

# SAMSUNG COMPRESSOR



**SAMSUNG**

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# Samsung Compressor

## BRIEF HISTORY

**1976** Started to produce Medium size Recipro. Compressor

**1987** Started to produce Small size Recipro. Compressor

**1990** Started to produce Rotary Compressor

**1993** ISO9001 Certified

**1995** Started to produce Inverter Rotary Compressor

**1996** ISO14001 Certified

**1999** Started to produce Inverter Recipro. Compressor

**2003** Started to produce Rotary Compressor in China

**2006** Moved all Korean Rotary Compressor line to China

**2007** Started to produce world first aluminum wire Reciprocating Compressor

**2011** Established 2<sup>nd</sup> Recipro. Compressor factory in China

**2012** Started to produce Scroll Compressor in China

**2014** Started to produce Ultra mini size Rotary Compressor

**2016** Started to produce Rotary R32 BLDC compressor

**2017** Recipro. Compressor celebrates the milestone of 200 million produced

**1970~1980**

Business Readiness

**1990**

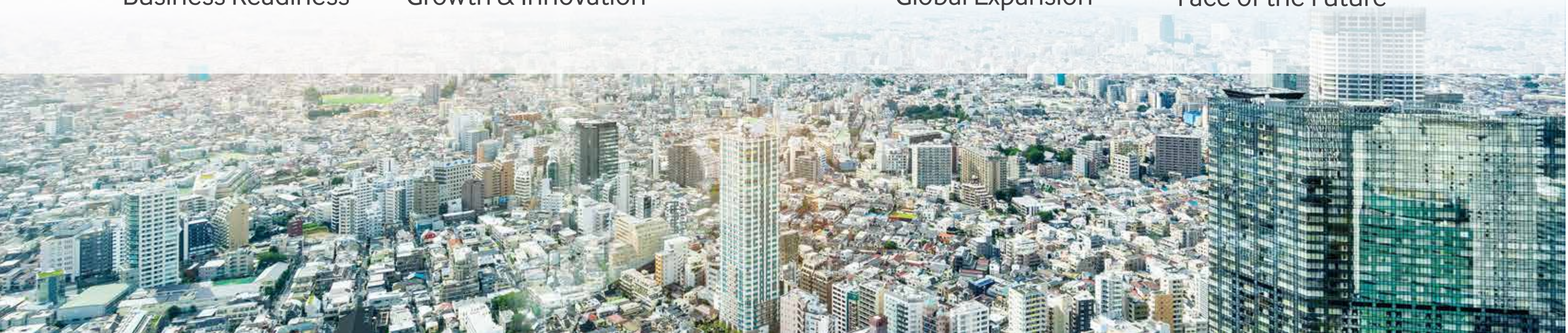
Growth & Innovation

**2000**

Global Expansion

**2010**

Face of the Future





# Reciprocating Compressor MODEL IDENTIFICATION

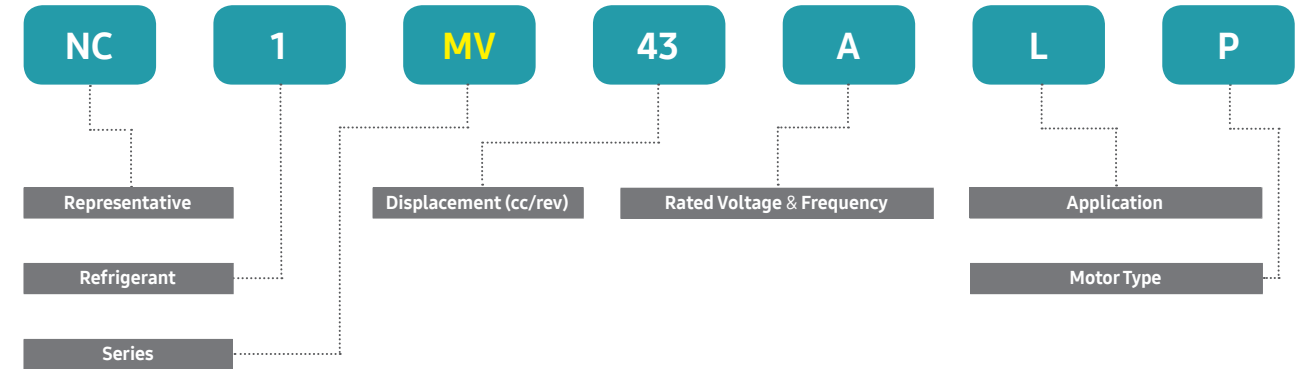
## NAME PLATE

**SAMSUNG MSA162D-L1A E01**  
 115-127V~60Hz 12.2 LRA RoHS Compliance  
 IPH THERMALLY PROTECTED 4418C3ZJC00001  
 R-134a MADE IN KOREA

**SAMSUNG NC4EVA5ALM E01**  
 160-260V~70-180Hz RoHS Compliance  
 USE with controller ISB-LC3\_3A  
 THERMALLY PROTECTED 3467C3ZJC00001  
 R-600a MADE IN KOREA  
 Caution : risk of fire

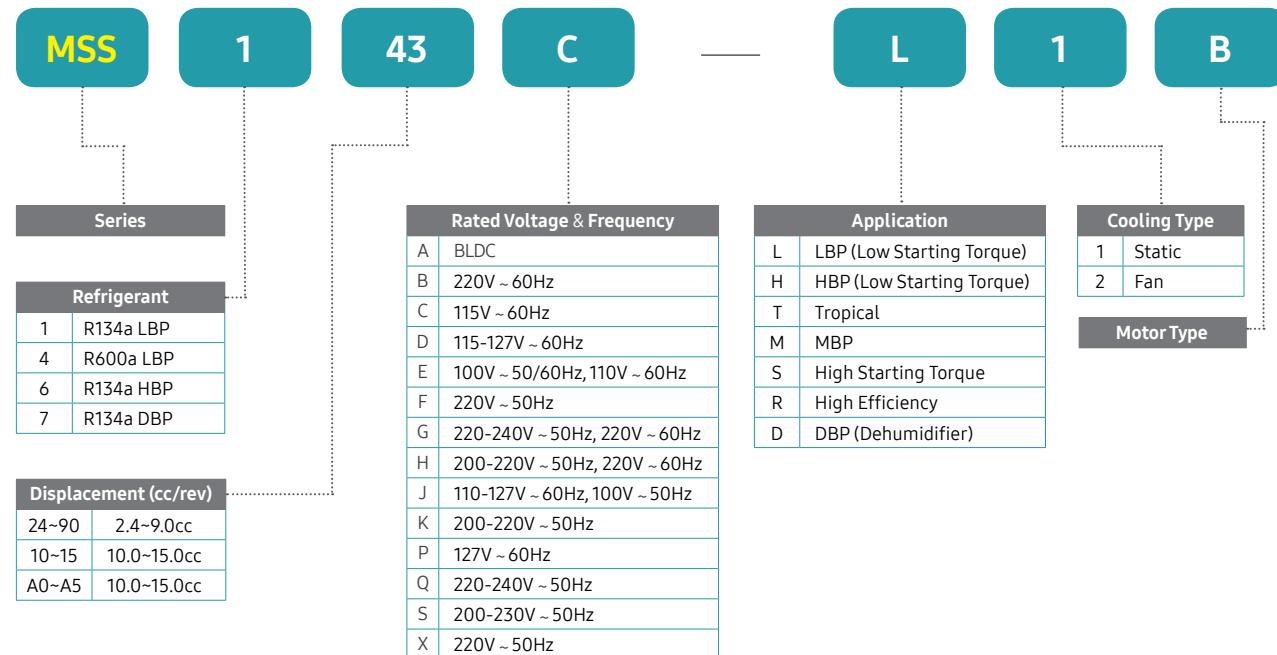


### Ver. 02 Series | EV, MV, A, AV

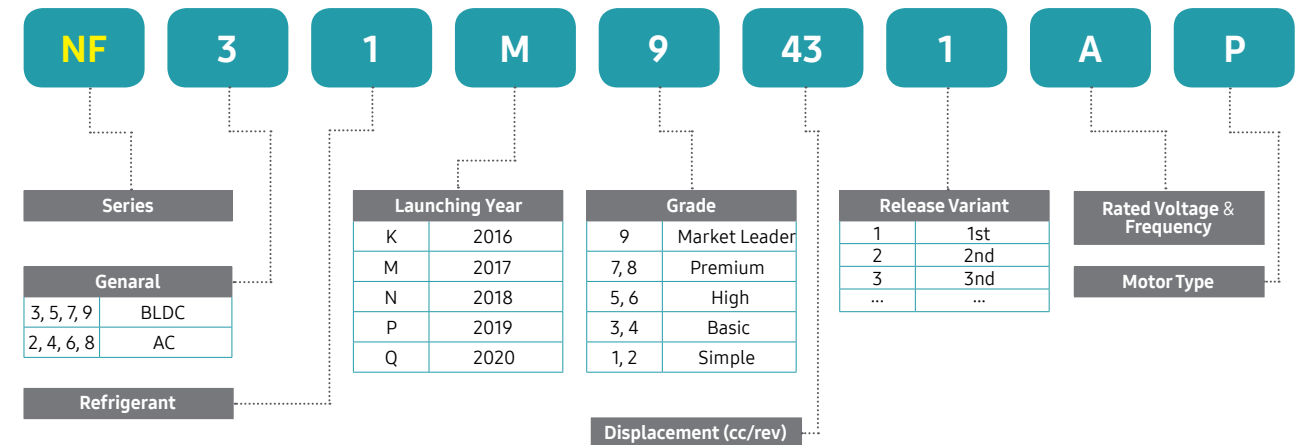


## 1) Compressor model identification

### Ver. 01 Series | CD, MSS, MSA, MSE, ENV, MSV



### Ver. 03 Series | NF, NN



## 2) Serial number

- ① Model code
- ② Production line
- ③ Year : 09 → S, 10 → Z, 11 → B, 12 → C, 13 → D, 14 → F, 15 → G, 16 → H, 17 → J, 18 → K, 19 → M,
- ④ Month : 1 → Jan, 2 → Feb, ... A → Oct, B → Nov, C → Dec
- ⑤ Serial number

**2376CC A S 5 00005**  
 ① ② ③ ④ ⑤

# Reciprocating Compressor SPECIFICATIONS

## R 134a BLDC LBP

RATED VOLTAGE	MODEL	VOLTAGE [V-Hz]	RUNNING RPM	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)
				COOLING CAPACITY			POWER INPUT W	EFFICIENCY			
				Kcal/Hr	Watt	BTU/Hr		EFF Kcal/WHr	COP W/W	EER BTU/WHr	
200-240V-50Hz, 220V-60Hz	*NC1MV43ALP	220-60	1,200	45	52	179	31	1.45	1.69	5.76	ST (Ver.02)
			2,000	76	88	302	50	1.52	1.77	6.03	
			3,000	112	130	445	76	1.47	1.71	5.85	
			4,300	146	170	580	110	1.33	1.54	5.27	
	*NC1MV43ALR	220-60	1,200	45	52	179	32	1.41	1.64	5.58	ST (Ver.02)
			2,000	76	88	302	51	1.49	1.73	5.92	
			3,000	112	130	445	78	1.44	1.67	5.70	
			4,300	146	170	580	112	1.30	1.52	5.18	
	*NC1MV60ALP	220-60	1,200	65	76	258	41	1.59	1.84	6.29	ST (Ver.02)
			2,000	111	129	441	69	1.61	1.87	6.39	
			3,000	158	184	627	102	1.55	1.80	6.15	
			4,300	211	245	838	143	1.48	1.72	5.86	
	*NC1MV60ALR	220-60	1,200	65	76	258	42	1.55	1.80	6.14	ST (Ver.02)
			2,000	111	129	441	71	1.56	1.82	6.21	
			3,000	158	184	627	104	1.52	1.77	6.03	
			4,300	211	245	838	145	1.46	1.69	5.78	
	MSV162A-L1J	220-60	1,200	60	70	238	44	1.36	1.59	5.41	ST (Ver.01)
			2,000	105	122	417	70	1.50	1.74	5.96	
			3,000	155	180	615	105	1.48	1.72	5.86	
			4,000	210	244	834	143	1.47	1.71	5.83	
	MSV162A-L1B	220-60	1,200	60	70	238	43	1.40	1.62	5.54	ST (Ver.01)
			2,000	105	122	417	68	1.54	1.80	6.13	
			3,000	155	180	615	103	1.50	1.75	5.97	
			4,000	210	244	834	141	1.49	1.73	5.91	
	MSV172A-L2J	220-60	1,200	67	78	266	53	1.26	1.47	5.02	FC (Ver.01)
			2,000	123	143	488	82	1.50	1.74	5.96	
			3,000	192	223	762	129	1.49	1.73	5.91	
			4,300	256	298	1,016	200	1.28	1.49	5.08	
	MSV172A-L1B	220-60	1,200	67	78	266	50	1.34	1.56	5.32	ST (Ver.01)
			2,000	123	143	488	79	1.56	1.81	6.18	
			3,000	192	223	762	125	1.54	1.79	6.10	
			4,300	256	298	1,016	188	1.36	1.58	5.41	
	NC1MV72ALP	220-60	1,200	80	93	318	51	1.57	1.82	6.23	ST (Ver.02)
			2,000	137	159	544	84	1.63	1.90	6.47	
			3,000	193	224	766	125	1.54	1.80	6.13	
			4,000	249	290	989	178	1.40	1.63	5.55	

## R 134a BLDC LBP

RATED VOLTAGE	MODEL	VOLTAGE [V-Hz]	RUNNING RPM	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)
				COOLING CAPACITY			POWER INPUT W	EFFICIENCY			
				Kcal/Hr	Watt	BTU/Hr		EFF Kcal/WHr	COP W/W	EER BTU/WHr	
200-240V-50Hz, 220V-60Hz	NC1MV72ASR	220-60	1,200	80	93	318	52	1.54	1.79	6.11	ST (Ver.02)
			2,000	137	159	544	86	1.59	1.85	6.32	
			3,000	193	224	766	127	1.52	1.77	6.03	
			4,000	249	290	989	175	1.42	1.65	5.65	
	NC1MV82ALP	220-60	1,200	90	105	357	59	1.53	1.77	6.06	ST (Ver.02)
			1,700	135	157	536	83	1.63	1.89	6.46	
			3,000	221	257	877	143	1.55	1.80	6.14	
			4,300	307	357	1,219	209	1.47	1.71	5.83	
	*NC1MV82ALR	220-60	1,200	90	105	357	61	1.48	1.72	5.86	ST (Ver.02)
			1,700	135	157	536	85	1.59	1.85	6.31	
			3,000	221	257	877	146	1.51	1.76	6.01	
			4,300	307	357	1,219	213	1.44	1.68	5.72	
	NC1MV90ALP	220-60	1,200	100	116	397	66	1.52	1.76	6.02	ST (Ver.02)
			1,600	135	157	536	83	1.63	1.89	6.46	
			2,800	233	271	925	152	1.53	1.78	6.09	
			3,800	283	329	1,122	202	1.40	1.63	5.57	
	NC1MV90ASR	220-60	1,200	100	116	397	69	1.45	1.69	5.75	ST (Ver.02)
			1,600	135	157	536	87	1.55	1.80	6.16	
			2,800	233	271	925	160	1.46	1.69	5.78	
			3,800	283	329	1,122	207	1.37	1.59	5.42	
			4,000	314	365	1,247	210	1.50	1.74	5.94	

Remark : \*is under developed model

### COOLING TYPE

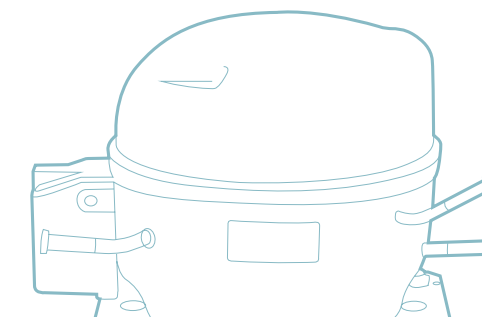
FC : Fan cooling  
OC : Oil cooling  
ST : Static

### ASHRAE CONDITIONS (LBP)

Evaporating Temp. : -23.3°C (-10°F)  
Condensing Temp. : 54.4°C (130°F)  
Gas Superheated to : 32.2°C (90°F)  
Liquid sub-cooled to : 32.2°C (90°F)  
Ambient Temp. : 32.2°C (90°F)

### Unit conversion table

1 watt = 3.41 Btu/Hr  
1 watt = 0.86 Kcal/Hr  
1 Kcal/Hr = 3.97 Btu/Hr



# Reciprocating Compressor

## SPECIFICATIONS

### R 134a BLDC HBP / DBP

RATED VOLTAGE	MODEL	VOLTAGE [V-Hz]	RUNNING RPM	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)
				COOLING CAPACITY			POWER INPUT W	EFFICIENCY			
				Kcal/Hr	Watt	BTU/Hr		EFF Kcal/WHr	COP W/W	EER BTU/WHr	
200-240V-50Hz, 220V-60Hz	MSV572A-D1R	220-60	2,160	523	608	2,076	202	2.59	3.01	10.28	ST (Ver.01)
			2,880	685	797	2,719	274	2.50	2.91	9.92	
			3,600	834	970	3,311	355	2.35	2.73	9.33	
			3,780	870	1,012	3,454	382	2.28	2.65	9.04	
200-240V-50Hz, 220V-60Hz	MSV672A-H1P	220-60	2,160	523	608	2,076	186	2.81	3.27	11.16	ST (Ver.01)
			2,880	685	797	2,719	258	2.66	3.09	10.54	
			3,600	834	970	3,311	333	2.50	2.91	9.94	
			3,780	870	1,012	3,454	351	2.48	2.88	9.84	
220V-60Hz	MSV672B-D1P	220-60	2,160	523	608	2,076	186	2.81	3.27	11.16	ST (Ver.01)
			2,880	685	797	2,719	258	2.66	3.09	10.54	
			3,600	834	970	3,311	333	2.50	2.91	9.94	
			3,780	870	1,012	3,454	351	2.48	2.88	9.84	

Remark : \*is under developed model

#### COOLING TYPE

FC : Fan cooling  
OC : Oil cooling  
ST : Static

#### ASHRAE CONDITIONS (HBP)

Evaporating Temp. : 7.2°C (45°F)  
Condensing Temp. : 54.4°C (130°F)  
Gas Superheated to : 35.0°C (95°F)  
Liquid sub-cooled to : 46.1°C (115°F)  
Ambient Temp. : 35.0°C (95°F)

#### Unit conversion table

1 watt = 3.41 Btu/Hr  
1 watt = 0.86 Kcal/Hr  
1 Kcal/Hr = 3.97 Btu/Hr

### R 134a BLDC MBP

RATED VOLTAGE	MODEL	VOLTAGE [V-Hz]	RUNNING RPM	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)
				COOLING CAPACITY			POWER INPUT W	EFFICIENCY			
				Kcal/Hr	Watt	BTU/Hr		EFF Kcal/WHr	COP W/W	EER BTU/WHr	
200-240V-50Hz, 220V-60Hz	NC1MV43AMP	220-60	1,200	84	98	335	43	1.97	2.29	7.80	ST (Ver.02)
			2,000	153	178	607	74	2.07	2.40	8.21	
			3,000	230	267	913	114	2.02	2.35	8.01	
			3,650	263	306	1,044	137	1.92	2.23	7.62	

Remark : \*is under developed model

#### COOLING TYPE

FC : Fan cooling  
OC : Oil cooling  
ST : Static

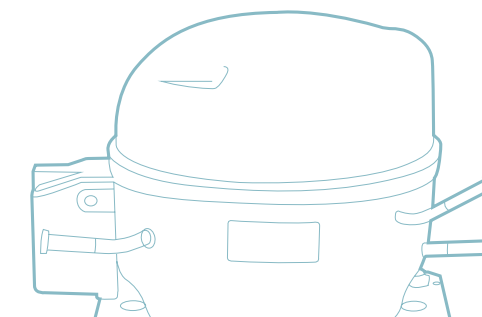
#### ASHRAE CONDITIONS (MBP)

Evaporating Temp. : -6.7°C (20°F)  
Condensing Temp. : 54.4°C (130°F)  
Gas Superheated to : 35.0°C (95°F)  
Liquid sub-cooled to : 46.1°C (115°F)  
Ambient Temp. : 35.0°C (95°F)

#### Unit conversion table

1 watt = 3.41 Btu/Hr  
1 watt = 0.86 Kcal/Hr  
1 Kcal/Hr = 3.97 Btu/Hr

### R 600a BLDC LBP



RATED VOLTAGE	MODEL	VOLTAGE [V-Hz]	RUNNING RPM	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)
				COOLING CAPACITY			POWER INPUT W	EFFICIENCY			
				Kcal/Hr	Watt	BTU/Hr		EFF Kcal/WHr	COP W/W	EER BTU/WHr	
115-127V-60Hz	ENV4A5DL2B	115-60	1,650	127	148	504	75	1.69	1.97	6.72	FC (Ver.01)
			1,950	150	174	596	88	1.70	1.98	6.77	
			2,800	210	244	834	130	1.62	1.88	6.41	
			3,650	271	315	1,076	182	1.49	1.73	5.91	
200-220V-50Hz, 220V-60Hz	ENV4A5H-L2B	220-60	1,650	127	148	504	75	1.69	1.97	6.72	FC (Ver.01)
			1,950	150	174	596	88	1.70	1.98	6.77	
			2,800	210	244	834	130	1.62	1.88	6.41	
			3,650	271	315	1,076	182	1.49	1.73	5.91	
220-240V-50Hz, 220V-60Hz	ENV4A3G-L2J	220-60	1,650	111	129	441	68	1.63	1.90	6.48	FC (Ver.01)
			1,800	119	138	472	73	1.63	1.90	6.47	
			2,800	184	214	730	120	1.53	1.78	6.09	
			3,600	239	278	949	166	1.44	1.67	5.72	
	ENV4A3G-L2B	220-60	1,650	111	129	441	66	1.68	1.96	6.68	FC (Ver.01)
			1,800	119	138	472	71.5	1.66	1.94	6.61	
			2,800	184	214	730	115	1.60	1.86	6.35	
	ENV4A5G-L2B	220-50	1,650	127	148	504	75	1.69	1.97	6.72	FC (Ver.01)
			1,950	150	174	596	88	1.70	1.98	6.77	
			2,800	210	244	834	130	1.62	1.88	6.41	
	ENV4A5G-L2J	220-60	1,650	127	148	504	78	1.63	1.89	6.46	FC (Ver.01)
			1,950	150	174	596	91.5	1.64	1.91	6.51	
2,800			210	244	834	139	1.51	1.76	6.00		
200-240V-50Hz, 220V-60Hz	*MSV460A-L1B	220-60	1,200	42	49	167	28	1.50	1.74	5.96	ST (Ver.01)
			2,000	55	64	218	40	1.38	1.60	5.46	
			3,000	90	105	357	66	1.36	1.59	5.41	
			4,300	106	123	421	84	1.26	1.47	5.01	
	*MSV460A-L1J	220-60	1,200	42	49	167	29	1.45	1.68	5.75	ST (Ver.01)
			2,000	55	64	218	41	1.34	1.56	5.33	
			3,000	90	105	357	68	1.32	1.54	5.25	
			4,300	106	123	421	86	1.23	1.43	4.89	
	*NC4MV60ALP	220-60	1,100	33	38	131	21	1.57	1.83	6.24	ST (Ver.02)
			1,400	44	51	175	27	1.63	1.89	6.47	
			3,000	90	105	357	58	1.55	1.80	6.16	
			4,300	120	140	476	82	1.46	1.70	5.81	

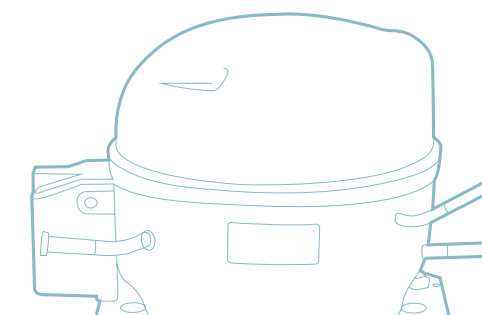
Remark : \*is under developed model

# Reciprocating Compressor SPECIFICATIONS

## R 600a BLDC LBP

RATED VOLTAGE	MODEL	VOLTAGE [V-Hz]	RUNNING RPM	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)
				COOLING CAPACITY			POWER INPUT W	EFFICIENCY			
				Kcal/Hr	Watt	BTU/Hr		EFF Kcal/WHr	COP W/W	EER BTU/WHr	
200-240V-50Hz, 220V-60Hz	*NC4MV60ALR	220-60	1,100	33	38	131	22	1.50	1.74	5.96	ST (Ver.02)
			1,400	44	51	175	28	1.57	1.83	6.24	
			3,000	90	105	357	61	1.48	1.72	5.86	
			4,300	120	140	476	85	1.41	1.64	5.60	
	*MSV488A-L1B	220-60	1,200	54	63	214	34	1.59	1.85	6.31	ST (Ver.01)
			1,400	62	72	246	40	1.55	1.80	6.15	
			3,000	126	147	500	88	1.43	1.66	5.68	
			4,300	175	203	695	128	1.37	1.59	5.43	
	MSV488A-L1J	220-60	1,200	54	63	214	35	1.54	1.79	6.13	ST (Ver.01)
			1,400	62	72	246	41	1.51	1.76	6.00	
			3,000	126	147	500	90	1.40	1.63	5.56	
			4,300	175	203	695	131	1.34	1.55	5.30	
	MSV488A-L1P	220-60	1,200	54	63	214	35	1.57	1.82	6.21	ST (Ver.01)
			1,400	62	72	246	41	1.53	1.78	6.08	
			3,000	126	147	500	89	1.42	1.65	5.62	
			4,300	175	203	695	129	1.36	1.58	5.39	
	MSV488A-L1R	220-60	1,200	54	63	214	37	1.48	1.72	5.87	ST (Ver.01)
			1,400	62	72	246	42	1.49	1.74	5.93	
			3,000	126	147	500	91	1.38	1.61	5.50	
			4,300	175	203	695	132	1.33	1.54	5.26	
	NC4MV88ALP	220-60	1,100	51	59	202	32	1.59	1.85	6.33	ST (Ver.02)
			1,400	65	76	258	40	1.63	1.89	6.45	
			3,000	131	152	520	83	1.58	1.84	6.27	
			4,300	179	208	711	121	1.48	1.72	5.87	
	NC4MV88ALR	220-60	1,100	51	59	202	33	1.55	1.80	6.14	ST (Ver.02)
			1,400	65	76	258	41	1.59	1.84	6.29	
			3,000	131	152	520	85	1.54	1.79	6.12	
			4,300	179	208	711	123	1.46	1.69	5.78	
	MSV4A1A-L1B	220-60	1,200	64	74	254	41	1.56	1.82	6.20	ST (Ver.01)
			1,400	80	93	318	51	1.57	1.82	6.23	
			3,000	162	188	643	111	1.46	1.70	5.79	
			4,300	210	244	834	151	1.39	1.62	5.52	
	MSV4A1A-L1J	220-60	1,200	64	74	254	42	1.52	1.77	6.05	ST (Ver.01)
			1,400	80	93	318	52	1.54	1.79	6.11	
			3,000	162	188	643	113	1.43	1.67	5.69	
			4,300	210	244	834	154	1.36	1.59	5.41	

Remark : \*is under developed model



## R 600a BLDC LBP

RATED VOLTAGE	MODEL	VOLTAGE [V-Hz]	RUNNING RPM	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)
				COOLING CAPACITY			POWER INPUT W	EFFICIENCY			
				Kcal/Hr	Watt	BTU/Hr		EFF Kcal/WHr	COP W/W	EER BTU/WHr	
200-240V-50Hz, 220V-60Hz	MSV4A1A-L1R	220-60	1,200	64	74	254	42	1.51	1.75	5.98	ST (Ver.01)
			1,400	80	93	318	52	1.52	1.77	6.05	
			3,000	162	188	643	114	1.42	1.65	5.64	
			4,300	210	244	834	155	1.35	1.58	5.38	
	NC4MVA1ALP	220-60	1,100	55	64	220	35	1.60	1.86	6.35	ST (Ver.02)
			1,600	88	102	350	54	1.65	1.91	6.54	
			3,000	163	189	647	101	1.61	1.88	6.40	
			4,300	223	259	884	156	1.43	1.66	5.68	
	NC4MVA1ALR	220-60	1,100	55	64	220	38	1.45	1.69	5.77	ST (Ver.02)
			1,600	88	102	350	58	1.53	1.78	6.07	
			3,000	163	189	647	104	1.57	1.82	6.22	
			4,300	223	259	884	168	1.32	1.54	5.26	
	NC4EVA3ALM	220-60	1,450	98	114	389	59	1.66	1.93	6.59	ST (Ver.02)
			1,650	110	128	437	65	1.69	1.97	6.72	
			2,800	178	207	707	111	1.60	1.86	6.37	
			3,600	240	279	953	151	1.59	1.85	6.31	
	*NC4EVA3ALN	220-60	1,450	98	114	389	60	1.63	1.90	6.48	ST (Ver.02)
			1,650	110	128	437	67	1.64	1.91	6.52	
			2,800	178	207	707	113	1.58	1.83	6.25	
			3,600	240	279	953	153	1.57	1.82	6.23	
	NC4EVA5ALM	220-60	1,450	110	128	437	67	1.64	1.91	6.52	ST (Ver.02)
			1,950	153	178	607	91	1.68	1.96	6.67	
			2,800	207	241	822	130	1.59	1.85	6.32	
			3,600	276	321	1,096	182	1.52	1.76	6.02	
	NC4EVA5ALN	220-60	1,450	110	128	437	69	1.59	1.85	6.33	ST (Ver.02)
			1,950	153	178	607	93	1.65	1.91	6.53	
			2,800	207	241	822	132	1.57	1.82	6.23	
			3,600	276	321	1,096	184	1.50	1.74	5.96	
	NC4AV80LR	220-60	1,200	47	55	187	33	1.42	1.66	5.65	ST (Ver.02)
			1,600	64	74	254	43.5	1.47	1.71	5.84	
			2,450	94	109	373	65	1.45	1.68	5.74	
			4,000	150	174	596	107	1.40	1.63	5.57	
	NN34H9111AP	220-60	1,100	67	78	266	39	1.72	2.00	6.82	ST (Ver.03)
			1,600	97	113	385	56	1.73	2.02	6.87	
			3,000	179	208	710	109	1.64	1.91	6.52	
			4,000	218	254	867	141	1.55	1.80	6.13	

