	4,280	7.40	4.96	3.70	3.18	10.84	-	38.3	1,700	32	
AN52YBUMT (60HZ)	16,520	14,204	56,366	5,130	7.50	4.96	3.70	3.22	10.99	-	38.3	1,700	32	
AN36YKLMT (50HZ)	9,500	8,168	32,414	3,080	5.20	3.75	2.80	3.08	10.52	-	37.9	1,300	31	UL
AN36YKLMT (60HZ)	11,600	9,974	39,579	3,700	5.30	3.75	2.80	3.14	10.70	-	37.9	1,300	31	UL
AN47YKLMT (50HZ)	12,130	10,429	41,388	3,830	6.60	4.49	3.35	3.17	10.81	-	37.8	1,300	31	UL
AN47YKLMT (60HZ)	14,680	12,622	50,088	4,580	6.70	4.49	3.35	3.21	10.94	-	37.8	1,300	31	UL
AN66YQSMT (50HZ)	16,500	14,187	56,298	5,460	9.30	5.76	4.30	3.02	10.31	-	38.4	1,700	31	
AN66YQSMT (60HZ)	21,000	18,056	71,652	6,520	9.40	5.76	4.30	3.22	10.99	-	38.4	1,700	31	
c) Electrical 60 Hz : 208 - 230 Volt : 1 Phase														
Horizontal Suction														
ANH30NELMT	9,200	7,910	31,390	3,100	14.20	2.5	1.90	2.97	10.13	55 / 400	36.3	900	28	UL
ANH42NELMT	13,000	11,177	44,356	4,250	19.30	3.6	2.70	3.06	10.44	65 / 400	36.7	900	28	UL
ANH47NELMT	14,300	12,295	48,792	4,700	21.50	4.4	3.30	3.04	10.38	70 / 400	37.4	900	28	UL
d) Electrical 50/60 Hz : 200/200 - 230 Volt : 3 Phase														
AN66TQSMT	19,500	16,766	66,534	6,580	20.50	6.2	4.60	2.96	10.11	-	38.4	1,700	26	UL

BN Fixed Speed Scroll for R410A

Models	Capacity			Input		Nominal Output		COP. (w/w)	EER. (Btu/hr*w)	Run Cap. (mF/VAC)	Weight (kgs.)	Oil (cc.)	Drawing Number	STD.
	W	Kcal/hr	BTU/hr	Watt	Amps	HP	KW.							
a) Electrical 50/60 Hz : 380 - 415/460 Volt : 3 Phases														
Horizontal Suction														
BN52YHAMT(50Hz)	13,900	11,951	47,427	4,360	7.50	4.96	3.70	3.19	10.88	-	47.5	1,700	36	UL
BN52YHAMT(60Hz)	16,800	14,445	57,322	5,200	7.70	4.96	3.70	3.23	11.02	-	47.5	1,700	36	UL
BN57YHAMT(50Hz)	15,300	13,155	52,204	4,800	8.40	5.36	4.00	3.19	10.88	-	47.8	1,700	36	UL
BN57YHAMT(60Hz)	18,260	15,700	62,303	5,710	8.50	5.36	4.00	3.20	10.91	-	47.8	1,700	36	UL
BN62YHAMT(50Hz)	16,600	14,273	56,639	5,150	9.00	5.90	4.40	3.22	11.00	-	47.8	1,700	36	UL
BN62YHAMT(60Hz)	19,890	17,101	67,865	6,160	9.10	5.90	4.40	3.23	11.02	-	47.8	1,700	36	UL
BN65YHAMT(50Hz)	17,600	15,132	60,051	5,450	9.60	6.17	4.60	3.23	11.02	-	47.8	1,700	36	UL
BN65YHAMT(60Hz)	21,030	18,082	71,754	6,440	9.70	6.17	4.60	3.27	11.14	-	47.8	1,700	36	UL
BN75YFQMT(50Hz)	19,700	16,938	67,216	6,350	11.00	7.24	5.40	3.10	10.59	-	47.9	2,100	29	
b) Electrical 60 Hz : 380 : 3 Phases														
BN65XFFMT	20,870	17,944	71,208	6,500	10.90	7.78	5.80	3.21	10.96	-	48.0	1,700	25	

ARI Condition



Operation standard and limits of R410A Scroll for A/C Application

Models	AN / BN	ANB	ANB (Injection)	BNK
Compressor				
Type	Scroll Type (Fixed Speed)	Scroll Type (DC Inverter)		
Displacement (cc / rev.)	30 ~ 75	33 ~ 100 (33/42/52/66/78/87/100)		110 ~ 128 (110/128)
Refrigerant type	R410A			
Pressure				
Maximum Condensing	4.15 MPaG / 65°C (601 psiG / 149°F)			
Evaporating	0.23 ~ 1.59 MPaG (33.4 ~ 230.6 psiG)	0.20 ~ 1.59 MPaG (33.4 ~ 230.6 psiG)	0.1 ~ 1.59 MPaG (14.5 ~ 230.6 psiG)	
Temperature				
Condensing	Under 65°C (Under 149°F)			
Evaporating	-25°C ~ 26°C (-13°F ~ 78.8°F)	-27°C ~ 26°C (-16.6°F ~ 78.8°F)	-37°C ~ 26°C (-34.6°F ~ 78.8°F)	
Discharged Gas (max)	120°C (248°F) please see speed limit allowable area at Envelop (See Note 1)		120°C (248°F) Please see speed limit and injection pressure allowable area at Envelop (See Note 1)	
Suction Gas superheat	Must be more than 0°C (No liquid back) (See Note 1)			
Discharged gas's superheat	10°C (50°F) or more			
Outdoor Ambient Temp.	Under 43°C (109.4°F)			
Electrical				
Supply voltage (during operation)	The compressor must be operated on the rated voltage $\pm 10\%$. Provided the rated voltage 208-230V, The regulation must be within -5% for 208V, +10% for 230V. The operating voltage shall be the terminal voltage of the compressor during operation.	The compressor must be operated on the proper voltage in accordance with the designated voltage frequency curve.		The compressor must be operated on the proper voltage in accordance with the frequency as shown in performance curve.
Starting voltage	A voltage of 80% or more of the rated voltage shall be supplied at start-up, on the high/low pressure balancing at 1.64 Mpa and provided the rated voltage 208 ~ 230V Rated Voltage (N-code compressor), the starting voltage shall be 85% or more of 208V. The starting voltage shall be the terminal voltage of the compressor when the voltage drops due to starting current.	The compressor motor must be operated by suitable supply voltage and revolution for unit condition without reverse rotation. The balanced high/low pressure at start-up must be 2.49 MPa (43°C) or less.		The compressor motor must be operated by suitable supply voltage and revolution for unit condition without reverse rotation. The unit condition at start-up must be balanced at high/low pressure.
Reverse phase (rotation)	Compressor is not design to run reverse phase			
Frequency range	Rated Frequency $\pm 2\%$	See in Specification of Compressor		
ON/OFF				
ON/OFF Frequency	Less than 250,000 cycles			
ON/OFF Cycle	1. The ON/OFF cycle shall be a maximum of 10 times/hour. 2. OFF time shall be the time until the high side and low side pressure reach to balance pressure (more than 3 minutes)			
Pipe Stress	3.5 kg/mm ² or less at start and stop condition (1.8 kg/mm ² during operation)			
Refrigerant Circui				
Maximum Refrigerant Charge	Amount of refrigerant [g] < = Amount of oil [g] x 4 (the relative density of oil : 1 [g/cm ³]) It necessary to control DSH>10K (SSH>0K) Regarding operation which exceeds the above limit, consult with us			
Piping vibration	Maximum 0.8 mm.			
Inclination of compressor	Within 5°			
Evacuation level	Degree of vacuum equivalent to about 133 Pa (abs) (1.0 mmHg) shall be created			
Piping length between indoor and outdoor units	Max. 50 m. (164 ft.) (See note 2)			
Elevation between indoor and outdoor units	Max. 30 m. (98 ft.) (See note 2)			

Note: 1. The temperature must be lower than this critical value even the unit has been using for many years.

2. It is recommended that evaluation of oil return to the compressor has to be done.



Operation standard and limits of R410A Compact Scroll for A/C Application

Models	DNB	DNK (Injection)
Compressor		
Type	Scroll Type (DC Inverter)	
Displacement (cc / rev.)	22-36 (22/28/36)	
Refrigerant type	R410A	
Pressure		
Maximum Condensing	4.66 MPaG / 70°C (675.9 psiG / 158°F)	
Evaporating	0.10 ~ 1.70 MPaG (14.5 ~ 246.6 psiG)	
Temperature		
Condensing	Under 70°C (Under 158°F)	
Evaporating	-37°C ~ 28°C (-34.6°F ~ 82.4°F)	
Discharged Gas (max)	120°C (248°F) please see speed limit allowable area at Envelop (See Note 1)	120°C (248°F) Please see speed limit and injection pressure allowable area at Envelop (See Note 1)
Suction Gas superheat	Must be more than 0°C (No liquid back) (See Note 1)	
Discharged gas's superheat	10°C (50°F) or more	
Outdoor Ambient Temp.	Under 43°C (109.4°F)	
Electrical		
Supply voltage (during operation)	The compressor must be operated on the proper voltage in accordance with the designated voltage frequency curve.	
Starting voltage	The compressor motor must be operated by suitable supply voltage and revolution for unit condition without reverse rotation. The balanced high/low pressure at start-up must be 2.49 MPa (43°C) or less.	
Reverse phase (rotation)	Compressor is not design to run reverse phase	
Frequency range	See in Specification of Compressor	
ON/OFF		
ON/OFF Frequency	Less than 250,000 cycles	
ON/OFF Cycle	1. The ON/OFF cycle shall be a maximum of 10 times/hour. 2. OFF time shall be the time until the high side and low side pressure reach to balance pressure (more than 3 minutes)	
Pipe Stress	3.5 kg/mm ² or less at start and stop condition (1.8 kg/mm ² during operation)	
Refrigerant Circuit		
Maximum Refrigerant Charge	D Series : 6.0 kg, no accumulator < 2.0 kg, (See detail in Compressor Technical Manual)	
Piping vibration	Maximum 0.8 mm.	
Inclination of compressor	Within 5°	
Evacuation level	Degree of vaccum equivalent to about 133 Pa (abs) (1.0 mmHg) shall be created	
Piping length between indoor and outdoor units	Max. 20 m. (65.62 ft.) (See also Note 2)	
Elevation between indoor and outdoor units	Max. 15 m. (49.21 ft.) (See also Note 2)	

Note: 1. The temperature must be lower than this critical value even the unit has been using for many years.
2. It is recommended that evaluation of oil return to the compressor has to be done.



Operation standard and limits of R32 Scroll for A/C Application

Models	DVB	AVB	AVB (Injection)	BVB / BVK
Compressor				
Type	Scroll Type (DC Inverter)			
Displacement (cc/rev.)	22-36 (22/28/36)	33 ~ 100 (33/36/52/66/78/87/100)	33 ~ 87 (33/36/52/66/78/87)	110 ~ 128 (110/128)
Refrigerant type	R32			
Pressure				
Maximum Condensing	4.15 MPaG / 63.5°C (602 psiG / 146.3°F)			
Evaporating	0.15 ~ 1.70 MPaG (21.8 ~ 246.6 psiG)	0.20 ~ 1.59 MPaG (29.0 ~ 230.6 psiG)	0.1 ~ 1.59 MPaG (14.5 ~ 230.6 psiG)	
Temperature				
Condensing	Under 63.5°C (Under 146.3°F)			
Evaporating	-32°C ~ 27.4°C (-25.6°F ~ 81.3°F)	- 27°C ~ 25.2°C (-16.6°F ~ 77.3°F)	-37°C ~ 25.2°C (-34.6°F ~ 77.3°F)	-37°C ~ 25.3°C (-34.6°F ~ 77.5°F)
Discharged Gas (max)	115°C (239°F) please see speed limit allowable area at Envelop (See Note 1)	120°C (248°F) please see speed limit allowable area at Envelop (See Note 1)	120°C (248°F) Please see speed limit and injection pressure allowable area at Envelop (See Note 1)	120°C (248°F) lower, Please see speed limit and injection pressure allowable area at Envelop (See Note 1)
Suction Gas superheat	Must be more than 0°C (No liquid back) (See Note 1)			
Discharged gas's superheat	10°C (50°F) or more			
Outdoor Ambient Temp.	Under 43°C (109.4°F)			
Electrical				
Supply voltage (during operation)	The compressor must be operated on the proper voltage in accordance with the designated voltage frequency curve.	The compressor must be operated on the rated voltage $\pm 10\%$. Provided the rated voltage 208-230V, The regulation must be within -5% for 208V, +10% for 230V. The operating voltage shall be the terminal voltage of the compressor during operation.	The compressor must be operated on the proper voltage in accordance with the designated voltage frequency curve.	
Starting voltage	The compressor motor must be operated by suitable supply voltage and revolution for unit condition without reverse rotation.	The compressor motor must be operated by suitable supply voltage and revolution for unit condition without reverse rotation. The balanced high/low pressure at start-up must be 2.49 MPa (43°C) or less.	The compressor motor must be operated by suitable supply voltage and revolution for unit condition without reverse rotation. The unit condition at start-up must be balanced at high / low pressure.	
Reverse phase (rotation)	Compressor is not design to run reverse phase			
Frequency range	See in Specification of Compressor			
ON/OFF				
ON/OFF Frequency	Less than 250,000 cycles			
ON/OFF Cycle	1. The ON/OFF cycle shall be a maximum of 10 times/hour. 2. OFF time shall be the time until the high side and low side pressure reach to balance pressure (more than 3 minutes)			
Pipe Stress	3.5 kg/mm ² or less at start and stop condition (1.8 kg/mm ² during operation)			
Refrigerant Circui				
Maximum Refrigerant Charge	Amount of refrigerant [g] < or = Amount of oil [g] x 4 (the relative density of oil : 1 [g/cm ³]) It necessary to control DSH>10K (SSH>0K) Regarding operation which exceeds the above limit, consult with us"			
Piping vibration	Maximum 0.8 mm.			
Inclination of compressor	Within 5°			
Evacuation level	Degree of vaccum equivalent to about 133 Pa (abs) (1.0 mmHg) shall be created			
Piping length between indoor and outdoor units	Max. 20 m. (65.62 ft.) (See also Note 2)	Max. 50 m. (164 ft.) (See note 2)		
Elevation between indoor and outdoor units	Max. 15 m. (49.21 ft.) (See also Note 2)	Max. 30 m. (98 ft.) (See note 2)		

- Note: 1. The temperature must be lower than this critical value even the unit has been using for many years.
2. It is recommended that evaluation of oil return to the compressor has to be done.



