ZHEJIANG BOYANG COMPRESSOR CO.,LTD.

ADD: No.5 Shuguang Rd., Lanjiang Street,Lanxi,
Zhejiang, China
TEL: +86-579-88988061
Email: sales@zjboyang.com
http: //www.zjboyang.com P.C: 321103

E-Catalog

Official Website

BOYARD

COMPRESSOR CATALOG

CONTENTS

02 About US
03 Milestones
05 Product Features
06 Rotary Solutions For Commercial Refrigeration
09 Company Honor
10 Naming Rule

PERFORMANCE PARAMETER
11 Caravan Air Conditioning
15 Vehicle Air Conditioning / Parking Cooler
16 Mobile Air Conditioner
17 Other Compressor

18 Mobile / Commercial Refrigeration
19 Commercial / Mobile Refrigeration
22 Nominal Rating Of Refrigeration Compressor
23 R404A 50HZ Series Product Performance
24 R448A 50HZ Series Product Performance
25 R449A 50HZ Series Product Performance
26 R455A 50HZ Series Product Performance
27 R404A 60HZ Series Product Performance (AC 115V)
28 R448A 60HZ Series Product Performance (AC 115V)
29 R449A 60HZ Series Product Performance (AC 115V)
30 R455A 60HZ Series Product Performance (AC 115V)
31 R404A 60HZ Series Product Performance (AC 220V)
32 R448A 60HZ Series Product Performance (AC 220V)
33 R449A 60HZ Series Product Performance (AC 220V)
34 R455A 60HZ Series Product Performance (AC 220V)

BOYARD

ABOUT US

Zhejiang Boyang Compressor Co., LTD is a private owned national high-tech enterprise specializing in R&D, manufacturing of rotary compressors and condensing units for specialized application like truck parking cooler, RV air conditioner, commercial refrigeration and mobile refrigeration.

Boyang strive to deliver high levels of efficient, comfortable and reliable rotary solutions to customers that also care about lower cost, fast delivery and compliance to environmental laws. Boyang has been driven to achieve unprecedented levels of high comfort, high efficiency, robust, compact, eco-friendly for rotary compressors.

Founded in 2006, company covers 33,000 square meters with 300 employees. Company has full testing equipment and R&D center, advanced production line with 1 million yearly capacity that offer fast lead-time within 25days,. Company passed ISO9001.ISO14001 and IATF16949 quality certification, products has been certified with CCC, CE, UL, ROHS, REACH etc.

Boyang owns an energetic and experienced engineering team focused on solution for special application only. Company accumulated numerous know-how and gain more than 120 patents on rotary compressor, as result, Boyang has been invited to co-draft the national standard of rotary refrigeration compressor and vehicle applied compressor in China. Experience and capacity enable Boyang to innovate, makes flexible and reliable customization possible for special market requirements.

After years of continuous innovation and development, Boyang created wide sales footprint globally. Product brand Boyard has taken the lead in the industry and won good reputation all over the world.

MILESTONES

2001
High efficiency AC compressor been put in production

2002
Passed ISO9001

2004
Developed low temp compressor and horizontal vehicle AC compressor

2005
Obtained CCC/CE/TUV/ROHS certificates

2006
Company focused on special type compressor and condensing unit

2008
Developed DC 12/24/48/72/312V DC inverted frequency AC compressor

2010
Established state R&D center and nominated with national high-tech company

2012
Achieved 1 million units compressor annual production capacity

2013
DC electric car AC compressor been put in production

2016
Passed TS16949

2018
New automated condensing unit production line put in use

2022
R290 series PPAP

PRODUCT FEATURES

Commercial refrigeration compressor features

- All kinds of power supply from 1HP to 3HP capacity
- High efficiency leads to lower power consumption and compact in size
- Twin rotary brings lower vibration and noise
- High endurance to high temp working condition
- Horizontal design gives more space for display

Mobile refrigeration compressor features

- Ultra-low height horizontal profile
- DC12V/24V/48V/312V
- Adaptable to vibration and all other road conditions
- Appliable to various vehicle from mini van to truck
- High endurance to high temp working condition

Truck parking(special vehicle)AC compressor features

- Sturdy design, robust oil supply mechanism
- DC12V/24V/48V/72V/96V/312V
- Low noise and vibration, high efficiency and energy saving
- Sturdy connection, well sealed, high level of protection
- Mature manufacture technique for twin rotary series

RV AC compressor features

- Adaptable to vibration and all other road conditions
- Various power AC, DC12V/48V/312V power supply
- Ultra-low height horizontal profile
- Low vibration and noise thanks to twin rotary

All Compressor Leadtime within 25days

Rotary Solutions For Commercial Refrigeration

Features:

- Higher efficiency compared with reciprocating
- Liquid injecting technique to prevent over heating
- Low vibration and noise thanks to twin rotary technique
- Horizontal low profile available

Higher Efficiency

Due to mechanism difference, rotary compressor has higher volumetric efficiency than reciprocating ones, leads to 20% higher cooling capacity with same displacement.