Remark : \*is under developed model



# Reciprocating Compressor SPECIFICATIONS

## R 600a BLDC LBP

RATED VOLTAGE	MODEL	VOLTAGE [V-Hz]	RUNNING RPM	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)
				COOLING CAPACITY			POWER INPUT W	EFFICIENCY			
				Kcal/Hr	Watt	BTU/Hr		EFF Kcal/WHr	COP W/W	EER BTU/WHr	
200-240V-50Hz, 220V-60Hz	NN34H9112AP	220-60	1,100	65	76	258	379	1.72	2.00	6.82	ST (Ver.03)
			1,600	92	107	366	53.3	1.73	2.01	6.88	
			3,000	174	203	692	106.8	1.63	1.90	6.48	
			4,000	198	230	784	131.7	1.50	1.74	5.96	
	NN34M9112AR	220-60	1,100	65	76	258	39	1.66	1.94	6.60	ST (Ver.03)
			1,600	92	107	365	55	1.68	1.96	6.68	
			3,000	174	203	690	108	1.61	1.88	6.40	
			4,300	212	246	839	154	1.37	1.60	5.45	
	NN34J9902AP	220-60	1,100	50	58	198	28	1.79	2.08	7.11	ST (Ver.03)
			1,400	64	74	254	35	1.80	2.10	7.16	
			3,000	138	160	547	85	1.62	1.89	6.44	
			4,300	183	213	728	131	1.40	1.63	5.55	
	NN34M9902AR	220-60	1,100	50	58	198	29	1.70	1.98	6.75	ST (Ver.03)
			1,400	64	74	254	37	1.72	2.00	6.81	
			3,000	138	160	547	88	1.56	1.81	6.18	
			4,300	183	213	728	136	1.34	1.56	5.33	
	NF34J9131AM	220-60	1,200	81	94	322	48	1.70	1.98	6.75	ST (Ver.03)
			1,450	95	111	379	55	1.74	2.02	6.90	
			1,650	106	123	422	61	1.74	2.02	6.89	
			3,700	243	283	965	162	1.50	1.74	5.94	
	NF34J9131AN	220-60	1,200	81	94	322	49	1.65	1.92	6.57	ST (Ver.03)
			1,450	95	111	379	56	1.69	1.97	6.73	
			1,650	106	123	422	63	1.69	1.97	6.71	
			3,700	243	283	965	165	1.48	1.72	5.86	
	NF34H9151AM	220-60	1,200	92	107	364	54	1.69	1.96	6.69	ST (Ver.03)
			1,450	112	130	443	66	1.70	1.98	6.76	
			1,850	145	168	575	83	1.74	2.02	6.90	
			3,700	288	335	1,143	193	1.49	1.74	5.93	
NF34J9151AN	220-60	1,200	92	107	364	57	1.61	1.87	6.40	ST (Ver.03)	
		1,450	112	130	443	67	1.66	1.93	6.60		
		1,850	145	168	575	86	1.69	1.97	6.72		
		3,700	288	335	1,143	195	1.48	1.72	5.87		
NF54K9151AM	220-60	1,100	84	98	333	50	1.69	1.96	6.70	ST (Ver.03)	
		1,450	112	130	443	63	1.77	2.06	7.03		
		1,850	145	168	575	81	1.79	2.08	7.10		
		3,700	288	335	1,143	190	1.51	1.76	6.00		

## R 600a BLDC LBP

RATED VOLTAGE	MODEL	VOLTAGE [V-Hz]	RUNNING RPM	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)
				COOLING CAPACITY			POWER INPUT W	EFFICIENCY			
				Kcal/Hr	Watt	BTU/Hr		EFF Kcal/WHr	COP W/W	EER BTU/WHr	
200-240V-50Hz, 220V-60Hz	NF54M7151AN	220-60	1,100	84	98	333	52	1.60	1.86	6.35	ST (Ver.03)
			1,450	112	130	443	65	1.71	1.99	6.80	
			1,850	145	168	575	84	1.73	2.01	6.87	
			3,700	288	335	1,143	191	1.51	1.76	6.00	
	NF54M9131AM	220-60	1,100	74	86	294	43	1.72	2.01	6.85	ST (Ver.03)
			1,450	95	111	379	53	1.79	2.08	7.10	
			1,650	106	123	422	59	1.79	2.08	7.10	
			3,700	243	283	965	161	1.51	1.76	6.00	
	NF54M7131AN	220-60	1,100	74	86	294	43	1.72	2	6.83	ST (Ver.03)
			1,450	95	111	379	55	1.74	2.02	6.90	
			1,850	106	123	422	61	1.74	2.02	6.90	
			3,700	243	283	965	160	1.52	1.77	6.03	
	NF54M7151AN	220-60	1,100	84	98	333	52	1.63	1.89	6.46	ST (Ver.03)
			1,450	112	130	443	66	1.7	1.98	6.74	
			1,650	145	168	575	84	1.73	2.01	6.85	
			3,700	288	335	1,143	191	1.51	1.76	6.00	
	NF54M5131AR	220-60	1,100	74	86	294	46	1.61	1.87	6.39	ST (Ver.03)
			1,450	95	111	379	57	1.67	1.95	6.64	
			1,850	106	123	422	64	1.67	1.94	6.64	
			3,700	243	283	965	160	1.52	1.77	6.03	
	NF54M5151AR	220-60	1,100	84	98	333	56	1.51	1.76	6.01	ST (Ver.03)
			1,450	112	130	443	69	1.61	1.88	6.40	
			1,650	145	168	575	87	1.68	1.95	6.65	
			3,700	288	335	1,143	191	1.51	1.76	6.00	

### COOLING TYPE

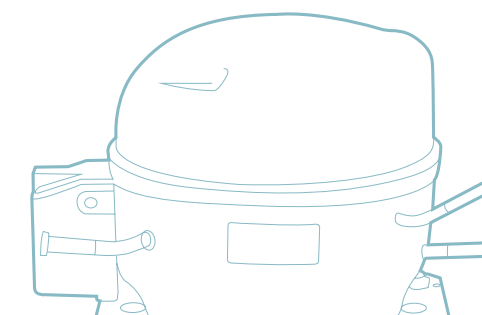
FC : Fan cooling  
OC : Oil cooling  
ST : Static

### ASHRAE CONDITIONS (LBP)

Evaporating Temp. : -23.3°C (-10°F)  
Condensing Temp. : 54.4°C (130°F)  
Gas Superheated to : 32.2°C (90°F)  
Liquid sub-cooled to : 32.2°C (90°F)  
Ambient Temp. : 32.2°C (90°F)

### Unit conversion table

1 watt = 3.41 Btu/Hr  
1 watt = 0.86 Kcal/Hr  
1 Kcal/Hr = 3.97 Btu/Hr



# Reciprocating Compressor

## SPECIFICATIONS

### R 600a LBP

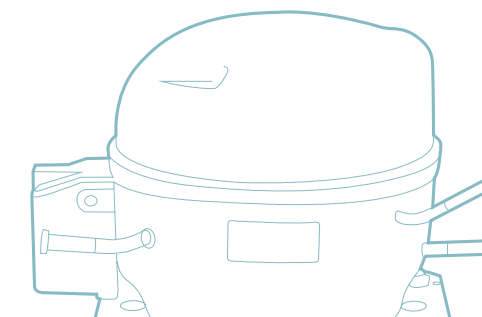
RATED VOLTAGE	MODEL	MOTOR TYPE	VOLT-AGE [V-Hz]	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)
				COOLING CAPACITY			POWER INPUT	EFFICIENCY			
				Kcal/Hr	Watt	BTU/Hr		W	EFF	COP	
AC 115V~60Hz	MSE482C-S1H	RSCR	115-60	150	174	596	98	1.54	1.79	6.10	ST (Ver.01)
	MSE482C-L1H	RSCR	115-60	150	174	596	96	1.56	1.82	6.20	ST (Ver.01)
	MSA488C-S1B	RSCR	115-60	160	186	635	124	1.29	1.49	5.10	ST (Ver.01)
	MSE4A0C-S1H	RSCR	115-60	186	216	738	125	1.49	1.73	5.90	ST (Ver.01)
	MSE4A0C-L1H	RSCR	115-60	186	216	738	123	1.51	1.76	6.00	ST (Ver.01)
	MSA4A1C-S1B	RSCR	115-60	197	229	782	156	1.26	1.47	5.00	ST (Ver.01)
AC 115-127V~60Hz	MSE4A2D-L1H	RSCR	115-60	225	262	893	156	1.44	1.68	5.75	ST (Ver.01)
AC 220-240V~50Hz	MSE466Q-L1U	RSCR	220-50	94	109	373	57	1.65	1.92	6.55	ST (Ver.01)
	MSS470Q-L1U	RSCR	220-50	98	114	389	67	1.46	1.70	5.81	ST (Ver.01)
	MSE482Q-L1G	RSCR	220-50	128	149	508	82	1.55	1.80	6.15	ST (Ver.01)
	MSE482Q-L1H	RSCR	220-50	128	149	508	79	1.61	1.88	6.40	ST (Ver.01)
	MSE482Q-L1U	RSCR	220-50	128	149	508	77	1.66	1.93	6.60	ST (Ver.01)
	MSA488Q-L1B	RSCR	220-50	120	140	476	90	1.33	1.55	5.29	ST (Ver.01)
	MSS488Q-L1U	RSCR	220-50	120	140	476	82	1.46	1.70	5.81	ST (Ver.01)
	MSE490Q-L1G	RSCR	220-50	138	160	548	91	1.51	1.76	6.00	ST (Ver.01)
	MSE490Q-L1U	RSCR	220-50	140	163	556	85.5	1.64	1.90	6.50	ST (Ver.01)
	MSE4A0Q-L1G	RSCR	220-50	162	188	643	107	1.51	1.76	6.00	ST (Ver.01)
	MSE4A0Q-L1H	RSCR	220-50	162	188	643	104	1.56	1.82	6.20	ST (Ver.01)
	MSE4A0Q-L1U	RSCR	220-50	162	188	643	100.5	1.61	1.88	6.40	ST (Ver.01)
	MSA4A1Q-L1B	RSCR	220-50	164	191	651	115	1.43	1.66	5.66	ST (Ver.01)
	MSS4A1Q-L1U	RSCR	220-50	164	191	651	109	1.50	1.75	5.97	ST (Ver.01)
	MSE4A1Q-L1G	RSCR	220-50	175	203	695	118	1.49	1.73	5.90	ST (Ver.01)
	MSE4A1Q-L1U	RSCR	220-50	176	205	699	111	1.59	1.85	6.30	ST (Ver.01)
	MSS4A2Q-R1U	RSCR	220-50	180	209	715	120	1.50	1.74	5.96	ST (Ver.01)
	MSE4A2Q-L1H	RSCR	220-50	192	223	762	127	1.51	1.76	6.00	ST (Ver.01)
	MSE4A2Q-L1U	RSCR	220-50	192	223	762	123	1.56	1.82	6.20	ST (Ver.01)
	AC 200-220V~50Hz, 220V~60Hz	MSA488H-L1A	RSCR	220-50	135	157	536	119	1.13	1.32	4.60
220-60				160	186	635	127	1.26	1.46	5.00	ST (Ver.01)
MSA488H-L1B		RSCR	220-50	120	140	476	90	1.33	1.55	5.29	ST (Ver.01)
			220-60	153	178	607	110	1.39	1.62	5.52	ST (Ver.01)
MSA4A1H-L1A	RSCR	220-50	164	191	651	148	1.11	1.29	4.40	ST (Ver.01)	
		220-60	194	226	770	159	1.22	1.42	4.85	ST (Ver.01)	
AC 200-220V~50Hz	MSE490K-L1G	RSCR	220-50	138	160	548	107	1.29	1.50	5.12	ST (Ver.01)
	MSE4A0K-L1G	RSCR	220-50	156	181	619	121	1.29	1.50	5.12	ST (Ver.01)
	MSE4A2K-L1G	RSCR	220-50	189	220	750	142	1.33	1.55	5.30	ST (Ver.01)

**COOLING TYPE**  
 FC : Fan cooling  
 OC : Oil cooling  
 ST : Static

**MOTOR TYPE**  
 RSIR : Resistance Start Induction Run  
 RSCR : Resistance Start Capacitor Run  
 CSIR : Capacitor Start Induction Run  
 CSR : Capacitor Start Capacitor Run

**ASHRAE CONDITIONS (LBP)**  
 Evaporating Temp. : -23.3°C (-10°F)  
 Condensing Temp. : 54.4°C (130°F)  
 Gas Superheated to : 32.2°C (90°F)  
 Liquid sub-cooled to : 32.2°C (90°F)  
 Ambient Temp. : 32.2°C (90°F)

**Unit conversion table**  
 1 watt = 3.41 Btu/Hr  
 1 watt = 0.86 Kcal/Hr  
 1 Kcal/Hr = 3.97 Btu/Hr



### R 600a BLDC MBP

RATED VOLTAGE	MODEL	VOLTAGE [V-Hz]	RUNNING RPM	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)
				COOLING CAPACITY			POWER INPUT	EFFICIENCY			
				Kcal/Hr	Watt	BTU/Hr		W	EFF	COP	
AC 200-240V~50Hz, 220V~60Hz	MSV460A-M1B	220-60	1,200	68	79	270	35.0	1.94	2.26	7.71	ST (Ver.01)
			1,400	82	95	326	39.7	2.07	2.40	8.20	
			2,000	118	137	468	57.5	2.05	2.39	8.15	
			3,650	205	238	814	108.0	1.90	2.21	7.54	
	NN35J9602AP	220-60	1,200	61	71	242	28.6	2.12	2.48	8.46	ST (Ver.03)
			1,400	79	92	314	35.9	2.20	2.56	8.73	
2,000			111	129	441	50.7	2.19	2.55	8.70		
			3,650	208	242	826	101.3	2.05	2.39	8.15	

**COOLING TYPE**  
 FC : Fan cooling  
 OC : Oil cooling  
 ST : Static

**ASHRAE CONDITIONS (MBP)**  
 Evaporating Temp. : -6.7°C (20°F)  
 Condensing Temp. : 54.4°C (130°F)  
 Gas Superheated to : 35.0°C (95°F)  
 Liquid sub-cooled to : 46.1°C (115°F)  
 Ambient Temp. : 35.0°C (95°F)

**Unit conversion table**  
 1 watt = 3.41 Btu/Hr  
 1 watt = 0.86 Kcal/Hr  
 1 Kcal/Hr = 3.97 Btu/Hr

### R 600a MBP

RATED VOLTAGE	MODEL	MOTOR TYPE	VOLT-AGE [V-Hz]	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)
				COOLING CAPACITY			POWER INPUT	EFFICIENCY			
				Kcal/Hr	Watt	BTU/Hr		W	EFF	COP	
AC 200-220V~50Hz, 220V~60Hz	MSE482H-M1H	RSCR	220-50	242	281	961	121.6	1.99	2.32	7.90	ST (Ver.01)
			220-60	290	337	1,151	142.1	2.04	2.37	8.10	
	MSE482H-M1U	RSCR	220-50	242	281	961	117	2.07	2.40	8.20	ST (Ver.01)
			220-60	290	337	1,151	139	2.09	2.43	8.30	
AC 220V~60Hz	MSE466B-M1H	RSCR	220-60	224	260	889	110	2.04	2.37	8.10	ST (Ver.01)

**COOLING TYPE**  
 FC : Fan cooling  
 OC : Oil cooling  
 ST : Static

**MOTOR TYPE**  
 RSIR : Resistance Start Induction Run  
 RSCR : Resistance Start Capacitor Run  
 CSIR : Capacitor Start Induction Run  
 CSR : Capacitor Start Capacitor Run

**ASHRAE CONDITIONS (MBP)**  
 Evaporating Temp. : -6.7°C (-20°F)  
 Condensing Temp. : 54.4°C (130°F)  
 Gas Superheated to : 35.0°C (95°F)  
 Liquid sub-cooled to : 46.1°C (115°F)  
 Ambient Temp. : 35.0°C (95°F)

**Unit conversion table**  
 1 watt = 3.41 Btu/Hr  
 1 watt = 0.86 Kcal/Hr  
 1 Kcal/Hr = 3.97 Btu/Hr



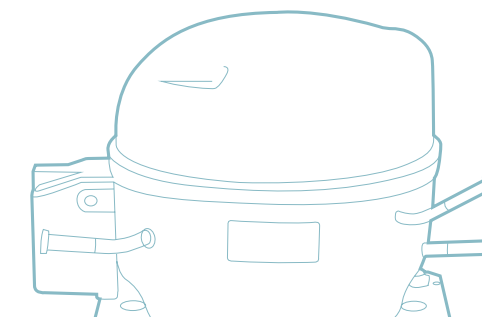
# Reciprocating Compressor SPECIFICATIONS

## R 134a LBP

RATED VOLTAGE	MODEL	MOTOR TYPE	VOLT-AGE [V-Hz]	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)
				COOLING CAPACITY			POWER INPUT	EFFICIENCY			
				Kcal/Hr	Watt	BTU/Hr		W	Kcal/WHr	W/W	
AC 100V-50/60Hz	CD124E-L1ZB	RSIR	100-50	42	49	167	72	0.58	0.68	2.31	ST(Ver.01)
			100-60	50	58	198	68	0.74	0.85	2.92	
	CD124E-L1Z2	RSIR	100-50	43	50	171	68	0.63	0.74	2.51	ST(Ver.01)
			100-60	52	60	206	68	0.76	0.89	3.03	
	CD130E-L1Z2	RSIR	100-50	58	67	230	76	0.76	0.89	3.03	ST(Ver.01)
			100-60	70	81	278	79	0.89	1.03	3.52	
	MSA151E-L1A	RSIR	100-50	128	149	508	109	1.17	1.37	4.66	ST(Ver.01)
			100-60	152	177	603	121	1.26	1.46	4.98	
	NC1A30ELA	RSIR	100-50	68	79	270	69	0.99	1.15	3.91	ST(Ver.02)
			100-60	80	93	318	75	1.07	1.24	4.23	
AC 115V-60Hz	CD124C-L1ZA	RSIR	115-60	50	58	198	68	0.74	0.85	2.92	ST(Ver.01)
	CD124C-L1ZB	RSIR	115-60	50	58	198	68	0.74	0.85	2.92	ST(Ver.01)
	CD124C-L1Z2	RSIR	115-60	52	60	206	65	0.80	0.93	3.17	ST(Ver.01)
	CD124C-S1Z2	RSIR	115-60	52	60	206	57	0.91	1.06	3.62	ST(Ver.01)
	CD130C-S1ZA	RSIR	115-60	70	81	278	82	0.85	0.99	3.39	ST(Ver.01)
	CD130C-L1Z2	RSIR	115-60	70	81	278	76	0.92	1.07	3.65	ST(Ver.01)
	CD130C-S1Z2	RSIR	115-60	70	81	278	73	0.96	1.12	3.80	ST(Ver.01)
	MSE140C-L1G	RSCR	115-60	126	147	500	87	1.45	1.68	5.75	ST(Ver.01)
	MSE140C-L1H	RSCR	115-60	126	147	500	84	1.50	1.74	5.95	ST(Ver.01)
	MSE140C-L1U	RSCR	115-60	126	147	500	81.3	1.55	1.80	6.15	ST(Ver.01)
	MSA143C-S1A	RSIR	115-60	124	144	492	100	1.24	1.44	4.92	ST(Ver.01)
	MSA143C-S1B	RSCR	115-60	124	144	492	94	1.32	1.53	5.23	ST(Ver.01)
	MSE148C-L1G	RSCR	115-60	155	180	615	107	1.45	1.68	5.75	ST(Ver.01)
	MSE148C-L1H	RSCR	115-60	155	180	615	103.4	1.50	1.74	5.95	ST(Ver.01)
	MSE148C-L1U	RSCR	115-60	155	180	615	100	1.55	1.80	6.15	ST(Ver.01)
	MSA151C-L1U	RSCR	115-60	152	177	603	113	1.35	1.56	5.34	ST(Ver.01)
	MSA151C-L1B	RSCR	115-60	152	177	603	113	1.35	1.56	5.34	ST(Ver.01)
	MSA151C-L1G	RSCR	115-60	152	177	603	109	1.39	1.62	5.54	ST(Ver.01)
	MSS151C-L1U	RSCR	115-60	152	177	603	107	1.42	1.65	5.64	ST(Ver.01)
	MSE152C-L1G	RSCR	115-60	168	195	667	114	1.47	1.71	5.85	ST(Ver.01)
	MSE152C-L1H	RSCR	115-60	168	195	667	110.2	1.52	1.77	6.05	ST(Ver.01)
	MSE152C-L1U	RSCR	115-60	168	195	667	106.7	1.58	1.83	6.25	ST(Ver.01)
	MSE156C-L1H	RSCR	115-60	188	219	746	123.3	1.52	1.77	6.05	ST(Ver.01)
	MSE156C-L1U	RSCR	115-60	188	219	746	119.4	1.58	1.83	6.25	ST(Ver.01)
	MSA162C-L1B	RSCR	115-60	187	217	742	145	1.29	1.50	5.12	ST(Ver.01)
	MSA162C-L1U	RSCR	115-60	182	212	723	136	1.34	1.56	5.31	ST(Ver.01)

## R 134a LBP

RATED VOLTAGE	MODEL	MOTOR TYPE	VOLT-AGE [V-Hz]	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)	
				COOLING CAPACITY			POWER INPUT	EFFICIENCY				
				Kcal/Hr	Watt	BTU/Hr		W	Kcal/WHr	W/W		EER
AC 115V-60Hz	MSS162C-L1U	RSCR	115-60	182	212	723	129	1.41	1.64	5.60	ST(Ver.01)	
	MSE166C-L1G	RSCR	115-60	225	262	893	155.3	1.45	1.68	5.75	ST(Ver.01)	
	MSE166C-L1H	RSCR	115-60	225	262	893	150.1	1.50	1.74	5.95	ST(Ver.01)	
	MSE166C-L1U	RSCR	115-60	225	262	893	145.2	1.55	1.80	6.15	ST(Ver.01)	
	MSA170C-L1B	RSCR	115-60	222	258	881	160	1.39	1.61	5.51	ST(Ver.01)	
	MSA170C-L1U	RSCR	115-60	222	258	881	160	1.39	1.61	5.51	ST(Ver.01)	
	MSS170C-L1U	RSCR	115-60	222	258	881	152	1.46	1.70	5.80	ST(Ver.01)	
	NF21K5111CW	CSR	115-60	322	374	1,278	304	1.06	1.23	4.21	FC (Ver.03)	
	AC 115-127V-60Hz	MSS143D-S1U	RSCR	115-60	116	135	461	85	1.36	1.59	5.42	ST(Ver.01)
				127-60	116	135	461	92	1.26	1.47	5.01	
MSA151D-L1A		RSIR	115-60	152	177	603	121	1.26	1.46	5.00	ST(Ver.01)	
MSA151D-L1B		RSCR	115-60	152	177	603	113	1.35	1.56	5.34	ST(Ver.01)	
			127-60	152	177	603	120	1.27	1.47	5.03		
MSA162D-L1B		RSCR	115-60	187	217	742	145	1.29	1.50	5.12	ST(Ver.01)	
			127-60	187	217	742	150	1.25	1.45	4.95		
MSS162D-S1U		RSCR	115-60	187	217	742	135	1.39	1.61	5.50	ST(Ver.01)	
			127-60	187	217	742	142	1.32	1.53	5.23		
MSA162D-L1A		RSIR	115-60	192	223	762	153	1.25	1.46	5.00	ST(Ver.01)	
MSA162D-L1H		RSCR	115-60	192	223	762	132	1.45	1.69	5.80	ST(Ver.01)	
MSA170D-L1H		RSCR	115-60	218	253	865	155	1.41	1.64	5.60	ST(Ver.01)	
MSA182D-L2H		RSCR	115-60	270	314	1,072	193	1.40	1.63	5.55	ST(Ver.01)	
MSA182D-L2G		RSCR	115-60	270	314	1,072	201	1.34	1.56	5.35	ST(Ver.01)	
MSS182D-L2U		RSCR	115-60	264	307	1,048	181	1.46	1.70	5.80	ST(Ver.01)	
NC1A30DLA		RSIR	115-60	80	93	318	79	1.01	1.18	4.02	ST(Ver.02)	
			127-60	80	93	318	82	0.98	1.13	3.87		
NC1A37DLB		RSCR	115-60	108	126	429	100	1.08	1.26	4.29	ST(Ver.02)	
NC1A43DLB	RSCR	115-60	118	137	468	100	1.18	1.37	4.68	ST(Ver.02)		
AC 127V-60Hz	CD124P-S1ZB	RSIR	127-60	52	60	206	74	0.70	0.82	2.79	ST(Ver.01)	
	CD124P-L1Z2	RSIR	127-60	52	60	206	68	0.76	0.89	3.04	ST(Ver.01)	
	CD130P-S1ZB	RSIR	127-60	70	81	278	92	0.76	0.88	3.02	ST(Ver.01)	
	CD130P-L1Z2	RSIR	127-60	70	81	278	76	0.92	1.07	3.66	ST(Ver.01)	
	MSA162P-S1B	RSCR	127-60	187	217	742	147	1.27	1.48	5.05	ST(Ver.01)	



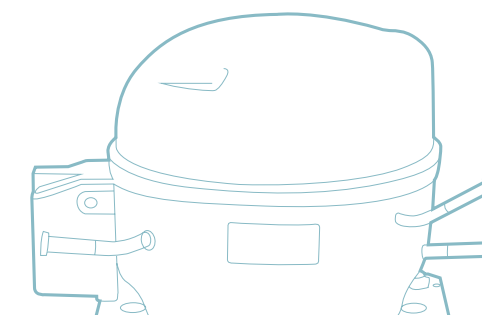
# Reciprocating Compressor SPECIFICATIONS

## R 134a LBP

RATED VOLTAGE	MODEL	MOTOR TYPE	VOLT-AGE [V-Hz]	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)
				COOLING CAPACITY			POWER INPUT W	EFFICIENCY			
				Kcal/Hr	Watt	BTU/Hr		EFF Kcal/WHr	COP W/W	EER BTU/WHr	
AC 200-220V-50Hz, 220V-60Hz	CD124H-L1ZA	RSIR	220-50	42	49	167	71	0.59	0.69	2.35	ST (Ver.01)
			220-60	50	58	198	71	0.70	0.82	2.80	
	CD124H-L1Z2	RSIR	220-50	43	50	171	63	0.68	0.79	2.71	ST (Ver.01)
			220-60	52	60	206	64	0.81	0.94	3.23	
	CD130H-L1Z2	RSIR	220-50	58	67	230	73	0.79	0.92	3.15	ST (Ver.01)
			220-60	70	81	278	76	0.92	1.07	3.66	
	MSA143H-L1A	RSIR	220-50	95	110	377	85	1.12	1.30	4.43	ST (Ver.01)
			220-60	128	149	508	102	1.25	1.46	5.00	
	MSA151H-L1A	RSIR	220-50	128	149	508	107	1.20	1.39	4.75	ST (Ver.01)
			220-60	152	177	603	121	1.26	1.46	5.00	
	MSA162H-L1A	RSIR	220-50	152	177	603	141	1.08	1.25	4.28	ST (Ver.01)
			220-60	192	223	762	153	1.25	1.46	5.00	
	MSA162H-L1H	RSCR	220-50	152	177	603	110	1.38	1.61	5.50	ST (Ver.01)
			220-60	192	223	762	134	1.43	1.67	5.70	
	MSA170H-L1G (K2)	RSCR	220-50	170	198	675	150	1.13	1.32	4.50	ST (Ver.01)
			220-60	218	253	865	166	1.31	1.53	5.20	
	MSA170H-L1B	RSCR	220-50	173	201	686	141	1.23	1.43	4.87	ST (Ver.01)
			220-60	220	256	873	163	1.35	1.57	5.36	
	MSA170H-L1G	RSCR	220-50	173	201	686	131	1.32	1.54	5.24	ST (Ver.01)
			220-60	220	256	873	157	1.40	1.63	5.56	
	MSA170H-L1H	RSCR	220-50	170	198	675	130	1.31	1.52	5.20	ST (Ver.01)
			220-60	218	253	865	155	1.41	1.64	5.60	
	MSA182H-L2G	RSCR	220-50	218	253	865	188	1.16	1.35	4.60	ST (Ver.01)
			220-60	270	314	1,071	201	1.34	1.56	5.35	
	MSA182H-L2H	RSCR	220-50	218	253	865	173	1.26	1.47	5.00	ST (Ver.01)
			220-60	270	314	1,071	193	1.40	1.63	5.55	
	MSS182H-L2U	RSCR	220-50	212	247	841	165	1.28	1.49	5.10	ST (Ver.01)
			220-60	264	307	1,048	181	1.46	1.70	5.80	
	MSA190H-L2G	RSCR	220-50	242	281	960	216	1.12	1.30	4.45	ST (Ver.01)
			220-60	300	349	1,190	225	1.33	1.55	5.30	
MSA190H-L2H	RSCR	220-50	242	281	960	200	1.21	1.41	4.80	ST (Ver.01)	
		220-60	300	349	1,190	215	1.40	1.62	5.55		
NC1A43HLB	RSCR	220-50	102	119	405	91	1.12	1.30	4.45	ST (Ver.02)	
		220-60	118	137	468	100	1.18	1.37	4.68		
NC1A37HLB	RSCR	220-50	90	105	357	84	1.07	1.25	4.25	ST (Ver.02)	
		220-60	108	126	429	97	1.11	1.29	4.42		