R290 Compact Inverter Scroll for Heating Application Specifications

DPB Inverter Compact Scroll for R290

Models	Capacity Range						Performance at 60 rps						Weight (kgs.)	Oil (cc.)	Drawing Number	STD.
	(min ~ max)						Capacity		Input		COP.	EER.				
	Watt	Kcal/hr		BTU/hr		W	BTU/hr	Watt	Amps	(w/w)	(Btu/hr*w)					
a) DC Inverter 200 Volt																
Horizontal Suction	Min	Max	Min	Max	Min	Max										
DPB28FB3MT (15-120RPS)	2,140	8,130	1,840	6,990	7,302	27,740	4,390	14,979	1,430	5.20	3.07	10.47	21.9	900	18	
DPB36FF3MT (15-110RPS)	1,790	11,400	1,539	9,802	6,107	38,897	5,800	19,790	1,700	5.80	3.41	11.64	21.9	900	17	
DPB52FB1MT (15-120RPS)	1,860	18,270	1,599	15,709	6,346	62,337	8,400	28,661	2,450	7.80	3.43	11.70	22.7	900	17	
b) DC Inverter 400 Volt																
Horizontal Suction	Min	Max	Min	Max	Min	Max										
DPB28FC3MT (15-120RPS)	2,150	8,120	1,849	6,982	7,336	27,705	4,390	14,979	1,430	5.20	3.07	10.47	22.1	900	18	
DPB36FC6MT (20-120RPS)	2,720	10,470	2,339	9,002	9,281	35,724	5,520	18,834	1,800	4.46	3.07	10.46	23.4	900	18	
DPB52FA1MT (20-120RPS)	2,610	18,270	2,244	15,709	8,905	62,337	8,400	28,661	2,450	7.80	3.43	11.70	22.7	900	17	

Heating Condition: ET = -7°C, CT = 50°C, SH = 5K, SC = 4K

R290 Inverter Scroll for Heating Application Specifications

APB Inverter Compact Scroll for R290

Models	Capacity Range						Performance at 60 rps						Weight (kgs.)	Oil (cc.)	Drawing Number	STD.
	(min ~ max)						Capacity		Input		COP.	EER.				
	Watt	Kcal/hr		BTU/hr		W	BTU/hr	Watt	Amps	(w/w)	(Btu/hr*w)					
a) DC Inverter 200 Volt																
Horizontal Suction	Min	Max	Min	Max	Min	Max										
APB33FABMT (15-120RPS)	1,100	10,430	946	8,968	3,753	35,587	5,100	17,401	1,650	5.90	3.09	10.55	30.4	900	50	UL
APB42FABMT (15-120RPS)	1,510	14,120	1,298	12,140	5,152	48,177	6,200	21,154	2,200	8.70	2.82	9.62	30.3	900	50	
APB52FABMT (15-120RPS)	2,570	17,500	2,210	15,047	8,769	59,710	7,800	26,614	2,610	9.20	2.99	10.20	30.5	900	50	
b) DC Inverter 400 Volt																
Horizontal Suction	Min	Max	Min	Max	Min	Max										
APB33FAAMT (15-120RPS)	1,100	10,550	946	9,071	3,753	35,997	5,100	17,401	1,720	4.00	2.97	10.12	30.7	900	50	
APB42FAAMT (15-120RPS)	1,500	14,120	1,290	12,140	5,118	48,177	6,200	21,154	2,200	4.70	2.82	9.62	30.3	900	50	
APB52FAAMT (15-120RPS)	1,830	17,490	1,573	15,038	6,244	59,676	7,800	26,614	2,620	5.60	2.98	10.16	30.5	900	50	
Vertical Suction	Min	Max	Min	Max	Min	Max										
APB87FEAMT (20-120RPS)	4,130	28,240	3,551	24,281	14,092	96,355	14,200	48,450	4,340	9.10	3.27	11.16	37.3	900	13	
APB100FA1MT (20-120RPS)	4,740	32,460	4,075	27,909	16,173	110,754	15,850	54,080	5,100	13.30	3.11	10.60	38.3	1,300	24	

Heating Condition: ET = -7°C, CT = 50°C, SH = 5K, SC = 4K

R290 Fixed Speed Scroll for Heating Application Specifications

APH Fixed Speed Scroll for R290

Models	Capacity			Input		Nominal Output		COP. (w/w)	EER. (Btu/hr*w)	Run Cap. (mF/VAC)	Weight (kgs.)	Oil (cc.)	Drawing Number
	W	Kcal/hr	BTU/hr	Watt	Amps	HP	KW.						
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase													
Horizontal Suction													
APH42VAAMT	5,140	4,419	17,538	1,770	8.09	2.5	1.90	2.90	9.91	45 / 420	33.3	900	28
APH52VAAMT	6,690	5,743	22,792	2,070	9.74	3.2	2.35	3.23	11.03	50 / 420	35.2	900	28
APH60VAAMT	7,720	6,629	26,307	2,440	11.70	3.6	2.70	3.16	10.80	60 / 450	35.4	900	28
b) Electrical 50 Hz : 380 - 415/460 Volt : 3 Phases													
Horizontal Suction													
APH42YAAMT	5,140	4,419	17,538	1,720	8.09	2.5	1.90	2.99	10.20	-	33.3	2,300	28
APH52YAAMT	6,690	5,752	22,826	2,070	9.74	3.2	2.35	3.23	11.03	-	35.2	2,300	28
APH60YAAMT	7,720	6,638	26,341	2,440	11.70	3.6	2.70	3.16	10.80	-	35.4	2,300	28
APH73YAAMT	9,390	8,074	32,039	2,910	5.33	4.7	3.50	3.23	11.01	-	35.4	2,300	28

Heating Condition: ET = -7°C, CT = 50°C, SH = 5K, SC = 4K

R454B Compact Inverter Scroll for Heating Application Specifications

DRB Inverter Compact Scroll for R454B

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 200 Volt																	
Horizontal Suction	Min	Max	Min	Max	Min	Max											
DRB22FC1MT (20-100RPS)	1,530	9,540	1,315	8,202	5,220	32,550	5,530	18,868	1,830	5.68	3.02	10.31	22.5	1,400	45		
DRB28FC1MT (20-100RPS)	2,190	12,350	1,883	10,619	7,472	42,138	7,200	24,566	2,400	7.35	3.00	10.24	22.5	1,400	45		
DRB36FB1MT (15-120RPS)	3,050	16,870	2,622	14,505	10,407	57,560	9,850	33,608	2,990	11.30	3.29	11.24	23.0	1,000	39		
b) DC Inverter 400 Volt																	
Horizontal Suction	Min	Max	Min	Max	Min	Max	Under development										
DRB22FA1MT (20-100RPS)																	
DRB36FA2MT (15-120RPS)	3,050	20,390	2,622	17,531	10,407	69,571	9,850	33,608	3,080	7.00	3.20	10.91	22.5	1,000	23		

Heating Condition: ET = -7°C, CT = 50°C, SH = 5K, SC = 4K

R454B Inverter Scroll for Heating Application Specifications

ARB Inverter Compact Scroll for R454B

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 400 Volt															
Vertical Suction	Min	Max	Min	Max	Min	Max									
ARB52FA2MT (20-120RPS)	3,980	29,240	3,422	25,141	13,580	99,767	14,060	47,973	4,550	10.98	3.09	10.54	35.6	2,300	42
ARB78FA1MT (15-120RPS)	4,380	42,670	3,766	36,688	14,945	145,590	21,400	73,017	6,590	21.70	3.25	11.08	39.3	2,300	42

Heating Condition: ET = -7°C, CT = 50°C, SH = 5K, SC = 4K

R513A Inverter Scroll for Air Dryer Application Specifications

AJB Inverter Compact Scroll for R513A

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 400 Volt															
Horizontal Suction	Min	Max	Min	Max	Min	Max									
AJB52FAAMT(20-120RPS)	2,280	14,576	1,960	12,532	7,779	49,733	7,600	25,931	2,390	6.40	3.18	10.85	32.3	900	19
Vertical Suction	Min	Max	Min	Max	Min	Max									
AJB87FBAMT(20-120RPS)	4,004	23,920	3,443	20,566	13,662	81,615	12,700	43,332	3,910	9.12	3.25	11.08	38.2	900	20

ARI Condition

R513A Fixed Speed Scroll for Air Dryer Application Specifications

AJ / BJ Fixed Speed Scroll for R513A

Models	Capacity			Input		Nominal Output		COP. (w/w)	EER. (Btu/hr*w)	Run Cap. (mF/VAC)	Weight (kgs.)	Oil (cc.)	Drawing Number
	W	Kcal/hr	BTU/hr	Watt	Amps	HP	KW.						
a) Electrical 50/60 Hz : 380 - 415/460 Volt : 3 Phases													
Horizontal Suction													
AJ60YAAMT	6,900	5,933	23,543	2,150	3.60	2.4	1.80	3.21	10.95	-	34.9	1,300	8
AJ73YAAMT	8,370	7,197	28,558	2,700	4.50	3.0	2.20	3.10	10.58	-	35.1	1,300	8
AJ83YAAMT	9,450	8,125	32,243	3,090	5.20	3.4	2.50	3.06	10.43	-	36.9	1,300	8
BJ96YAAMT	10,700	9,200	36,508	3,570	6.00	4.0	3.00	3.00	10.23	-	40.0	1,700	9

ARI Condition



Operation standard and limits of R290 Scroll for Heating Application

Models	DPB	APB	APH
Compressor			
Type	Scroll Type (DC Inverter)		Scroll Type (Fixed Speed)
Displacement (cc/rev.)	28-52 (28/36/52)	33 ~ 100 (33/42/52/87/100)	42 ~ 73 (42/52/60/73)
Refrigerant type	R290		
Pressure			
Maximum Condensing	3.15 MPaG / 82°C (456.9 psiG / 179.6°F)		
Evaporating	0.07 ~ 0.69 MPaG (10.2 ~ 100.1 psiG)	0.07 ~ 0.98 MPaG (10.2 ~ 142.1 psiG)	0.07 ~ 0.69 MPaG (33.4 ~ 230.6 psiG)
Temperature			
Condensing	Under 82°C (Under 179.6°F)		
Evaporating	-30°C ~ 18°C (-22°F ~ 64.4°F)		
Discharged Gas (max)	120°C (248°F) please see speed limit allowable area at Envelop (See Note 1)		120°C (248°F) (See Note 1)
Suction Gas superheat	Must be more than 0°C (No liquid back) (See Note 1)		
Discharged gas's superheat	10°C or more		
Outdoor Ambient Temp.	Under 43°C (109.4°F)		
Electrical			
Supply voltage (during operation)	The compressor must be operated on the proper voltage in accordance with the designated voltage frequency curve.	The compressor motor must be operated by suitable supply voltage and frequency for unit condition without reverse rotation.	The compressor must be operated on the rated voltage $\pm 10\%$. The operating voltage shall be the terminal voltage of the compressor during operation.
Starting voltage	The compressor motor must be operated by suitable supply voltage and revolution for unit condition without reverse rotation.	The voltage of 80% or more of rated voltage shall be supplied at start-up. The starting voltage shall be the terminal voltage of the compressor when the voltage drops due to starting current.	A voltage of 80% of rated voltage shall be supplied at start-up. The starting voltage shall be the terminal voltage of the compressor when the voltage drops due to starting current.
Reverse phase (rotation)	Compressor is not design to run reverse phase		
Frequency range	See in Specification of Compressor		
ON/OFF			
ON/OFF Frequency	Less than 250,000 cycles		
ON/OFF Cycle	1. The ON/OFF cycle shall be a maximum of 10 times/hour. 2. OFF time shall be the time until the high side and low side pressure reach to balance pressure (more than 3 minutes)		
Pipe Stress	3.5 kg/mm ² or less at start and stop condition (1.8 kg/mm ² during operation)		
Refrigerant Circuit			
Maximum Refrigerant Charge	Amount of refrigerant [g] < or = Amount of oil [g] x 4 (the relative density of oil : 1 [g/cm ³]) It necessary to control DSH>10K (SSH>0K) Regarding operation which exceeds the above limit, consult with us.		
Piping vibration	Maximum 0.8 mm.		
Inclination of compressor	Within 5°		
Evacuation level	Degree of vacuum equivalent to about 133 Pa (abs) (1.0 mmHg) shall be created		
Piping length between indoor and outdoor units	Max. 20 m. (65.62 ft.) (See also Note 2)		Max. 50 m. (164 ft.) (See note 2)
Elevation between indoor and outdoor units	Max. 15 m. (49.21 ft.) (See also Note 2)		Max. 30 m. (98 ft.) (See note 2)

Note : 1. The temperature must be lower than this critical value even the unit has been using for many years.

2. It is recommended that evaluation of oil return to the compressor has to be done.

Operation standard and limits of R454B Scroll for Heating Application

Models	ARB	DRB
Compressor		
Type	Scroll Type (DC Inverter)	
Displacement (cc/rev.)	52 ~ 78 (52/78)	22 ~ 36 (22/28/36)
Refrigerant type	R454B	
Pressure		
Maximum Condensing	4.15 MPaG / 68°C (602 psiG / 154.4°F)	
Evaporating	0.13 ~ 1.53 MPaG (18.9 ~ 221.9 psiG)	
Temperature		
Condensing	Under 68°C (Under 154.4°F)	
Evaporating	-32°C ~ 27°C (-25.6°F ~ 80.6°F)	
Discharged Gas (max)	120°C (248°F) (See Note 1)	
Suction Gas superheat	Must be more than 0°C (No liquid back) (See Note 1)	
Discharged gas's superheat	10°C (50°F) or more	
Outdoor Ambient Temp.	Under 43°C (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 show the performance curve. The applied voltage's phase of the compressor must be nearly accorded with the phase of rotor in the compressor.	
Starting voltage	The compressor motor must be operated by suitable supply voltage and revolution for unit condition without reverse rotation. The unit condition at start-up must be balanced at high / low pressure.	
Reverse phase (rotation)	Compressor is not design to run reverse phase	
Frequency range	See in Specification of Compressor	
ON/OFF		
ON/OFF Frequency	Less than 250,000 cycles	
ON/OFF Cycle	1. The ON/OFF cycle shall be a maximum of 10 times /hour. 2. OFF time shall be the time until the high side and low side pressure reach to balance pressure (more than 3 minutes)	
Pipe Stress	3.5 kg/mm ² or less at start and stop condition (1.8 kg/mm ² during operation)	
Refrigerant Circuit		
Maximum Refrigerant Charge	Amount of refrigerant [g] < or = Amount of oil [g] x 4 (the relative density of oil : 1 [g/cm ³]) It necessary to control DSH>10K (SSH>0K) Regarding operation which exceeds the above limit, consult with us.	
Piping vibration	Maximum 0.8 mm.	
Inclination of compressor	Within 5°	
Evacuation level	Degree of vaccum equivalent to about 133 Pa (abs) (1.0 mmHg) shall be created	
Piping length between indoor and outdoor units	Max. 50 m. (164 ft.) (See note 2)	Max. 20 m. (65.62 ft.) (See also Note 2)
Elevation between indoor and outdoor units	Max. 30 m. (98 ft.) (See note 2)	Max. 15 m. (49.21 ft.) (See also Note 2)

Note: 1. The temperature must be lower than this critical value even the unit has been using for many years.

2. It is recommended that evaluation of oil return to the compressor has to be done.

Operation standard and limits of R513A Scroll for Air Dryer Application

Models	AJB	AJ / BJ
Compressor		
Type	Scroll Type (DC Inverter)	Scroll Type (Fixed Speed)
Displacement (cc/rev.)	52 ~ 87 (52/87)	60 ~ 96 (60/73/83/96)
Refrigerant type	R513A	
Pressure		
Maximum Condensing	2.08 MPaG / 70°C (301.7 psiG / 158°F)	1.98 MPaG / 68°C (287.2 psiG / 154.4°F)
Evaporating	0.02 ~ 0.48 MPaG (2.9 ~ 69.6 psiG)	
Temperature		
Condensing	Under 70°C (Under 158°F)	Under 68°C (Under 154.4°F)
Evaporating	-25°C ~ 18°C (-13°F ~ 64.4°F)	
Discharged Gas (max)	120°C (248°F) please see speed limit allowable area at Envelop (See Note 1)	120°C (248°F) (See Note 1)
Suction Gas superheat	Must be more than 0°C (No liquid back) (See Note 1)	
Discharged gas's superheat	10°C (50°F) or more	
Outdoor Ambient Temp.	Under 43°C (109.4°F)	
Electrical		
Supply voltage (during operation)	The compressor must be operated on the proper voltage in accordance with the frequency as show in performance curve. The applied voltage's phase of the compressor must be nearly accorded with the phase of rotor in the compressor.	The compressor must be operated on the rated $\pm 10\%$. The operating voltage shall be the terminal voltage of the compressor during operation.
Starting voltage	The compressor motor must be operated by suitable supply voltage and revolution for unit condition without reverse rotation. The unit condition at start-up must be balanced at high/low pressure.	The voltage of 80% or more of rated voltage shall be supplier start-up on the high/low pressure balancing. The starting voltage shall be the terminal voltage of the compressor when the voltage drops due to starting current.
Reverse phase (rotation)	Compressor is not design to run reverse phase	
Frequency range	See in Specification of Compressor	
ON/OFF		
ON/OFF Frequency	Less than 250,000 cycles	
ON/OFF Cycle	1. The ON/OFF cycle shall be a maximum of 10 times/hour. 2. OFF time shall be the time until the high side and low side pressure reach to balance pressure (more than 3 minutes)	
Pipe Stress	3.5 Kg/mm ² or less at start and stop condition (1.8 kg/mm ² during operation)	
Refrigerant Circuit		
Maximum Refrigerant Charge	Amount of refrigerant [g] < = Amount of oil [g] x 4 (the relative density of oil : 1 [g/cm ³]) Regarding operation which exceeds the above limit, consult with us.	
Piping vibration	Maximum 0.8 mm.	
Inclination of compressor	Within 5°	
Evacuation level	Degree of vaccum equivalent to about 133 Pa (abs) (1.0 mmHg) shall be created	
Piping length between indoor and outdoor units	Max. 50 m. (164 ft.) (See note 2)	
Elevation between indoor and outdoor units	Max. 30 m. (98 ft.) (See note 2)	

Note : 1. The temperature must be lower than this critical value even the unit has been using for many years.
2. It is recommended that evaluation of oil return to the compressor has to be done.