Liquid Injecting Technique

Liquid refrigerant from system high pressure side being piped into the compression chamber, cool down the key components and oil, prevent compressor from overheating in high compression ratio working status.

Horizontal Low Profile

Optimized and mature horizontal rotary series help to save space for displaying.

Refrigeration Solution For The Whole Process From Transportation To Market

DC Variable Speed Rotary Solutions

Key Features:

- Design for various road conditions
- Low vibration and noise thanks to twin rotary technique
- High efficiency and wide RPM range
- Robust and high reliability

Twin Rotary

Two 180° opposite compression chamber drastically improves the dynamic balancing and torque ripple characteristics, improves mechanical efficiency, helps to provide a silent operation and broad rpm range.

Reliable Oil Supply

Mature oil supplying mechanism to pump oil into cylinder within maximum 45° angel, working on a ramp would not be problem.

BOYARD

Wide RPM Range

Lower minimum speed helps to save energy, especially critical when powered by lithium battery. Higher RPM brings faster cooling experience.

COMPANY HONOR

Company Vision

To be the first-class supplier in the refrigeration field

Company Mission

Cooling For Better Life

Company Core Value

Faith, persistence, innovation, win-win situation

CE CCC UL RoHS

NAMING RULE

Q	X	R	-	13	E	4	D	N	*

Hermetic Compressor

Indication of Structure
X—Vertical
H—Horizontal

Refrigerant & Application
R—R22 HBP
L—R22 MBP &LBP
C—R407C
D—R404A
A—R410A
B—R134a

Displacement of Cylinder

Power
E–Single phase,220V, 50Hz
Y–Single phase,220V,60Hz
T–Single phase,115V,60Hz
K–Single phase,220–240V,50Hz

Dimension of Accumulator

Base Type of Compressor

Installation angle
Default—Horizontal compressor

Modification number

J	F	S	A	116	Z	220	S

Case I.D Code
G–Φ88
J–Φ101
K–Φ112
S–Φ121.7
T–Φ132

Special Structure
V–Vertical
X–Vertical Inject Type
F–Horizontal
H–Horizontal Inject Type

Cylinder Compress Strucure
Single–Cylinder
Single–Compress
S–Double–Cylinders
Single–Compress
T–Double–Cylinders
Double–Compress

Refrigerant & Application
R–R22 L–22
C–R407C
D–R404A/R448A/R449A/R452A/R455A/R454A/R454C
A–R410A
B–R134a/R1234yf/R513A
P–R290/R1270
N–R32/R410A/R454B

Displacement

Power Supply
E–1Φ(Single phase)220V,50Hz
Y–1Φ(Single phase)208–230V,60Hz
T–1Φ(Single phase)115V,60Hz
K–1Φ(Single phase)220–240V,50Hz
G–1Φ(Single phase)265V,60Hz
F–3Φ(Three phases)380V,50/60Hz
J–AC Variable Speed
Z–DC Adjust Speed

Single Phase Constant-speed Compress Starting Method
Default–PSC(Capacitor Running Mode)
S–CSR(Capacitor Running &Starting Mode)

The Power Source Specification Of Inverter
Default—Single phase constant-speed

PERFORMANCE PARAMETER

BOYARD

Caravan Air Conditioning

DC

R32/R454B/R410A DC 312V

H:Horizontal Type V:Vertical Type

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
GFSN075Z312	7.5	2315	785	2.6	2.95	3600	900-5400	101	B	H	2
JFSN116Z220	11.6	3650	1175	5.4	3.1	3600	900-5400	115	B	H	2
JFSN150Z220	15.0	4850	1600	7.3	3.05	3600	900-4500	115	B	H	2

R410A DC 312V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
JFSA116Z220	11.6	3395	1130	5.2	3.0	3600	900-5400	140	B	H	2