## R 134a LBP

RATED VOLTAGE	MODEL	MOTOR TYPE	VOLT-AGE [V-Hz]	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)
				COOLING CAPACITY			POWER INPUT W	EFFICIENCY			
				Kcal/Hr	Watt	BTU/Hr		EFF Kcal/WHr	COP W/W	EER BTU/WHr	
AC 220V-60Hz	CD124B-L1ZA	RSIR	220-60	50	58	198	71	0.70	0.82	2.80	ST(Ver.01)
	CD124B-L1ZB	RSIR	220-60	50	58	198	71	0.70	0.82	2.80	ST(Ver.01)
	CD130B-S1ZA	RSIR	220-60	70	81	278	82	0.85	0.99	3.37	ST(Ver.01)
	CD130B-S1ZB	RSIR	220-60	70	81	278	82	0.85	0.99	3.37	ST(Ver.01)
	MSE140B-L1U	RSCR	220-60	126	147	500	81	1.55	1.80	6.15	ST(Ver.01)
	MSE148B-L1U	RSCR	220-60	155	180	615	100	1.55	1.80	6.15	ST(Ver.01)
	MSE156B-L1U	RSCR	220-60	188	219	746	121	1.55	1.81	6.17	ST(Ver.01)
	MSA162B-L1G	RSCR	220-60	187	217	742	136	1.38	1.60	5.46	ST(Ver.01)
	MSE166B-L1U	RSCR	220-60	225	262	893	146	1.54	1.79	6.15	ST(Ver.01)
	NF21K5111BW	CSR	220-60	322	374	1,278	284	1.13	1.32	4.50	FC(Ver.03)
	NF21K5131BW	CSR	220-60	385	448	1,528	322	1.20	1.39	4.75	FC(Ver.03)
	NC1A24BLA	RSIR	220-60	50	58	198	71	0.70	0.82	2.80	ST(Ver.02)
	NC1A37BLA	RSIR	220-60	108	126	429	103	1.05	1.22	4.16	ST(Ver.02)
	AC 220-240V-50Hz, 220V-60Hz	MSA151G-L1B	RSCR	220-50	125	145	496	96	1.30	1.51	5.17
220-60				152	177	603	114	1.33	1.55	5.29	
MSS151G-L1U		RSCR	220-50	125	145	496	90	1.39	1.61	5.51	ST(Ver.01)
			220-60	152	177	603	107	1.42	1.65	5.64	
MSA162G-L1B		RSCR	220-50	151	176	599	119	1.27	1.48	5.04	ST(Ver.01)
			220-60	187	217	742	140	1.34	1.55	5.30	
MSS170G-L1U		RSCR	220-50	178	207	707	124	1.44	1.67	5.70	ST(Ver.01)
			220-60	222	258	881	151	1.47	1.71	5.84	
NC1A30GLA	RSIR	220-50	68	79	270	71	0.96	1.11	3.80	ST(Ver.02)	
		220-60	80	93	318	77	1.04	1.21	4.12		
AC 220-240V-50Hz	CD124Q-L1Z2	RSIR	220-50	43	50	171	57	0.75	0.88	2.99	ST(Ver.01)
	CD130Q-S1ZA	RSIR	220-50	58	67	230	74	0.78	0.91	3.10	ST(Ver.01)
	CD130Q-L1Z2	RSIR	220-50	58	67	230	65	0.89	1.04	3.54	ST(Ver.01)
	MSA143Q-S1Z	RSIR	220-50	96	112	381	83	1.16	1.34	4.59	ST(Ver.01)
	MSA151Q-L1A	RSIR	220-50	128	149	508	102	1.25	1.46	5.00	ST(Ver.01)
	MSA162Q-L1G	RSCR	220-50	151	176	599	111	1.36	1.58	5.40	ST(Ver.01)
	MSS162Q-L1U	RSCR	220-50	151	176	599	105	1.44	1.67	5.71	ST(Ver.01)
	MSA170Q-L1B	RSCR	220-50	173	201	687	129	1.34	1.56	5.32	ST(Ver.01)
	MSA170Q-L1G	RSCR	220-50	173	201	687	126	1.37	1.60	5.45	ST(Ver.01)
	MSA170Q-L1H	RSCR	220-50	170	198	675	123	1.38	1.61	5.50	ST(Ver.01)
	MSA182Q-L2H	RSCR	220-50	218	253	865	153	1.42	1.66	5.65	ST(Ver.01)
	MSS182Q-L2U	RSCR	220-50	212	247	842	145	1.46	1.70	5.80	ST(Ver.01)
	NC1A37QLB	RSCR	220-50	90	105	357	80	1.12	1.31	4.47	ST(Ver.02)





# Reciprocating Compressor

## SPECIFICATIONS

### R 134a LBP

RATED VOLTAGE	MODEL	MOTOR TYPE	VOLT-AGE [V-Hz]	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)
				COOLING CAPACITY			POWER INPUT	EFFICIENCY			
				Kcal/Hr	Watt	BTU/Hr		W	EFF	COP	
AC 200-220V~50Hz	CD124K-S1ZA	RSIR	220-50	42	49	167	64	0.66	0.76	2.61	ST(Ver.01)
	CD124K-S1ZB	RSIR	220-50	42	49	167	64	0.66	0.76	2.61	ST(Ver.01)
	CD130K-S1ZA	RSIR	220-50	58	67	230	79	0.73	0.85	2.91	ST(Ver.01)
	MSA143K-S1B	RSCR	220-50	96	112	381	77	1.25	1.45	4.95	ST(Ver.01)
	MSA170K-S1G	RSCR	220-50	173	201	687	135	1.28	1.49	5.09	ST(Ver.01)
	NC1A43KLA	RSIR	220-50	102	119	405	94	1.09	1.26	4.31	ST(Ver.02)
	NC1A43KLB	RSCR	220-50	102	119	405	90	1.13	1.32	4.50	ST(Ver.02)
AC 230V~50Hz	NF21K5111FU	RSCR	230-50	265	308	1,052	228	1.16	1.35	4.61	FC(Ver.03)
	NF21K5131FU	RSCR	230-50	325	378	1,290	275	1.18	1.37	4.69	FC(Ver.03)

**COOLING TYPE**  
 FC : Fan cooling  
 OC : Oil cooling  
 ST : Static

**MOTOR TYPE**  
 RSIR : Resistance Start Induction Run  
 RSCR : Resistance Start Capacitor Run  
 CSIR : Capacitor Start Induction Run  
 CSR : Capacitor Start Capacitor Run

**ASHRAE CONDITIONS (LBP)**  
 Evaporating Temp. : -23.3°C (-10°F)  
 Condensing Temp. : 54.4°C (130°F)  
 Gas Superheated to : 32.2°C (90°F)  
 Liquid sub-cooled to : 32.2°C (90°F)  
 Ambient Temp. : 32.2°C (90°F)

**Unit conversion table**  
 1 watt = 3.41 Btu/Hr  
 1 watt = 0.86 Kcal/Hr  
 1 Kcal/Hr = 3.97 Btu/Hr

### R 134a DBP

RATED VOLTAGE	MODEL	MOTOR TYPE	VOLT-AGE [V-Hz]	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)
				COOLING CAPACITY			POWER INPUT	EFFICIENCY			
				Kcal/Hr	Watt	BTU/Hr		W	EFF	COP	
AC 220V~60Hz	MSA662B-D1B	RSCR	220-60	690	802	2,739	285	2.42	2.82	9.60	ST(Ver.01)
	MSA670B-D1B	RSCR	220-60	810	942	3,216	360	2.25	2.62	8.90	ST(Ver.01)
	MSS670B-D1U	RSCR	220-60	810	942	3,216	305	2.66	3.09	10.54	ST(Ver.01)
AC 220-240V~50Hz	MSA670Q-D1B	RSCR	220-50	665	773	2,640	278	2.39	2.78	9.50	ST(Ver.01)

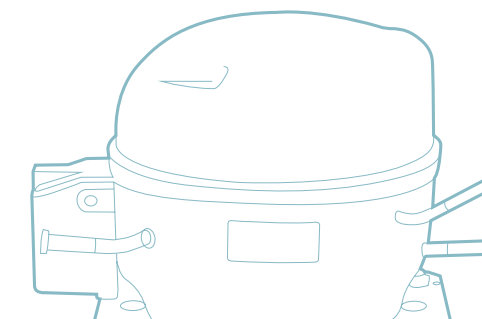
**COOLING TYPE**  
 FC : Fan cooling  
 OC : Oil cooling  
 ST : Static

**MOTOR TYPE**  
 RSIR : Resistance Start Induction Run  
 RSCR : Resistance Start Capacitor Run  
 CSIR : Capacitor Start Induction Run  
 CSR : Capacitor Start Capacitor Run

**ASHRAE CONDITIONS (HBP)**  
 Evaporating Temp. : 7.2°C (45°F)  
 Condensing Temp. : 54.4°C (130°F)  
 Gas Superheated to : 35.0°C (95°F)  
 Liquid sub-cooled to : 46.1°C (115°F)  
 Ambient Temp. : 35.0°C (95°F)

**Unit conversion table**  
 1 watt = 3.41 Btu/Hr  
 1 watt = 0.86 Kcal/Hr  
 1 Kcal/Hr = 3.97 Btu/Hr

### R 134a HBP



RATED VOLTAGE	MODEL	MOTOR TYPE	VOLT-AGE [V-Hz]	ASHRAE							COOLING TYPE (IDENTIFICATION Ver.)
				COOLING CAPACITY			POWER INPUT	EFFICIENCY			
				Kcal/Hr	Watt	BTU/Hr		W	EFF	COP	
AC 115V~60Hz	MSA643C-H1G	RSCR	115-60	495	576	1,965	191	2.59	3.01	10.29	ST(Ver.01)
	NF26K5111CW	CSR	115-60	1,070	1,244	4,248	602	1.78	2.07	7.06	FC(Ver.03)
	NF26K5111CB	RSCR	115-60	1,070	1,244	4,248	545	1.96	2.28	7.79	FC(Ver.03)
	NF26K5131CW	CSR	115-60	1,255	1,459	4,982	682	1.84	2.14	7.31	FC(Ver.03)
AC 220V~60Hz	MSA643B-H1G	RSCR	220-60	495	576	1,965	191	2.59	3.01	10.28	ST(Ver.01)
	MSA651B-H1G	RSCR	220-60	590	686	2,342	230	2.57	2.98	10.18	ST(Ver.01)
	NF26K5111BS	CSIR	220-60	1,070	1,244	4,248	669	1.60	1.86	6.35	FC(Ver.03)
	NF26K5111BW	CSR	220-60	1,070	1,244	4,248	540	1.98	2.30	7.87	FC(Ver.03)
AC 230V~50Hz	NF26K5131BS	CSIR	220-60	1,255	1,459	4,982	776	1.62	1.88	6.42	FC(Ver.03)
	NF26K5111FZ	RSIR	230-50	935	1,087	3,712	562	1.66	1.93	6.60	FC(Ver.03)
AC 220-240V~50Hz	NF26K5131FZ	RSIR	230-50	1,050	1,221	4,169	631	1.66	1.93	6.61	FC(Ver.03)
	MSA643Q-H1G	RSCR	220-50	400	465	1,588	154	2.60	3.02	10.30	FC(Ver.01)
AC 220-240V~50Hz	MSA651Q-H1G	RSCR	220-50	480	558	1,906	185	2.59	3.02	10.30	FC(Ver.01)
	NF26K5111QZ	RSIR	220-50	935	1,087	3,712	510	1.83	2.13	7.28	FC(Ver.03)

**COOLING TYPE**  
 FC : Fan cooling  
 OC : Oil cooling  
 ST : Static

**MOTOR TYPE**  
 RSIR : Resistance Start Induction Run  
 RSCR : Resistance Start Capacitor Run  
 CSIR : Capacitor Start Induction Run  
 CSR : Capacitor Start Capacitor Run

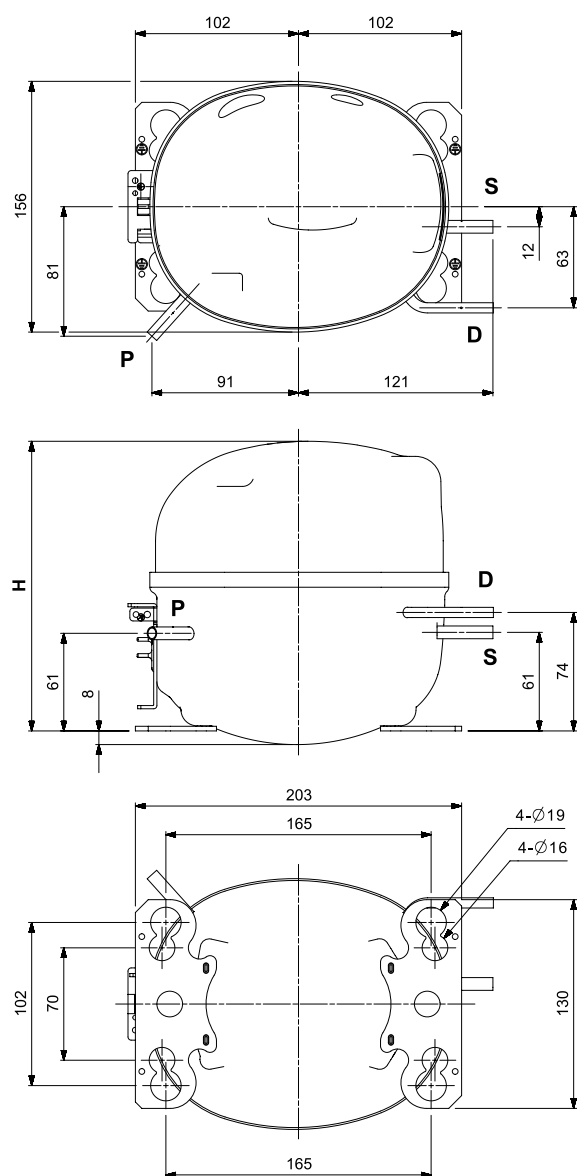
**ASHRAE CONDITIONS (HBP)**  
 Evaporating Temp. : 7.2°C (45°F)  
 Condensing Temp. : 54.4°C (130°F)  
 Gas Superheated to : 35.0°C (95°F)  
 Liquid sub-cooled to : 46.1°C (115°F)  
 Ambient Temp. : 35.0°C (95°F)

**Unit conversion table**  
 1 watt = 3.41 Btu/Hr  
 1 watt = 0.86 Kcal/Hr  
 1 Kcal/Hr = 3.97 Btu/Hr

# Reciprocating Compressor

## DIMENSION

### MS Series (Universal Type)

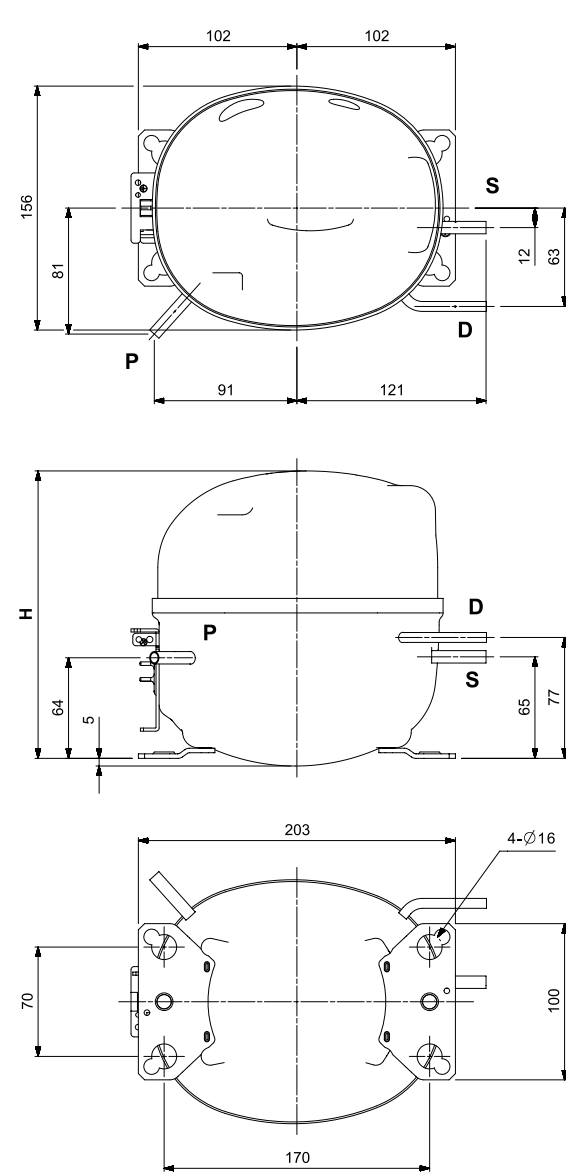


Height [mm]		
Grade	Cooling Type	H
43/51GR	Static	169
62/70/A2GR		173

Tube Connection [mm]		
Tubing	Material	OD [T:0.7]
(D) Discharge	Copper	6.35
(S) Suction		7.94
(P) Process		7.94

### MS Series (European Type)

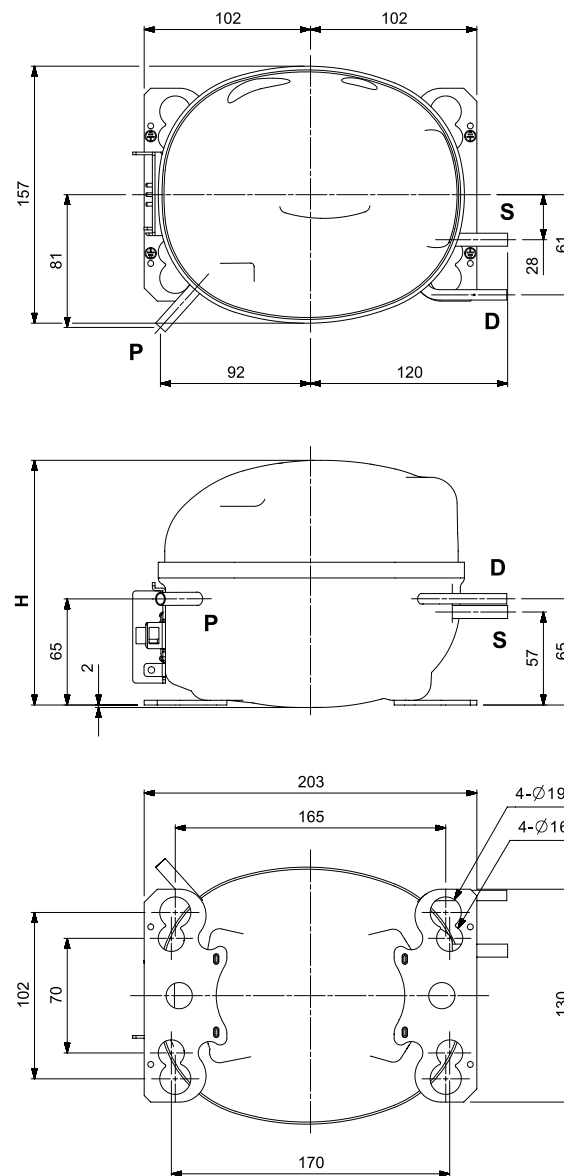


Height [mm]		
Grade	Cooling Type	H
43/51GR	Static	172
62/70/A2GR		177

Tube Connection [mm]		
Tubing	Material	OD [T:0.7]
(D) Discharge	Copper	6.35
(S) Suction		7.94
(P) Process		7.94

### MSV, MV Series (Universal Type)

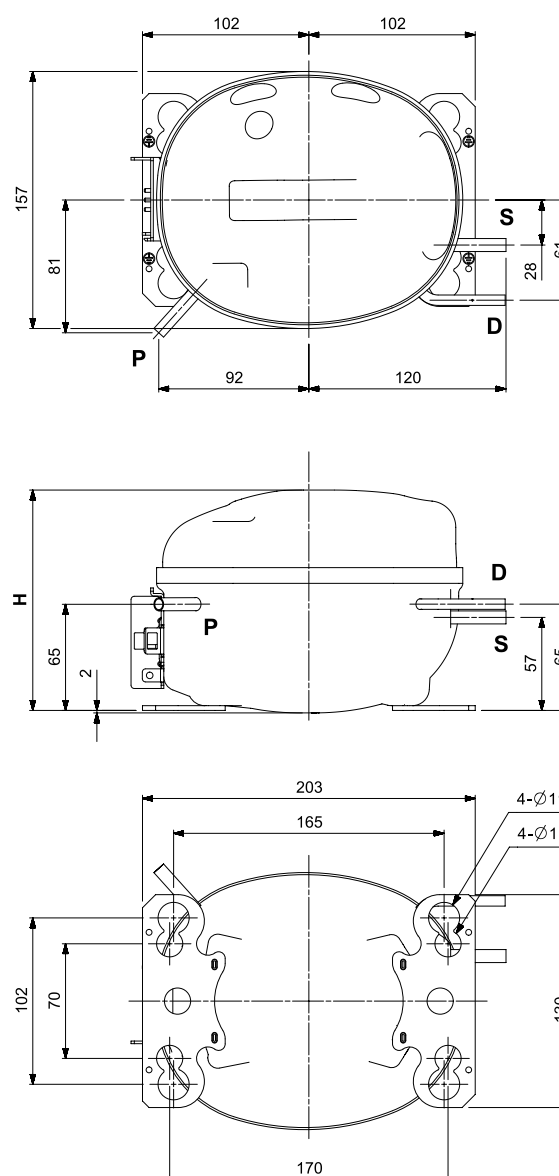


Height [mm]		
Grade	Cooling Type	H
62/72/88/90 /A1 GR	Static	149

Tube Connection [mm]		
Tubing	Material	OD [T:0.7]
(D) Discharge	Copper	6.35
(S) Suction		7.94
(P) Process		7.94

### NN Series (Universal Type)



Height [mm]		
Grade	Cooling Type	H
60/90/11 GR	Static	129

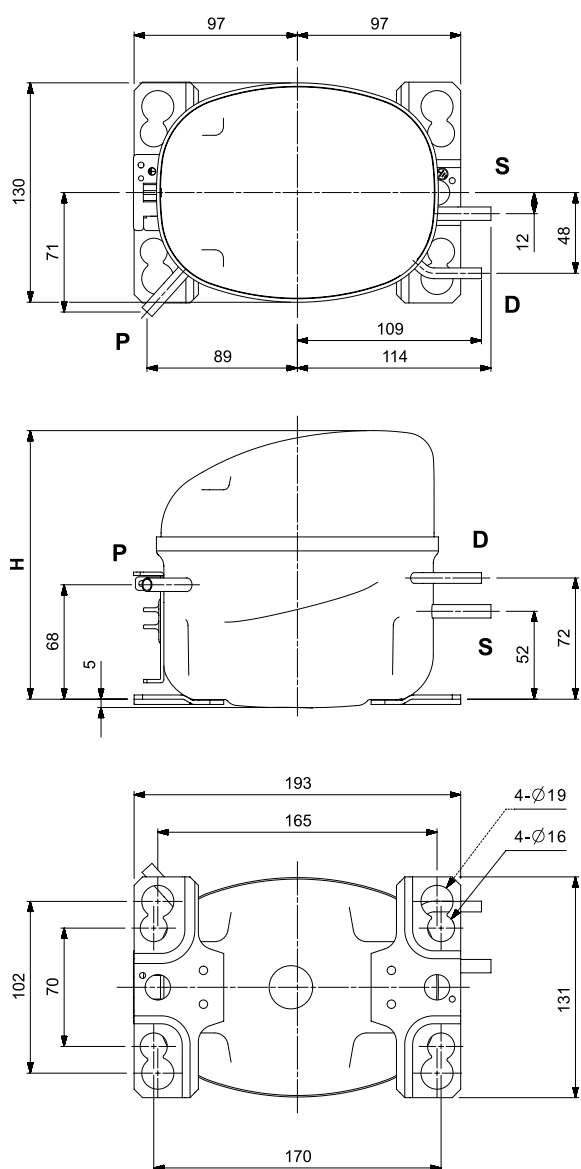
  

Tube Connection [mm]		
Tubing	Material	OD [T:0.7]
(D) Discharge	Copper	6.35
(S) Suction		7.94
(P) Process		7.94



# Reciprocating Compressor DIMENSION

## CD Series (Universal Type)

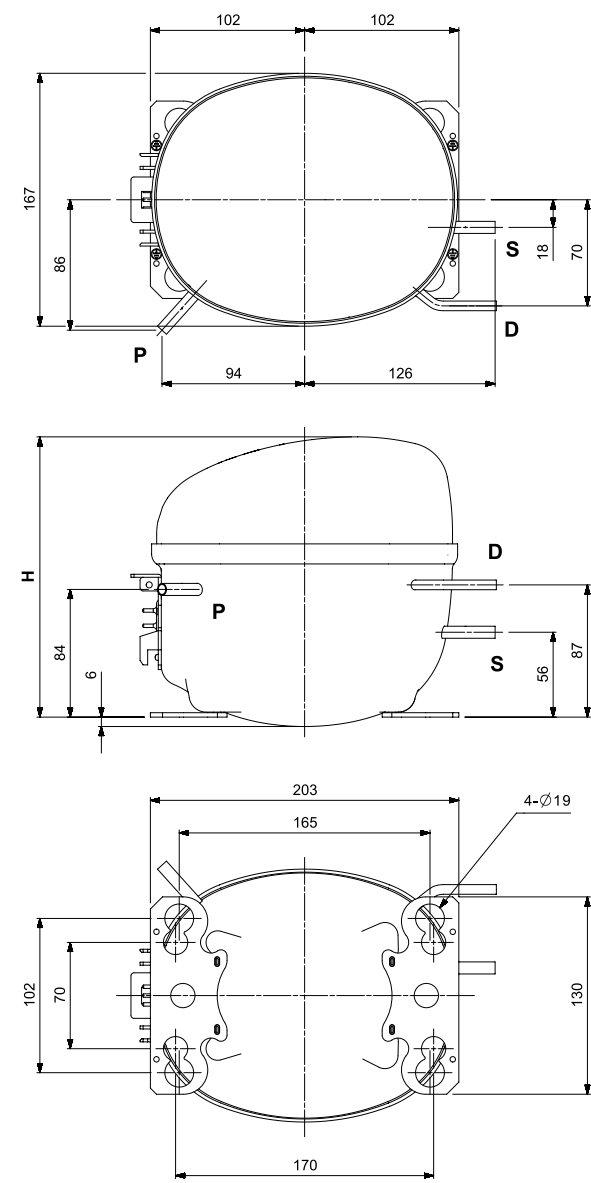


Height [mm]		
Grade	Cooling Type	H
24/30 GR	Static	157

Tube Connection [mm]		
Tubing	Material	OD [T:0.7]
(D) Discharge	Copper	6.35
(S) Suction		7.94
(P) Process		7.94

## ENV, EV Series (Universal Type)

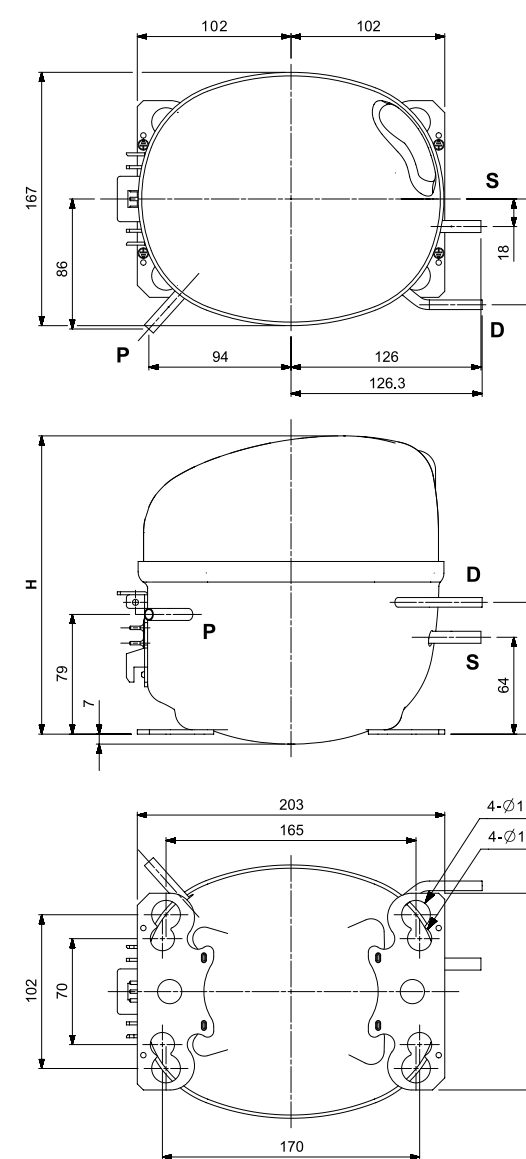


Height [mm]		
Grade	Cooling Type	H
A3/A5 GR	Fan	183

Tube Connection [mm]		
Tubing	Material	OD [T:0.7]
(D) Discharge	Copper	6.35
(S) Suction		7.94
(P) Process		7.94