R410A Inverter Scroll for Low Temp. CDU Application Specifications

ANB Inverter Scroll Compressor for R410A in Low Temp. CDU Application

Models	Capacity Range						Unit Size (HP)	Performance at 60 rps				Weight (kgs.)	Oil (cc.)	Injection Pipe	Oil Balance Pipe	Sight Glass	Oil Sensor	Sound Pressure @30 cm-dB(A) @Speed 60 rps (ARI condition)	Standard	Drawing Number	
	(min ~ max)							Capacity		Input											
	Watt	Kcal/hr	BTU/hr	W	BTU/hr	Watt		Amps													
a) DC Inverter 400 Volt																					
Horizontal Suction		Min	Max	Min	Max	Min	Max														
ANB33FUHMST (20-100RPS)		800	4,000	688	3,439	2,730	13,648	3.5HP	2,400	8,189	1,248	2.73	35.0	1,900	0	x	x	x	66	TIS	1
ANB42FUHMST (20-100RPS)		1,000	5,000	860	4,299	3,412	17,060	4.5HP	3,000	10,236	1,904	5.29	35.2	1,900	0	x	x	x	66	TIS	1
ANB66FUJMST (20-100RPS)		1,600	7,900	1,376	6,792	5,459	26,955	10HP	4,800	16,378	3,797	13.25	39.3	1,900	0	x	x	x	69	TIS&CE&CB	1
Vertical Suction		Min	Max	Min	Max	Min	Max														
ANB78FE1MST (15-120RPS)		1,900	9,400	1,634	8,082	6,483	32,073	11HP	5,600	19,107	5,441	18.58	39.2	1,900	0	0	x	x	72	TIS	37
ANB87FZKMTS (20-120RPS)		2,100	12,500	1,806	10,748	7,165	42,650	12HP	6,463	22,052	5,688	20.82	40.1	2,300	0	0	x	x	72	TIS	37
ANB100FZSMTS		Under development																			

Low temp. Condition: ET= -35°C, CT= 40°C, SH=55K, SC=0K

R404A / R448A / R449A / R407A / R407C / R407F / R407H Inverter Scroll for Low Temp. CDU Application Specifications

AGK Inverter Scroll for R404A / R448A / R449A / R407A / R407C / R407F / R407H in Low Temp. CDU Application

Models	Capacity Range* R404A*						Unit Size (HP)	Performance at 60 rps				Weight (kgs.)	Oil (cc.)	Injection Pipe	Oil Balance Pipe	Sight Glass	Oil Sensor	Sound Pressure @30 cm-dB(A) @Speed 60 rps (ARI condition)	Standard	Drawing Number	
	(min ~ max)							Capacity		Input											
	Watt	Kcal/hr	BTU/hr	W	BTU/hr	Watt		Amps													
a) DC Inverter 200 Volt																					
Horizontal Suction		Min	Max	Min	Max	Min	Max														
AGK33FD1MST* (20-120RPS)		500	3,000	430	2,579	1,706	10,236	3HP	1,404	4,789	1,530	4.75	35.4	2,300	0	x	0	x	66	TIS	14
AGK42FD1MST* (20-120RPS)		600	3,800	516	3,267	2,047	12,966	3.5HP	1,786	6,095	2,004	7.80	35.6	2,300	0	x	0	x	67	TIS	14
AGK66FD1MST* (20-120RPS)		1,000	6,000	860	5,159	3,412	20,472	6HP	2,807	9,579	3,109	13.90	39.7	2,300	0	x	0	x	67	TIS	16
Vertical Suction		Min	Max	Min	Max	Min	Max														
AGK78FD1MST* (20-120RPS)		1,200	7,100	1,032	6,105	4,094	24,225	8HP	3,477	11,864	4,130	16.42	41.2	2,300	0	0	0	x	68	TIS	15
AGK87FD1MST* (20-120RPS)		1,300	7,900	1,118	6,792	4,436	26,955	9HP	3,878	13,233	3,748	18.32	40.9	2,300	0	0	0	x	69	TIS	15
AGK100FE2MST		Under development																			
b) DC Inverter 400 Volt																					
Horizontal Suction		Min	Max	Min	Max	Min	Max														
AGK33FDAMTS* (20-120RPS)		500	3,000	430	2,579	1,706	10,236	3HP	1,404	4,789	1,530	3.96	35.4	2,300	0	x	0	x	67	CE&TIS	14
AGK42FDAMTS* (20-120RPS)		600	3,800	516	3,267	2,047	12,966	3.5HP	1,786	6,095	2,004	6.50	35.6	2,300	0	x	0	x	68	CE&TIS	14
AGK66FDBMTS* (20-120RPS)		1,000	6,000	860	5,159	3,412	20,472	6HP	2,807	9,579	3,109	11.58	39.7	2,300	0	x	0	x	68	CE&TIS	16
Vertical Suction		Min	Max	Min	Max	Min	Max														
AGK78FDCMTS* (20-120RPS)		1,200	7,100	1,032	6,105	4,094	24,225	8HP	3,477	11,864	4,130	13.69	41.2	2,300	0	0	0	x	68	CE&TIS	15
AGK87FDCMTS* (20-120RPS)		1,300	7,900	1,118	6,792	4,436	26,955	9HP	3,878	13,233	3,748	15.26	40.9	2,300	0	0	0	x	70	CE&TIS	15
AGK100FDDMST		Under development																			
c) DC Inverter 400 Volt with Oil sensor																					
Horizontal Suction		Min	Max	Min	Max	Min	Max														
AGK33FL1MST* (20-120RPS)		500	3,000	430	2,579	1,706	10,236	3HP	1,404	4,789	1,530	3.96	35.4	2,300	0	x	x	0	67	CE&TIS	10
AGK42FL1MST* (20-120RPS)		600	3,800	516	3,267	2,047	12,966	3.5HP	1,786	6,095	2,004	6.50	35.6	2,300	0	x	x	0	68	CE&TIS	10
AGK66FL1MST* (20-120RPS)		1,000	6,000	860	5,159	3,412	20,472	6HP	2,807	9,579	3,109	11.58	39.7	2,300	0	x	x	0	68	CE&TIS	21
Vertical Suction		Min	Max	Min	Max	Min	Max														
AGK78FL1MST* (20-120RPS)		1,200	7,100	1,032	6,105	4,094	24,225	8HP	3,477	11,864	4,130	13.69	41.2	2,300	0	0	x	0	68	CE&TIS	4
AGK87FL1MST* (20-120RPS)		1,300	7,900	1,118	6,792	4,436	26,955	9HP	3,878	13,233	3,748	15.26	40.9	2,300	0	0	x	0	70	CE&TIS	4
AGK100FL1MST		Under development																			

Low temp. Condition: ET= -35°C, CT= 40°C, SH=55K, SC=0K

R404A / R448A / R449A Fixed Speed Scroll for Low Temp. CDU Application Specifications

AG/BG Fixed Speed Scroll for R404A / R448A / R449A in Low Temp. CDU Application

Models	Capacity *R404A*			Nominal HP	Input		Locked Rotor Current (A)	Weight (kgs.)	Oil (cc.)	Sight Glass	Sound Pressure @30 cm-dB(A)	Standard	Drawing Number	
	W	Kcal/hr	BTU/hr		Watt	Amps								
a) Electrical 50 Hz : 380 - 415 Volt : 3 Phases														
Horizontal Suction														
AG30YCAMTS		1,200	1,032	4,095	1.00	1,130	2.50	40	39.3	1,300	0	63	TIS	52
AG33YCAMTS		1,340	1,152	4,572	1.25	1,280	2.75	40	39.3	1,300	0	64	TIS	52
AG36YCAMTS		1,462	1,257	4,988	1.50	1,300	2.80	40	39.6	1,300	0	64	TIS	52
AG42YCAMTS		1,600	1,376	5,459	1.75	1,610	3.44	48	39.1	1,300	0	67	TIS	52
AG52YCAMTS		2,110	1,815	7,200	2.00	1,960	3.95	48	39.1	1,300	0	68	TIS	52
AG66YCAMTS		2,730	2,348	9,315	2.50	2,530	5.38	62	39.8	1,700	0	70	TIS	52
BG82YAAMTS		Under development												
BG96YAAMTS		Under development												

Low temp. Condition: ET= -35°C, CT= 40°C, SH=55K, SC=0K

R410A Inverter Scroll for Medium Temp. CDU Application Specifications

ANB Inverter Scroll Compressor for R410A in Medium Temp. CDU Application

Models	Capacity Range						Unit Size (HP)	Performance at 60 rps				Weight (kgs.)	Oil (cc.)	Injection Pipe	Oil Balance Pipe	Sight Glass	Oil Sensor	Sound Pressure @30 cm-dB(A) @Speed 60 rps (ARI condition)	Standard	Drawing Number
	(min ~ max)							Capacity		Input										
	Watt	Kcal/hr	BTU/hr	W	BTU/hr	Watt		Amps												
a) DC Inverter 400 Volt																				
Horizontal Suction	Min	Max	Min	Max	Min	Max														
ANB33FKJMTS (20-120RPS)	1,720	11,530	1,479	9,913	5,869	39,340	6HP	5,700	19,448	2,720	10.90	33.5	1,900	x	x	x	x	68	CE&TIS	27
ANB42FKJMTS (20-120RPS)	2,290	14,760	1,969	12,691	7,813	50,361	7.5HP	7,150	24,396	3,400	13.20	33.5	1,900	x	x	x	x	69	CE&TIS	27
Vertical Suction	Min	Max	Min	Max	Min	Max														
ANB66FVQMTS (15-120RPS)	3,700	23,000	3,181	19,775	12,624	78,476	12HP	11,200	38,214	5,300	17.00	38.9	1,900	0	x	x	x	70	TIS&UL	42
ANB78FVQMTS (15-120RPS)	4,440	27,290	3,818	23,464	15,149	93,113	14HP	13,200	45,038	6,300	20.20	38.9	1,900	0	x	x	x	70	TIS	42
ANB87FVMTS (15-120RPS)	4,890	30,850	4,204	26,525	16,685	105,260	16HP	14,800	50,498	6,950	24.60	39.4	1,900	0	x	x	x	70	TIS	42
ANB100FE4MTS	Under Development																			

Medium temp. Condition: ET= -10°C, CT= 45°C, SH=30K, SC=0K



R404A / R448A / R449A Inverter Scroll for Medium Temp. CDU Application Specifications

AGB Inverter Scroll for R404A / R448A / R449A in Medium Temp. CDU Application

Models	Capacity Range						Unit Size (HP)	Performance at 60 rps				Weight (kgs.)	Oil (cc.)	Injection Pipe	Oil Balance Pipe	Sight Glass	Oil Sensor	Sound Pressure @30 cm-dB(A) @Speed 60 rps (ARI condition)	Standard	Drawing Number
	(min ~ max)							Capacity		Input										
	Watt	Kcal/hr	BTU/hr	W	BTU/hr	Watt		Amps												
a) DC Inverter 200 Volt																				
Horizontal Suction	Min	Max	Min	Max	Min	Max														
AGB33FABMTS (15-120RPS)	1,088	8,700	935	7,482	3,711	29,686	4 HP	4,350	14,843	2,030	7.20	33.9	1,900	0	0	x	x	66	TIS&CoC	41
AGB42FABMTS (15-120RPS)	1,378	11,020	1,185	9,477	4,700	37,602	5 HP	5,510	18,801	2,570	9.00	33.1	1,900	0	0	x	x	67	TIS&CoC	41
AGB52FABMTS (15-120RPS)	1,690	13,520	1,453	11,627	5,767	46,132	6 HP	6,760	23,066	3,080	10.80	33.4	1,900	0	0	x	x	67	TIS&CoC	41
Vertical Suction	Min	Max	Min	Max	Min	Max														
AGB66FBBMTS (15-120RPS)	2,193	17,540	1,886	15,084	7,481	59,849	7.5 HP	8,770	29,924	3,980	13.00	39.0	1,900	0	0	x	x	68	TIS&CoC	40
AGB78FBBMTS (15-120RPS)	2,600	20,800	2,236	17,888	8,872	70,973	9 HP	10,400	35,486	4,620	15.30	39.0	1,900	0	0	x	x	69	TIS&CoC	40
AGB87FBBMTS (15-120RPS)	2,903	23,220	2,496	19,969	9,904	79,230	10 HP	11,610	39,615	5,170	18.50	39.8	2,300	0	0	x	x	69	TIS&CoC	40
AGB100FE4MTS	Under Development																			
b) DC Inverter 400 Volt																				
Horizontal Suction	Min	Max	Min	Max	Min	Max														
AGB33FAAMTS (15-120RPS)	1,088	8,700	935	7,482	3,711	29,686	4 HP	4,350	14,843	2,030	7.20	33.9	1,900	0	0	x	x	67	CE&TIS&CMIM	41
AGB42FAAMTS (15-120RPS)	1,378	11,020	1,185	9,477	4,700	37,602	5 HP	5,510	18,801	2,570	9.00	33.1	1,900	0	0	x	x	68	CE&TIS&CMIM	41
AGB52FAAMTS (15-120RPS)	1,690	13,520	1,453	11,627	5,767	46,132	6 HP	6,760	23,066	3,080	10.80	33.4	1,900	0	0	x	x	68	CE&TIS&CMIM	41
Vertical Suction	Min	Max	Min	Max	Min	Max														
AGB66FBAMTS (15-120RPS)	2,193	17,540	1,886	15,084	7,481	59,849	7.5 HP	8,770	29,924	3,980	13.00	39.0	1,900	0	0	x	x	68	CE&TIS&CMIM	40
AGB78FBAMTS (15-120RPS)	2,600	20,800	2,236	17,888	8,872	70,973	9 HP	10,400	35,486	4,620	15.30	39.0	1,900	0	0	x	x	69	CE&TIS&CMIM	40
AGB87FBAMTS (15-120RPS)	2,903	23,220	2,496	19,969	9,904	79,230	10 HP	11,610	39,615	5,170	18.50	39.8	2,300	0	0	x	x	69	CE&TIS&CMIM	40
AGB100FE2MTS	Under Development																			

Medium temp. Condition: ET= -10°C, CT= 45°C, SH=30K, SC=0K



R404A / R448A / R449A Fixed Speed Scroll for Medium Temp. CDU Application Specifications

AG/BG Fixed Speed Scroll for R404A / R448A / R449A in Medium Temp. CDU Application