R32/R454B/R410A DC 48V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
GFSN075Z48	7.5	2315	785	17.0	2.95	3600	900-5400	101	B	H	2
JFSN116Z48	11.6	3650	1175	25.0	3.1	3600	900-5400	115	B	H	2
JFSN150Z48	15.0	4850	1600	34.0	3.05	3600	900-4500	115	B	H	2

R134a&R1234yf&R513A DC 48V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
JFSB180Z48	18.0	2420	768	16.0	3.15	3600	900-4500	146	B	H	2
KFSB300Z48	30.0	5250	1750	36.5	3.0	4500	900-5400	177	B	H	2

R134a&R1234yf&R513A DC 12V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
JFSB150Z12	15.0	2100	725	60.5	2.9	3600	900-4000	146	B	H	2

R290/R513A/R1234yf/R1270 1PH DC 312V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
JFSP116Z312	11.6	2000	635	2.1	3.15	3600	900-5400	115	B	H	2
JFSP180Z312	18.0	3200	1000	3.3	3.20	3600	900-4500	115	B	H	2
JVSP116Z220	11.6	2000	635	2.9	3.15	3600	900-5400	250	B	V	2
JVSP150Z220	15.0	2600	825	3.8	3.15	3600	900-5400	250	B	V	2

Test Conditions

Test Condition	Evaporating Temp.	Condensing Temp.	Suction Temp.	Liquid Temp.
A	7.2℃	54.4℃	35℃	46.1℃
B	7.2℃	54.4℃	18.3℃	46.1℃
C	-6.7℃	54.4℃	18.3℃	32.2℃
D	-23.3℃	54.4℃	18.3℃	32.2℃

Caravan Air Conditioning

AC

R32/R454B/R410A 1PH 115V ~ 60Hz

H:Horizontal Type V:Vertical Type

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
JFN058T	5.8	1780	630	5.6	2.85	140	B	H	1
JFN075T	7.5	2320	815	7.3	2.85	140	B	H	1
KFN088T	8.8	2710	950	8.3	2.85	148	B	H	1
KFN092T	9.2	2850	1000	8.8	2.85	148	B	H	1
KFN113T	11.3	3500	1230	10.9	2.85	148	B	H	1
KFN120T	12.0	3760	1320	11.8	2.85	148	B	H	1

R410A 1PH 115V ~ 60Hz

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
JFA058T	5.8	1680	600	5.3	2.85	140	B	H	1
JFA075T	7.5	2180	780	6.9	2.85	140	B	H	1
KFA092T	9.2	2710	950	8.5	2.85	148	B	H	1
KFA102T	10.2	2960	1040	9.3	2.85	148	B	H	1
KFA113T	11.3	3280	1150	10.3	2.85	148	B	H	1
SFA138T	13.5	3910	1370	12.3	2.85	154	B	H	1

R134a 1PH 115V ~ 60Hz

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
SFB236T	23.6	3200	1085	9.6	2.95	154	B	H	1

R32/R454B/R410A 1PH 220-240V ~ 50Hz

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
JGSN065K	6.5	1750	610	2.9	2.85	135	B	H	2
KFSN110K	11.0	2780	975	4.6	2.85	148	B	H	2
KFSN138K	13.8	3560	1250	5.8	2.85	148	B	H	2
JFN058K	5.8	1555	545	2.5	2.85	140	B	H	1
JFN065K	6.5	1750	610	2.9	2.85	140	B	H	1
KFN088K	8.8	2220	780	3.6	2.85	148	B	H	1
KFN102K	10.2	2570	900	4.2	2.85	148	B	H	1
KFN113K	11.3	2850	1000	4.7	2.85	148	B	H	1
SFN138K	13.5	3420	1200	5.7	2.85	154	B	H	1
JVN086K	8.6	2250	785	3.8	2.87	270	B	V	1
SVN120K	12.0	3050	1070	5.2	2.75	240	B	V	1

Caravan Air Conditioning

AC

R410A 1PH 220–240V~50Hz

H:Horizontal Type V:Vertical Type

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
KFSA138K	13.8	3350	1175	5.4	2.85	148	B	H	2

R290/R513A/R1234yf/R1270 1PH 220–240V ~ 50Hz

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
KFSP110K	11.0	1650	515	2.4	3.2	148	B	H	2
KFSP138K	13.8	2070	650	3.0	3.2	148	B	H	2
KFSP203K	20.3	3050	955	4.4	3.2	148	B	H	2
JFP075K	7.5	1100	370	1.8	3.0	140	B	H	1
KFP113K	11.3	1690	520	2.4	3.25	148	B	H	1
KFP142K	14.2	2130	655	3.0	3.25	148	B	H	1
KFP164K	16.4	2470	760	3.5	3.25	148	B	H	1
KVP134K	13.4	2050	640	2.9	3.2	268	B	V	1
SVP208K	20.8	3140	980	4.6	3.2	233	B	V	1