## NF2 Series (Universal Type)

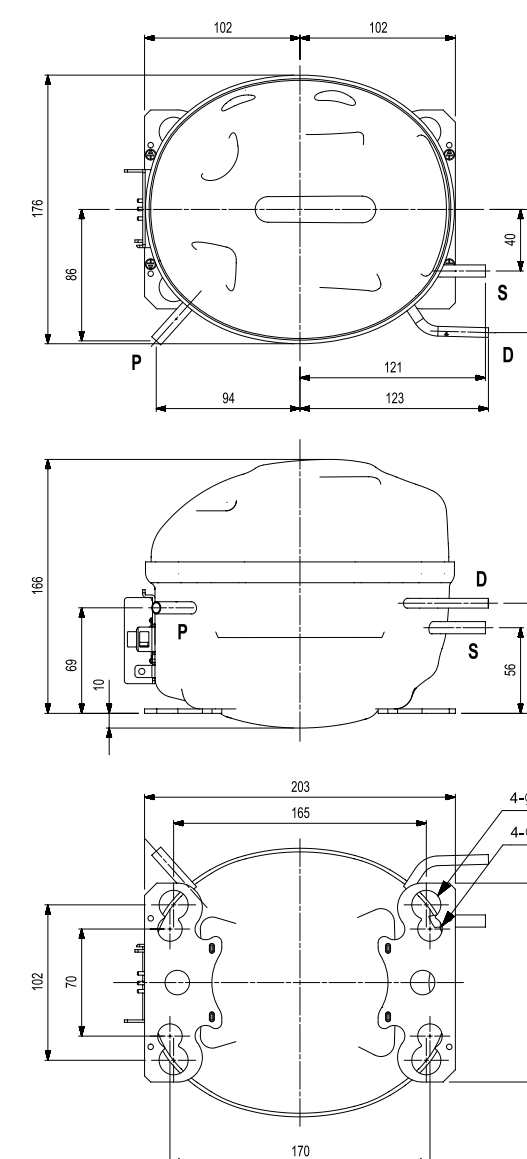


Height [mm]		
Grade	Cooling Type	H
11/13 GR	Fan	191

Tube Connection [mm]		
Tubing	Material	OD [T:0.7]
(D) Discharge	Copper	6.35
(S) Suction		7.94
(P) Process		7.94

## NF3, NF5 Series (Universal Type)



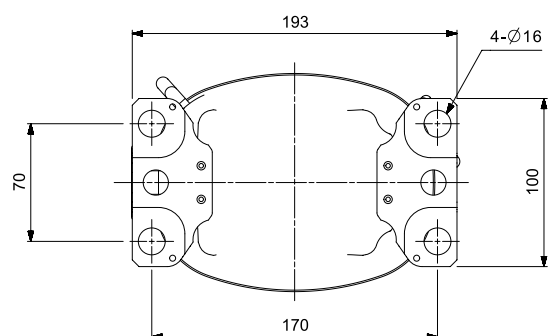
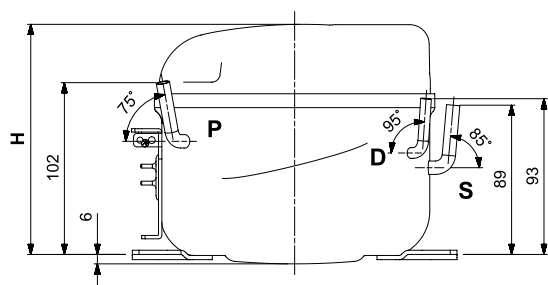
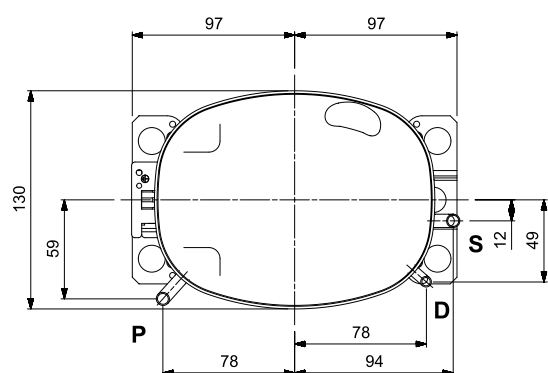
Height [mm]		
Grade	Cooling Type	H
13/15 GR	Fan	167

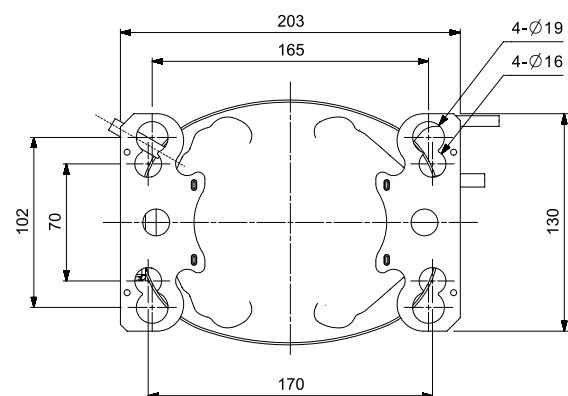
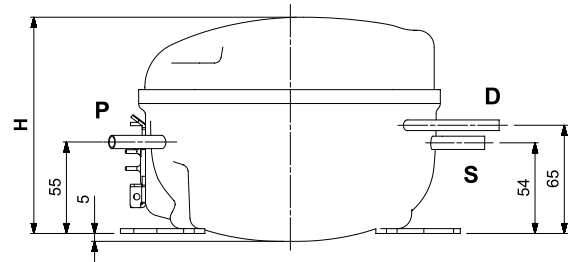
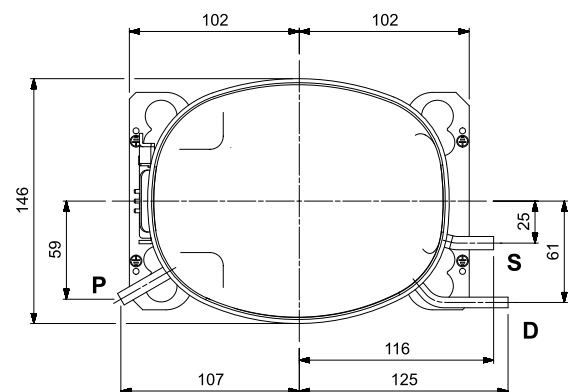
Tube Connection [mm]		
Tubing	Material	OD [T:0.7]
(D) Discharge	Copper	6.35
(S) Suction		7.94
(P) Process		7.94

# Reciprocating Compressor DIMENSION

## A Series (European Type)



## AV Series (Universal Type)



Height [mm]		
Grade	Cooling Type	H
24 GR	Static	137

Tube Connection [mm]		
Tubing	Material	OD [T:0.7]
(D) Discharge	Copper	6.35
(S) Suction		7.94
(P) Process		7.94

Height [mm]		
Grade	Cooling Type	H
60/80 GR	Static	129

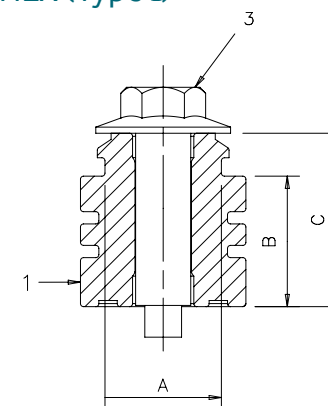
  

Tube Connection [mm]		
Tubing	Material	OD [T:0.7]
(D) Discharge	Copper	6.35
(S) Suction		7.94
(P) Process		7.94

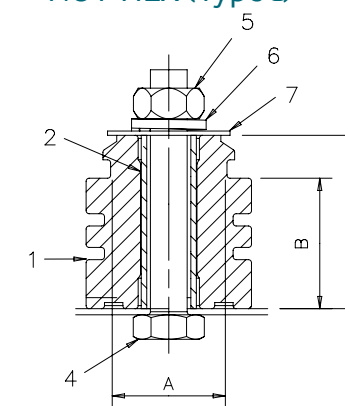
# Reciprocating Compressor MOUNTING ACCESSORIES

## BLDC Model

### BOLT-HEX (Type I)

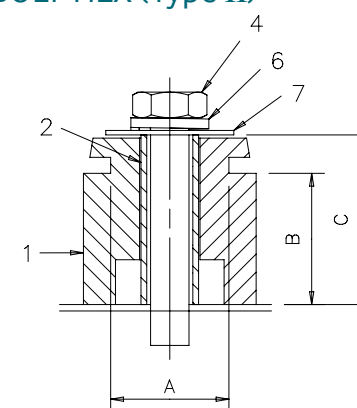


### NUT-HEX (Type I)

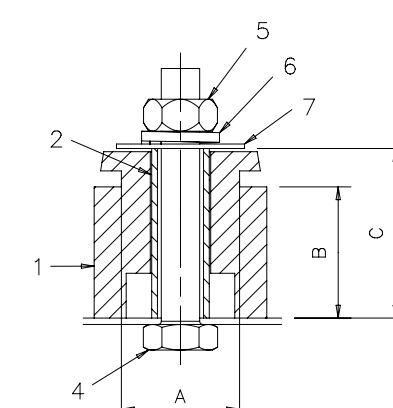


## AC Model

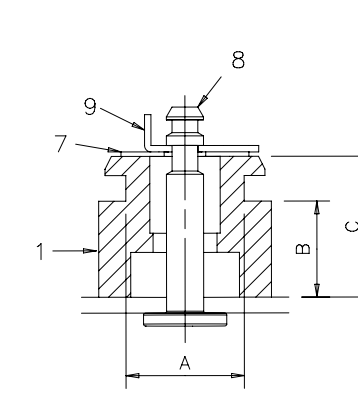
### BOLT-HEX (Type II)



### NUT-HEX (Type II)



### SNAP-ON



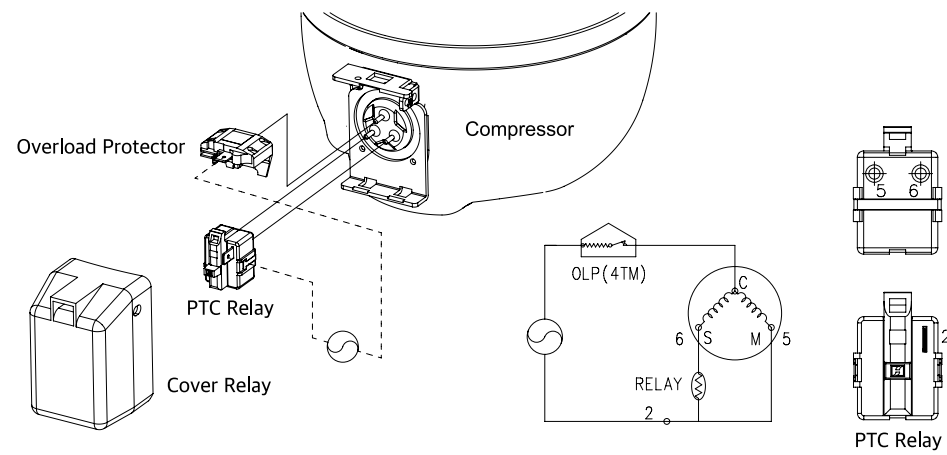
1. Grommet 2. Sleeve 3. Bolt-comp(M6) 4. Bolt-hex(M6) 5. Nut-hex(M6) 6. Washer spring 7. Washer plain 8. Bolt-stud 9. Retainer

MOUNTING TYPE	BOLT-HEX TYPE II				
	NUT-HEX TYPE				
	BOLT-HEX TYPE I	SNAP-ON TYPE			
Series	ENV, EV, NF(BLDC), MSV, MV, NN(BLDC), AV	NF	MS, CD, A, NN		
Mounting Bracket	Universal	Universal	Universal		European
Hole Size	Ø19	Ø19	Ø19	Ø16	Ø16
DIMENSION[mm]	A	18.5	18.5	18.5	15.5
	B	21.3	20.5	15.0	15.0
	C	28.0	26.0	23.0	22.5

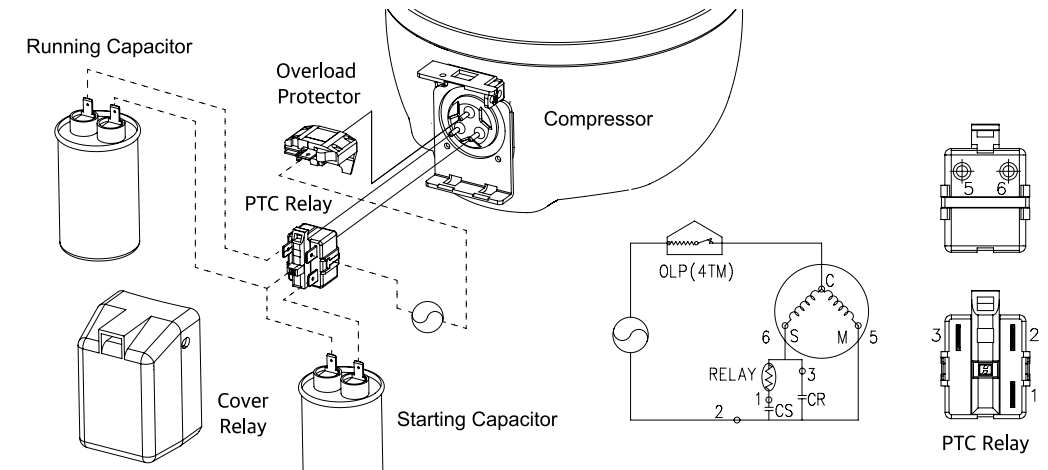


# Reciprocating Compressor ASSEMBLY DIAGRAMS

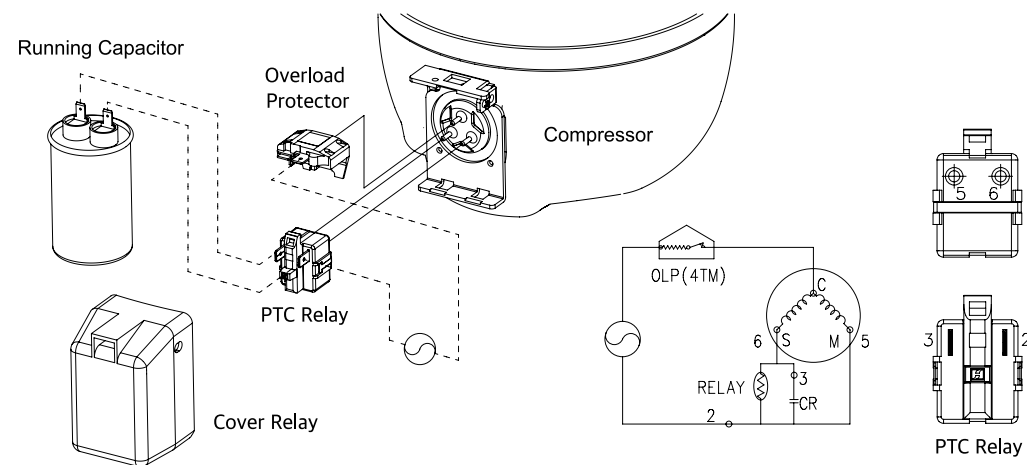
Assembly of OLP and PTC Relay in RSIR Motor (with S-HOOK Cover Type)



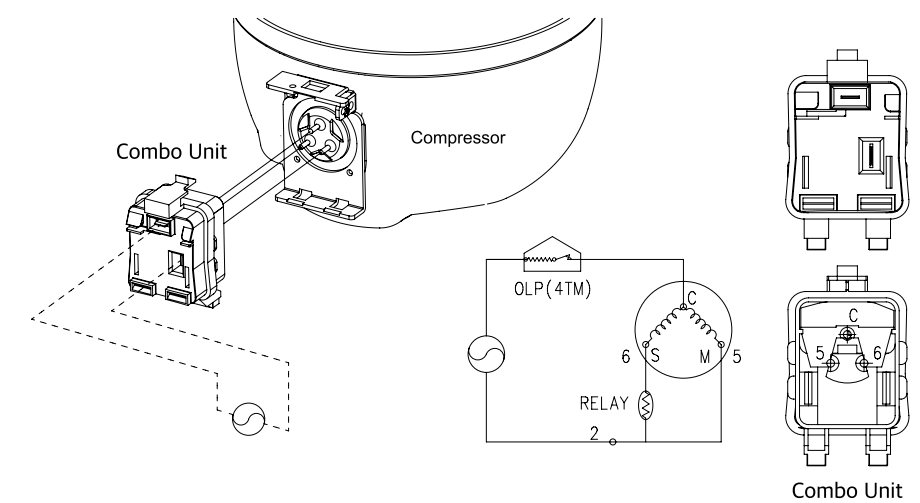
Assembly of OLP and PTC Relay in CSR Motor (with S-HOOK Cover Type)



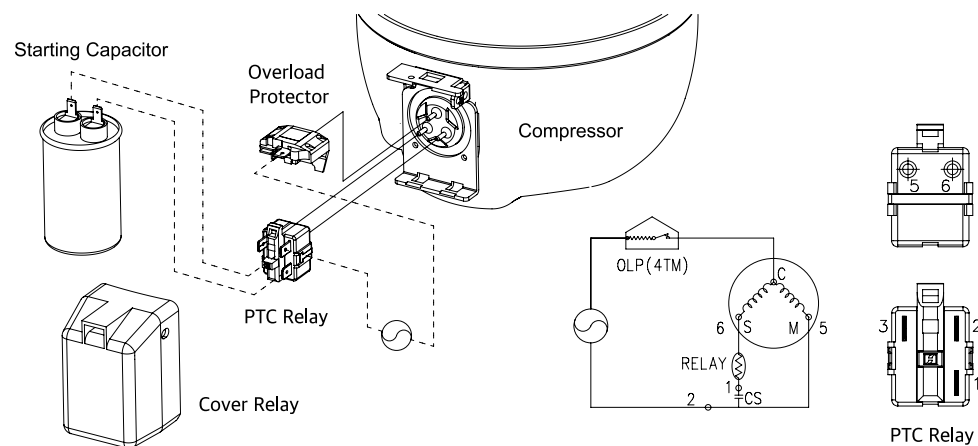
Assembly of OLP and PTC Relay in RSCR Motor (with S-HOOK Cover Type)



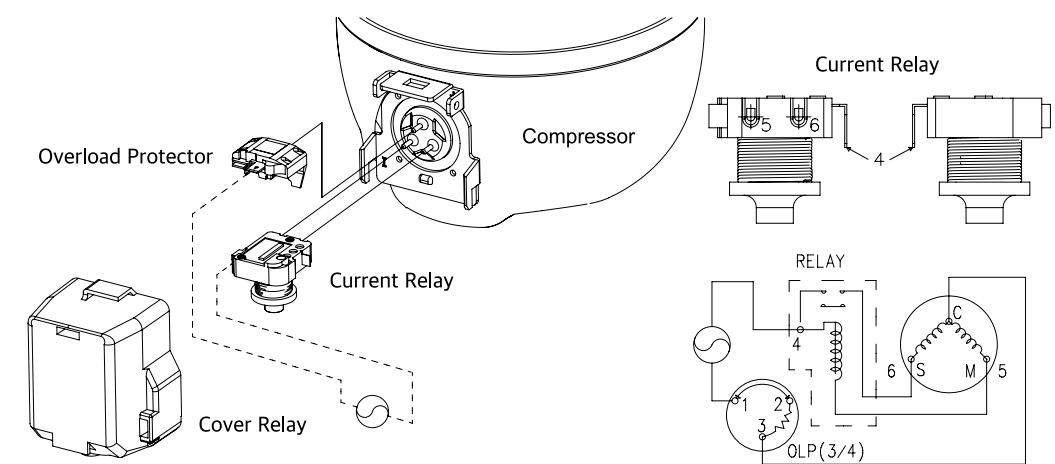
Assembly of Assy Combo in RSIR Motor (with Combo Type)



Assembly of OLP and PTC Relay in CSIR Motor (with S-HOOK Cover Type)



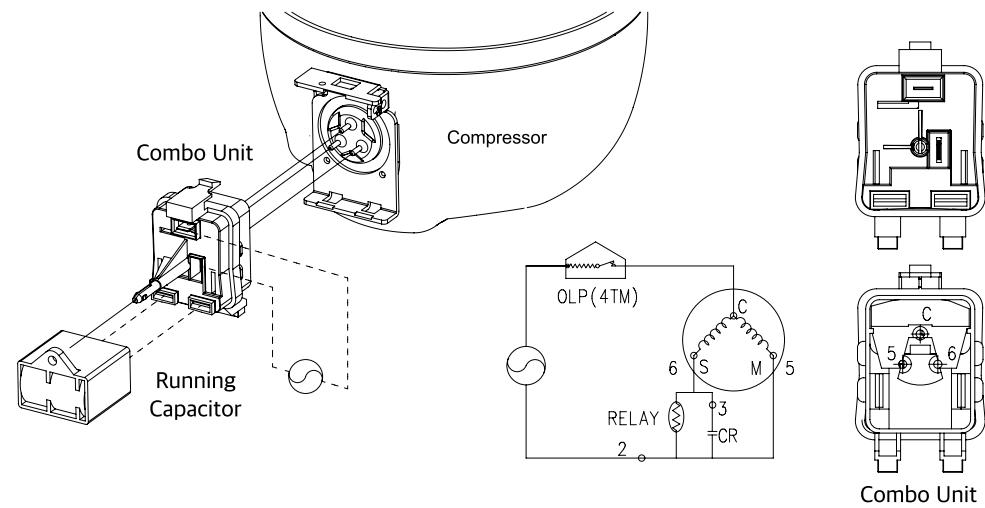
Assembly of OLP and Current Relay in RSIR Motor (with HOOK Cover Type)



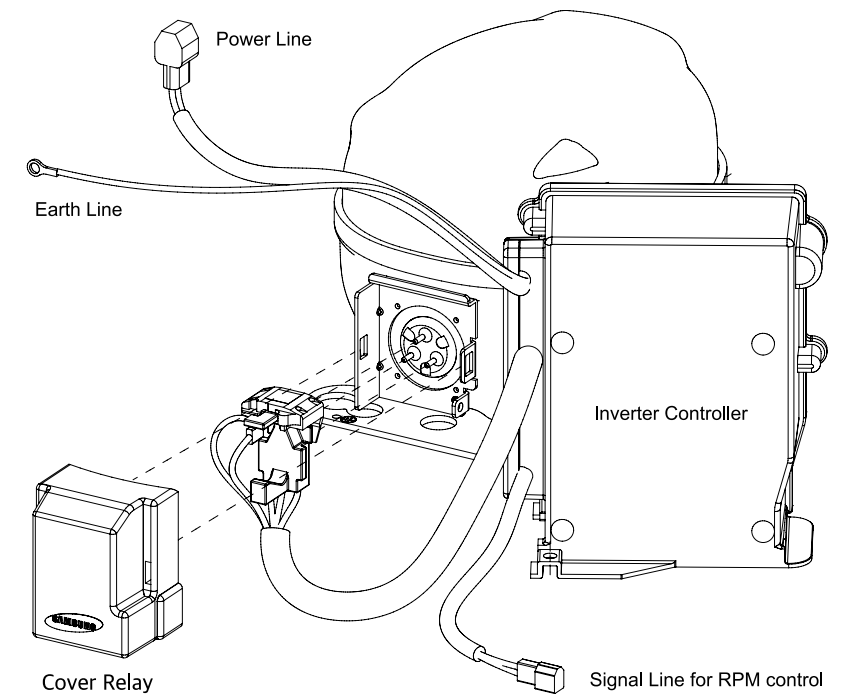
# Reciprocating Compressor

## ASSEMBLY DIAGRAMS

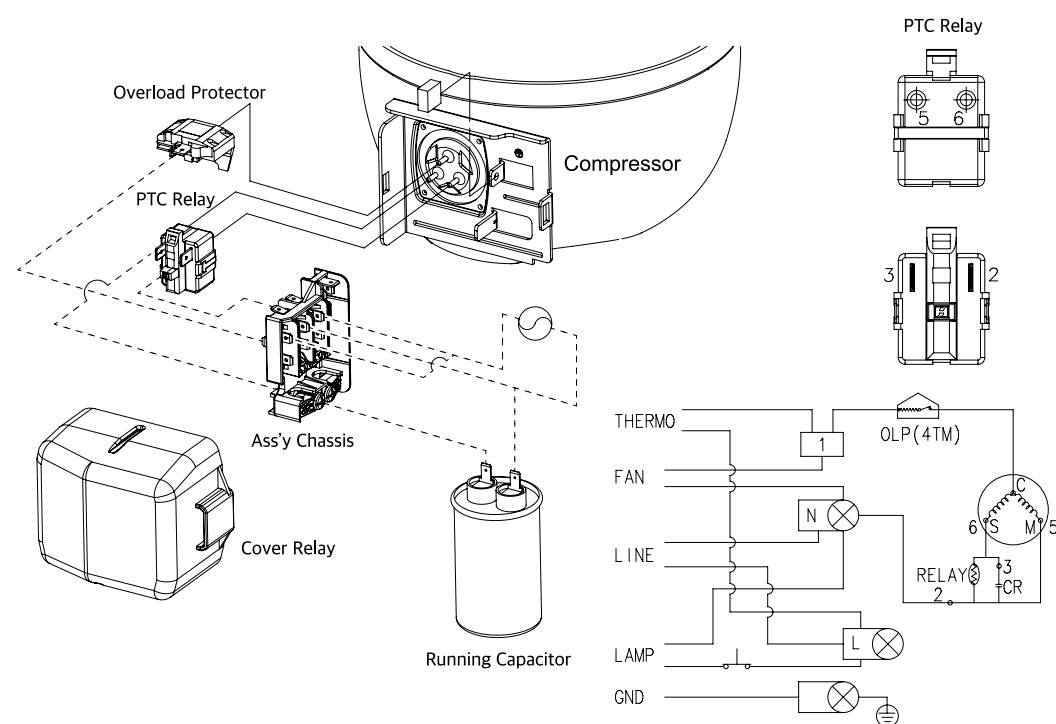
Assembly of Assy Combo in RSCR Motor (with Combo Type)



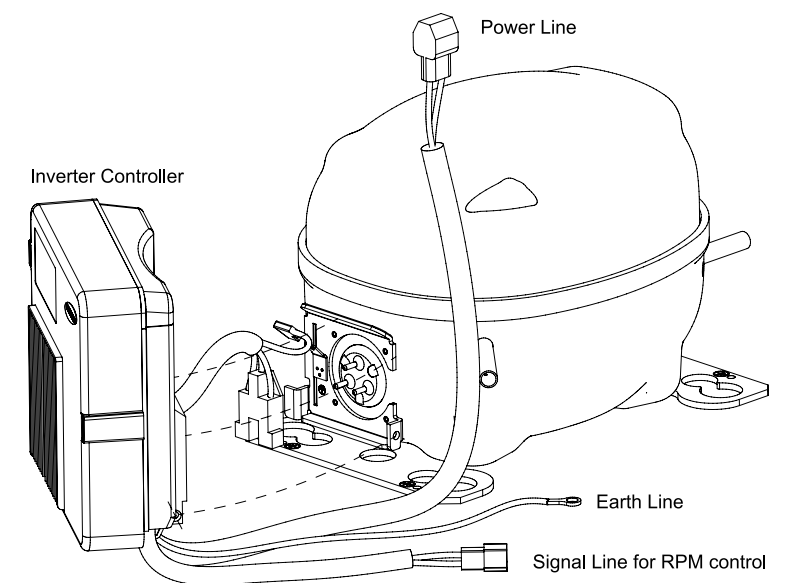
Assembly of Inverter Controller in BLDC Motor (with Separation Type)



Assembly of OLP and PTC Relay in RSCR Motor (with T/B Cover Type)



Assembly of Inverter Controller in BLDC Motor (with Built-in Type)



# Reciprocating Compressor INVERTER CONTROLLER

Series		SBC (for Re comp)						
		SBC2		SBC3			SBC4	
		-V1	-V3	-V1	-V2	-V3	-V4	-V1
Model Code		DA92-00566A	DA92-00565C/D/E	DA92-00258A	Under Dev.	Under Dev.	Under Dev.	DA92-00564A
Compressor		LBP All Model	R600a 15cc↓ R134a 7.2cc↓	R600a 15cc↓ R134a 7.2cc↓	R600a 15cc↓ R134a 7.2cc↓	600a 11cc↓	600a 11cc↓	LBP All Model
Image								
Power Supply	Rated Voltage	220V(110V)		220V(110V)		220V		220V(110V)
	Voltage Range	187~265V(85~133V)		187~265V(85~133V)		187~265V		187~265V (85~133V)
	Frequency	50/60HZ		50/60HZ		50/60HZ		50/60HZ
	Max Input Arms	5A	4A	4A		2A		5A
	Max Input Power	320W	250W	250W		150W		320W
Interface	Type	Frequency input		Frequency input			Frequency input	
Structure	PBA or CASE	PBA		Case(Built in)			Case (Separated)	
	Size	140*96*32	110*96*32	137.7*121.5*72	115.5*89.5*62.9		161.3*142.1*54.2	
	Cooling	Static		Static			Static	
Environment	Ambient Temp.	-5~43°C		-5~43°C			-5~43°C	
	Storage Temp.	-25~85°C		-25~85°C			-25~85°C	
	Max. Storage Relative Humidity	85%		85%			85%	
Protection	Voltage/Current	Voltage/Current/Temp.	Voltage/Current	Voltage/Current/Temp.			Voltage/Current	

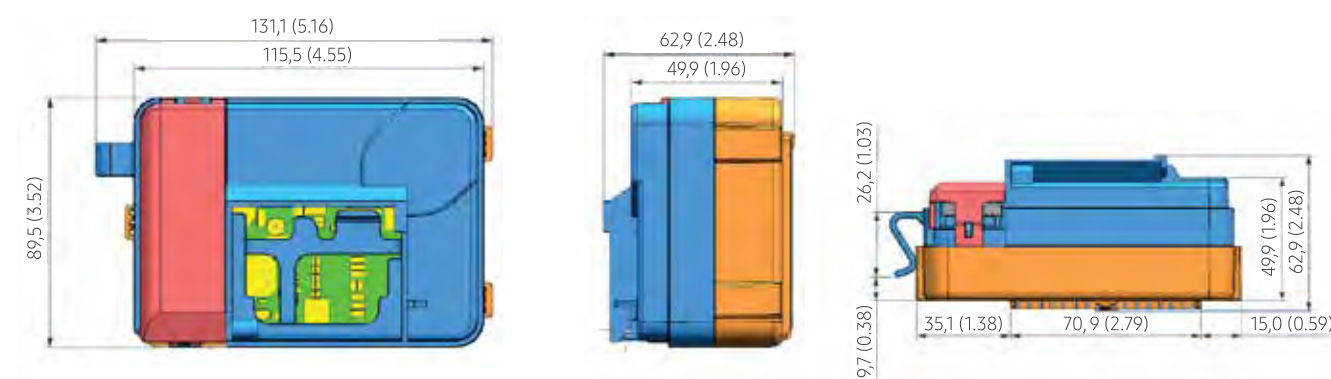
## SBC3-V1/V2

Unit : mm(Inch)



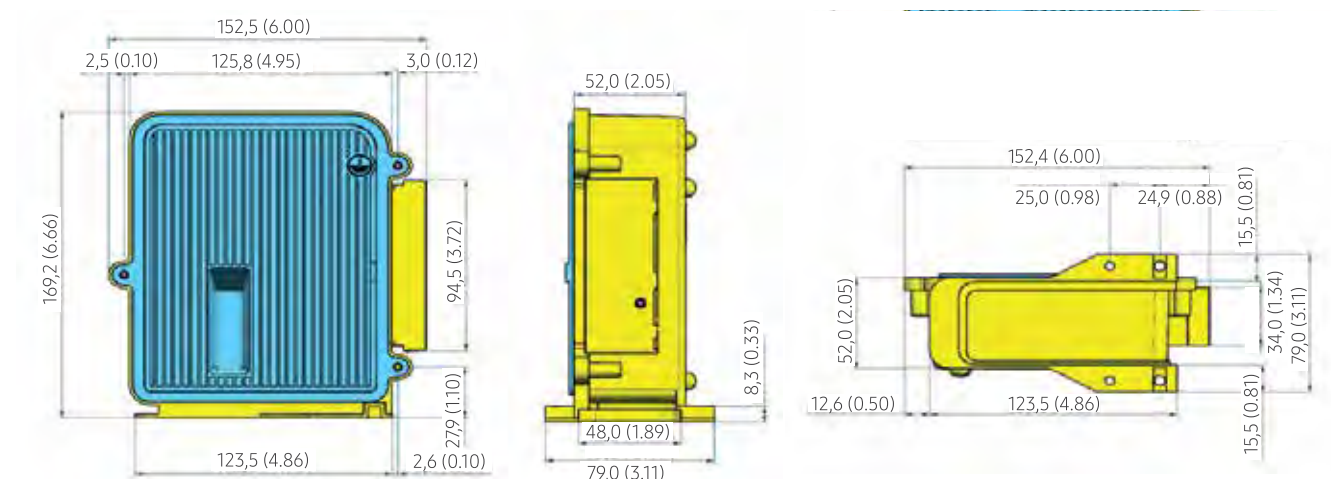
## SBC3-V3/V4

Unit : mm(Inch)



## SBC4-V1

Unit : mm(Inch)





# Reciprocating Compressor APPLICATION GUIDE

Compressors under improper application can not achieve good performance and long-life reliability. This application guide provides the recommended handling techniques and requirements for application of SAMSUNG reciprocating compressor in order to help achieving good performance and long-life reliability.