Models	Capacity *R404A*			Nominal HP	Input		Locked Rotor Current (A)	Weight (kgs.)	Oil (cc.)	Sight Glass	Sound Pressure @30 cm-dB(A)	Standard	Drawing Number
	W	Kcal/hr	BTU/hr		Watt	Amps							
a) Electrical 50 Hz : 380 - 415 Volt : 3 Phases													
Horizontal Suction													
AG30YCAMTS	3,100	2,666	10,578	1.00	1,500	2.90	40	39.3	1,300	0	63	TIS	52
AG33YCAMTS	3,650	3,139	12,454	1.25	1,640	3.05	40	39.3	1,300	0	64	TIS	52
AG36YCAMTS	3,940	3,388	13,444	1.50	1,760	3.22	40	39.6	1,300	0	64	TIS	52
AG42YCAMTS	4,400	3,784	15,013	1.75	2,070	3.95	48	39.1	1,300	0	67	TIS	52
AG52YCAMTS	5,790	4,979	19,755	2.00	2,520	4.61	48	39.1	1,300	0	68	TIS	52
AG66YCAMTS	7,400	6,364	25,249	2.50	3,230	6.17	62	39.8	1,700	0	70	TIS	52
BG82YAMTS	Under Development												
BG96YAMTS	Under Development												

Medium temp. Condition: ET= -10°C, CT= 45°C, SH=30K, SC=0K

R290 Inverter Horizontal Scroll for Low Temp. Plug-in Application Specifications

DPW Inverter Horizontal Scroll for in Low Temp. Plug-in Application

Models	Capacity Range *R404A*						Unit Size (HP)	Performance at 60 rps				Weight (kgs.)	Oil (cc.)	Sound Pressure @30 cm-dB(A) @Speed 60 rps [ARI condition]	Standard	Drawing Number
	(min ~ max)							Capacity		Input						
	Watt		Kcal/hr		BTU/hr			W	BTU/hr	Watt	Amps					
a) DC Inverter 400 Volt	Min	Max	Min	Max	Min	Max										
DPW22FBAMTS (15-100RPS)	162	1,510	139	1,298	552	5,151	1.5 HP	877	2,993	880	2.70	21.5	650	65	CE&TIS	3
DPW28FBAMTS (15-100RPS)	230	1,960	198	1,685	785	6,688	2.0 HP	1,150	3,924	1,009	3.20	21.4	650	67	CE&TIS	3
DPW36FBAMTS (15-100RPS)	291	2,522	250	2,168	993	8,605	2.5 HP	1,513	5,161	1,247	3.90	21.6	650	68	CE&TIS	3
DPW42FBAMTS (15-100RPS)	350	2,939	301	2,527	1,194	10,026	3.0 HP	1,740	5,938	1,639	4.50	21.5	650	70	CE&TIS	3

Low temp. Condition: ET= -35°C, CT= 40°C, SH=55K, SC=0K



R404A / R448A / R449A Inverter Horizontal Scroll for Low Temp. Plug-in Application Specifications

DGW Inverter Horizontal Scroll for R404A / R448A / R449A in Low Temp. Plug-in Application

Models	Capacity Range *R404A*						Unit Size (HP)	Performance at 60 rps				Weight (kgs.)	Oil (cc.)	Sound Pressure @30 cm-dB(A) @Speed 60 rps [ARI condition]	Standard	Drawing Number
	(min ~ max)							Capacity		Input						
	Watt		Kcal/hr		BTU/hr			W	BTU/hr	Watt	Amps					
a) DC Inverter 200 Volt	Min	Max	Min	Max	Min	Max										
DGW22FAAMTS (15-100RPS)	265	1,770	228	1,522	904	6,038	1.5 HP	1,062	3,622	805	2.76	20.6	650	66	TIS	3
DGW28FAAMTS (15-100RPS)	406	2,223	349	1,911	1,385	7,583	2.0 HP	1,335	4,554	977	2.92	21.2	650	69	TIS	3
DGW36FAAMTS (15-100RPS)	428	2,857	368	2,457	1,460	9,750	3.0 HP	1,714	5,849	1,336	3.75	21.4	650	71	TIS	3

Low temp. Condition: ET= -35°C, CT= 40°C, SH=55K, SC=0K

R404A Fixed Speed Horizontal Scroll for Low Temp. Plug-in Application Specifications

ADZ Fixed Speed Scroll for R404A / R448A / R449A in Medium Temp. Plug-in Application

Models	Capacity			Nominal HP	Input		Locked Rotor Current (A)	Run Cap. (mF/VAC)	Start Cap. (mF/VAC)	Weight (kgs.)	Oil (cc.)	Sound Pressure @30 cm-dB(A)	Standard	Drawing Number	
	W	Kcal/hr	BTU/hr		Watt	Amps									
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase															
ADZ30VBBMTS	1,143	983	3,900	1HP	1,160	5.3	52	45 / 400	189-227/330	37.8	900	54	TIS&CCC&CE	46	
ADZ33VBBMTS	1,258	1,082	4,292	1.5 HP	1,295	7.5	52	45 / 400	189-227/330	38.0	900	55	TIS&CCC&CE	46	
ADZ36VBBMTS	1,372	1,180	4,681	1.75 HP	1,360	6.3	52	45 / 400	189-227/330	37.3	900	55	TIS&CCC&CE	46	
ADZ42VBBMTS	1,600	1,376	5,459	2.0 HP	1,550	7.1	65	50 / 420	270-324/330	37.3	900	57	TIS&CCC&CE	46	
ADZ52VBBMTS	1,982	1,704	6,763	2.5 HP	1,950	9.0	65	60 / 440	270-324/330	38.4	900	57	TIS&CCC&CE	46	
b) Electrical 60 Hz : 208 - 230 Volt : 1 Phase															
ADZ30NBBMTS	1,331	1,144	4,541	1HP	1,448	7.4	56	50 / 420	189-227/330	36.8	900	57	CE&TIS	46	
ADZ33NBBMTS	1,509	1,297	5,149	1.5 HP	1,569	9.0	56	50 / 420	189-227/330	37.0	900	57	CE&TIS	46	
ADZ36NBBMTS	1,646	1,415	5,616	1.75 HP	1,690	10.2	56	50 / 420	270-324/330	37.3	900	58	CE&TIS	46	
ADZ42NBBMTS	1,921	1,652	6,554	2.0 HP	1,913	8.8	72	55 / 420	270-324/330	36.9	900	58	CE&TIS	46	
ADZ52NBBMTS	2,378	2,045	8,114	2.5 HP	2,390	15.3	72	65 / 440	270-324/330	37.1	900	59	CE&TIS	46	

Low temp. Condition: ET= -35°C, CT= 40°C, SH=55K, SC=0K



R290 Inverter Horizontal Scroll for Medium Temp. Plug-in Application Specifications

DPW Inverter Horizontal Scroll for in Medium Temp. Plug-in Application

Models	Capacity Range *R404A*						Unit Size (HP)	Performance at 60 rps				Weight (kgs.)	Oil (cc.)	Sound Pressure @30 cm-dB(A) @Speed 60 rps [ARI condition]	Standard	Drawing Number
	(min ~ max)							Capacity		Input						
	Watt		Kcal/hr		BTU/hr			W	BTU/hr	Watt	Amps					
a) DC Inverter 400 Volt	Min	Max	Min	Max	Min	Max										
DPW22FBAMTS*(15-100RPS)	513	4,137	441	3,557	1,752	14,115	2.0 HP	2,499	8,526	1,161	3.50	21.5	650	65	CE&TIS	3
DPW28FBAMTS*(15-100RPS)	738	5,262	634	4,524	2,516	17,954	2.5 HP	3,069	10,471	1,328	4.01	21.4	650	67	CE&TIS	3
DPW36FBAMTS*(15-100RPS)	873	6,575	750	5,653	2,978	22,433	3.0 HP	3,966	13,532	1,691	4.80	21.6	650	68	CE&TIS	3
DPW42FBAMTS*(15-100RPS)	1,024	7,654	881	6,582	3,496	26,119	3.5 HP	4,620	15,767	2,251	5.30	21.5	650	70	CE&TIS	3

Medium temp. Condition: ET= -10°C, CT= 45°C, SH=30K, SC=0K



R404A / R448A / R449A Inverter Horizontal Scroll for Medium Temp. Plug-in Application Specifications

DGW Inverter Horizontal Scroll for R404A / R448A / R449A in Medium Temp. Plug-in Application

Models	Capacity Range *R404A*						Unit Size (HP)	Performance at 60 rps				Weight (kgs.)	Oil (cc.)	Sound Pressure @30 cm-dB(A) @Speed 60 rps [ARI condition]	Standard	Drawing Number
	(min ~ max)							Capacity		Input						
	Watt		Kcal/hr		BTU/hr			W	BTU/hr	Watt	Amps					
a) DC Inverter 200 Volt	Min	Max	Min	Max	Min	Max										
DGW22FAAMTS*(15-100RPS)	702	4,683	604	4,027	2,395	15,979	2.5 HP	2,810	9,587	1,589	4.25	20.6	650	66	TIS	3
DGW28FAAMTS*(15-100RPS)	748	5,961	643	5,125	2,551	20,339	3.0 HP	3,582	12,222	1,630	4.77	21.2	650	69	TIS	3
DGW36FAAMTS*(15-100RPS)	1,149	7,664	988	6,590	3,921	26,150	3.5 HP	4,598	15,689	2,100	6.18	21.4	650	71	TIS	3

Medium temp. Condition: ET= -10°C, CT= 45°C, SH=30K, SC=0K

R404A Fixed Speed Horizontal Scroll for Medium Temp. Plug-in Application Specifications

ADZ Fixed Speed Scroll for R404A / R448A / R449A in Medium Temp. Plug-in Application

Models	Capacity			Nominal HP	Input		Locked Rotor Current (A)	Run Cap. (mF/VAC)	Start Cap. (mF/VAC)	Weight (kgs.)	Oil (cc.)	Sound Pressure @30 cm-dB(A)	Standard	Drawing Number
	W	Kcal/hr	BTU/hr		Watt	Amps								
a) Electrical 50 Hz : 220 - 240 Volt : 1 Phase														
ADZ30VBAMTS	3,170	2,726	10,816	1.25 HP	1,510	6.9	52	45 / 400	189-227/330	37.8	900	54	TIS&CCC&CE	46
ADZ33VBAMTS	3,490	3,001	11,908	1.5 HP	1,620	7.4	52	45 / 400	189-227/330	38.0	900	55	TIS&CCC&CE	46
ADZ36VBAMTS	3,800	3,267	12,966	1.75 HP	1,740	8.0	52	45 / 400	189-227/330	37.3	900	55	TIS&CCC&CE	46
ADZ42VBAMTS	4,420	3,800	15,081	2.0 HP	2,060	9.5	65	50 / 420	270-324/330	37.3	900	57	TIS&CCC&CE	46
ADZ52VBAMTS	5,500	4,729	18,766	2.5 HP	2,560	11.8	65	60 / 440	270-324/330	38.4	900	57	TIS&CCC&CE	46
b) Electrical 60 Hz : 208 - 230 Volt : 1 Phase														
ADZ30NBAMTS	3,090	2,657	10,543	1.5 HP	1,958	8.83	56	50 / 420	189-227/330	36.8	900	57	CE&TIS	46
ADZ33NBAMTS	3,528	3,033	12,038	1.75 HP	2,083	9.39	56	50 / 420	189-227/330	37.0	900	57	CE&TIS	46
ADZ36NBAMTS	4,081	3,509	13,924	2.0 HP	2,191	9.89	56	50 / 420	270-324/330	37.3	900	58	CE&TIS	46
ADZ42NBAMTS	5,166	4,442	17,626	2.5 HP	2,439	10.90	72	55 / 420	270-324/330	36.9	900	58	CE&TIS	46
ADZ52NBAMTS	5,926	5,095	20,220	3.0 HP	3,285	14.84	72	65 / 440	270-324/330	37.1	900	59	CE&TIS	46

Medium temp. Condition: ET= -10°C, CT= 45°C, SH=30K, SC=0K



R404A / R407H / R452A Inverter Scroll for Low Temp. Transportation Application Specifications

AGK Inverter Scroll for R404A / R407H / R452A in Low Temp. Transportation Application

Models	Capacity Range *R404A*						Performance at 60 rps				Weight (kgs.)	Oil (cc.)	Drawing Number	
	(min ~ max)						Capacity		Input					
	Watt	Kcal/hr	BTU/hr		W	BTU/hr	Watt	Amps						
a) DC Inverter 400 Volt														
Vertical Suction	Min	Max	Min	Max	Min	Max								
AGK66FEAMTS (20-120RPS)	1,293	7,760	1,112	6,672	4,412	26,477	3,878	13,232	3,002	11.50	43.2	2,300	5	
AGK87FEAMTS (20-120RPS)	1,704	10,220	1,465	8,787	5,814	34,871	5,112	17,442	3,957	15.30	42.8	2,300	5	
AGK100FEAMTS (20-120RPS)	1,958	11,750	1,683	10,103	6,681	40,091	5,876	20,049	4,549	12.90	42.5	2,300	5	

Low temp. Condition: ET= -35°C, CT= 40°C, SH=5K, SC=5K



R404A / R407H / R452A Inverter Scroll for Medium Temp. Transportation Application Specifications

AGK Inverter Scroll for R404A / R407H / R452A in Medium Temp. Transportation Application

Models	Capacity Range *R404A*						Performance at 60 rps				Weight (kgs.)	Oil (cc.)	Drawing Number	
	(min ~ max)						Capacity		Input					
	Watt	Kcal/hr	BTU/hr		W	BTU/hr	Watt	Amps						
a) DC Inverter 400 Volt														
Vertical Suction	Min	Max	Min	Max	Min	Max								
AGK66FEAMTS (20-120RPS)	4,132	24,790	3,553	21,314	14,098	84,583	12,395	42,292	5,471	13.40	43.2	2,300	5	
AGK87FEAMTS (20-120RPS)	5,446	32,680	4,682	28,098	18,582	111,504	16,339	55,749	7,212	15.60	42.8	2,300	5	
AGK100FEAMTS (20-120RPS)	6,260	37,560	5,382	32,294	21,359	128,155	18,781	64,081	4,549	12.90	42.5	2,300	5	

Medium temp. Condition: ET= -15°C, CT= 40°C, SH=5K, SC=5K



Operation standard and limits of R410A Inverter Scroll for Refrigeration Application

Models	ANB for Low Temp.		ANB for Medium Temp.
Compressor			
Type	Scroll Type (DC Inverter)		
Displacement (cc/rev.)	33 ~ 66 (33/42/66)	78 ~ 100 (78/87/100)	33 ~ 100 (33/42/52/66/78/87/100)
Refrigerant type	R410A		
Pressure			
Maximum Condensing	39.8 MPaG / 65°C (577.2 psiG / 149°F)	3.73 MPaG / 60°C (541 psiG / 140°F)	4.15 MPaG / 65°C (602 psiG / 149°F)
Evaporating	0.04 ~ 0.98 MPaG (5.8 ~ 142.1 psiG)	0.07 ~ 1.05 MPaG (10.2 ~ 152.3 psiG)	0.20 ~ 1.59 MPaG (29 ~ 230.6 psiG)
Temperature			
Condensing	Under 63°C (Under 145.4°F)	Under 60°C (Under 140°F)	Under 65°C (Under 149°F)
Evaporating	-45°C ~ 10°C (-34.6°F ~ 50°F)	-40°C ~ 12°C (-40°F ~ 53.6°F)	-27°C ~ 26.3°C (-16.6°F ~ 79.3°F)
Discharged Gas (max)	-	120°C (248°F) in case -30°C ~ +12°C, 110°C (230°F) in case -40°C ~ -30°C, please see speed limit allowable area at Envelop (See Note 1)	120°C (248°F) in case -20°C ~ +26.3°C and speed limit 20 ~ 120 RPS, 110°C (230°F) in case -27°C ~ -20°C and speed limit 20 ~ 120 RPS, please see speed limit allowable area at Envelop (See Note 1)
Suction Gas superheat	Must be more than 0°C (No liquid back) (See Note 1)		
Discharged gas's superheat	10°C or more		
Outdoor Ambient Temp.	Under 43°C (109.4°F)		
Electrical			
Supply voltage (during operation)	The compressor must be operated on the proper voltage in accordance with the designated voltage frequency curve.	The compressor must be operated on the proper voltage in accordance with the frequency as show the performance curve.	
Starting voltage	The compressor motor must be operated by suitable supply voltage and revolution for unit condition without reverse rotation. The balanced high/low pressure at start-up must be 2.49 MPa (43°C) or less	The compressor motor must be operated by suitable supply voltage and revolution for unit condition without reverse rotation. The unit condition at start-up must be balanced at high / low pressure.	
Reverse phase (rotation)	Compressor is not design to run reverse phase		
Frequency range	See in Specification of Compressor		
ON/OFF			
ON/OFF Frequency	Less than 250,000 cycles		
ON/OFF Cycle	1. The ON/OFF cycle shall be a maximum of 10 times/hour. 2. OFF time shall be the time until the high side and low side pressure reach to balance pressure (more than 3 minutes)		
Pipe Stress	3.5 Kg/mm ² or less at start and stop condition (1.8 kg/mm ² during operation)		
Refrigerant Circuit			
Maximum Refrigerant Charge	A Series : 6.0 kg, no accumulator < 2.0 kg, (See detail in Compressor Technical Manual)		
Piping vibration	Maximum 0.8 mm.		
Inclination of compressor	Within 5°		
Evacuation level	Degree of vaccum equivalent to about 133 Pa (abs) (1.0 mmHg) shall be created		
Piping length between indoor and outdoor units	Max. 50 m. (164 ft.) (See note 2)		
Elevation between indoor and outdoor units	Max. 30 m. (98 ft.) (See note 2)		

Note: 1. The temperature must be lower than this critical value even the unit has been using for many years.
2. It is recommended that evaluation of oil return to the compressor has to be done.