R407C 1PH 220–240V ~ 50Hz

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
QHC-10K	9.2	1580	540	2.6	2.9	148	B	H	1
QHC-13K	13.4	2120	730	3.4	2.9	148	B	H	1
QHC-16K	16.4	2750	930	4.4	2.95	148	B	H	1
QHC-19K	19.2	3200	1100	5.1	2.91	154	B	H	1
QHC-23K	23.6	3830	1280	6.0	2.99	154	B	H	1
QHC-30K	30.7	5080	1800	8.6	2.8	195	B	H	1
QHC-36K	35.7	5960	2090	9.8	2.85	195	B	H	1

R32/R454B/R410A 1PH 208–230V ~ 60Hz

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
JFN058Y	5.8	1780	630	2.9	2.8	140	B	H	1
KFN088Y	8.8	2710	950	4.3	2.85	148	B	H	1
KFN113Y	11.3	3500	1230	5.6	2.85	148	B	H	1

Caravan Air Conditioning

AC

R410A 1PH 208–230V ~ 60Hz

H:Horizontal Type V:Vertical Type

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
JFA058Y	5.8	1680	600	2.8	2.80	140	B	H	1
JFA075Y	7.5	2180	780	3.6	2.80	140	B	H	1
KFA092Y	9.2	2710	950	4.4	2.85	148	B	H	1
KFA102Y	10.2	2960	1040	4.8	2.85	148	B	H	1
KFA113Y	11.3	3280	1150	5.4	2.85	148	B	H	1
SFA138Y	13.5	3910	1370	6.4	2.85	154	B	H	1

R32/R454B/R410A 1PH 265V ~ 60Hz

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
JFN058G	5.8	1780	630	2.5	2.80	140	B	H	1
KFN088G	8.8	2710	950	3.7	2.85	148	B	H	1
KFN113G	11.3	3500	1230	4.8	2.85	148	B	H	1

R410A 1PH 265V ~ 60Hz

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
JFA058G	5.8	1680	630	2.3	2.80	140	B	H	1
JFA075G	7.5	2180	780	3.0	2.80	140	B	H	1
KFA092G	9.2	2710	950	3.6	2.85	148	B	H	1
KFA102G	10.2	2960	1040	4.0	2.85	148	B	H	1
KFA113G	11.3	3280	1150	4.5	2.85	148	B	H	1
SFA138G	13.5	3910	1370	5.3	2.85	154	B	H	1

Train/Railway Air Conditioning

AC

R407C/R134a 3PH 380V ~ 50Hz

H:Horizontal Type V:Vertical Type

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
SFC236F	23.6	3850	1350	3.1	2.85	160	B	H	1
TFC307F	30.7	5130	1800	3.3	2.85	170	B	H	1

Vehicle Air Conditioning/ Parking Cooler

DC

R32/R454B/R410A DC 12V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
GFSN065Z12	6.5	2195	745	64.0	2.95	3600	900-4800	101	B	H	2

R32/R454B/R410A DC 24V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
GFSN075Z24	7.5	2315	785	33.5	2.95	3600	900-4800	101	B	H	2
JFSN116Z24	11.6	3650	1250	54	3.0	3600	900-5000	113	B	H	2

R134a&R1234yf&R513A DC 12V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
JVSB116Z12	11.6	1605	555	46.3	2.9	3600	900～4000	248	B	V	2
JFSB116Z12	11.6	1605	555	46.3	2.9	3600	900～4000	146	B	H	2
JVSB150Z12	15.0	2100	725	60.5	2.9	3600	900～4000	248	B	V	2
JFSB150Z12	15.0	2100	725	60.5	2.9	3600	900～4000	146	B	H	2

R134a&R1234yf&R513A DC 24V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
JVSB150Z24	15.0	2100	675	28.2	3.1	3600	900～4500	243	B	V	2
JFSB150Z24	15.0	2100	675	28.2	3.1	3600	900～4500	146	B	H	2
JVSB180Z24	18.0	2420	780	32.5	3.1	3600	900～4500	243	B	V	2
JFSB180Z24	18.0	2420	780	32.5	3.1	3600	900～4500	146	B	H	2