## 1. Usable Refrigerant

	LBP(Low Back Pressure)		HBP(High Back Pressure)
REFRIGERANT	R134a	R600a	R134a
	Purity of 99.95% Min.	Purity of 99.5% Min.	Purity of 99.95% Min.

## 2. Starting condition

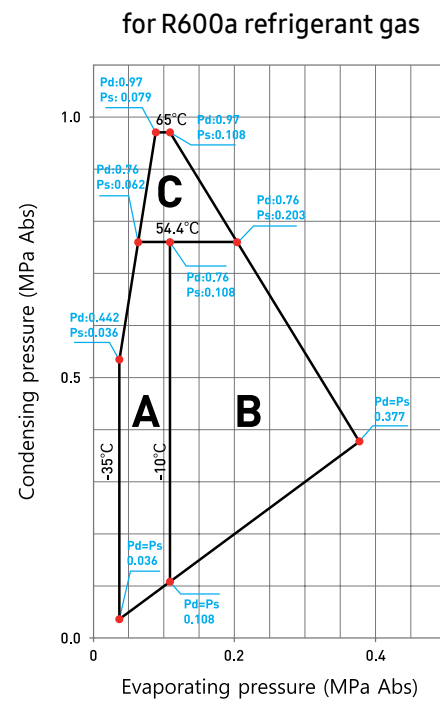
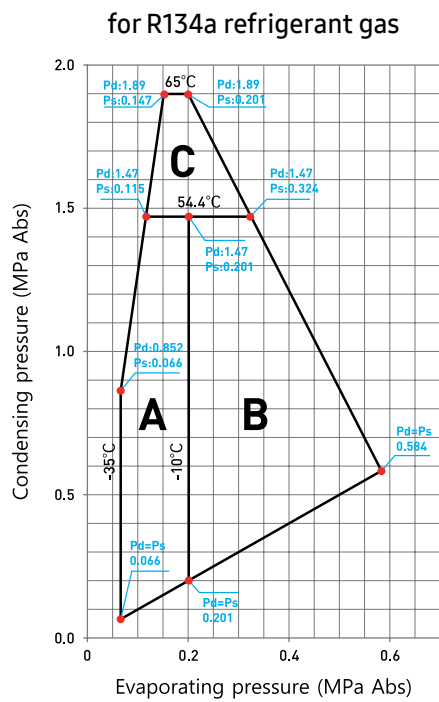
The LBP type compressors start at 85% of the nominal voltage.  
 - Equalized pressure up to 70psig(4.9kgf/cm<sup>2</sup>g) for R134a LBP compressors.  
 - Equalized pressure up to 40psig(2.8kgf/cm<sup>2</sup>g) for R600a LBP compressors.

The HBP type compressors start at 90% of the nominal voltage.  
 - Equalized pressure up to 90psig(6.3kgf/cm<sup>2</sup>g) for R134a HBP compressors.

Depending on the operating condition and system characteristics, compressors can be started at lower voltages.

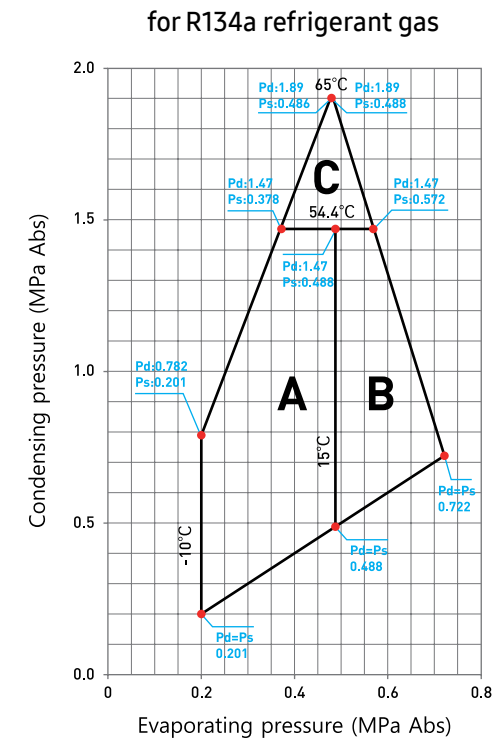
## 3. Temperature and Pressure of cycle

The refrigerant system must be used within the temperature and pressure range as below table.  
**In case of LBP refrigerant system with R134a and R600a refrigerant gas**



- \* Remarks
1. "A" area on chart : Stabilized running condition before stopping.
  2. "B" area on chart : Transient running conditiona just after starting.
  3. "C" area on chart : Compressor initial pull-down and restarting after defrost.

## In case of HBP refrigerant system with R134a refrigerant gas



- \* Remarks
1. "A" area on chart : Stabilized running condition before stopping.
  2. "B" area on chart : Transient running condition just after starting.
  3. "C" area on chart : Compressor initial pull-down and restarting after defrost.

## 4. Motor Winding Temperature

In case of LBP refrigerant system  
 The motor winding temperature should not exceed 120°C(248°F) in the continuous operation and 130°C (266°F) in the Pull-Down operation at the expected ambient temperature(43°C)

In case of HBP refrigerant system  
 The motor winding temperature should not exceed 120°C(248°F) in the continuous operation and 130°C(266°F) in the Pull-Down operation at the expected ambient temperature(26.7°C, 81°F)  
 The limit motor winding temperature should not exceed 130°C(266°F) at the expected maximum ambient temperature(32.2°C, 90°F).

If the temperature exceeds, the motor is overloaded, then it shortens the motor life. The winding temperature of the motor can be calculated by below equation.

$$T2 = (R2-R1)/R1*(K+T1)+T1$$

T1 : The room temperature at the beginning of the test  
 T2 : The winding temperature(unknown) at the end of the test  
 R1 : The resistance at the beginning of the test  
 R2 : The resistance at the end of the test  
 K : Temperature coefficient of resistance  
 (Copper wire : 234.5, Aluminum wire : 225.0)

# Reciprocating Compressor

## APPLICATION GUIDE

### 5. Other Temperatures

Below temperatures should not be exceeded the refrigerant system to be operated normally.  
If the test temperature is not indicated, it is measured at the ambient temperature.

Application	Refrigerant	Suction Gas Temp	Discharge Gas Temp	Compressor Upper Surface Temp
LBP	R134a	Than the ambient temperature -2°C(28°F) ~ +1°C(34°F), to prevent dew formation.	Max. 100°C(212°F) Peak 115°C(239°F)	Max. 100°C(212°F) in the hot side Min. 5°C(41°F) in the low side at 43°C(109°F) ambient temp.
	R600a			
HBP	R134a		Max. 100°C(212°F) at 26.7°C(80°F) ambient temperature Peak 115°C(239°F) at 32.3°C(90°F) ambient temperature	Max. 100°C(212°F) in the hot side Min. 5°C(41°F) in the low side at 32.2°C(90°F) ambient temp.

※ Measurement location

Suction Gas Temperature is measured at the distance 15cm of the insulated surface suction pipe from welded case.  
Discharge Gas Temperature is measured at the distance 5cm of the insulated surface discharge pipe from welded case.

### 6. Refrigerant Charging

For each refrigerant system, the optimal refrigerant Charging amount should be determined in an appropriate test laboratory in order to obtain the best working condition.

If the refrigerant amount exceeds or lacks compared to the proper amount range, it'll be caused loss of cooling capacity, lowering of efficiency and damage of compressor life.

The refrigerant charge of the refrigerant system must not exceed above No.2 start condition as suction and discharge pressure.

### 7. Operating condition

The refrigerant system should be maintained as below table.

Application	Refrigerant	Compression Ratio	Operated Ratio	Ambient Temperature	Refrigeration Oil	On/Off Cycle Time
LBP	R134a	Max. 12.7	Max. 65% Based on Ref. Normal-Normal Condition	Max. 5°C ~ 43°C (Max. 41°F ~ 109°F)	TAN 0.01mg- KOH/ g max. Moisture 10ppm max.	Restarting time limit must be longer than 5 minutes
	R600a	Max. 12.4				
HBP	R134a	Max. 3.9	Max. 65% Based on Normal-Normal Condition at 26.7°C ambient Temp.		TAN 0.01mg- KOH/ g max. Moisture 20ppm max.	Max. 6 times/ hours

### 8. Evacuation of cycle

Prevent non-condensable gases, such as air, from permeating into the cycle.

Air or non-condensable gases in the refrigerant cause a decline in cooling capacity and a rise in input wattage due to high discharge pressure.

In particular, air(Oxygen) cause the generation of sludge and shortening of compressor life. Therefore, the non-condensable gas in R134a system must not exceed 1%(vol.)

The recommendable vacuum level is under 0.08 Torr(mmHg), and the evacuation time must be 40 minutes or more with the capacity of vacuum pump of 300 LT/min or more.

The vacuum pump should be used exclusively, and it is better to vacuum simultaneously in high and low pressure sides with a pump per system.

It is not allowed that putting electric power into the compressor with a vacuum condition, then electric spark will be occurred in the compressor and compressor can be damaged critically. (Vacuum Discharge)

### 9. Filter dryer

The filter dryer must be chosen with the molecular sieve suitable to the refrigerant type as below.

	R134a	R600a
FILTER DRYER	XH-7 or XH-9	XH-5

※ If a filter dryer of the refrigerant system is not chosen properly, it can be a source of the indicated causes as below table.

Problems	Appearances
Ice build-up	The moisture in the capillary tube is frozen, then it reduces the cross-sectional area of capillary tube and finally obstruct the capillary tube.
Acid build-up	The moisture reacts with refrigeration oil and then creates acid. Acid is caused as bellow chemical typical marks and consequences. - Copper plating of valve plate, valve reeds, crankshaft, bearing, block, frame etc. - Etching of electric motor insulation with burning of motor winding. - Destruction of the filter with disintegration of molecular sieve and build-up of "dusts"
Oil contamination	The moisture causes acidification and reduction of the lube capability of the refrigeration oil with change of oil color as brown. It can cause build-up of sludge with subsequent poor lube of compressor.

### 10. Notice in handling, storage and transportation of compressor

10-1. Compressor with the removal of rubber cap from tube should be assembled with the cycle as soon as possible. It is not allowed that the compressor without rubber-cap is left in the air more than 15 minutes.

10-2. Compressor might be affected by the environmental condition which it is stored.

So, compressor that is charged with nitrogen and sealed should be used within recommendation period.

	R134a	R600a
Storage	8 months	10 months

After recommendation period, compressor can be used after validating the moisture level of compressor inside.

10-3. The finished product(compressor adopted to application) should be positioned upright during transportation.

If the other transportation condition is needed, the discussion with SAMSUNG must be done in advance.

# Reciprocating Compressor APPLICATION GUIDE

## 11. Handling



Handle with care



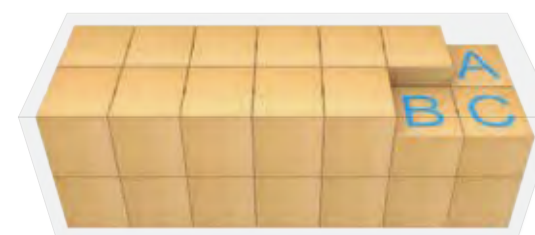
Max 3 Carton



# Reciprocating Compressor PACKING INFORMATION

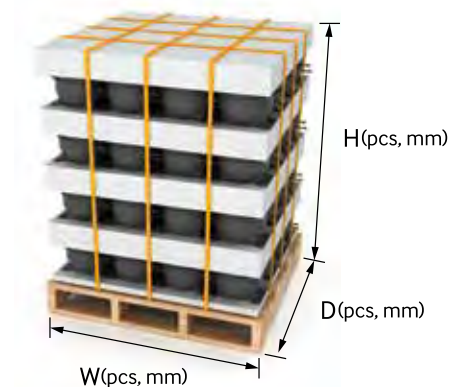
Type	SERIES	GRADE	Weight	Array	Pallet Height	Compressor Q'ty pallet	Pallet Q'ty/ CNTR	Loading Q'ty/ CNTR
			(kg)	(WxDxH)	(mm)	(pcs)	(pcs)	(pcs)
Fixed Speed	CD	24GR	6.3	7x4x5	1,114	140	20	2,800
		30GR	6.4	7x4x5	1,114	140	19	2,660
	A	24GR	5.6	7x4x5	1,114	140	20	2,800
		43GR	8.3	6x3x4	990	72	11	2,052
	MSS, MSA, MSE, NN	51GR	8.6	6x3x4	990	72	25	1,800
		62GR	8.8	6x3x4	1,006	72	25	1,800
		70GR, 88GR	9.1	6x3x4	1,006	72	25	1,800
		A1GR, A2GR	9.6	6x3x4	1,006	72	25	1,800
	NF	11GR, 13GR	10	5x3x4	1,009	60	23	1,380
	BLDC	MSV, MV	62GR, 88GR	7.1	6x3x5	1,010	90	25
A1GR			7.4	6x3x5	1,010	90	25	2,250
NN		60GR, 90GR, 11GR	6.6	6x3x5	982	90	25	2,250
ENV, EV		A3GR, A5GR	9.6	5x3x4	1,038	60	25	1,500
NF		13GR, 15GR	8.6	5x3x5	1,115	75	25	1,875
AV		60GR, 80GR	5.7	6x3x6	1,042	108	25	2,700

Container Packing Method



※ A, B, C : Accessory Packing Box

Pallet Packing Method



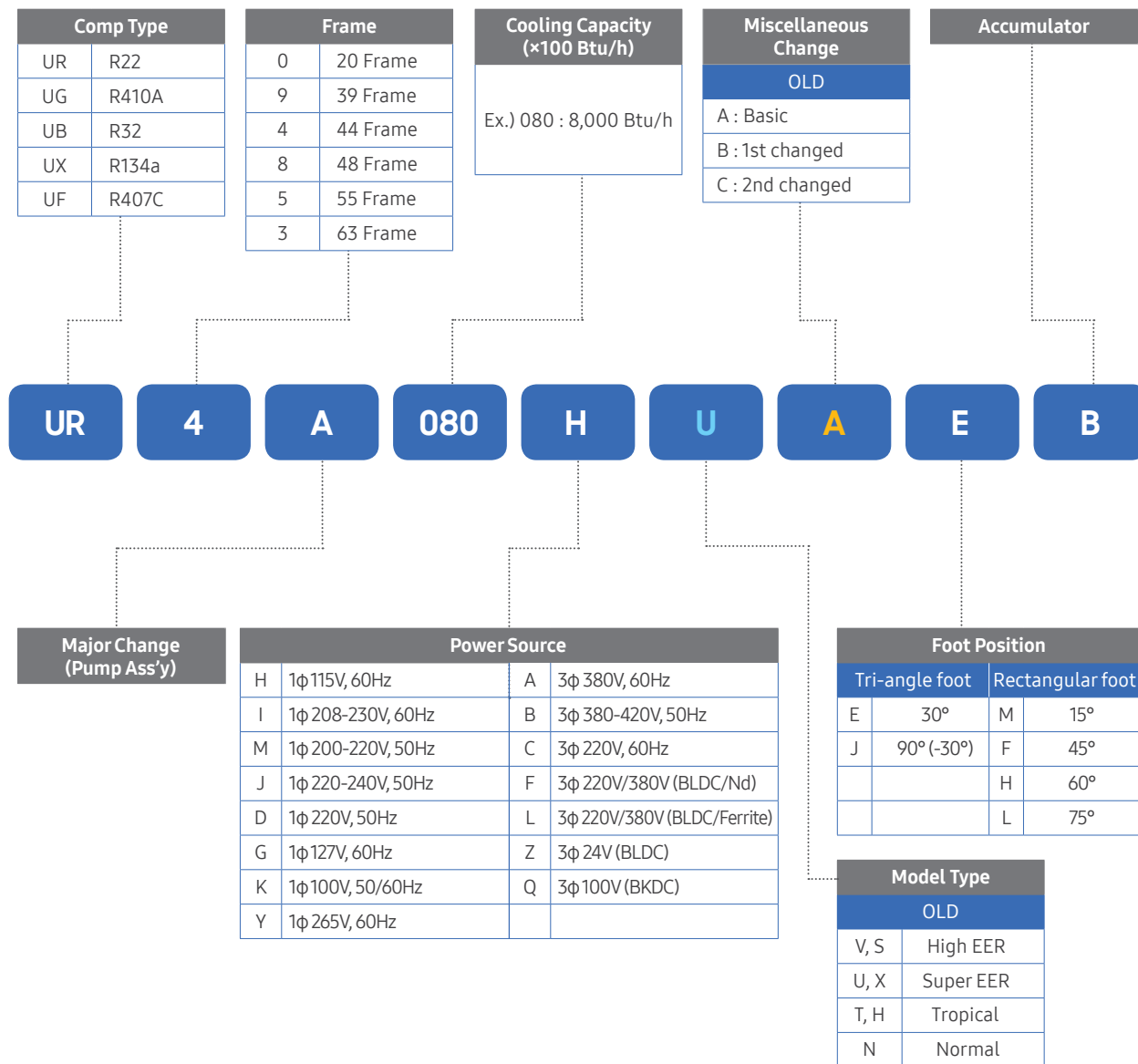
※ Pallet Size  
CD, A : 1,090(W)\*946(D)  
MS, MSV, NM, ENV, EV, NF, AV : 1,100(W)\*766(D)



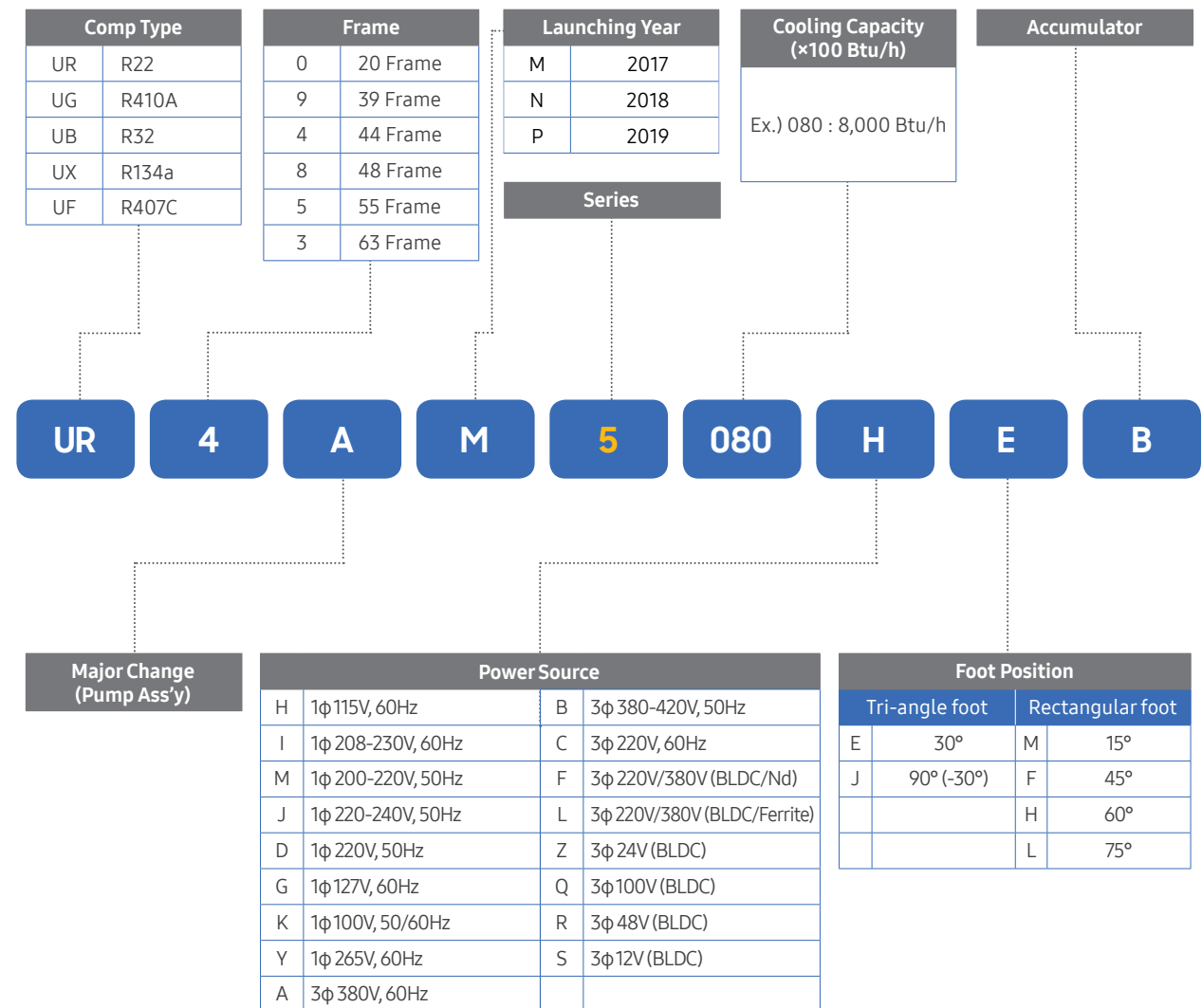
# Rotary Compressor MODEL IDENTIFICATION



## Rotary Compressor Ver. 01



## Rotary Compressor Ver. 02



# Rotary Compressor SPECIFICATIONS

## R 410A / 60Hz

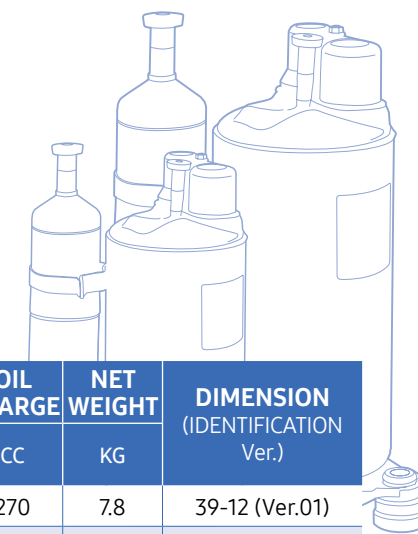
POWER SOURCE	MODEL	DISPLACEMENT		COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH	W/W	W	CC	KG		
1φ 115V	UG9C050HS	4.9	5,000	1,465	10.1	2.96	495	210	7.6	39-9 (Ver.01)	
	UG9C052HS	5.0	5,200	1,524	10.1	2.96	515	210	7.5	39-9 (Ver.01)	
	UG9C060HS	5.8	6,000	1,758	10.1	2.96	594	210	7.5	39-9 (Ver.01)	
	UG9C067HS	6.6	6,750	1,978	10.1	2.96	668	270	8.1	39-10 (Ver.01)	
	UG9C076HS	7.3	7,600	2,227	10.0	2.93	760	210	7.9	39-11 (Ver.01)	
	UG9C080HS	7.6	8,000	2,345	10.0	2.93	800	210	7.9	39-11 (Ver.01)	
	UG4A098HU	9.7	10,000	2,931	10.2	2.99	980	300	11.1	44-9 (Ver.01)	
	UG4A110HU	10.9	11,500	3,370	10.5	3.08	1,095	300	11.7	44-6 (Ver.01)	
	UG9C060IS	5.8	6,000	1,758	10.0	2.93	600	270	7.8	39-12 (Ver.01)	
UG9C067IS	6.6	6,750	1,978	10.2	3.00	660	210	7.9	39-11 (Ver.01)		
UG9C076IS	7.3	7,600	2,227	10.1	2.97	750	210	7.9	39-11 (Ver.01)		
UG9C080IS	7.6	7,800	2,286	10.1	2.97	770	210	7.9	39-11 (Ver.01)		
UG4C085IU	8.0	8,340	2,444	10.4	3.04	803	260	10.5	44-10 (Ver.01)		
UG4C090IU	8.9	9,000	2,638	10.3	3.02	874	260	10.5	44-11 (Ver.01)		
UG4A098IU	9.7	9,900	2,901	10.2	2.99	971	300	11.0	44-9 (Ver.01)		
UG4A102IU	10.3	10,900	3,194	10.4	3.05	1,048	300	11.2	44-9 (Ver.01)		
UG4A110IU	10.9	11,600	3,400	10.6	3.10	1,095	300	11.2	44-12 (Ver.01)		
UG4AH5110I	10.9	11,400	3,341	10.6	3.11	1,075	340	12.4	44-14 (Ver.02)		
UG4A124IU	11.5	12,050	3,532	10.2	2.99	1,180	300	11.3	44-9 (Ver.01)		
UG4B135IX	13.2	13,780	4,039	10.1	2.96	1,365	340	12.5	44-13 (Ver.01)		
UG4BK8147I	13.9	14,200	4,039	10.0	2.84	1,420	340	12.9	44-5 (Ver.02)		
UG4B147IX	13.9	14,850	4,352	10.1	2.96	1,470	340	12.2	44-13 (Ver.01)		
UG8CH5155I	15.2	16,100	4,718	10.7	3.14	1,505	540	16.7	48-8 (Ver.02)		
UG8C155IN	15.2	16,100	4,718	10.6	3.11	1,519	1,220	17.1	48-7 (Ver.01)		
UG8C180IU	17.0	18,100	5,305	10.6	3.11	1,708	540	15.5	48-6 (Ver.01)		
UG8CH5180I	17.0	18,100	5,305	10.8	3.17	1,676	540	16.6	48-8 (Ver.02)		
UG8C185IU	17.6	18,500	5,422	10.4	3.05	1,779	540	15.5	48-6 (Ver.01)		
UG8C200IN	19.0	20,400	5,979	10.6	3.11	1,925	540	15.4	48-6 (Ver.01)		
UG5CH5200I	19.3	20,400	5,979	10.5	3.08	1,943	800	21.7	55-8 (Ver.02)		
UG8CK8215I	21.0	22,000	6,448	10.2	2.99	2,157	540	16.6	48-8 (Ver.02)		
UG5A240IU	23.4	24,500	7,180	10.1	2.96	2,425	750	21.2	55-10 (Ver.01)		
UG5C250IN	23.9	25,300	7,415	10.7	3.14	2,365	1,220	23.9	55-9 (Ver.01)		
UG5C260IN	24.7	26,250	7,693	10.5	3.08	2,500	1,220	24.7	55-9 (Ver.01)		
UG5A280IU	27.2	28,600	8,382	10.2	2.97	2,820	750	21.3	55-10 (Ver.01)		
UG5A290IN	27.9	29,500	8,646	10.6	3.11	2,783	1,220	24.5	55-11 (Ver.01)		
UG5A300IU	29.3	30,600	8,968	10.0	2.93	3,060	750	21.3	55-10 (Ver.01)		
UG5DM8300I	28.1	30,300	8,880	10.9	3.20	2,779	1,300	24.2	55-11 (Ver.02)		