Operation standard and limits of R448A / R449A / R404A / R452A / R407H Inverter Scroll for Refrigeration Application

Models	AGK (Transportation)	AGK (CDU)	AGB
Compressor			
Type	Scroll Type (DC Inverter)		
Displacement (cc/rev.)	66 ~ 100 (33/42/52/66/78/87/100)	33 ~ 100 (33/42/52/66/78/87/100)	33 ~ 100 (33/42/52/66/78/87/100)
Refrigerant type	R407H / R404A / R452A	R448A / R449A / R404A / R407A / R407C / R407F / R407H	R448A / R449A / R404A
Pressure			
Maximum Condensing	3.1 MPaG / 65°C (449.6 psiG / 149°F) for R404A, 2.94 MPaG / 65°C (426.4 psiG / 149°F) for R452A	3.05 MPaG / 65°C (442.4 psiG / 149°F)	3.31 MPaG / 68°C (480.1 psiG / 154.4°F)
Evaporating	0.049 ~ 1.173 MPaG (7.11 ~ 170.1 psiG) for R404A, 0.027 ~ 1.067 MPaG (3.29 ~ 154.7 psiG) for R452A	0 ~ 0.63 MPaG (0 ~ 91.4 psiG)	0.15 ~ 0.93 MPaG (21.8 ~ 134.9 psiG)
Temperature			
Condensing	Under 65°C (Under 149°F)	Under 65°C (Under 149°F)	Under 68°C (Under 154.4°F)
Evaporating	-37°C ~ 26°C (-34.6°F ~ 78.8°F)	-40°C ~ 10°C (-40°F ~ 50°F)	-25°C ~ 18°C (-13°F ~ 64.4°F)
Discharged Gas (max)	110°C (230°F) Please see speed limit and injection pressure allowable area at Envelop (See Note 1)	120°C (248°F) Please see speed limit and injection pressure allowable area at Envelop (See Note 1)	120°C (248°F) in case -20°C ~ +18°C and speed limit 15 ~ 120 RPS, 120°C (248°F) in case -25°C ~ -20°C and speed limit 15 ~ 120 RPS, please see speed limit allowable area at Envelop (See Note 1)
Suction Gas (max)	Must be more than 0°C (No liquid back) (See Note 1)		
Discharged gas's superheat	10°C or more		
Outdoor Ambient Temp.	Under 43°C (109.4°F)		
Electrical			
Supply voltage (during operation)	The compressor must be operated on the proper voltage in accordance with the designated voltage frequency curve.		
Starting voltage	The compressor motor must be operated by suitable power supply voltage and frequency for unit condition without reverse rotation.	The compressor motor must be operated by suitable supply voltage and revolution for unit condition without reverse rotation.	
Reverse phase (rotation)	Compressor is not design to run reverse phase		
Frequency range	See in Specification of Compressor		
ON/OFF			
ON/OFF Frequency	Less than 250,000 cycles		
ON/OFF Cycle	1. The ON/OFF cycle shall be a maximum of 10 times/hour. 2. OFF time shall be the time until the high side and low side pressure reach to balance pressure (more than 3 minutes)		
Pipe Stress	3.5 Kg/mm ² or less at start and stop condition (1.8 kg/mm ² during operation)		
Refrigerant Circuit			
Maximum Refrigerant Charge	A Series : 10 kg, no accumulator < 2.0 kg, (See detail in Compressor Technical Manual)	A Series : 6 kg, no accumulator < 2 kg, (See detail in Compressor Technical Manual)	
Piping vibration	Maximum 0.8 mm.		
Inclination of compressor	Within 30°	Within 5°	
Evacuation level	Degree of vacuum equivalent to about 133 Pa (abs) (1.0 mmHg) shall be created		
Piping length between indoor and outdoor units	Max. 50 m. (164 ft.) (See note 2)		
Elevation between indoor and outdoor units	Max. 30 m. (98 ft.) (See note 2)		

Note: 1. The temperature must be lower than this critical value even the unit has been using for many years.

2. It is recommended that evaluation of oil return to the compressor has to be done.

Operation standard and limits of R404A / R448A / R449A Fixed Speed Scroll for Refrigeration Application

Models	AG	ADZ
Compressor		
Type	Scroll Type (Fixed Speed)	Horizontal Scroll Type (Fixed Speed)
Displacement (cc/rev.)	30 ~ 66 (30/33/36/42/52/66)	30 ~ 52 (30/33/36/42/52)
Refrigerant type	R448A / R449A / R404A	R404A
Pressure		
Maximum Condensing	3.10 MPaG / 65°C (449.6 psiG / 149°F)	3.10 MPaG / 65°C (449.6 psiG / 149°F)
Evaporating	0 ~ 0.98 MPaG (0 ~ 142.1 psiG)	0.03 ~ 0.983 MPaG (4.4 ~ 142.6 psiG)
Temperature		
Condensing	Under 65°C (Under 149°F)	Under 65°C (Under 149°F)
Evaporating	-45°C ~ 20°C (-49°F ~ 68°F)	-45°C ~ 20°C (-49°F ~ 68°F)
Discharged Gas (max)	110°C (230°F) In case -45°C ~ 20°C (-49°F ~ 68°F) (See Note 1)	120°C (248°F) in case -25°C ~ +20°C, 110°C (230°F) °C in case -40°C ~ -25°C, please see speed limit allowable area at Envelop (See Note 1)
Suction Gas (max)	Must be more than 0°C (No liquid back) (See Note 1)	
Discharged gas's superheat	10°C or more	
Outdoor Ambient Temp.	Under 43°C (109.4°F)	
Electrical		
Supply voltage (during operation)	The compressor must be operated on the rated voltage ±10%. Provided the rated voltage 208-230 V, The regulation must be within -5% for 208V, +10% for 230 V. The operating voltage shall be the terminal voltage of the compressor during operation.	
Starting voltage	The voltage of 80% or more of rated voltage shall be supplied start-up on the high/low pressure balancing at 1.64 MPa and provided the rated voltage 208-230 V, the starting voltage shall be 85% or more of 208V. The starting voltage shall be the terminal voltage of the compressor when the voltage drops due to starting current.	The voltage of 80% or more of rated voltage shall be supplied start-up on the high/low pressure balancing at 1.27 MPa and provided the rated voltage 208-230 V, the starting voltage shall be 85% or more of 208V. The starting voltage shall be the terminal voltage of the compressor when the voltage drops due to starting current.
Reverse phase (rotation)	Compressor is not design to run reverse phase	
Frequency range	See in Specification of Compressor	
ON/OFF		
ON/OFF Frequency	Less than 250,000 cycles	
ON/OFF Cycle	The ON/OFF cycle shall be a maximum of 10 times/hour.	
Pipe Stress	3.5 Kg/mm ² or less at start and stop condition (1.8 kg/mm ² during operation)	
Refrigerant Circuit		
Maximum Refrigerant Charge	A Series : 6.0 kg, no accumulator < 2.0 kg, (See detail in Compressor Technical Manual)	
Piping vibration	Maximum 0.8 mm.	
Inclination of compressor	Within 5°	
Evacuation level	Degree of vaccum equivalent to about 133 Pa (abs) (1.0 mmHg) shall be created	
Piping length between indoor and outdoor units	Max. 50 m. (164 ft.) (See note 2)	
Elevation between indoor and outdoor units	Max. 30 m. (98 ft.) (See note 2)	

- Note: 1. The temperature must be lower than this critical value even the unit has been using for many years.
2. It is recommended that evaluation of oil return to the compressor has to be done.

Operation standard and limits of R404A / R448A / R449A / R290 Horizontal Inverter Scroll for Refrigeration Application

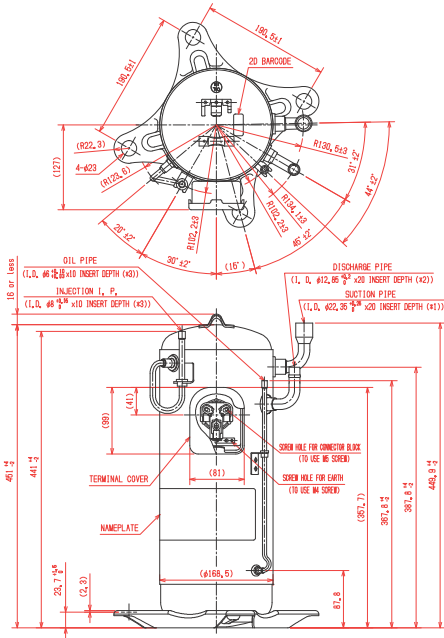
Models	DGW	DPW
Compressor		
Type	Scroll Type (DC Inverter)	Scroll Type (DC Inverter)
Displacement (cc/rev.)	22 ~ 36 (22/28/36)	22 ~ 42 (22/28/36/42)
Refrigerant type	R404A / R448A / R449A	R290
Pressure		
Maximum Condensing	3.10 MPaG / 65°C (449.6 psiG / 149°F)	2.02 MPaG / 60°C (293 psiG / 140°F)
Evaporating	0.002 ~ 1.17 MPaG (0.29 ~ 169.7 psiG)	0.01 ~ 0.54 MPaG (1.5 ~ 78.3 psiG)
Temperature		
Condensing	Under 65°C (Under 149°F)	Under 60°C (Under 140°F)
Evaporating	-45°C ~ 25°C (-49°F ~ 77°F)	-40°C ~ 10°C (-40°F ~ 50°F)
Discharged Gas (max)	110°C (248°F) Please see speed limit allowable area at Envelop (See Note 1)	
Suction Gas (max)	Must be more than 0°C (No liquid back) (See Note 1)	
Discharged gas's superheat	10°C or more	
Outdoor Ambient Temp.	Under 43°C (109.4°F)	
Electrical		
Supply voltage (during operation)	The compressor must be operated on the proper voltage in accordance with the designated voltage frequency curve.	The compressor motor must be operated by suitable supply voltage and frequency for unit condition without reverse rotation.
Starting voltage	The compressor motor must be operated by suitable supply voltage and revolution for unit condition without reverse rotation. The balanced high/low pressure at start-up must be 2.49 MPa (43°C) or less.	The voltage of 80% or more of rated voltage shall be supplier at start-up. The starting voltage shall be the terminal voltage of the compressor when the voltage drops due to starting current.
Reverse phase (rotation)	Compressor is not design to run reverse phase	
Frequency range	See in Specification of Compressor	
ON/OFF		
ON/OFF Frequency	Less than 250,000 cycles	
ON/OFF Cycle	1. The ON/OFF cycle shall be a maximum of 10 times/hour. 2. OFF time shall be the time until the high side and low side pressure reach to balance pressure (more than 3 minutes)	
Pipe Stress	3.5 Kg/mm ² or less at start and stop condition (1.8 kg/mm ² during operation)	
Refrigerant Circuit		
Maximum Refrigerant Charge	D Series : 6.0 kg, no accumulator < 2.0 kg. (See detail in Compressor Technical Manual)	
Piping vibration	Maximum 0.8 mm.	
Inclination of compressor	Within 5°	
Evacuation level	Degree of vaccum equivalent to about 133 Pa (abs) (1.0 mmHg) shall be created	
Piping length between indoor and outdoor units	Max. 20 m. (65.62 ft.) (See also Note 2)	
Elevation between indoor and outdoor units	Max. 15 m. (49.21 ft.) (See also Note 2)	

Note : 1. The temperature must be lower than this critical value even the unit has been using for many years.

2. It is recommended that evaluation of oil return to the compressor has to be done.

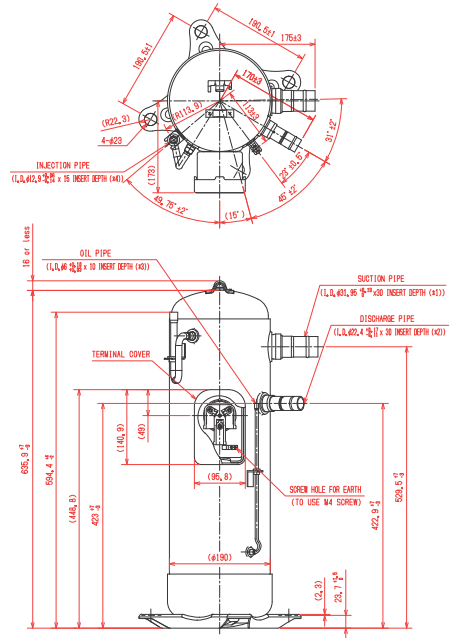
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9G01D030