R134a&R1234yf&R513A DC 48V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
JVSB150Z48	15.0	2100	665	13.8	3.15	3600	900～4500	243	B	V	2
JFSB150Z48	15.0	2100	665	13.8	3.15	3600	900～4500	146	B	H	2
JVSB180Z48	18.0	2420	768	16.0	3.15	3600	900～4500	243	B	V	2
JFSB180Z48	18.0	2420	768	16.0	3.15	3600	900～4500	146	B	H	2
KFSB300Z48	30.0	5250	1750	36.5	3.0	4500	900～5400	177	B	H	2

Mobile Air Conditioner

DC

H:Horizontal Type V:Vertical Type

R290/R513A/R1234yf/R1270 DC 24V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
GFSP040Z24	4.0	695	235	10.0	2.95	3600	900-5400	101	B	H	2
GFSP075Z24	7.5	1375	450	19.3	3.05	3600	900-5400	101	B	H	2
GVSP040Z24	4.0	695	235	10.0	2.95	3600	900-5400	101	B	V	2
GVSP075Z24	7.5	1375	450	19.3	3.05	3600	900-5400	198	B	V	2

R32/R454B/R410A DC 24V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
GFSN040Z24	4.0	1530	520	22.0	2.95	3600	900-5400	101	B	H	2
GVSN040Z24	4.0	1530	520	22.0	2.95	3600	900-5400	198	B	V	2

R134a/R1234yf/R152a DC 24V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
GFSB040Z24	4.0	605	205	8.8	2.95	3600	900-5400	101	B	H	2
GFSB075Z24	7.5	1040	330	14.0	3.15	3600	900-5400	101	B	H	2
GVSB040Z24	4.0	605	205	8.8	2.95	3600	900-5400	198	B	V	2
GVSB075Z24	7.5	1040	330	14.0	3.15	3600	900-5400	198	B	V	2

R290/R513A/R1234yf/R1270 DC 48V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
GFSP040Z48	4.0	695	235	5.0	2.95	3600	900-5400	101	B	H	2
GFSP075Z48	7.5	1375	450	10.0	3.05	3600	900-5400	101	B	H	2
GVSP040Z48	4.0	695	235	5.0	2.95	3600	900-5400	101	B	V	2
GVSP075Z48	7.5	1375	450	10.0	3.05	3600	900-5400	198	B	V	2

R32/R454B/R410A DC 48V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
GFSN040Z48	4.0	1530	520	11.0	2.95	3600	900-5400	101	B	H	2
GVSN040Z48	4.0	1530	520	11.0	2.95	3600	900-5400	198	B	V	2

R134a/R1234yf/R152a DC 48V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
GFSB040Z48	4.0	605	205	4.5	2.95	3600	900-5400	101	B	H	2
GFSB075Z48	7.5	1040	330	7.0	3.15	3600	900-5400	101	B	H	2
GVSB040Z48	4.0	605	205	4.5	2.95	3600	900-5400	198	B	V	2
GVSB075Z48	7.5	1040	330	7.0	3.15	3600	900-5400	198	B	V	2

Other Compressor AC

R407C 1PH 220–240V ~ 50Hz

H:Horizontal Type V:Vertical Type

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
QXC-13K	13.5	2260	760	3.6	2.97	300	A	V	1
QXC-16K	16.4	2670	900	4.1	2.97	300	A	V	1
QXC-19K	19.2	3200	1060	5.0	3.02	315	A	V	1
QXC-21K	20.8	3500	1180	5.6	2.97	330	A	V	1
QXC-23K	23.5	3900	1320	6.0	2.95	330	A	V	1
QXC-30K	30.7	5080	1710	8.1	2.97	340	A	V	1
QXC-36K	35.7	5960	2030	9.8	2.94	340	A	V	1

R22 1PH 220V ~ 50Hz

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
QHR-13E	13.5	2250	750	3.5	3.00	180	A	H	1
QHR-16E	16.4	2800	950	4.5	2.95	180	A	H	1
QHR-19E	19.6	3250	1120	5.1	2.90	190	A	H	1
QHR-23E	23.6	3920	1360	6.3	2.88	190	A	H	1
QXR-13E	13.5	2280	740	3.5	3.08	300	A	V	1
QXR-16E	16.4	2800	910	4.2	3.08	300	A	V	1
QXR-19E	19.2	3250	1070	5.0	3.04	310	A	V	1
QXR-21E	20.8	3520	1180	5.6	2.98	330	A	V	1