## R 410A / 60Hz

POWER SOURCE	MODEL	DISPLACEMENT		COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH	W/W	W	CC	KG		
1φ, 265V	UG9C060YS	5.8	6,000	1,758	10.0	2.93	600	270	7.8	39-12 (Ver.01)	
	UG9C067YS	6.6	6,750	1,978	9.9	2.89	685	210	7.5	39-9 (Ver.01)	
	UG9C076YS	7.3	7,600	2,227	10.2	2.99	745	270	8.1	39-11 (Ver.01)	
	UG4C085YU	8.0	8,100	2,374	10.2	2.99	794	320	10.7	44-10 (Ver.01)	
	UG4A102YU	10.3	10,850	3,180	10.5	3.08	1,033	340	11.3	44-12 (Ver.01)	
	UG4A110YU	10.9	11,450	3,356	10.5	3.08	1,090	340	11.3	44-12 (Ver.01)	
	UG4A124YU	11.5	12,050	3,532	10.5	3.08	1,145	300	11.3	44-9 (Ver.01)	
	UG4B147YX	13.9	14,800	4,337	10.3	3.02	1,435	340	12.5	44-13 (Ver.01)	

## R 410A / 50Hz

POWER SOURCE	MODEL	DISPLACEMENT		COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH	W/W	W	CC	KG		
1φ, 220-240V	UG4C065JN	8.0	6,800	1,993	9.9	2.90	687	260	10.4	44-15 (Ver.01)	
	UG4B124JX	14.1	12,000	3,517	9.5	2.78	1,263	340	12.2	44-5 (Ver.01)	
	UG8C124JU	15.2	12,900	3,781	10.2	2.99	1,265	540	15.4	48-9 (Ver.01)	
1φ, 220V	UG9CH8037D	4.4	3,730	1,093	10.0	2.93	373	210	8.4	39-13 (Ver.02)	
	UG4AH8080D	9.7	8,200	2,403	10.4	3.05	788	300	12.2	44-4 (Ver.02)	
	UG4AK5080D	9.7	8,150	2,403	10.2	2.99	788	300	12.2	44-4 (Ver.02)	
	UG4A091DN	10.9	9,300	2,726	10.0	2.93	930	300	11.6	44-4 (Ver.01)	
	UG8CH8110D	13.3	11,500	3,370	10.5	3.08	1,095	540	16.0	48-4 (Ver.02)	
	UG8CH8165D	19.0	16,600	4,865	10.4	3.05	1,596	540	16.7	48-8 (Ver.02)	
	UG8CH8180D	21.0	18,500	5,422	10.5	3.08	1,762	540	16.8	48-8 (Ver.02)	
	UG8D185DN	21.7	18,950	5,554	10.2	2.99	1,860	550	16.6	48-3 (Ver.01)	
	UG5CH8215D	24.7	21,400	6,272	10.6	3.10	2,020	800	22.7	55-12 (Ver.02)	
	UG5A240DN	27.9	24,100	7,063	9.9	2.90	2,435	750	21.7	55-2 (Ver.01)	



# Rotary Compressor SPECIFICATIONS

## R 410A BLDC / Twin

POWER SOURCE	MODEL	DISPLACEMENT		COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH						
BLDC (Twin Pump, Nd)	UG9TN8128FE4	12.8	13,000	3,810	11.8	3.46	1,102	380	9.3	39-14 (Ver.02)	
	UG9TK2150F	15.1	15,600	4,572	11.6	3.40	1,345	570	9.6	39-25 (Ver.02)	
	UG9TK3150F	15.1	15,600	4,572	11.4	3.34	1,368	500	8.7	39-26 (Ver.02)	
	UG9TK5150F	15.1	15,600	4,572	11.6	3.40	1,345	570	9.3	39-27 (Ver.02)	
	UG9TN8150FE4	15.1	15,600	4,572	12.0	3.52	1,300	500	9.8	39-16 (Ver.02)	
	UG4T135FUA	13.1	13,200	3,869	11.1	3.25	1,189	500	10.4	44-18 (Ver.01)	
	UG4T150FUA	15.0	15,200	4,455	11.1	3.25	1,369	500	10.4	44-18 (Ver.01)	
	UG4T150FUC	15.0	15,200	4,455	11.0	3.22	1,380	500	10.4	44-18 (Ver.01)	
	UG4T150FUD	15.0	15,200	4,455	11.1	3.25	1,369	650	10.5	44-18 (Ver.01)	
	UG4TJ5150F	15.0	16,000	4,689	11.3	3.31	1,416	500	10.1	44-21 (Ver.02)	
	UG4T200FUA	19.5	20,200	5,920	11.3	3.31	1,788	650	11.2	44-19 (Ver.01)	
	UG4TH8200F	19.5	20,500	6,008	11.6	3.40	1,767	650	11.5	44-20 (Ver.02)	
	UG8T260FUA	25.2	26,500	7,766	10.8	3.17	2,454	700	14.5	48-13 (Ver.01)	
	UG8T265FUA	25.2	26,500	7,766	11.0	3.22	2,409	700	14.5	48-14 (Ver.01)	
	UG8TH8265F	25.2	26,700	7,825	11.7	3.43	2,282	700	15.1	48-15 (Ver.02)	
	UG8TM1265F	25.2	26,700	7,830	11.1	3.26	2,405	1,200	16.5	48-20 (Ver.02)	
	UG8TM5265F	25.2	26,700	7,830	11.4	3.34	2,342	1,200	16.5	48-21 (Ver.02)	
	UG8T300FUA	30.0	31,300	9,173	11.1	3.25	2,820	750	14.6	48-16 (Ver.01)	
	UG8T300FUB	30.0	31,300	9,173	11.1	3.25	2,820	1,200	16.5	48-17 (Ver.01)	
	UG8T300FUC	30.0	31,300	9,173	11.1	3.25	2,820	1,200	16.5	48-17 (Ver.01)	
	UG8TK8300F	30.0	31,300	9,173	11.6	3.40	2,698	1,200	17.0	48-19 (Ver.02)	
	UG8TM3300F	30.0	31,300	9,179	11.1	3.70	2,820	1,200	17.0	48-22 (Ver.02)	
	UG5T360FUA	35.1	37,500	10,990	11.0	3.22	3,409	1,100	20.5	55-17 (Ver.01)	
	UG5T360FUE	35.1	37,500	10,990	11.0	3.22	3,409	1,700	21.6	55-18 (Ver.01)	
	UG5T450FUA	43.0	46,500	13,628	11.3	3.31	4,115	1,100	21.4	55-19 (Ver.01)	
	UG5T450FUE	43.0	46,500	13,628	11.3	3.31	4,115	1,700	23.0	55-20 (Ver.01)	
	UG5T450FUF	43.0	46,500	13,628	11.3	3.31	4,115	1,700	23.0	55-20 (Ver.01)	
	UG5T450FXA	43.0	46,500	13,628	11.6	3.40	4,009	1,700	23.8	55-21 (Ver.01)	
UG5TK1450F	43.0	46,500	13,628	11.1	3.25	4,189	1,700	19.8	55-22 (Ver.02)		
UG5TK5450F	43.0	46,500	13,628	11.3	3.31	4,115	1,700	20.6	55-22 (Ver.02)		
UG5TJ8450F	43.0	46,500	13,628	11.6	3.40	4,009	1,700	22.7	55-20 (Ver.02)		
UG5T520FUB	49.4	54,000	15,826	11.3	3.31	4,779	1,700	24.7	55-21 (Ver.01)		
UG5TM5520F	49.4	54,000	15,836	11.2	3.28	4,821	1,700	20.6	55-23 (Ver.02)		
UG5TK8520F	49.4	54,000	15,826	11.4	3.34	4,737	1,700	22.7	55-20 (Ver.02)		

## R 410A BLDC / Single & Twin

POWER SOURCE	MODEL	DISPLACEMENT		COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH						
BLDC (Single Pump, Nd)	UG9CK1072F	7.3	7,250	2,125	11.1	3.25	653	300	6.2	39-24 (Ver.02)	
	UG9AJ1090F	9.0	9,200	2,696	11.2	3.28	821	320	6.5	39-22 (Ver.02)	
	UG9AJ3090F	9.0	9,200	2,696	11.5	3.37	800	320	7.1	39-23 (Ver.02)	
	UG9AJ5090F	9.0	9,200	2,696	11.7	3.43	786	350	7.5	39-1 (Ver.02)	
BLDC (Twin Pump, Ferrite)	UG4T150LNB	15.0	15,200	4,455	10.9	3.19	1,395	500	11.3	44-21 (Ver.01)	
	UG4T200LNE	19.5	20,500	6,008	11.2	3.28	1,830	650	12.4	44-22 (Ver.01)	
	UG4T200LNF	19.5	20,500	6,008	11.2	3.28	1,830	700	12.4	44-22 (Ver.01)	
	UG8T300LNB	30.0	31,300	9,173	11.0	3.22	2,845	1,200	16.6	48-18 (Ver.01)	

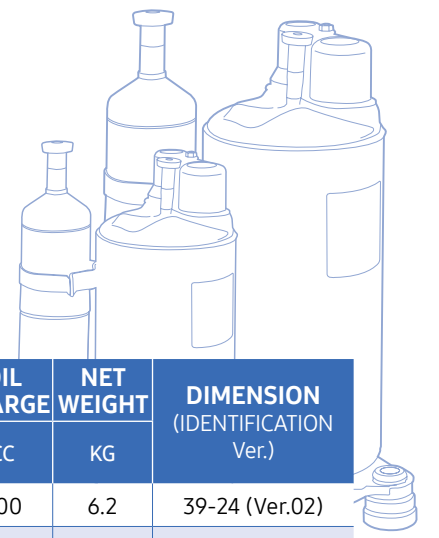
## R 32 BLDC / Single & Twin

POWER SOURCE	MODEL	DISPLACEMENT		COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH						
BLDC (Single Pump, Nd)	UB9CK1072F	7.3	7,450	2,183	10.8	3.16	690	300	6.2	39-24 (Ver.02)	
	UB9AK1090F	9.0	9,350	2,740	10.9	3.19	858	320	6.5	39-22 (Ver.02)	
	UB9AK5090F	9.0	9,350	2,740	11.3	3.31	827	320	7.5	39-23 (Ver.02)	
BLDC (Twin Pump, Nd)	UB9TN8128F	12.8	13,400	3,927	11.4	3.34	1,175	380	9.3	39-14 (Ver.02)	
	UB9TK2150F	15.1	16,000	4,689	11.3	3.31	1,416	570	9.6	39-25 (Ver.02)	
	UB9TK3150F	15.1	16,000	4,689	11.1	3.25	1,441	500	8.7	39-26 (Ver.02)	

### Rotary Inverter



### EHS

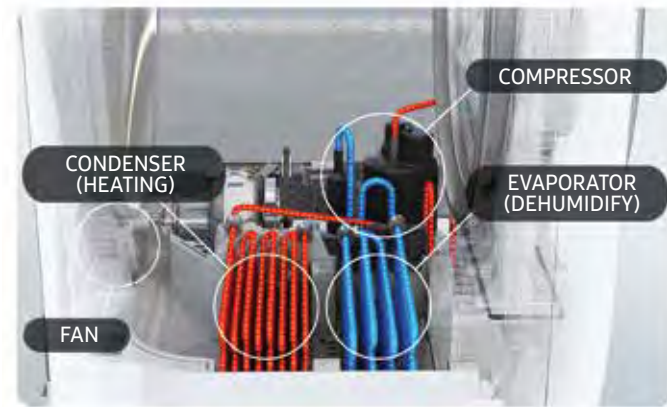




# Rotary Compressor SPECIFICATIONS

## R 134a BLDC / Single & Twin

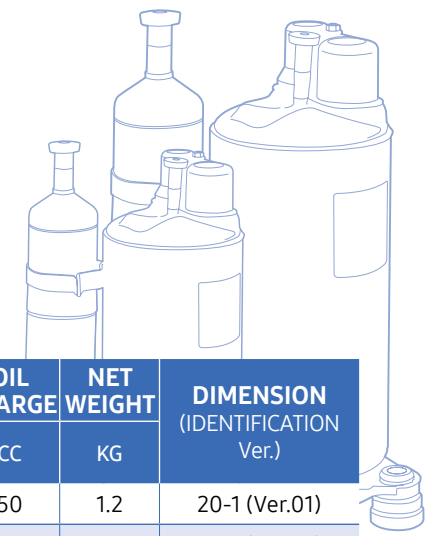
POWER SOURCE	MODEL	DISPLACEMENT		COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH						
BLDC (Twin Pump,Nd)	UX8TH5140F	30.0	14,500	4,250	12.0	3.51	1,210	1,200	16.4	48-17 (Ver.02)	
	UX5T250FNB	49.4	24,800	7,268	12.1	3.55	2,050	1,700	24	55-21 (Ver.01)	
BLDC (Single Pump,Nd)	UX9CJ5034Z	7.3	3,480	1,020	11.2	3.28	311	210	4.3	39-28 (Ver.02)	
	UX9CK5034F	7.3	3,480	1,020	12.2	3.52	285	270	4.7	39-21 (Ver.02)	
	UX4AK5055Z	11.5	5,450	1,597	10.8	3.16	505	300	6.0	44-23 (Ver.02)	



# Mini Rotary Compressor SPECIFICATIONS

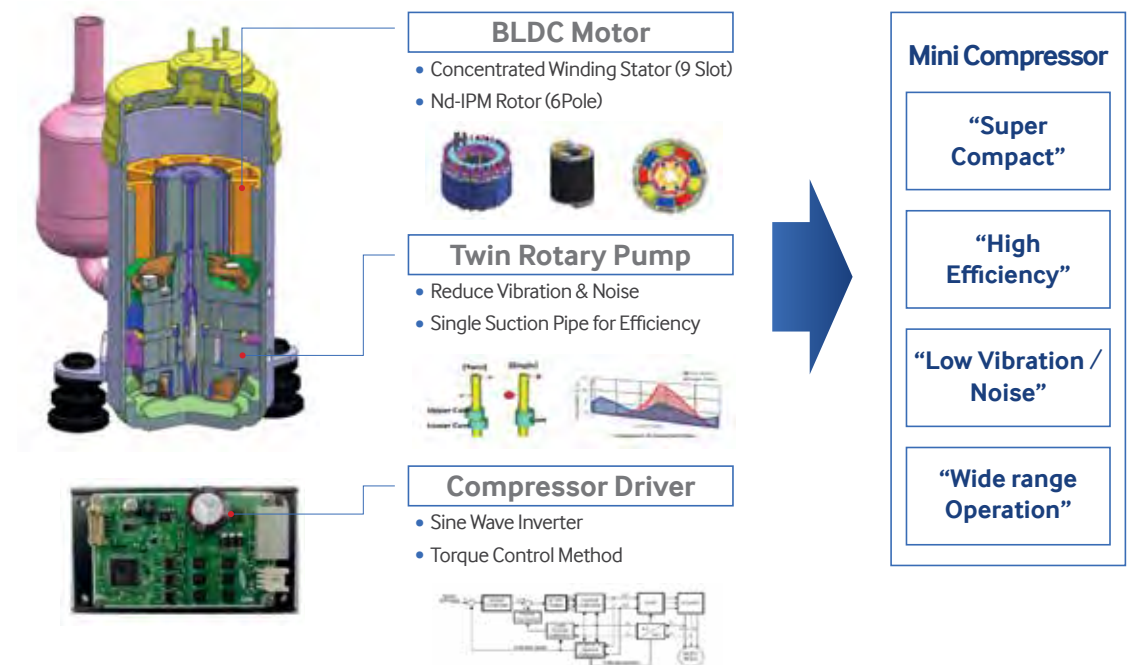
## R 134a | BLDC (Mini Rotary)

POWER SOURCE	MODEL	DISPLACEMENT		COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH						
DC24V	UX0T011ZNA	2.4	1,100	322	9.7	2.85	113	50	1.2	20-1 (Ver.01)	
AC220V	UX0T011FNA	2.4	1,100	322	10.0	2.93	110	50	1.2	20-1 (Ver.01)	
AC100V	UX0T011QNA	2.4	1,100	322	10.0	2.93	110	50	1.2	20-1 (Ver.01)	
AC220V	UX0AK5007F	1.4	650	190	9.4	2.75	69	40	1.0	20-2 (Ver.02)	
DC24V	UX0AK5007Z	1.4	650	190	9.4	2.75	69	40	1.0	20-2 (Ver.02)	



## BASIC STRUCTURE

Mini Compressor is Compact and provide the Outstanding Performance



## APPLICATIONS

**Portable Refrigerator**

- Car Refrigerator
- Marine Refrigerator
- Water Purifier
- Wine Cellar

**Personal Cooler**

- Personal A/C
- Toilet A/C
- Desk Top Cooler
- Kitchen Cooler

**Dryer/Washer**

- Front Load Washer
- Top Load Washer
- Wardrobe Dehumidifier
- Dehumidifier

**Wearable Cooler**

- Cooling Jacket
- Cooling Military Uniform
- Medical Cooler

# Rotary Compressor SPECIFICATIONS

## R 22 / 60Hz

POWER SOURCE	MODEL	DISPLACEMENT	COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH	W/W	W	CC	KG	
1Φ, 115V	UR9C052HS	7.6	5,300	1,553	10.8	3.16	491	210	7.3	39-1 (Ver.01)
	UR9B072HS	10.2	7,050	2,066	10.6	3.11	665	230	8.1	39-2 (Ver.01)
	UR9B080HS	11.3	8,000	2,345	10.6	3.11	755	230	8.3	39-3 (Ver.01)
	UR4A092HU	13.2	9,350	2,740	10.7	3.14	874	300	10.2	44-1 (Ver.01)
	UR4B117HX	16.6	11,900	3,488	10.7	3.14	1,112	340	11.9	44-2 (Ver.01)
1Φ, 208-230V	UR9A052IS	7.6	5,300	1,553	10.6	3.11	500	210	7.5	39-4 (Ver.01)
	UR9B068IS	9.6	6,700	1,964	10.7	3.14	626	230	8.4	39-5 (Ver.01)
	UR9B072IS	10.2	7,100	2,081	10.5	3.07	677	230	8.4	39-6 (Ver.01)
	UR9B080IS	11.3	8,000	2,345	10.7	3.13	748	230	8.4	39-3 (Ver.01)
	UR4AH5092I	13.2	9,400	2,755	10.6	3.11	886	300	11.1	44-3 (Ver.02)
	UR4A098IN	14.1	10,260	3,007	10.8	3.17	950	300	11.1	44-4 (Ver.01)
	UR4B110IX	16.1	11,500	3,370	10.7	3.14	1,075	340	12.1	44-5 (Ver.01)
	UR4BJ5117I	16.6	11,800	3,458	10.6	3.11	1,113	340	12.1	44-5 (Ver.02)
	UR4B124IX	17.6	12,650	3,707	10.6	3.11	1,193	300	12.1	44-5 (Ver.01)
	UR4B135IX	18.7	13,400	3,927	10.5	3.08	1,276	340	11.8	44-2 (Ver.01)
	UR8C155IU	21.7	15,800	4,631	10.9	3.19	1,450	540	15.1	48-1 (Ver.01)
	UR8C172IN	24.0	17,500	5,129	10.9	3.19	1,606	540	15.6	48-2 (Ver.01)
	UR8D185IN	25.8	18,700	5,480	10.7	3.14	1,748	550	16.2	48-3 (Ver.01)
	UR5A220IN	30.6	22,500	6,594	10.9	3.19	2,065	500	21.1	55-1 (Ver.01)
	UR5A240IN	33.4	25,000	7,327	10.9	3.20	2,293	750	21.6	55-1,2 (Ver.01)
	UR5A280IU	39.0	29,500	8,646	11.0	3.23	2,680	800	21.8	55-4 (Ver.01)
	UR5A300IU	41.8	31,500	9,232	10.9	3.19	2,890	800	21.8	55-4 (Ver.01)

## R 22 / 50Hz

POWER SOURCE	MODEL	DISPLACEMENT	COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH	W/W	W	CC	KG	
1Φ, 220-240V	UR9A052JS	9.0	5,200	1,524	10.2	2.99	510	210	7.7	39-7 (Ver.01)
	UR5A250JN	41.8	25,600	7,503	10.6	3.11	2,415	800	22.5	55-5 (Ver.01)
1Φ, 220V	UR9CJ1037D	6.6	3,640	1,067	9.3	2.73	391	210	6.8	39-29 (Ver.02)
	UR9C037DS	6.6	3,700	1,084	10.1	2.97	365	210	7.7	39-8 (Ver.01)
	UR9BJ1066D	6.6	6,350	1,861	8.5	2.49	747	230	7.4	39-2 (Ver.02)
	UR9B066DS	11.3	6,400	1,876	9.9	2.91	645	230	8.1	39-5 (Ver.01)
	UR4A080DN	14.1	8,300	2,432	11.0	3.22	755	300	11.5	44-4 (Ver.01)
	UR4AK5080D	14.1	8,300	2,432	10.6	3.11	790	300	11.5	44-4 (Ver.02)

## R 22 / 50Hz

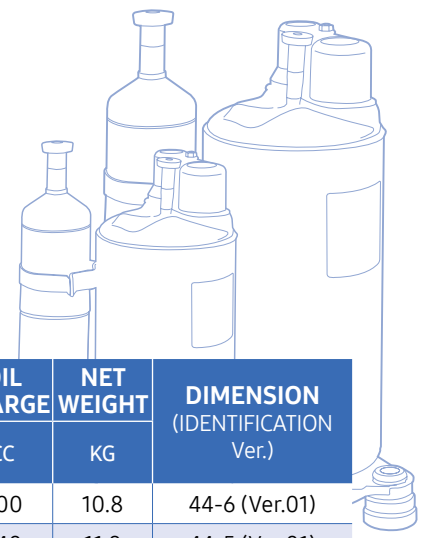
POWER SOURCE	MODEL	DISPLACEMENT	COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH	W/W	W	CC	KG	
1Φ, 220V	UR4A085DU	15.0	8,900	2,608	10.3	3.02	864	300	10.8	44-6 (Ver.01)
	UR4B098DX	16.6	9,700	2,843	10.3	3.02	940	340	11.8	44-5 (Ver.01)
	UR4D115DN	19.8	11,400	3,341	10.6	3.11	1,075	380	12.6	44-7 (Ver.01)
	UR4D124DX	21.0	12,200	3,575	10.5	3.08	1,161	450	12.8	44-8 (Ver.01)
	UR8C110DN	19.0	11,350	3,326	11.0	3.22	1,032	540	15.5	48-4 (Ver.01)
	UR8C129DN	21.7	12,900	3,781	10.8	3.17	1,194	540	15.5	48-4 (Ver.01)
	UR8B170DN	28.8	17,200	5,041	10.8	3.16	1,593	550	16.8	48-5 (Ver.01)
	UR8BK5170D	28.8	16,800	4,924	10.8	3.17	1,556	550	17.3	48-10 (Ver.01)
	UR8B180DU	30.4	18,100	5,305	10.5	3.08	1,724	550	16.8	48-5 (Ver.01)
	UR8B200DU	32.5	19,400	5,686	10.6	3.11	1,830	550	16.7	48-5 (Ver.01)
	UR5A215DN	36.2	21,800	6,389	11.2	3.28	1,945	750	22.0	55-6 (Ver.01)
	UR5A260DN	44.6	27,000	7,913	10.4	3.04	2,600	800	22.6	55-7 (Ver.01)

## R 22 / 60Hz | Tropical (UTR-Ultra Tropical Rotary)

POWER SOURCE	MODEL	DISPLACEMENT	COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH	W/W	W	CC	KG	
1Φ, 208-230V	UR4B124IT	17.6	12,650	3,707	10.3	3.02	1,228	320	11.8	44-2 (Ver.01)
	UR4B135IT	18.7	13,500	3,956	10.3	3.02	1,310	340	11.8	44-13 (Ver.01)
	UR8D190IH	26.6	19,500	5,715	10.5	3.08	1,858	550	16.0	48-3 (Ver.01)
	UR8D200IH	27.8	20,700	6,067	10.4	3.05	1,990	550	16.0	48-3 (Ver.01)
	UR5A240IH	33.4	25,000	7,327	11.1	3.25	2,252	500/750	21.6/22.0	55-2 (Ver.01)
	UR5A260IH	36.2	27,600	8,089	10.4	3.05	2,654	750	21.6	55-2 (Ver.01)

## R 22 / 50Hz | Tropical (UTR-Ultra Tropical Rotary)

POWER SOURCE	MODEL	DISPLACEMENT	COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH	W/W	W	CC	KG	
1Φ, 220-240V	UR4B092JT	16.1	9,300	2,726	10.0	2.93	930	340	11.8	44-2 (Ver.01)
	UR4D124JH	21.0	12,400	3,634	9.7	2.84	1,278	380	12.7	44-7 (Ver.01)
	UR4D129JT	21.7	12,800	3,751	9.6	2.81	1,333	380	12.7	44-16 (Ver.01)
	UR8B180JH	30.4	18,400	5,393	9.4	2.76	1,957	550	16.4	48-10 (Ver.01)
	UR8B200JT	32.5	19,500	5,715	9.3	2.73	2,097	550	16.5	48-11 (Ver.01)
	UR8D165JH	27.8	16,500	4,836	10.2	2.99	1,618	550	16.5	48-12 (Ver.01)
	UR5A250JH	41.8	25,300	7,415	10.1	2.97	2,500	550/800	22.3/22.6	55-5 (Ver.01)



# Rotary Compressor

## SPECIFICATIONS

### R 22 / 60Hz (Twin) | Large Volume (Turbo Single & Twin Rotary)

POWER SOURCE	MODEL	DISPLACEMENT		COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH						
1Φ, 208-230V	UR5T360IU	49.4	36,500	10,697	10.9	3.19	3,349	900	23.9	55-13 (Ver.01)	
3Φ, 380-440V	UR3T480AU	65.8	49,850	14,610	11.2	3.28	4,450	1,700	33.5	63-1 (Ver.01)	
	UR3T550AT	72.6	55,500	16,265	11.0	3.23	5,040	1,700	34.3	63-2 (Ver.01)	
3Φ, 220V	UR3T480CT	65.8	49,850	14,610	10.8	3.17	4,615	1,700	33.5	63-1 (Ver.01)	
	UR3T550CT	72.6	55,500	16,265	11.0	3.23	5,040	1,700	34.0	63-2 (Ver.01)	

### R 22 / 60Hz (Single) | Large Volume (Turbo Single & Twin Rotary)

POWER SOURCE	MODEL	DISPLACEMENT		COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH						
3Φ, 380V	UR3AK5360A	45.8	35,200	3,260	11.0	3.23	3,200	1,600	31.1	63-4 (Ver.02)	

### R 22 / 50Hz (Twin) | Large Volume (Turbo Single & Twin Rotary)

POWER SOURCE	MODEL	DISPLACEMENT		COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH						
1Φ, 220-240V	UR5T300JT	49.4	29,650	8,690	9.8	2.87	3,025	950	24.0	55-13 (Ver.01)	
3Φ, 380-420V	UR3T480BU	78.6	48,500	14,214	10.9	3.19	4,450	1,700	34.1	63-2 (Ver.01)	
	UR3T510BU	83.6	51,500	15,093	10.9	3.19	4,725	1,700	34.0	63-2 (Ver.01)	
	UR3T510BT	83.6	51,900	15,210	10.9	3.20	4,760	1,900	34.2	63-2 (Ver.01)	

### R 410A / 60Hz (Twin) | Large Volume (Turbo Single & Twin Rotary)

POWER SOURCE	MODEL	DISPLACEMENT		COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH						
1Φ, 208-230V	UG5T320IU	30.6	32,500	9,525	10.3	3.02	3,155	1,500	26.8	55-15 (Ver.01)	
	UG5T360IN	35.1	37,000	10,844	9.8	2.87	3,776	1,500	25.9	55-16 (Ver.01)	
3Φ, 380-440V	UG3T480AN	46.3	49,600	14,536	10.2	2.99	4,865	1,700	35.3	63-3 (Ver.01)	
	UG3T650AN	61.4	66,500	19,489	10.1	2.96	6,585	1,700	35.3	63-3 (Ver.01)	
3Φ, 220V	UG3T480CN	46.3	49,300	14,448	10.1	2.96	4,880	1,700	35.2	63-3 (Ver.01)	
	UG3T650CN	61.4	65,350	19,152	9.9	2.90	6,600	1,700	34.8	63-3 (Ver.01)	

### R 410A / 50Hz (Single) | Large Volume (Turbo Single & Twin Rotary)

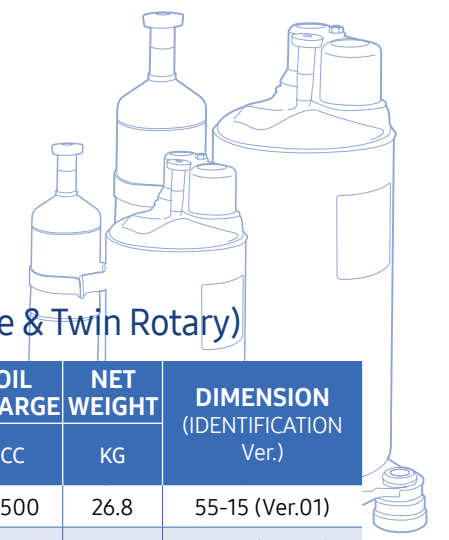
POWER SOURCE	MODEL	DISPLACEMENT		COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH						
3Φ, 380-420V	UG3AK5415B	44.8	40,000	3,883	10.5	3.08	3,810	1,600	32.0	63-5 (Ver.02)	

### R 134a / 60Hz | Tropical (UTR-Ultra Tropical Rotary)

POWER SOURCE	MODEL	DISPLACEMENT		COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH						
1Φ, 115V	UX9BJ6056H	11.3	5,780	1,694	10.8	3.17	535	230	8.3	39-11 (Ver.02)	
1Φ, 208-230V	UX9AK2040I	8.1	4,000	1,172	10.4	3.05	385	210	7.7	39-30 (Ver.02)	