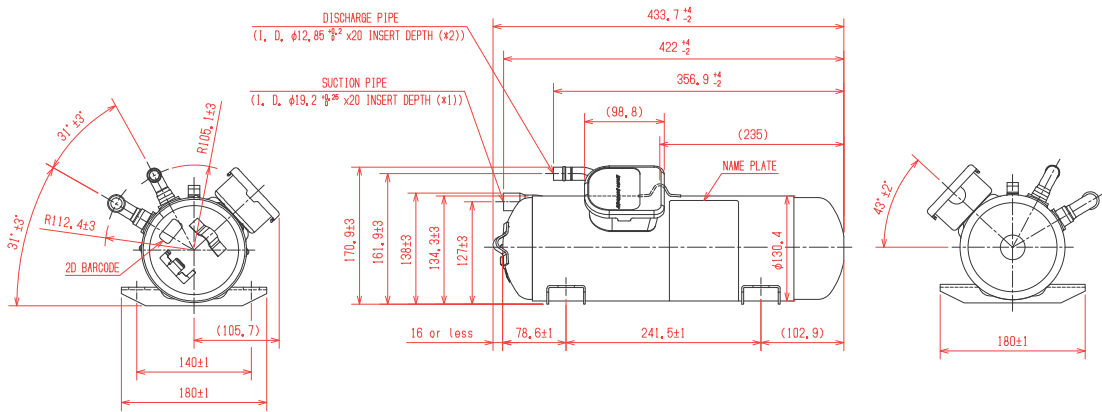
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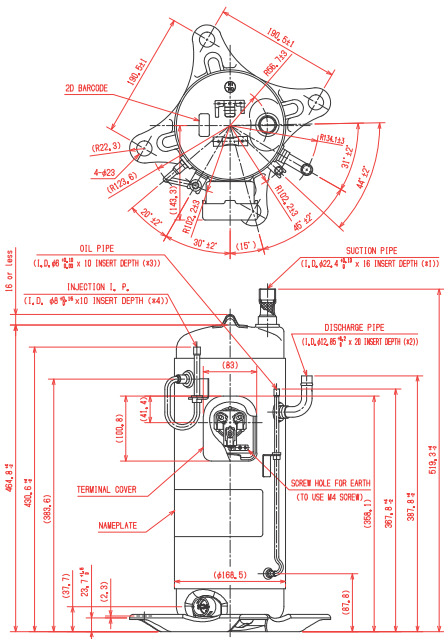
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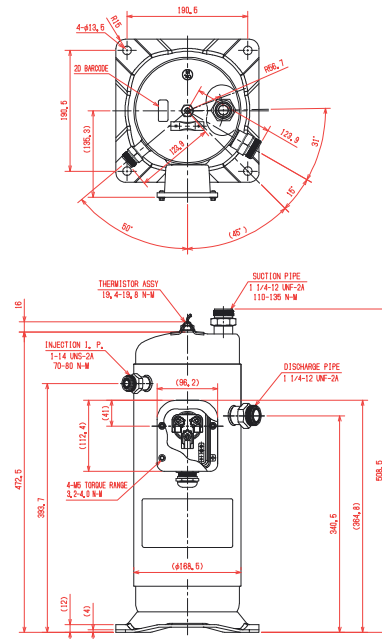
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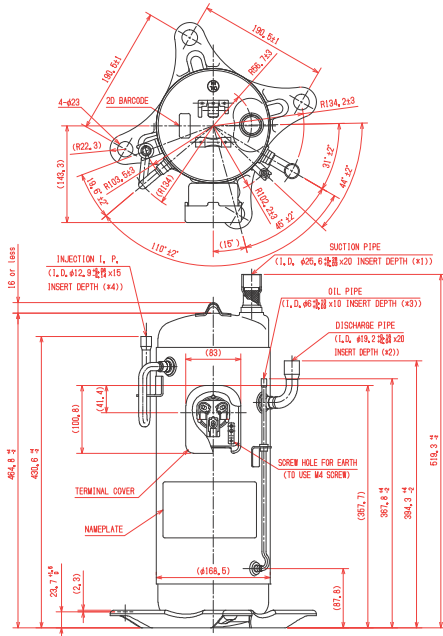
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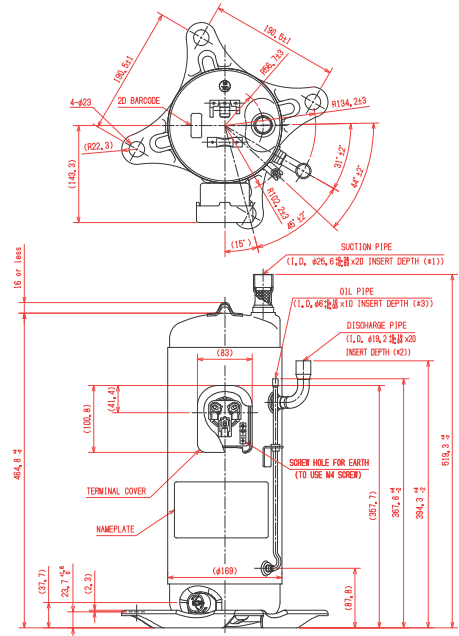
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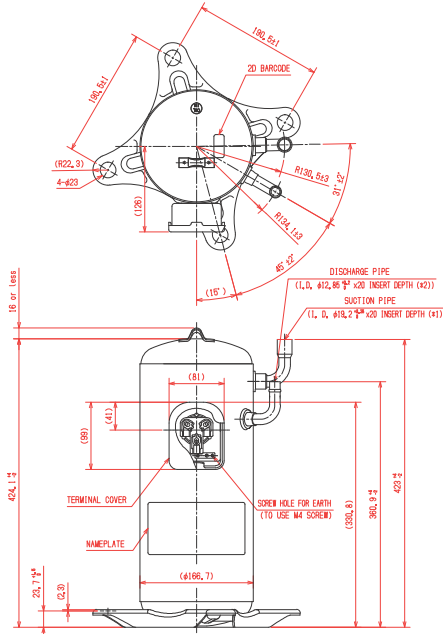
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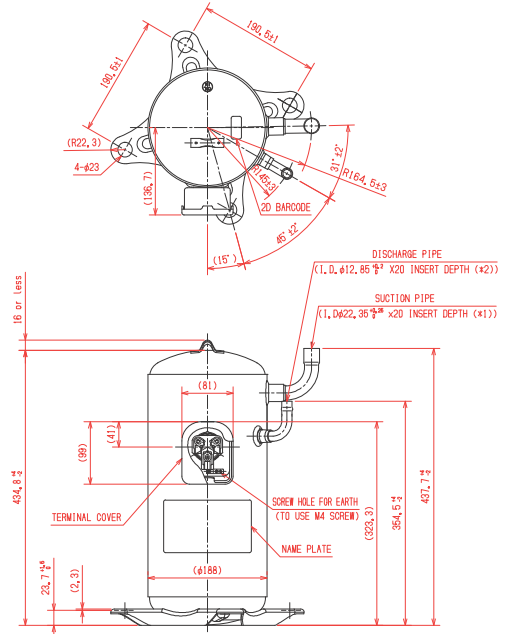
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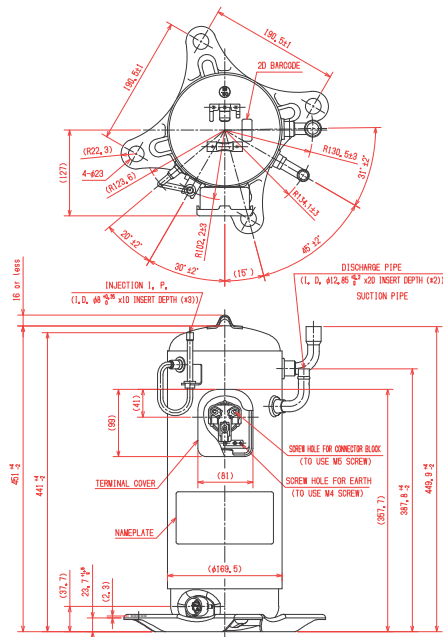
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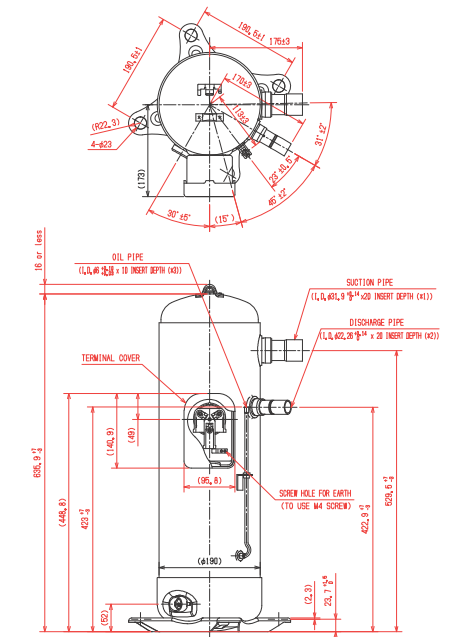
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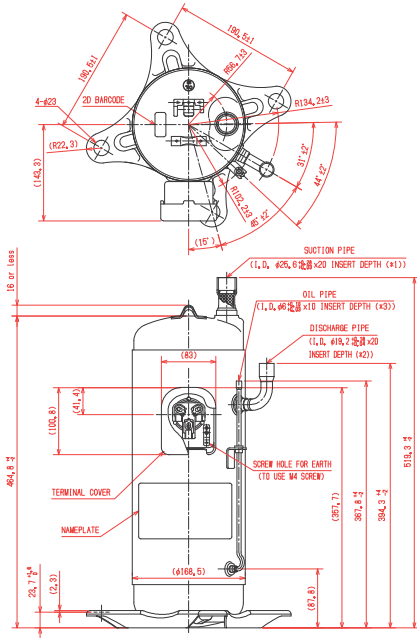
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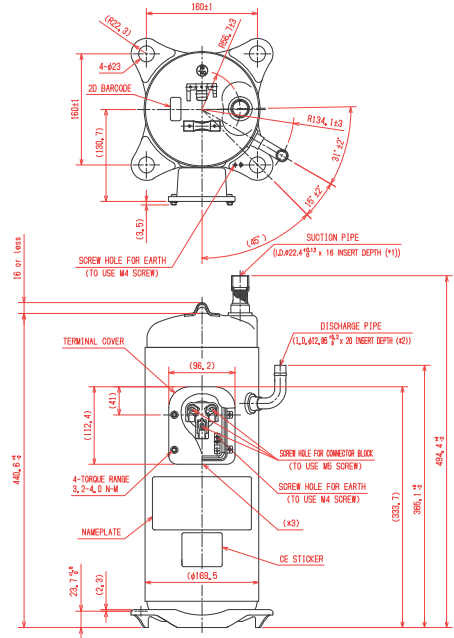
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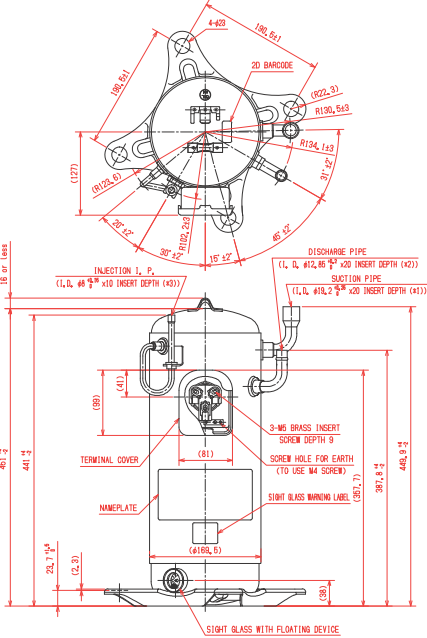
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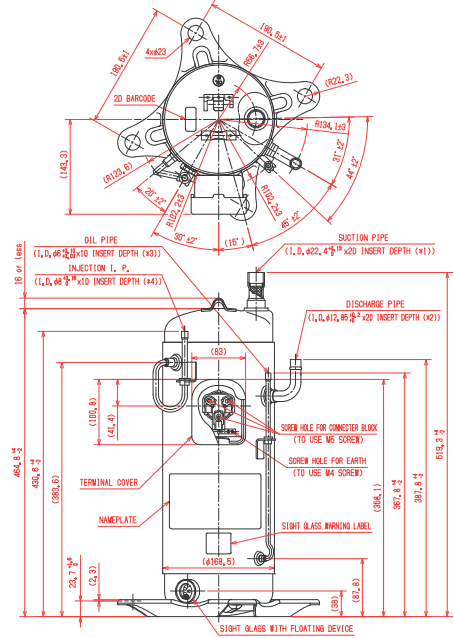
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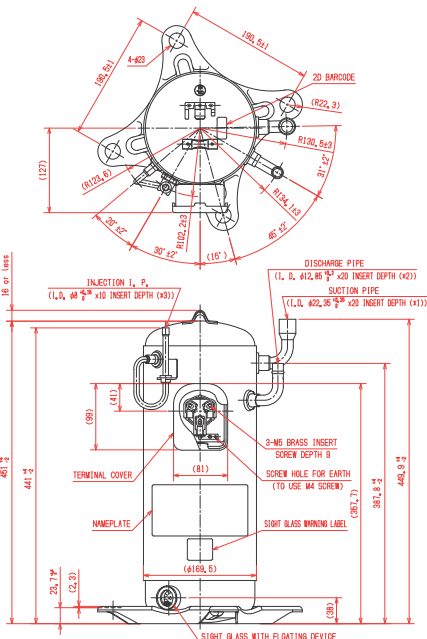
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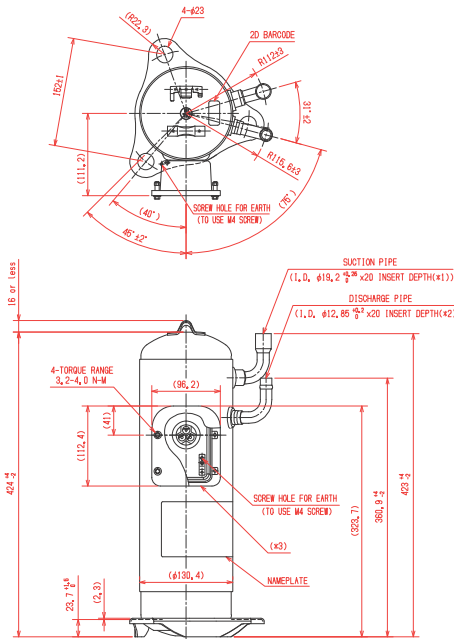
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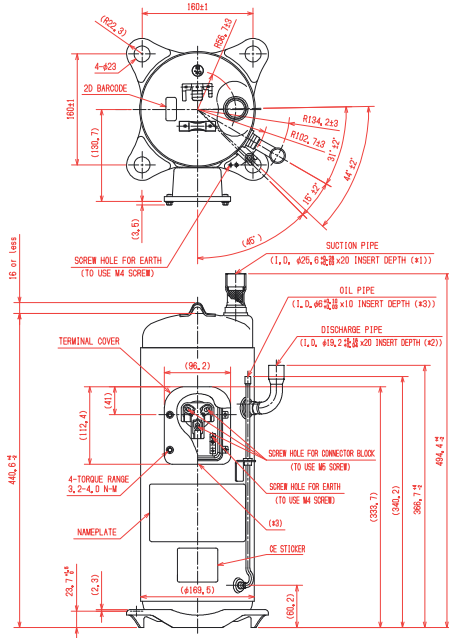
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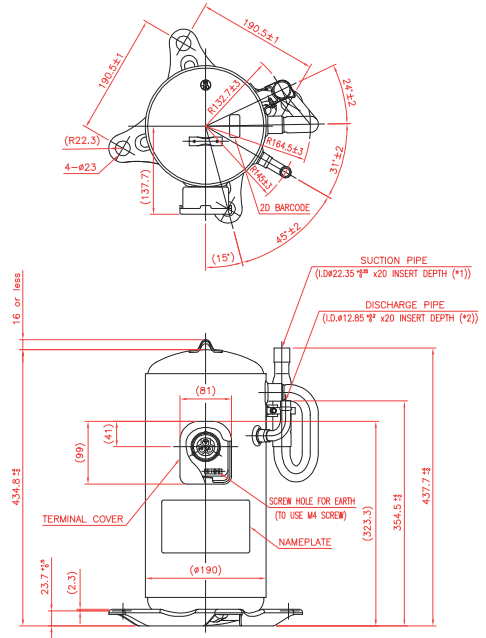
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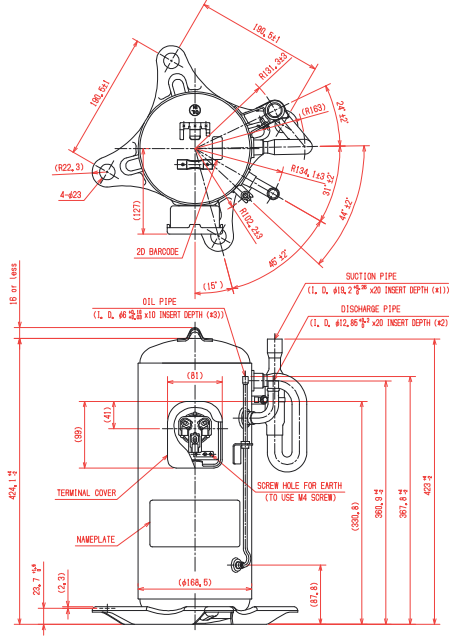
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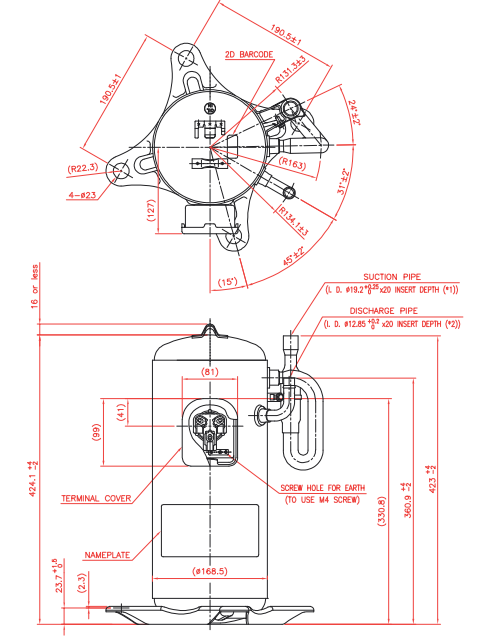
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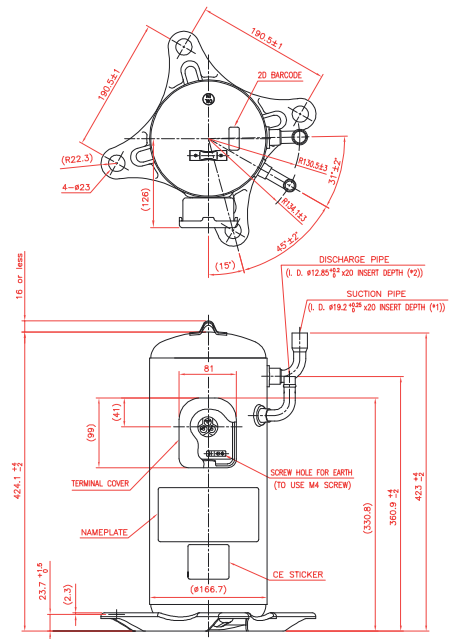
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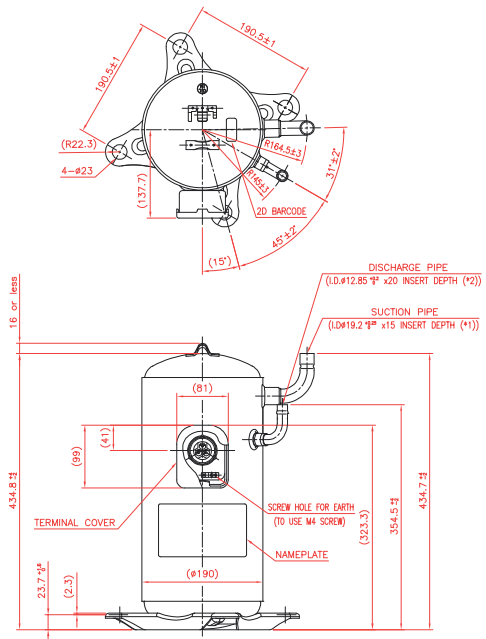
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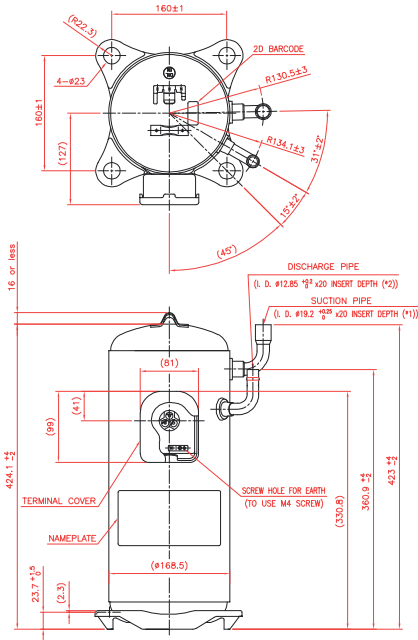
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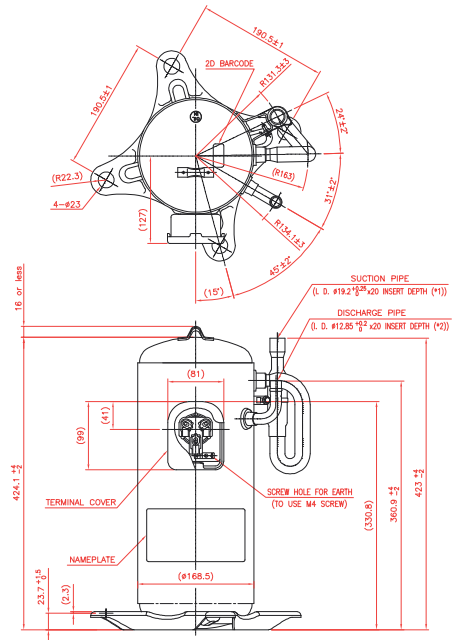
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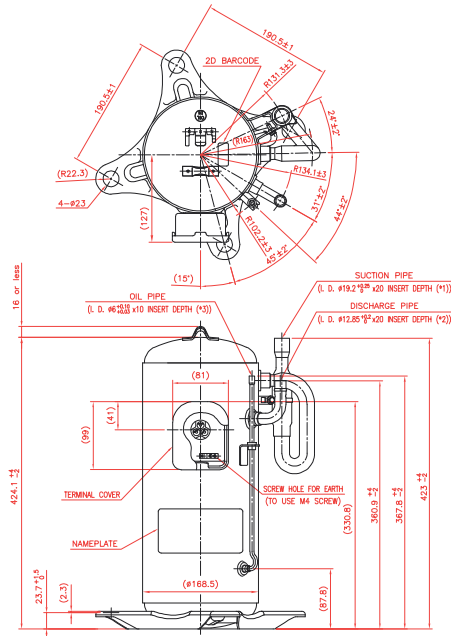