### R 134a / 50Hz | Tropical (UTR-Ultra Tropical Rotary)

POWER SOURCE	MODEL	DISPLACEMENT		COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH						
1Φ, 220V	UX9BK1042D	10.2	4,170	1,222	8.5	2.49	491	210	7.6	39-2 (Ver.02)	
1Φ, 220-240V	UX9AK2037J	9.0	3,650	1,070	10.1	2.96	360	210	7.7	39-30 (Ver.02)	
	UX9BJ2042J	10.2	4,260	1,248	10.2	2.99	418	250	8.2	39-2 (Ver.02)	
	UX9B042JH	10.2	4,260	1,248	10.4	3.05	410	250	8.4	39-3 (Ver.01)	





# Rotary Compressor

## DIMENSION

### 39 Frame

(UNIT:mm)

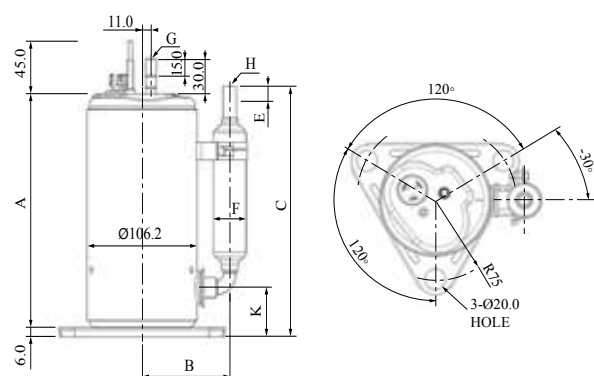
Type	A	B	C	E	F	G	H	K
39-1	190.3	84.6	201.6	10.0	31.8	8.15	9.64	28.8
39-2	206.9	86.5	227.3	15.0	41.3	8.15	9.64	37.0
39-3	212.9	84.6	209.8	10.0	31.8	8.15	9.64	37.0
39-4	193.3	86.5	220.6	15.0	41.3	8.15	9.64	30.3
39-5	212.9	86.5	227.3	15.0	41.3	8.15	9.64	37.0
39-6	218.9	86.5	227.3	15.0	41.3	8.15	9.64	37.0
39-7	197.3	84.6	203.1	10.0	31.8	8.15	9.64	30.3
39-8	200.3	86.5	219.1	15.0	41.3	8.15	9.64	28.8
39-9	194.3	84.6	201.6	10.0	31.8	8.15	9.64	28.8
39-10	207.8	86.5	226.6	15.0	41.3	8.15	9.64	36.3
39-11	200.3	84.6	201.6	10.0	31.8	8.15	9.64	28.8
39-12	201.8	86.5	226.6	15.0	41.3	8.15	9.64	36.3
39-13	206.3	86.5	219.1	15.0	41.3	8.15	9.64	28.8
39-14	283.7	97.2	303.1	15.0	77.4	8.15	12.85	42.5
39-15	237.3	97.2	253.3	15.0	77.4	8.15	12.85	36.3
39-16	246.5	97.2	261.0	15.0	77.4	8.15	12.85	44.0
39-17	261.5	87.9	267.0	15.0	58.4	8.15	12.85	44.0
39-18	236.5	87.9	267.0	15.0	58.4	8.15	12.85	44.0
39-19	245.9	97.2	267.7	15.0	77.4	8.15	12.85	50.7
39-20	223.7	87.9	259.3	15.0	58.4	8.15	12.85	36.3
39-21	174.3	84.6	151.0	10.0	31.8	8.15	9.64	36.3
39-22	226.5	97.2	261.0	15.0	77.4	8.15	12.85	44.0
39-23	236.5	97.2	261.0	15.0	77.4	8.15	12.85	44.0
39-24	223.5	87.9	263.7	15.0	58.4	8.15	12.85	42.5
39-25	292.7	97.2	329.6	15.0	77.0	8.15	12.85	56.1
39-26	277.7	97.2	329.6	15.0	77.0	8.15	12.85	56.1
39-27	287.7	97.7	329.6	15.0	77.0	8.15	12.85	56.1
39-28	139.8	84.6	143.5	10.0	31.8	8.15	9.64	28.8
39-29	190.3	86.5	219.1	15.0	41.3	8.15	9.64	28.8
39-30	193.3	84.6	203.1	10.0	31.8	8.15	9.64	30.3

### 44 Frame

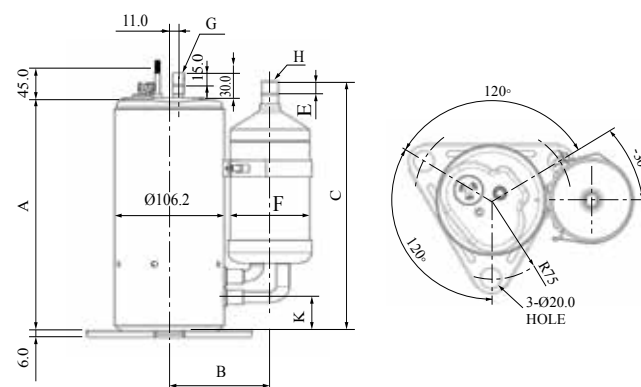
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Type	A	B	C	E	F	G	H	K
44-1	215.1	93.7	251.6	15.0	58.4	8.15	12.85	28.6
44-2	240.7	93.7	274.0	15.0	58.4	8.15	12.85	37.0
44-3	240.1	93.7	249.8	15.0	58.4	8.15	9.64	28.6
44-4	240.1	93.7	251.6	15.0	58.4	8.15	12.85	28.6
44-5	252.7	93.7	274.0	15.0	58.4	8.15	12.85	37.0
44-6	235.1	93.7	251.6	15.0	58.4	8.15	12.85	28.6
44-7	257.4	93.7	276.2	15.0	58.4	8.15	12.85	39.2
44-8	270.8	93.7	289.6	15.0	58.4	8.15	12.85	52.6
44-9	226.1	93.7	251.6	15.0	58.4	8.15	12.85	28.6
44-10	222.8	93.7	257.3	15.0	58.4	8.15	12.85	34.3
44-11	215.1	95.9	231.1	15.0	47.6	8.15	12.85	26.6
44-12	233.2	93.7	258.7	15.0	58.4	8.15	12.85	35.7
44-13	247.7	93.7	274.0	15.0	58.4	8.15	12.85	37.0
44-14	247.2	102.6	252.7	15.0	77.4	8.15	12.85	35.7
44-15	222.1	92.1	216.9	15.0	41.3	8.15	9.64	26.6
44-16	252.4	93.7	276.2	15.0	58.4	8.15	12.85	39.2
44-17	243.2	102.6	294.9	15.0	77.0	8.15	12.85	34.3
44-18	246.5	102.6	308.2	15.0	77.0	8.15	12.85	47.6
44-19	259.5	102.6	322.2	15.0	77.0	8.15	12.85	49.0
44-20	264.5	102.6	322.2	15.0	77.0	8.15	12.85	49.0
44-21	263.5	102.6	308.2	15.0	77.0	8.15	12.85	47.6
44-22	281.0	102.6	322.2	15.0	77.0	8.15	12.85	49.0
44-23	152.6	93.7	190.6	15.0	58.4	8.15	12.85	28.6

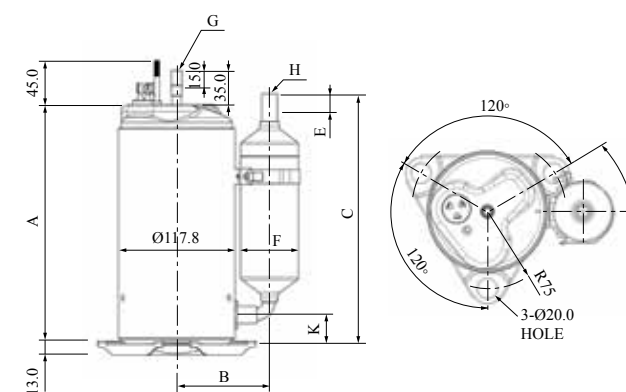
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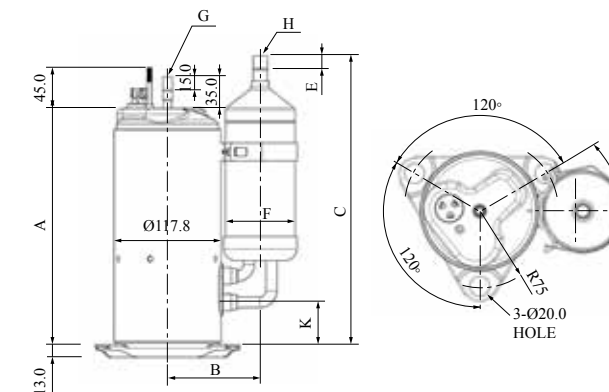
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< 44 Frame Single >



< 44 Frame Twin >



# Rotary Compressor

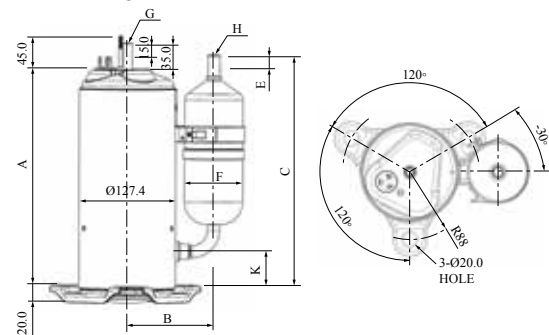
## DIMENSION

### 48 Frame

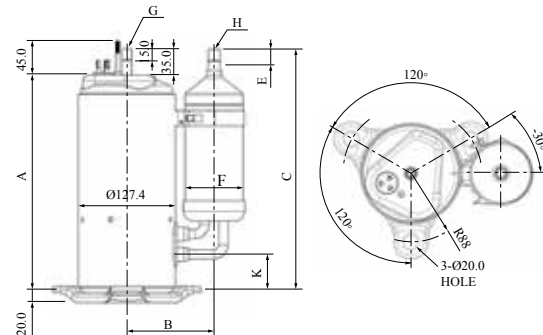
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Type	A	B	C	E	F	G	H	K
48-1	285.8	98.0	285.4	15.0	58.4	9.70	12.85	48.4
48-2	285.8	114.5	308.4	15.0	77.4	9.70	12.85	48.4
48-3	300.3	114.5	310.6	15.0	77.4	9.70	12.85	50.6
48-4	295.8	98.0	285.4	15.0	58.4	9.70	12.85	48.4
48-5	301.3	114.5	310.6	15.0	77.4	9.70	12.85	50.2
48-6	275.8	114.5	308.4	15.0	77.4	9.70	12.85	48.4
48-7	342.0	114.5	369.6	15.0	77.4	9.70	12.85	109.6
48-8	290.8	114.5	308.4	15.0	77.4	9.70	12.85	48.4
48-9	275.8	98.0	285.4	15.0	58.4	9.70	12.85	48.4
48-10	306.3	114.5	310.6	15.0	77.4	9.70	12.85	50.2
48-11	291.3	114.5	310.6	15.0	77.4	9.70	12.85	50.2
48-12	295.3	114.5	310.6	15.0	77.4	9.70	12.85	50.6
48-13	266.1	115.2	316.0	15.0	77.0	9.70	12.85	44.5
48-14	271.1	115.2	316.0	15.0	77.0	9.70	12.85	44.5
48-15	281.1	115.2	316.0	15.0	77.0	9.70	12.85	44.5
48-16	286.1	115.2	329.9	15.0	77.0	9.70	12.85	47.8
48-17	325.0	115.2	368.8	15.0	77.0	9.70	12.85	86.8
48-18	332.5	115.2	368.8	15.0	77.0	9.70	12.85	86.8
48-19	355.0	115.2	368.8	15.0	77.0	9.70	12.85	86.8
48-20	246.1	115.2	316.0	15.0	77.0	9.70	12.85	44.5
48-21	256.1	115.2	316.0	15.0	77.0	9.70	12.85	44.5
48-22	325.0	115.2	368.8	15.0	77.0	9.70	12.85	86.8

< 48 Frame Single >



< 48 Frame Twin >

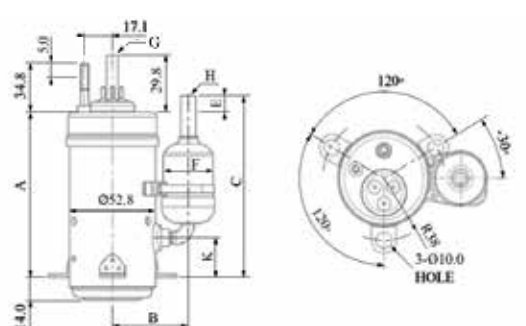


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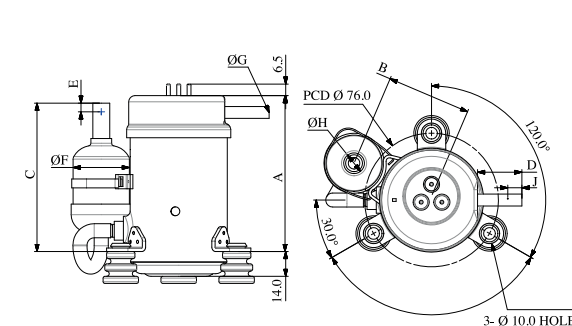
(UNIT:mm)

Type	A	B	C	D	E	F	G	H	J	K
20-1	101.3	48.4	111.3	-	5.0	31.8	4.95	6.54	-	24.3
20-2	85.2	48.4	84.6	25.0	5.0	-	-	6.54	5.00	12.5

< Discharge Type I >



< Discharge Type II >

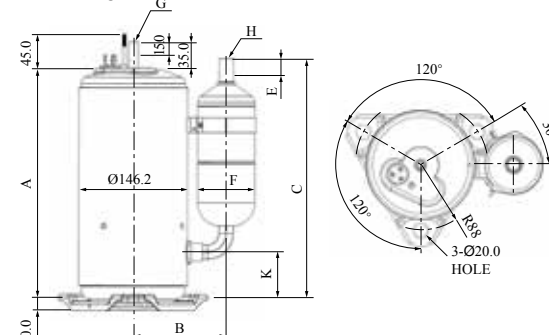


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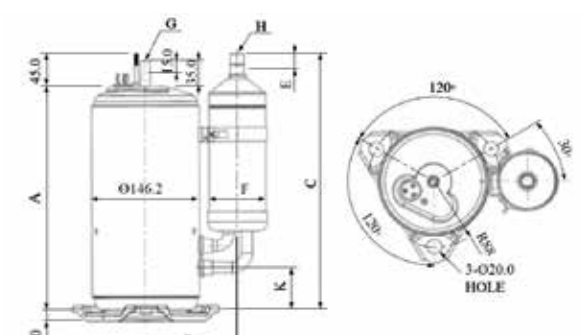
(UNIT:mm)

Type	A	B	C	E	F	G	H	K
55-1	294.4	124.8	306.7	15.0	77.4	9.70	16.0	42.7
55-2	311.4	124.8	349.7	15.0	77.4	9.70	16.0	59.7
55-3	286.4	124.8	349.7	15.0	77.4	9.70	16.0	59.7
55-4	303.7	124.8	349.7	15.0	77.4	9.70	16.0	59.7
55-5	318.7	124.8	349.7	15.0	77.4	9.70	16.0	59.7
55-6	301.4	124.8	349.7	15.0	77.4	9.70	16.0	59.7
55-7	323.8	124.8	349.7	15.0	77.4	9.70	16.0	59.7
55-8	345.9	132.4	358.7	15.0	90.0	9.70	19.2	87.8
55-9	370.8	132.4	370.0	15.0	90.0	9.70	19.2	99.1
55-10	296.4	124.8	349.7	15.0	77.4	9.70	16.0	59.7
55-11	360.9	132.4	360.1	15.0	90.0	9.70	19.2	89.2
55-12	306.4	124.8	348.3	15.0	77.4	9.70	16.0	58.3
55-13	323.4	132.4	362.2	15.0	90.0	9.70	19.2	58.3
55-14	341.2	132.4	361.0	15.0	90.0	9.70	19.2	57.2
55-15	395.8	125.5	455.4	15.0	77.0	9.70	16.0	104.6
55-16	386.0	125.5	445.6	15.0	77.0	9.70	16.0	94.8
55-17	311.5	125.5	351.0	15.0	77.0	9.70	16.0	55.2
55-18	371.0	125.5	390.5	15.0	77.0	9.70	16.0	94.8
55-19	323.5	132.4	362.1	15.0	90.0	9.70	19.2	58.3
55-20	383.0	132.4	401.6	15.0	90.0	9.70	19.2	97.8
55-21	393.0	132.4	401.6	15.0	90.0	9.70	19.2	97.8
55-22	363.0	132.4	401.6	15.0	90.0	9.70	19.2	97.8
55-23	363.0	132.4	401.6	15.0	90.0	9.70	19.2	97.8

< 55 Frame Single >



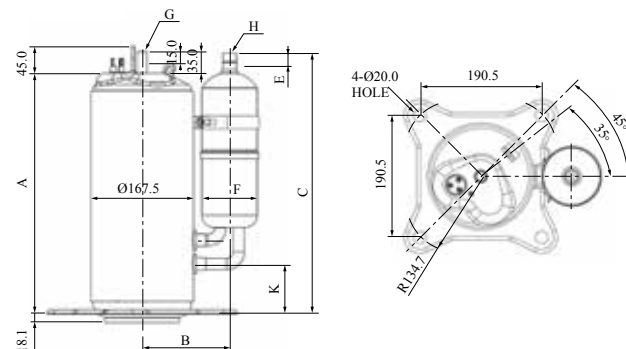
< 55 Frame Twin >



### 63 Frame


(UNIT:mm)

Type	A	B	C	E	F	G	H	K
63-1	379.8	142.2	422.5	15.0	90.0	12.90	19.20	77.7
63-2	392.7	142.2	432.5	15.0	90.0	12.90	19.20	81.5
63-3	389.8	142.2	455.5	15.0	90.0	12.90	19.20	77.7
63-4	358.5	143.9	360.9	15.0	90.0	12.90	19.20	90.0
63-5	363.5	143.9	360.9	15.0	90.0	12.90	19.20	90.0



# Rotary Compressor INVERTER CONTROLLER

Series		SBMC (for T0 comp)						
		SBMC1				SBMC2	SBMC3	
		-V1	-V2	-V3	-V4	-V1	-V1	-V2
Model Code		DB92-03104A	Under Dev.	Under Dev.	Under Dev.	DB92-03103A	DB92-03756A	DB92-03756B
Compressor		UX0T011ZNAE5 (2.4cc)	UX0T011ZNAE5 (2.4cc)	UX0T011ZNAE5 (2.4cc)	UX0TM5009SE9 (1.9cc)	UX0T011FNAE5 (2.4cc)	UX9CJ5034ZJ7 (7.2cc)	UX9CJ5034ZJ7 (7.2cc)
Image								
Power Supply	Rated Voltage	24V		48V	12V	AC100V(230V)	24V	12/24/48V
	Voltage Range	16~32V		43~60V	9.6~17V	85~130V (187~265V)	18~31.5V	9.6~17/ 9.6~31.5/ 33~60V
	Frequency	-				50/60HZ	-	
	Max Input Arms	10A		6A	15A	4A	25A	
	Max Input Power	250W		225W	180W	230W	620W	
Interface	Type	Frequency input or Resistor				Frequency input	Frequency input or Resistor	
Structure	PBA or CASE	PBA or Case (Seperated)	Case(Seperated)		PBA	Case (Seperated)	Case(Seperated)	
	Size	104*58.2*34.9	107.6*62.4*39.6		104*58.2*34.9	107.6*62.4*47.5	97.6*65.4*122.6	
	Cooling	Static				Static	Static	
Environment	Ambient Temp.	-20~43°C				-5~43°C	-20~43°C	
	Storage Temp.	-40~85°C				-25~85°C	-40~85°C	
	Max. Storage Relative Humidity	85%				85%	85%	
Protection	Voltage/ Current	Voltage/Current/Temp.				Voltage/ Current	Voltage/Current/Temp.	

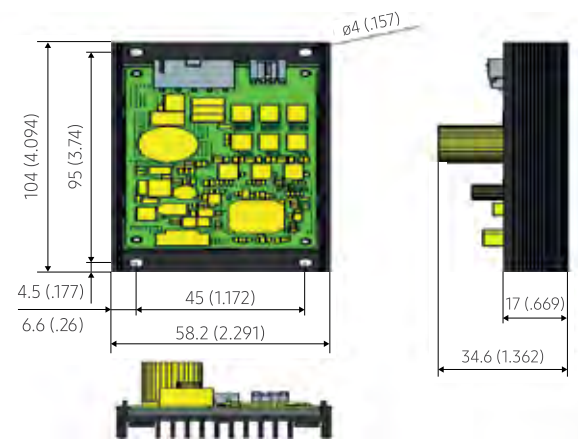
Series		SBMC (for T0 comp)		SBHC (for RO comp)		
		SBMC5		SBHC3	SBHC4	SBHC5
		-V1	-V2	-V1	-V1	-V1
Model Code		DB92-04032A	DB92-04032B	Under Dev.	DB92-03573A	DB92-03574A
Compressor		UX4AK5055ZJD (11.2cc)	UX9AM5042ZJD (9.0cc)	2/3Ton	4Ton	5Ton
Image						
Power Supply	Rated Voltage	12/24/48V	12/24/48V	208-240V		
	Voltage Range	9.6~17/21.3~31.5/ 33~60V	9.6~17/9.6~31.5/ 9.6~60V	187~253		
	Frequency	-		50/60HZ		
	Max Input Arms	45A	30A	20A	22A	32A
	Max Input Power	1.1kW	720W	4.6kW	4.8kW	7kW
Interface	Type	Frequency input or Resistor		RS-485 or UART TTL		
Structure	PBA or CASE	PBA		PBA		
	Size	152*119*53.2		280*200*138.7		
	Cooling	Static		Fan		
Environment	Ambient Temp.	-20~43°C		-30~60°C		
	Storage Temp.	-40~85°C		-40~85°C		
	Max. Storage Relative Humidity	85%		95%		
Protection	Voltage/Current/Temp. /Comp temp.		Voltage/Current/Temp.			



# Rotary Compressor INVERTER CONTROLLER

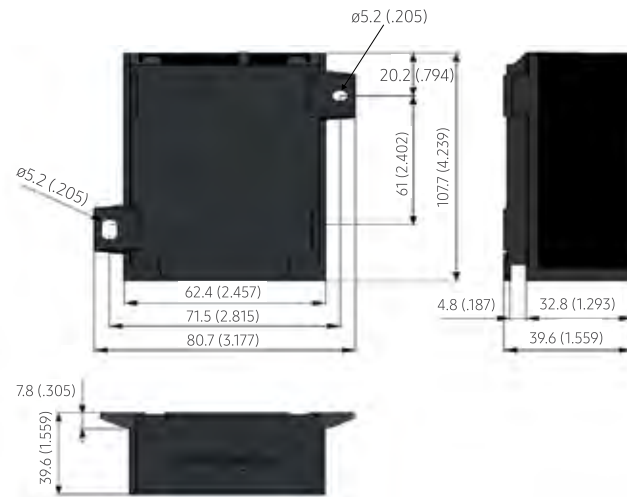
## SBMC1-V1

Unit : mm(Inch)



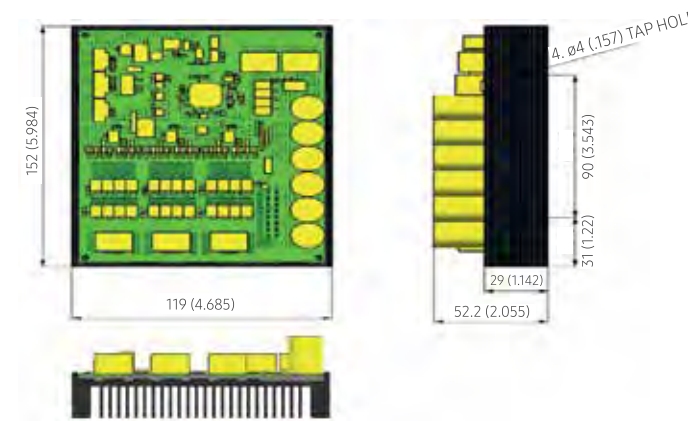
## SBMC1-V2 / SBMC1-V3

Unit : mm(Inch)



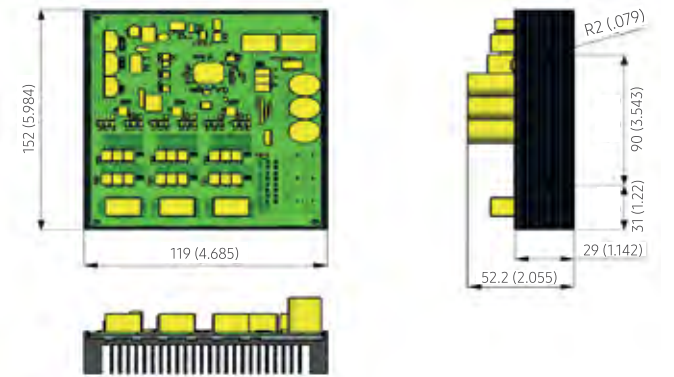
## SBMC5-V1

Unit : mm(Inch)



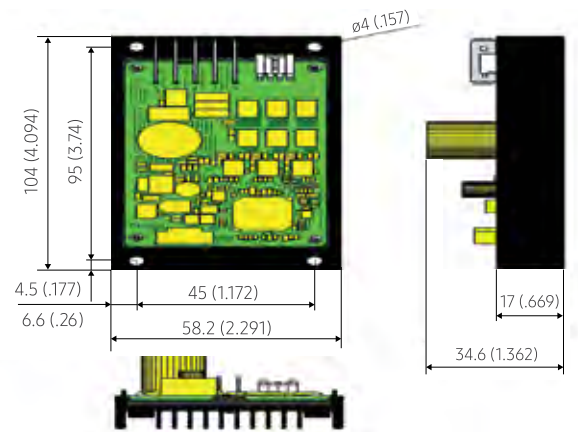
## SBMC5-V2

Unit : mm(Inch)



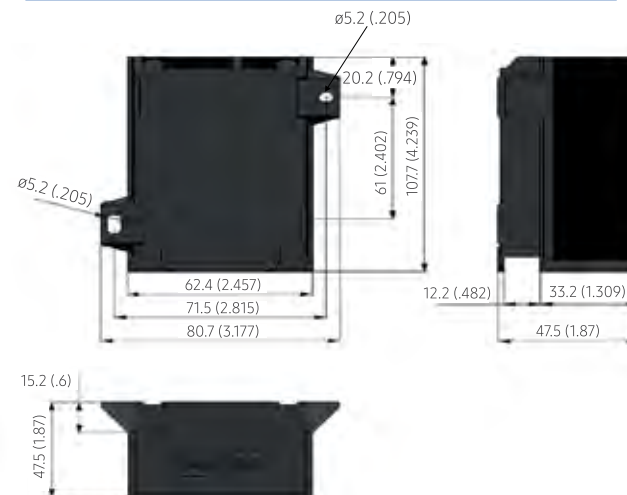
## SBMC1-V4

Unit : mm(Inch)



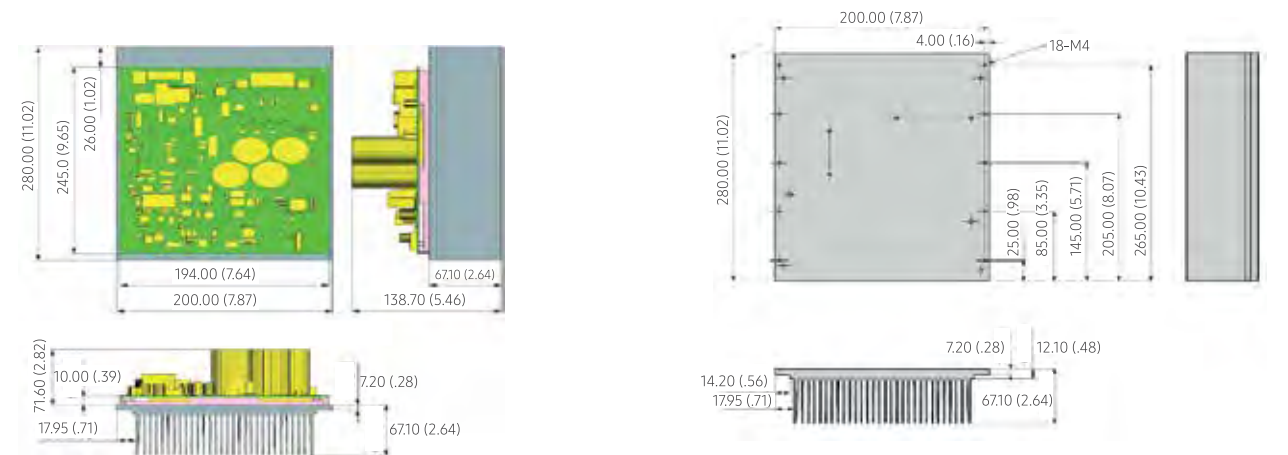
## SBMC2-V1

Unit : mm(Inch)



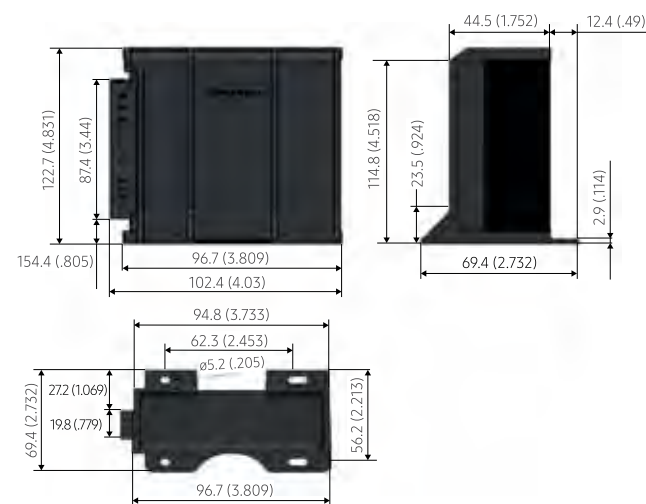
## SBHC4/5

Unit : mm(Inch)



## SBMC3-V1 / SBMC3-V2

Unit : mm(Inch)



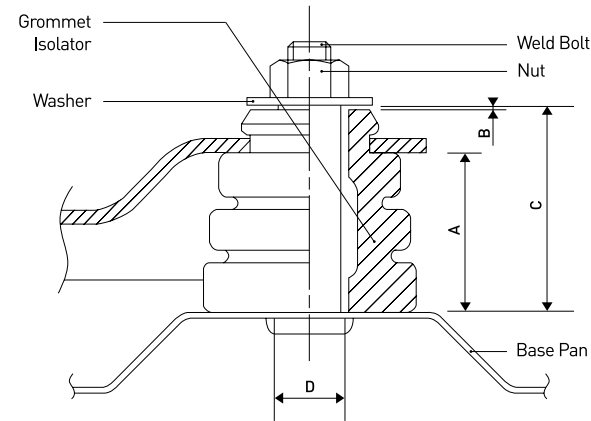
# Rotary Compressor MOUNTING SYSTEM & WIRING DIAGRAM

## MOUNTING SYSTEM

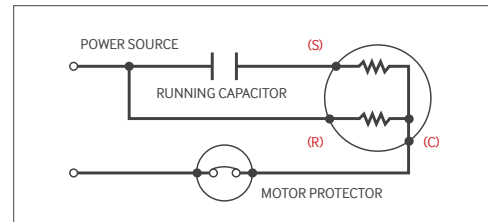
### Remark

Keep the Clearance between Washer and Grommet Isolator by 0.5-2.0mm

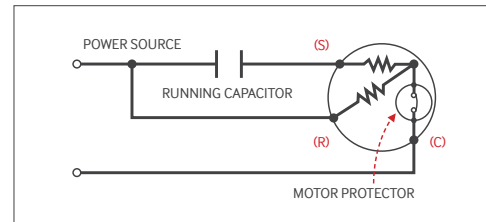
FRAME / PARTS	A	B	C	D
20F	18.0	0.5 ~ 2.0	23.7	6.6
39F	14.0	0.5 ~ 2.0	22.0	10.5
44, 48, 55, 63F	25.5	0.5 ~ 2.0	33.5	11.5



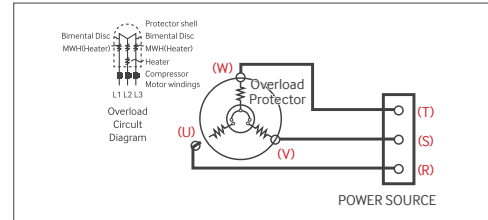
## WIRING DIAGRAM Rotary compressor



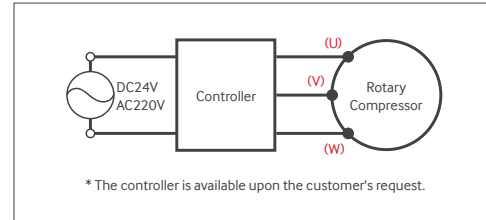
External OLP Type



Internal OLP Type



3 Phase Internal OLP Type



Miniature Rotary Compressor

## TEST CONDITION

REFRIGERANT	ROTARY COMP	
	R22/ R407C/ R410A/ R134A	R32
Condensing Temp.(°C)	54.4	54.4
Evaporating Temp.(°C)	7.2	7.2
Ambient Temp.(°C)	35.0	35.0
Return Gas Temp.(°C)	35.0	18.3
Liquid Temp.(°C)	46.1	46.1

## APPLICATION ENVELOPES

CONDITION	ROTARY COMP		MINI ROTARY COMP
	NORMAL	TROPICAL	TROPICAL
Condensing Temp.(°C)	28.0 ~ 65.0	28.0 ~ 74.5	8.6 ~ 74.5
Evaporating Temp.(°C)	-25.0 ~ 12.7		-25.0 ~ 20.0
Discharge Temp.(°C)	Max. 115.0		Max. 120

# Rotary Compressor ACCESSORY & PACKING

## STANDARD ACCESSORY PARTS

ITEMS	APPLICATION				QUANTITY (PCS)
	COMP. WITH EXTERNAL OLP	COMP. WITH INTERNAL OLP	BLDC COMPRESSOR		
			TYPE 1	TYPE 2	
Nut		①			1
Cover Terminal	②	③	②	③	1
Overload Protector	④	-	-	-	1
Spring etc OLP	⑤	-	-	-	1
Gasket	⑥	⑦	⑥	⑦	1
Grommet Isolator		⑧			3 (63F 4Pcs)



## STANDARD EXPORT PACKING & LOADING QUANTITY (20FT CONTAINER)

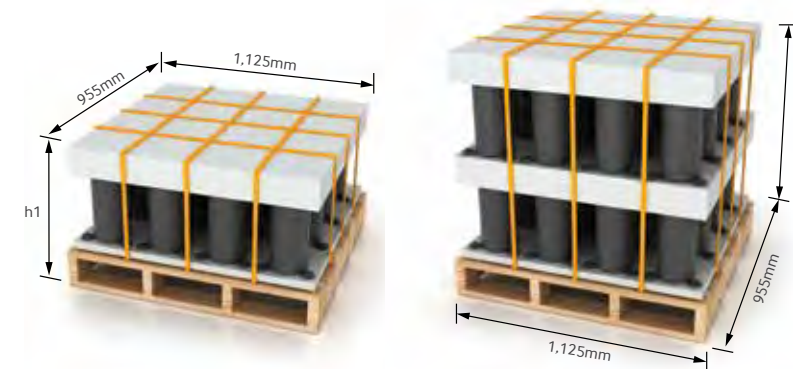
FRAME	COMPRESSOR QUANTITY/CARTON (PCS)		CARTON QUANTITY (CARTON)		ACCESSORY BOX (E)	LOADING QUANTITY (T) (PCS)	PACKING HEIGHT	
	TYPE 1 (A)	TYPE 2 (B)	TYPE 1 (C)	TYPE 2 (D)			TYPE 1 (H1)	TYPE 2 (H2)
20F	182	364	6	12	42	5,460	418	630
20F(Twisted Tube)	154	308	2	22	6	7,084	235	395
39F	36	72	2	24	6	1,800	477	788
39BLDC	35	70	2	22	5	1,610	562	962
44F Ex(In)OLP	36	72	4	16	6(5)	1,296	521	880
44BLDC	30	60	5	19	4	1,290	559	956
48F Ex(In)OLP	30	60	4	14	4(3)	960	611	1,059
55F	20	40	4	16	2	720	671	1,180
63F	12	24	12	12	2	432	676	1,190

ex.) Compressor Total Quantity of 44Frame Model : (a)X(c)+(b)X(d)= (t) / 1,296 pcs

ex.) Carton Total Quantity of 44Frame Model : (c)+(d)+(e)= 26 / (25) Cartons

\* 20 Frame is 1 type of 2 stacks. (Packed in boxes)

\* Korean sale is exception in upside standard.



TYPE 1 PACKING

TYPE 2 PACKING

### WARNING / DANGER

FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN SERIOUS PERSONAL INJURY.

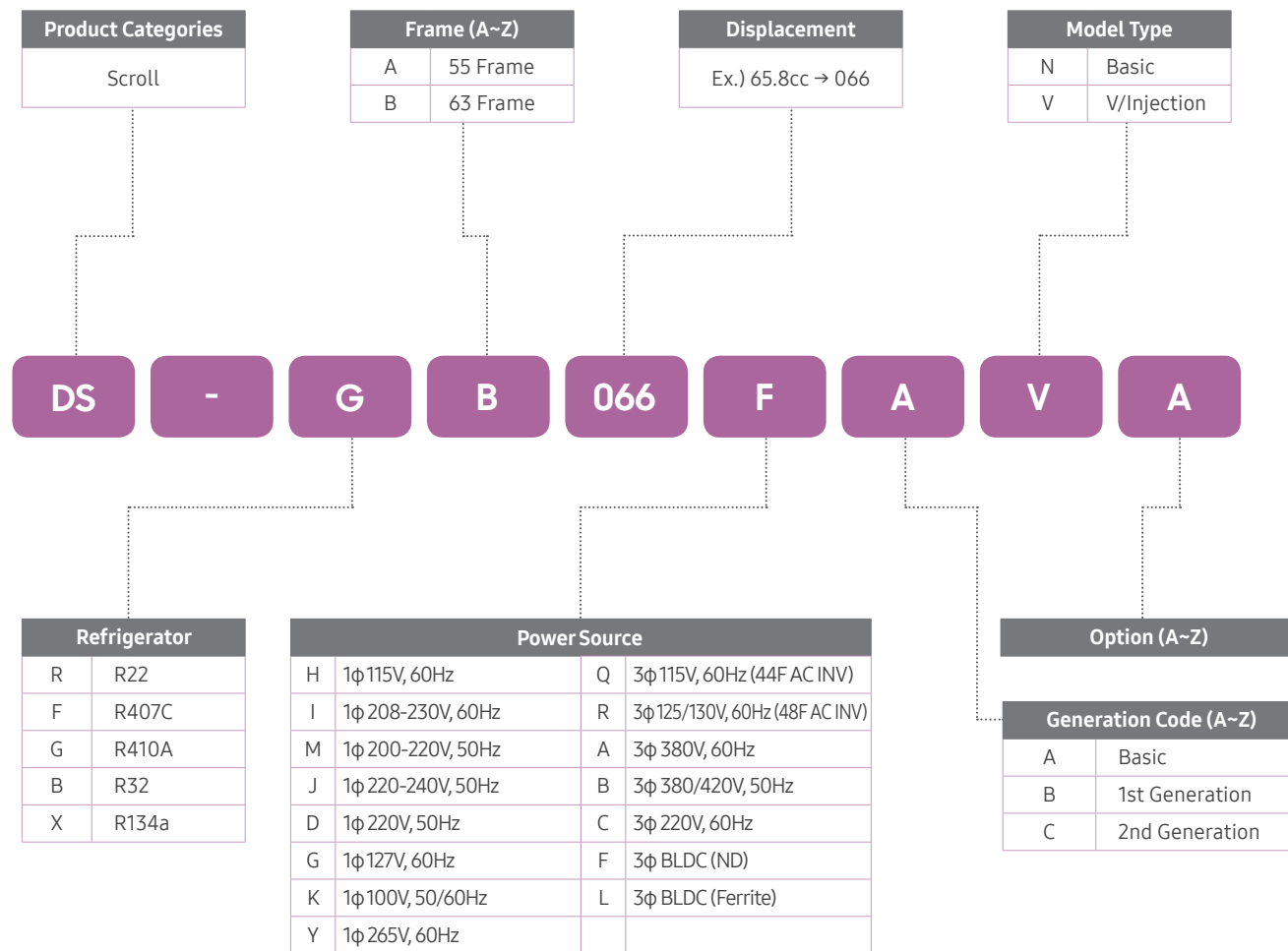
1. Ground the equipment securely.
2. Turn off power before servicing.
3. Mount the terminal cover in place whenever Power is applied to this compressor.
4. Wear protective goggles when servicing.
5. Before brazing, remove pressure from both High and low side.
6. Do not use this compressor to compress air.
7. Use only approved refrigerants and lubricants.
8. Do not touch with bare hands during running Or after stopping instantly.



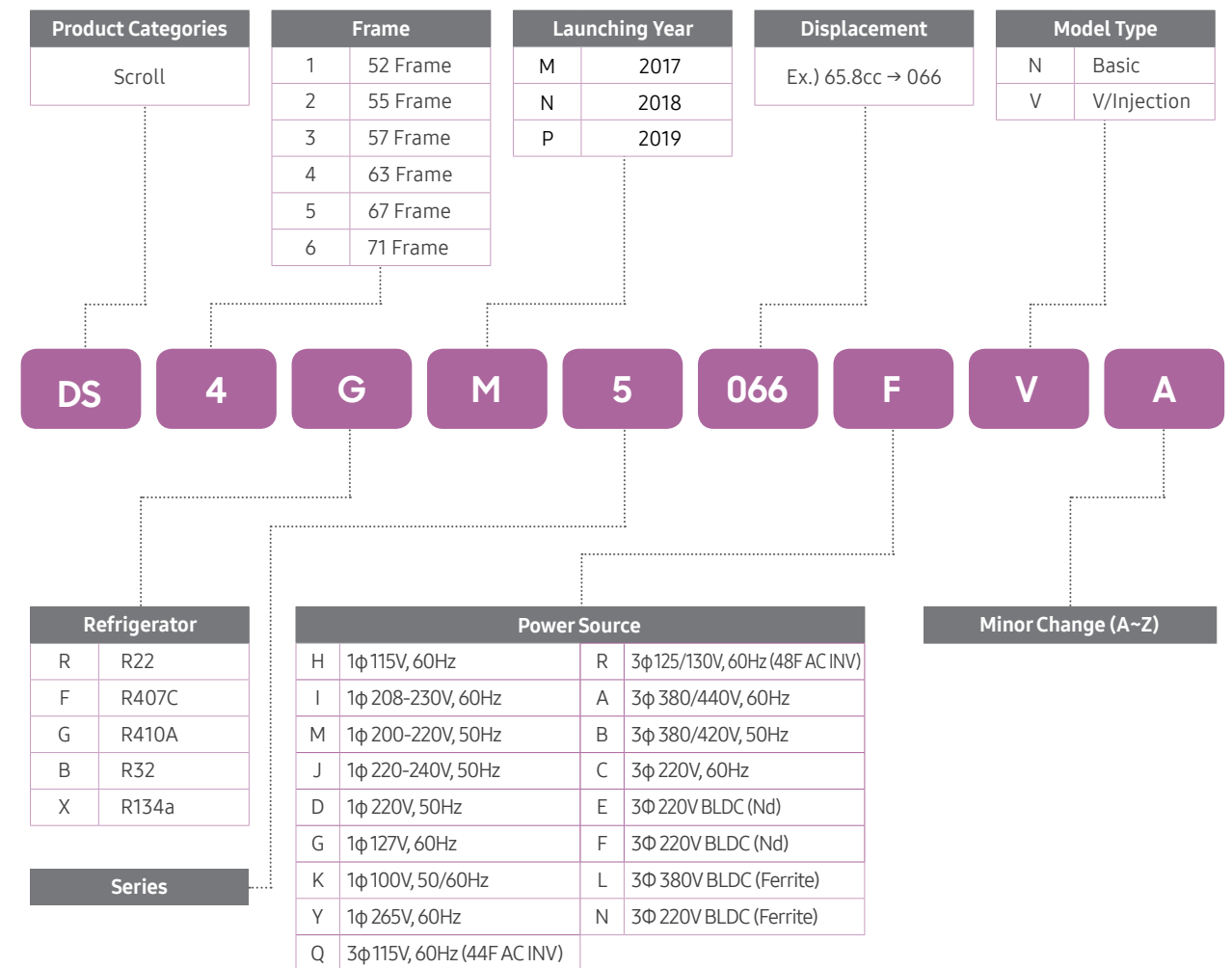
# Scroll Compressor MODEL IDENTIFICATION



## Scroll Compressor Ver. 01



## Scroll Compressor Ver. 02





# Scroll Compressor SPECIFICATIONS

## R 410A / 50,60Hz | BLDC

POWER SOURCE	MODEL	DISPLACEMENT	COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH	W/W	W	CC	KG	
3φ 380-460V	DS-GA046FAVA	45.7	50,500	14,800	11.5	3.37	4,390	900	24.3	1 (Ver.01)
	DS2GJ5046FVN	45.7	50,500	14,800	11.5	3.37	4,390	900	24.3	2 (Ver.02)
	DS-GB052FAVB	52.0	58,500	17,145	11.3	3.31	5,180	1,100	31.8	3 (Ver.01)
	DS-GB066FAVB	65.8	73,500	21,541	11.5	3.37	6,390	1,100	35.4	4 (Ver.01)
	DS4GJ5066FVN	65.8	73,500	21,541	11.5	3.37	6,390	1,100	35.4	5 (Ver.02)
	DS-GB070FAVA	70.0	77,700	22,772	11.5	3.37	6,757	1,100	36.7	6 (Ver.01)
	DS4GK5080FVS	80.0	87,500	25,644	11.2	3.28	7,813	1,400	40.7	7 (Ver.02)
3φ, 208-460V	DS-GB052FBVA	52.0	58,500	17,145	11.3	3.31	5,180	1,100	31.6	3 (Ver.01)
	DS4GJ5066EVA	65.8	73,500	21,541	11.4	3.34	6,447	1,100	35.4	4 (Ver.02)

## R 410A / 60Hz | FIXED SPEED(Under Development)

POWER SOURCE	MODEL	DISPLACEMENT	COOLING CAPACITY		EER	COP	INPUT	OIL CHARGE	NET WEIGHT	DIMENSION (IDENTIFICATION Ver.)
		CC/REV	BTU/H	W	BTU/WH	W/W	W	CC	KG	
1φ 208-230V	DS4GN5033INA	32.4	34,300	10,053	10.5	3.08	3,270	1,100	33.0	8 (Ver.02)
	DS4GN5038INA	38.0	40,500	11,870	10.6	3.11	3,820	1,100	33.0	8 (Ver.02)
	DS4GN5048INA	47.6	51,500	15,094	10.7	3.14	4,810	1,100	34.0	8 (Ver.02)

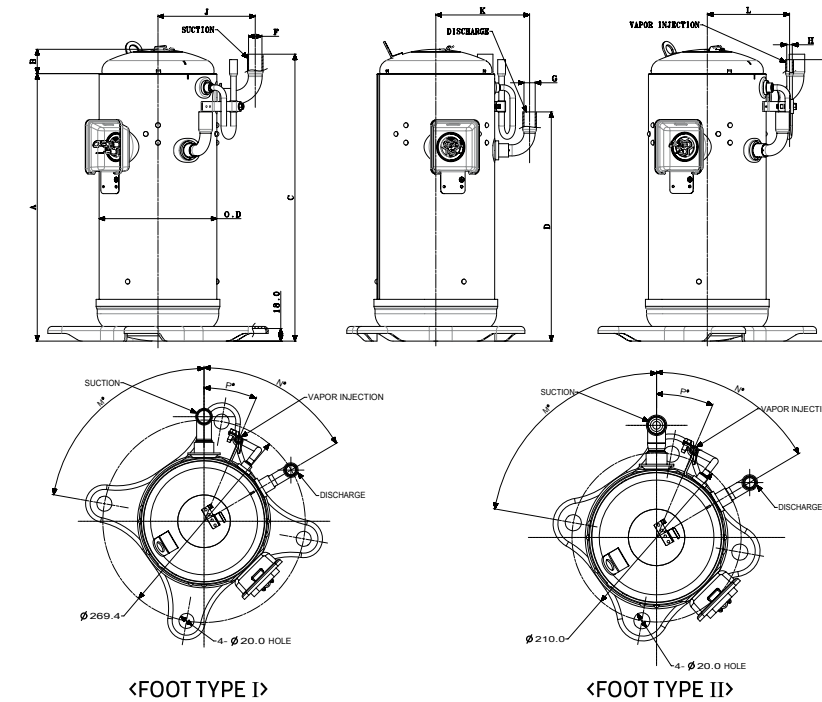


# Scroll Compressor DIMENSION

## BLDC Scroll

(UNIT:mm)

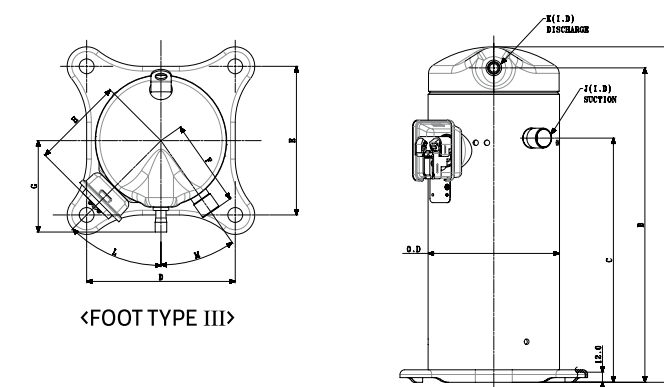
Type	FOOT TYPE	O.D	A	B	C	D	E	F	G	H	J	K	L	M	N	P
1	I	Ø146.2	379.8	29.1	406.5	327.8	399.8	19.20	16.05	8.15	127.9	123.6	106.8	80°	59.5°	21.4°
2	II	Ø146.2	374.2	29.1	400.9	322.2	394.2	22.40	16.05	8.15	127.9	123.6	106.8	80°	59.5°	21.4°
3	I	Ø168.4	382.8	34.8	410.6	328.0	402.8	19.20	16.05	8.15	139.2	134.2	116.8	80°	59.5°	22.8°
4	I	Ø168.4	419.8	34.8	441.4	358.8	439.8	19.20	16.05	8.15	139.2	134.2	116.8	80°	59.5°	22.8°
5	II	Ø168.4	419.8	34.8	441.4	358.8	439.8	22.40	16.05	8.15	139.2	134.2	116.8	80°	59.5°	22.8°
6	I	Ø168.4	419.8	34.8	441.4	358.8	439.8	19.20	16.05	8.15	139.2	134.2	116.8	80°	59.5°	22.8°
7	II	Ø168.4	462.2	34.8	479.4	391.8	482.2	25.58	16.05	8.15	139.2	134.2	116.8	80°	59.5°	22.8°



## FIXED SPEED(Under Development)

(UNIT:mm)

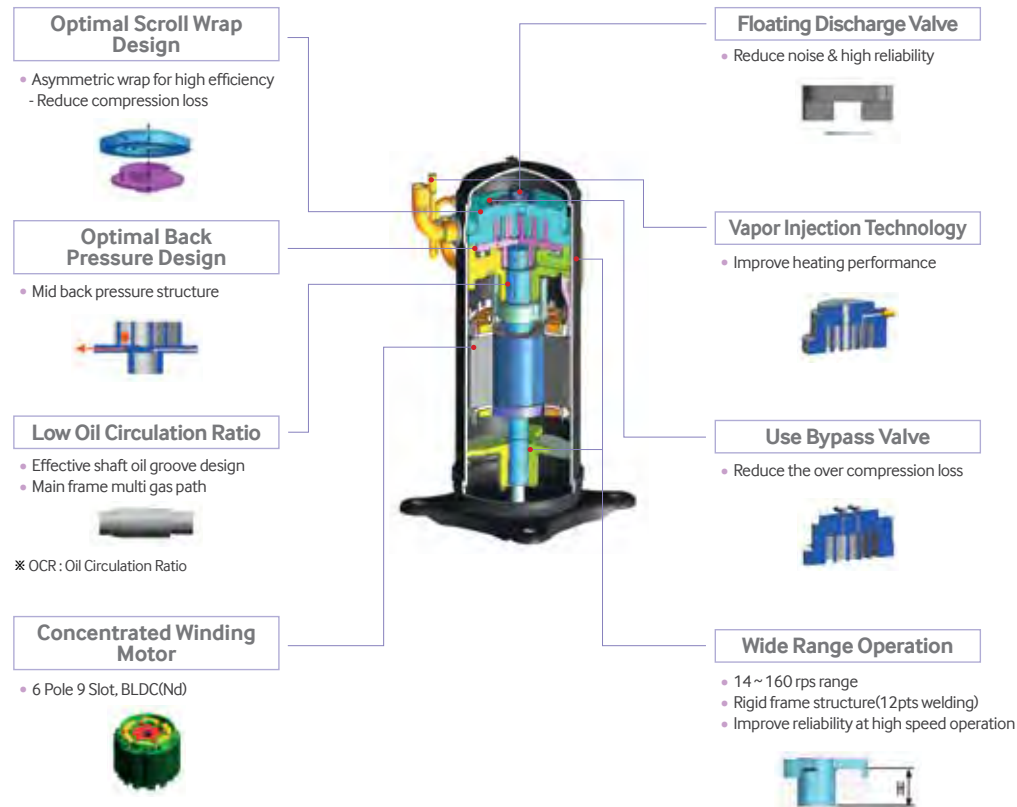
Type	FOOT TYPE	O.D	A	B	C	D	E	F	G	H	J	K	L	M
8	III	Ø166.4	430.0	403.0	313.0	190.5	190.5	112.0	115.4	118.4	Ø22.4	Ø12.9	45°	31°



# Scroll Compressor

## KEY FEATURE

: SSC(Samsung Scroll Compressor) is innovative, has a robust structure and provides unparalleled performances



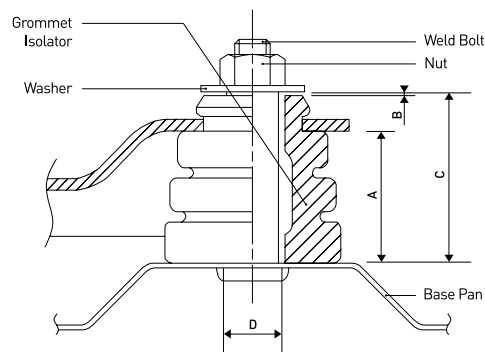
## MOUNTING SYSTEM & WIRING DIAGRAM

### MOUNTING SYSTEM

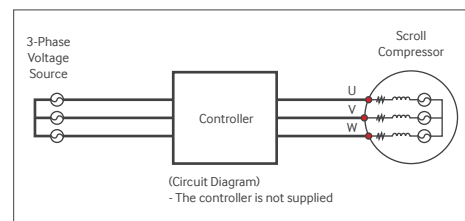
#### Remark

Keep the Clearance between Washer and Grommet Isolator by 0.5-2.0mm

FRAME	A	B	C	D
55, 63F	29.0	05~2.0	Max 38.0	11.5



### WIRING DIAGRAM



### TEST CONDITION

REFRIGERANT	SCROLL COMP
	R410A
Condensing Temp.(°C)	54.4
Evaporating Temp.(°C)	7.2
Ambient Temp.(°C)	35.0
Return Gas Temp.(°C)	18.3
Liquid Temp.(°C)	46.1

### APPLICATION ENVELOPES

CONDITION	SCROLL COMP
	NORMAL
Condensing Temp.(°C)	10.0 ~ 65.0
Evaporating Temp.(°C)	-35.0 ~ 23.5
Discharge Temp.(°C)	Max. 120

# Scroll Compressor

## ACCESSORY & PACKING

### STANDARD ACCESSORY PARTS

ITEMS	APPLICATION		QUANTITY (PCS)
	ALL SCROLL COMPRESSOR MODEL		
Terminal Block Connector	①	Attached to Compressor	1
Screw-Hex	②		3
Cover Terminal	③		1
Grommet Isolator	④	Supplied in accessory boxes	4



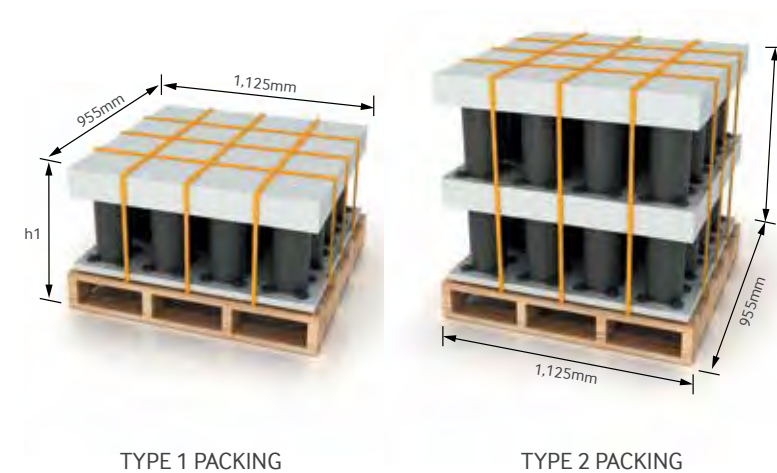
### STANDARD EXPORT PACKING & LOADING QUANTITY (20FT CONTAINER)

MODEL	COMPRESSOR QUANTITY/CARTON(PCS)		CARTON QUANTITY (CARTON)		ACCESSORY BOX (E)	LOADING QUANTITY (T) (PCS)	PACKING HEIGHT	
	TYPE 1 (A)	TYPE 2 (B)	TYPE 1 (C)	TYPE 1 (D)			TYPE 1 (H1)	TYPE 2 (H2)
DS-GB052FAVB	12	24	4	20	5	528	631	1,094
DS-GB052FBVA								
DS-GB066FAVB	12	24	11	12	4	420	672	1,169
DS-GB070FAVA								
DS4GJ5066EVA								
DS-GA046FAVA	12	24	1	23	5	564	628	1,090

ex.) Compressor Total Quantity of 'DS-GB052FAVB' Model : (a)X(c)+(b)X(d)= (t) / 528 pcs

ex.) Carton Total Quantity of 'DS-GB052FAVB' Model : (c)+(d)+(e)= 29 Cartons

\* Korean sale is exception in upside standard.



### WARNING / DANGER

FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN SERIOUS PERSONAL INJURY.

1. Ground the equipment securely.
2. Turn off power before servicing.
3. Mount the terminal cover in place whenever Power is applied to this compressor.
4. Wear protective goggles when servicing.
5. Before brazing, remove pressure from both High and low side.
6. Do not use this compressor to compress air.
7. Use only approved refrigerants and lubricants.
8. Do not touch with bare hands during running Or after stopping instantly.



# APPROVED LICENSES



## SEC



## SSEC



## SEC Suwon / Gwangju City, Korea



### Head Office (Suwon)

- Marketing, R&D, Quality, Global Manufacturing Technology

### Factory (Gwangju)

- Equipment Status  
- Processing Line 8, Assembly Line 6, Motor Line 5

## SSEC Suzhou City, China



### Factory (Rotary & Scroll Comp)

- Marketing, R&D, Quality, Global Manufacturing Technology

### Equipment Status

- Processing Line 8, Assembly Line 6, Motor Line 5