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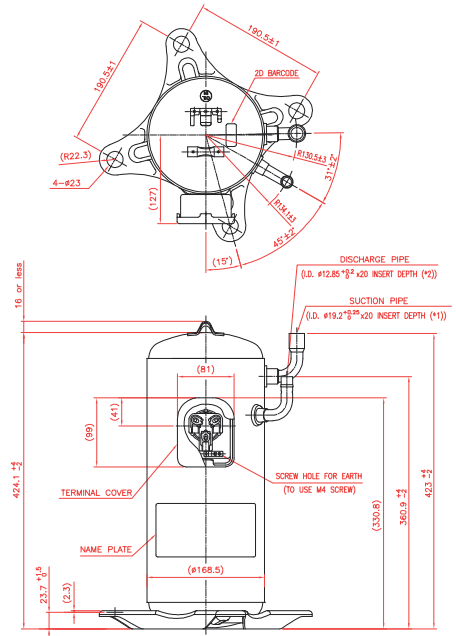
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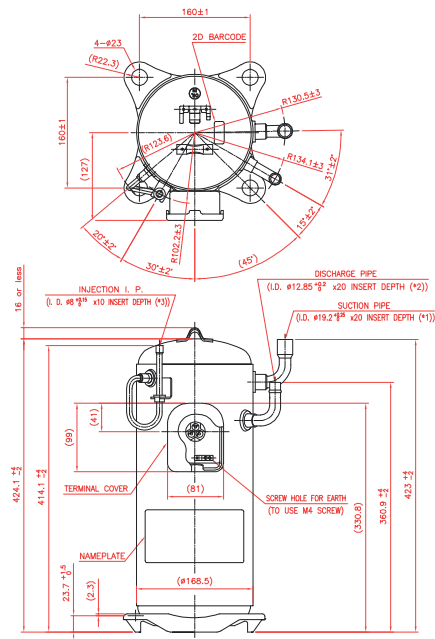
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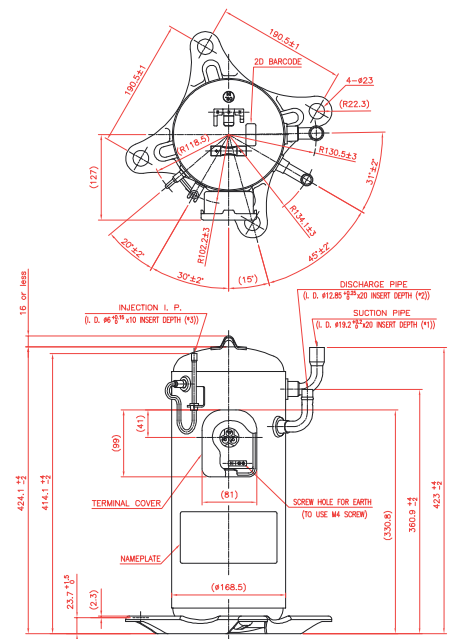
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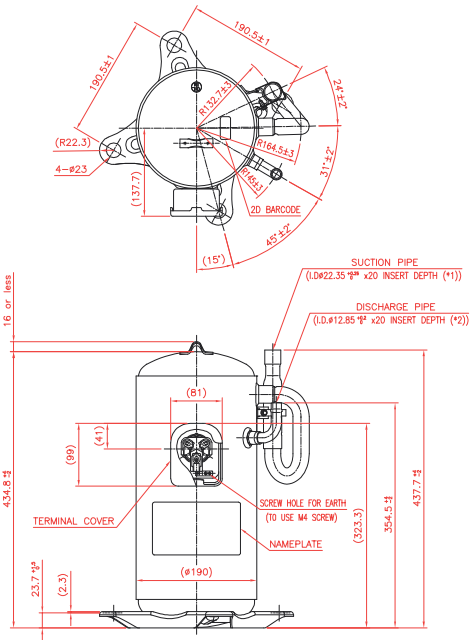
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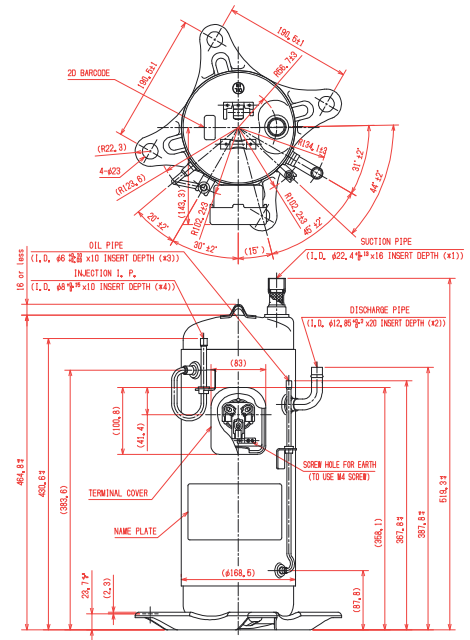
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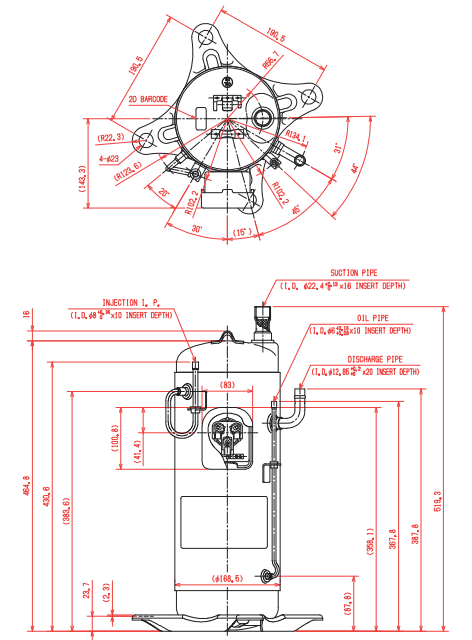
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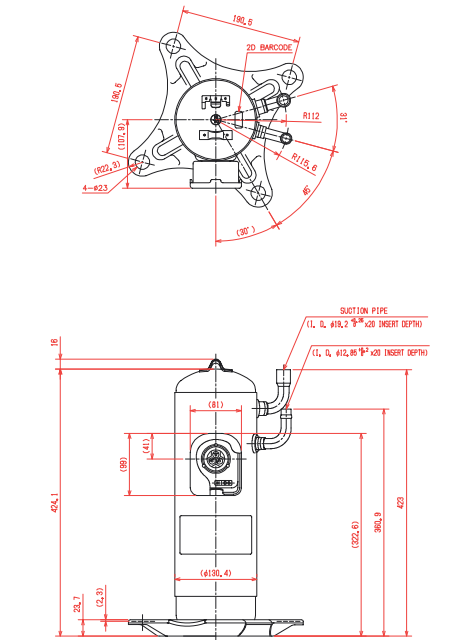
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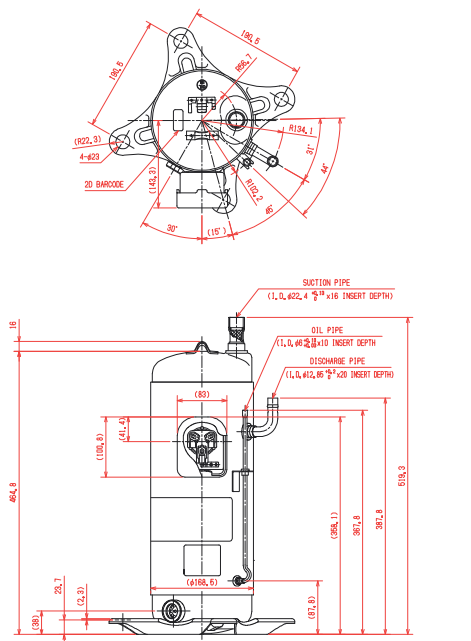
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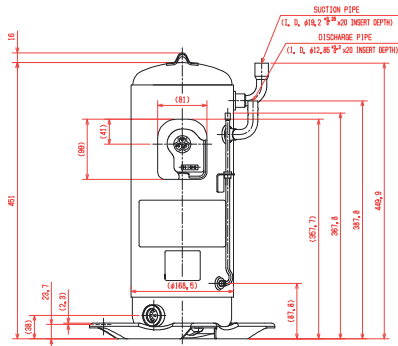
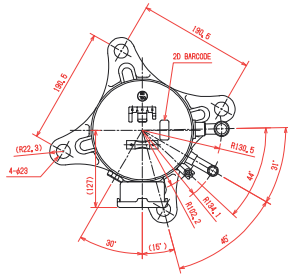
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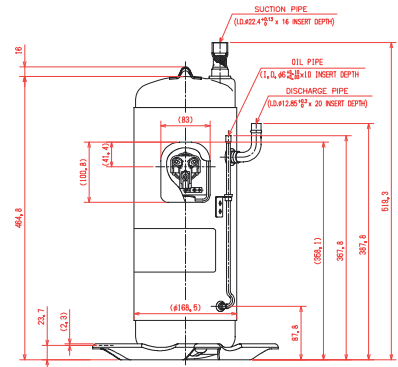
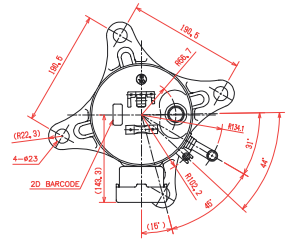
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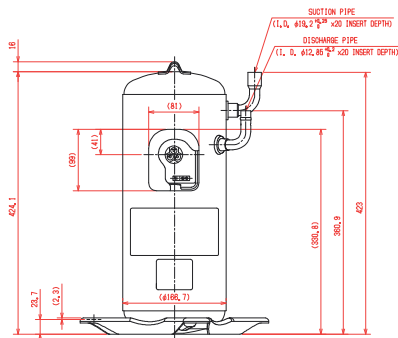
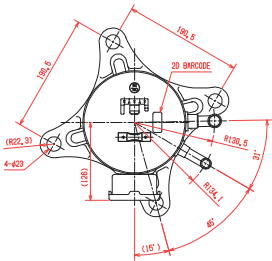
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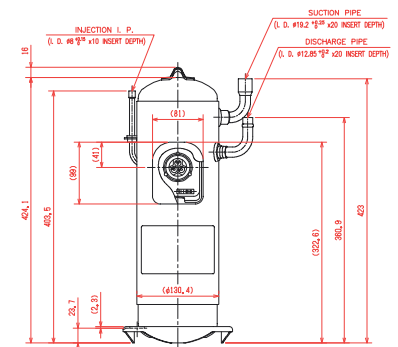
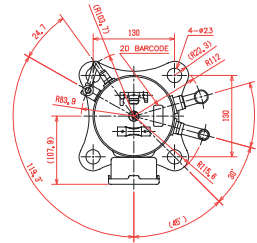
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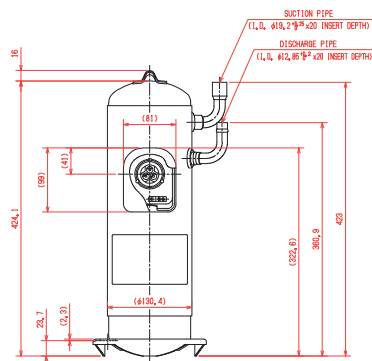
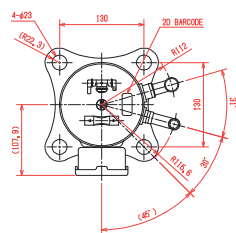
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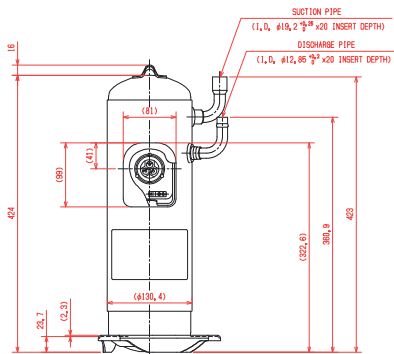
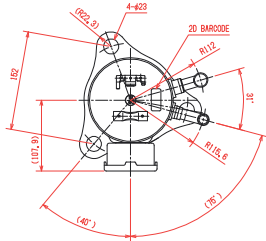
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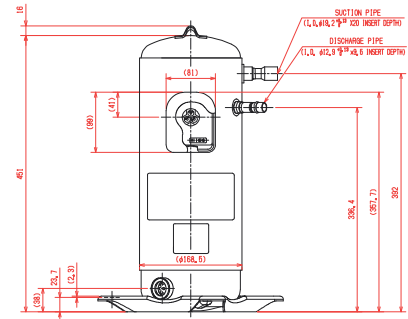
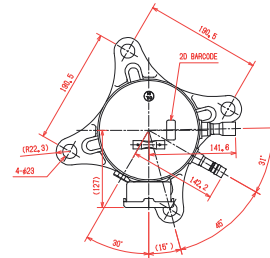
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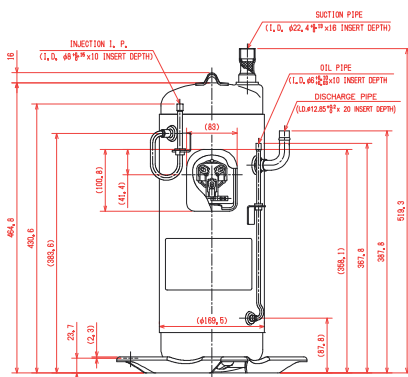
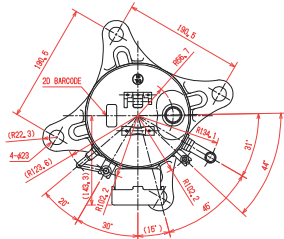
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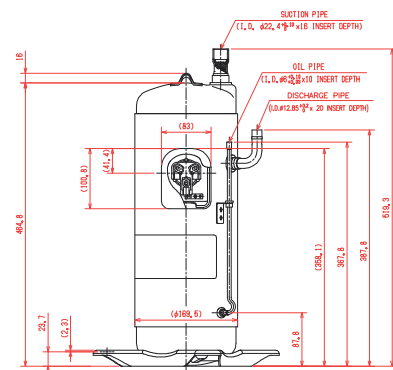
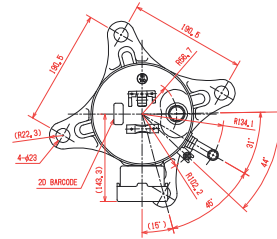
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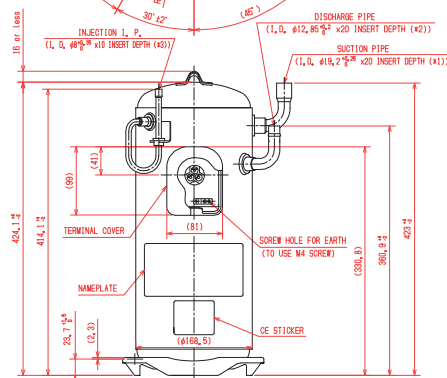
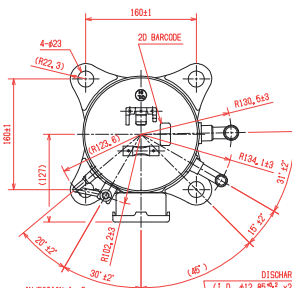
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SC01H013



Drawing Number
55

SC01F968



Thermoacoustic shell

Features



EN22958 Tested

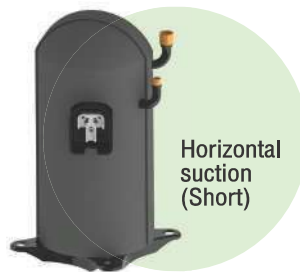


UL-94, V2 Tested

Thermo-Acoustic Shell

- **Up to 10 dB noise reduction**
Taking care by creating a quieter place
- **9% more heating capacity**
An effortless way to improve heating performance
- **Testing under UL-94, V2**
Safer from fire
- **Good for most applications**
Ex. heat pump, Refrigeration, CCAC etc.

• Model for A-Series



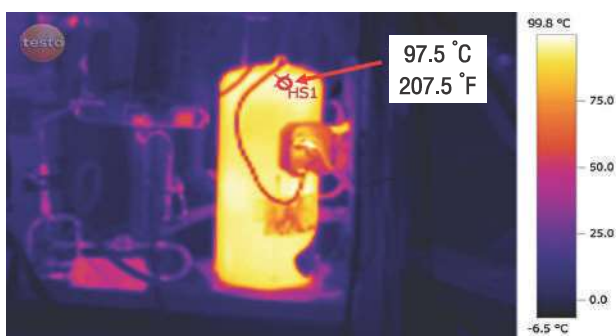
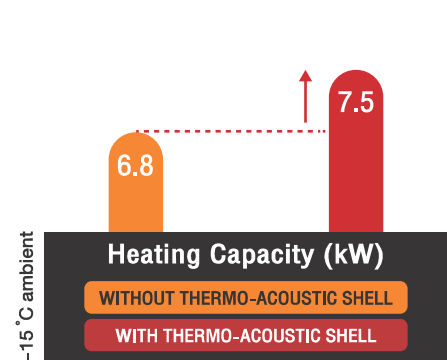
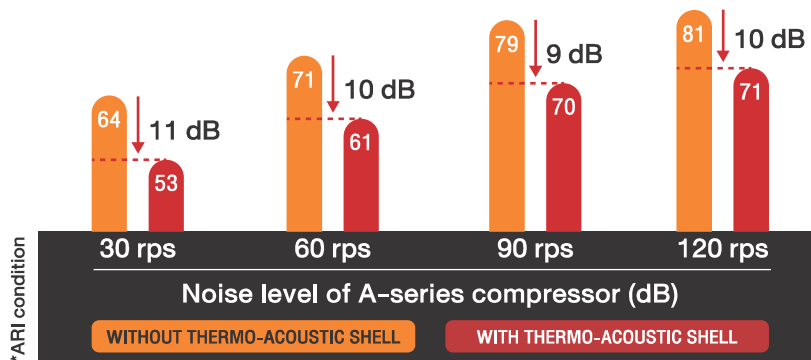
• Model for D-Series



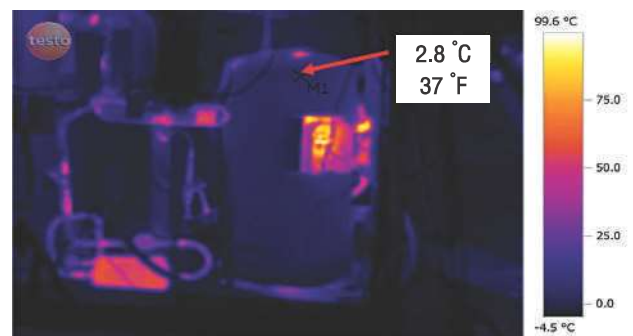
Sound & Heating Performance

10 dB QUIETER FOR ALMOST ALL SPEET RANGE!

9% MORE HEATING CAPACITY



Without insulation



Thermoacoustic Shell

MUTO-Oil Separator

As crucial as oxygen to living things, compressor oil must be supplied sufficiently and managed effectively.

“MUTO-Oil Separator”, the technology patented to SCI, is excellent in crafted design and precise performance for optimum complement with SCI compressors. This patented multi-tube technology will help in the separation of oil from refrigerant and manage external-oil return in real time with highest efficiency at 99% oil separation.

The MUTO oil separator technology also eliminates the need for oil pre-charging, as well as require less oil refill in the system, allowing you to maximize the unit's efficiency.

Features

- Easy installation and service
- Superior efficiency 99%
- Light weight
- No pre-charge oil
- Use centrifugal principle
- External oil return managemant



Oil Separator

MUTO-X XX X X X

Product name:

MUTO : Multi - Tube Oil Separator

Nominal shell diameter:

A : Diameter 76 mm

Maximum cooling capacity at ARI Condition:

20 : 20 kW

40 : 40 kW

Expansion device:

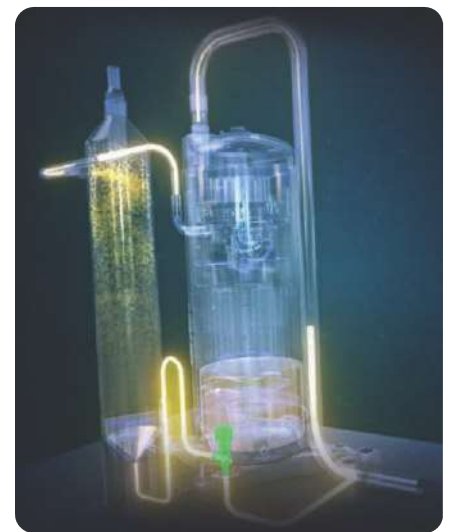
N : None expansion device inside

Leg type:

3 : 3 legs

Air tightness test pressure:

5 : 5 MPaG



Specifications

- Maximum working pressure 5 MPaG
- CE marked per PED 97/83EC
- Certified by UL certification (MUTO-A4053N)

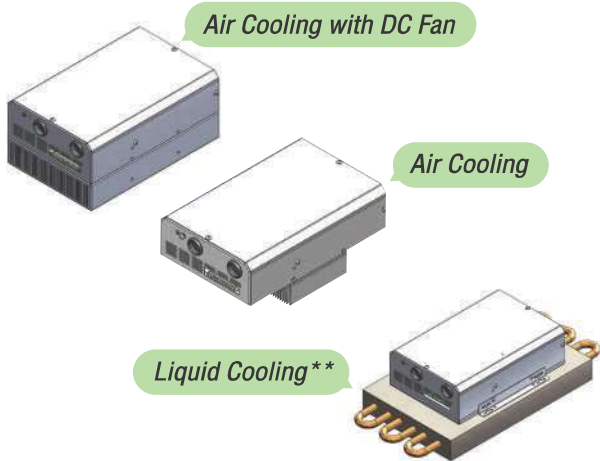


Type	Refrigerant	Height (mm)	Weight (kg)	Stroke (CC)		Recommend expansion size	
				Inverter compressor	Fixed speed compressor	Orifice (in)	Cap tube (mm)
MUTO-A2053N	HCFC,	362	1.5	≤ 33	≤ 66	0.032	0.044" x 1,300
MUTO-A4053N	HFC, HFO	522	2.2	33 - 78	66 - 128	0.032	0.055" x 1,200

SCI Inverter Drive

- ▶ Complete Matching between driver & Compressor
- ▶ Package Solution

Standard



Optional

Noise Filter

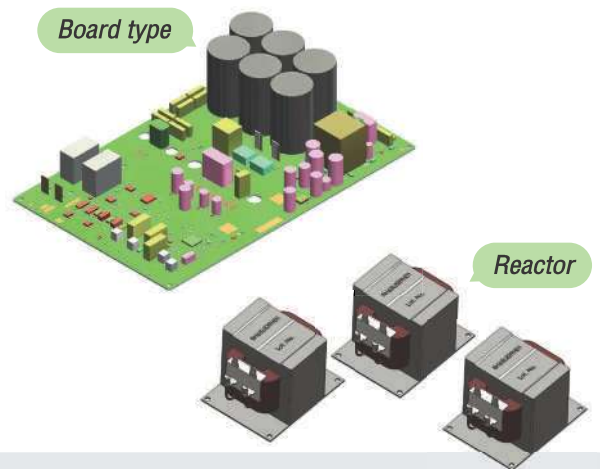
EMC Standard : IEC61800-3

- Emission Class C1
- Radiation Class B (Household)

Leakage Current <3mA

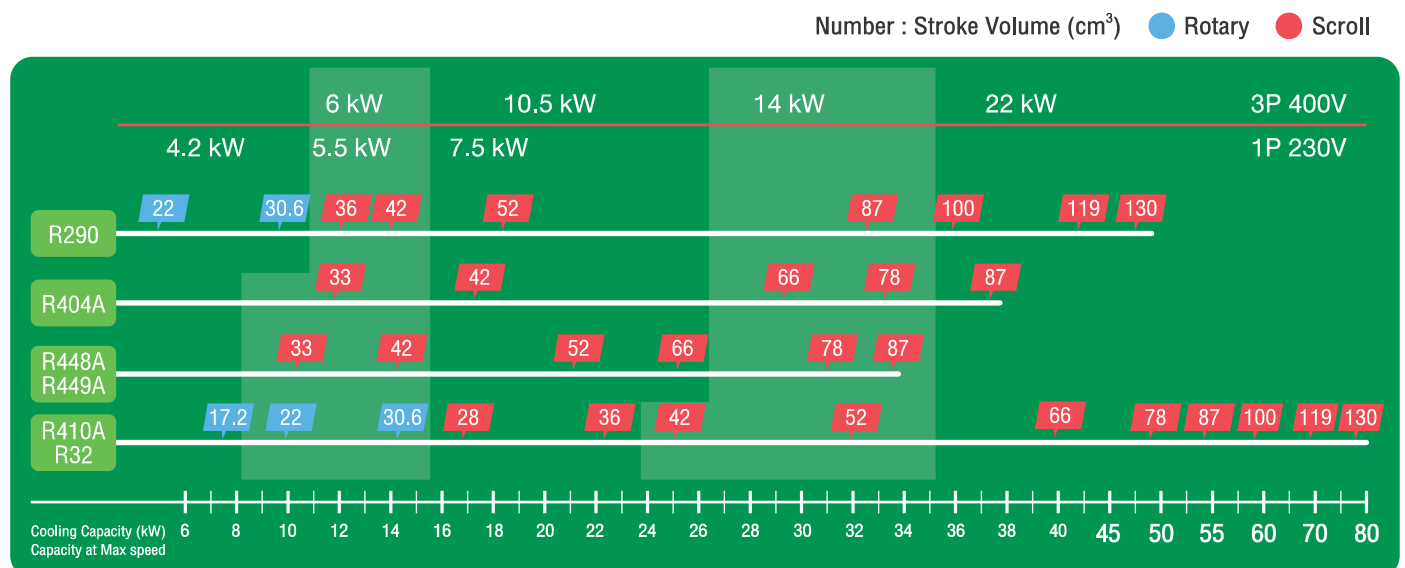
Feature

- Operating temperature -20°C to +60°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 (≤16A input)
- DC Reactor (1pc/set) : IEC61000-3-12 (≤75A input)

SCI Inverter Drive Line-up



Testing condition : ARI

“Specifications subject
to **change**
without notice”



**SIAM COMPRESSOR
INDUSTRY CO., LTD.**



Siam Compressor Industry Co., Ltd.

Head Office & Factory :

Laem Chabang Industrial Estate 87/10 Moo 2,
Sukhumvit Road, Sri Racha, Chonburi 20230, Thailand
Tel. +66 (0) 38 490 900 to 912

www.siamcompressor.com

Marketing Office :

G Tower, Level 33, 9, Rama 9 Road, Huaykwang,
Huaykwang, Bangkok, 10310, Thailand
Tel. +66 (0) 2026 0757, +66 (0) 2026 0759



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