MBP Cold Storage AC

R290/R513A/R1234yf/R1270/R134a 1PH 220–240V ~ 50Hz

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
SVP120K	12.0	1500	680	3.2	2.2	238	C	V	1
SVP150K	15.0	1800	820	3.8	2.2	238	C	V	1
SVP236K	23.6	2950	1340	6.2	2.2	252	C	V	1

Mobile/ Commercial Refrigeration DC

R134a&R1234yf &R513A DC 12V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
JFSB116Z12	11.6	916	508	42.5	1.8	3600	900-4000	146	C	H	2
JFSB150Z12	15.0	1175	655	54.6	1.8	3600	900-4000	146	C	H	2

R134a&R1234yf&R513A DC 24V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
JFSB116Z24	11.6	916	458	19.0	2	3600	900～4500	146	C	H	2
JFSB150Z24	15.0	1175	590	24.6	2	3600	900～4500	146	C	H	2
JFSB180Z24	18.0	1400	700	29.2	2	3600	900～4500	146	C	H	2

R134a&R1234yf &R513A DC 48V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
JFSB116Z48	11.6	916	436	9.1	2.1	3600	900～4500	146	C	H	2
JFSB150Z48	15.0	1175	560	11.7	2.1	3600	900～4500	146	C	H	2
JFSB180Z48	18.0	1400	665	13.9	2.1	3600	900～4500	146	C	H	2

R404A&R448A&R449A&455A DC 48V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
KXSD300Z48	30.0	3900	2300	48.0	1.7	3600	900～4500	340	C	V	2
		2250	1875	39.0	1.2	3600	900～4500	340	D	V	2
KHSD300Z48	30.0	3900	2300	48.0	1.7	3600	900～5400	166	C	H	2
		2250	1875	39.0	1.2	3600	900～5400	166	D	H	2

R404A&R448A&R449A&455A DC 312V

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
JHSD150Z312	15.0	2070	1150	3.8	1.8	3600	1800～4800	150	C	H	2
		1180	945	3.1	1.25	3600	1800～4800	150	D	H	2
KHSD203Z312	20.3	2800	1550	5.0	1.8	3600	1800～4800	180	C	H	2
		1590	1270	4.1	1.25	3600	1800～4800	180	D	H	2
KXSD203Z312	20.3	2800	1550	5.0	1.8	3600	1800～4800	325	C	V	2
		1590	1270	4.1	1.25	3600	1800～4800	325	D	V	2
KHSD300Z312	30.0	3900	2300	7.4	1.7	3600	1800～4800	180	C	H	2
		2250	1890	6.1	1.2	3600	1800～4800	180	D	H	2
KXSD300Z312	30.0	3900	2300	7.4	1.7	3600	1800～4800	350	C	V	2
		2250	1890	6.1	1.2	3600	1800～4800	350	D	V	2
TXSD456Z312	45.6	5700	3560	11.2	1.6	3600	1800～4800	450	C	H	2
		3200	2900	9.2	1.1	3600	1800～4800	450	D	H	2

Commercial / Mobile Refrigeration

AC

R404A&R448A&R449A&455A 1PH 220–240V ~ 50Hz

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
QXD-13K	13.5	1700	850	3.9	2.0	310	C	V	1
		820	780	3.6	1.05	310	D	V	1
QXD-16K	16.4	2070	1035	4.9	2.0	310	C	V	1
		1000	950	4.5	1.05	310	D	V	1
KXSD203KS	20.3	2480	1240	5.7	2.0	345	C	V	2
		1200	1060	4.8	1.13	345	D	V	2
QXD-23K	23.6	2780	1545	7.3	1.8	330	C	V	1
		1450	1380	6.5	1.05	330	D	V	1
QXD-30K	30.7	3200	1883	8.7	1.7	340	C	V	1
		1800	1714	8	1.05	340	D	V	1
QXD-36K	35.7	3720	2190	10.3	1.7	340	C	V	1
		2085	1986	9.3	1.05	340	D	V	1
TXSD456KS	45.6	4710	2771	12.9	1.7	435	C	V	1
		2530	2400	11.4	1.05	435	D	V	1
QHD-13K	13.5	1700	850	3.9	2.0	185	C	H	1
		820	780	3.6	1.05	185	D	H	1
QHD-16K	16.4	2070	1035	4.9	2.0	185	C	H	1
		1000	950	4.5	1.05	185	D	H	1
KHSD203KS	20.3	2480	1240	5.7	2.0	185	C	H	2
		1200	1060	4.8	1.13	185	D	H	2
QHD-23K	23.6	2780	1545	7.3	1.8	195	C	H	1
		1450	1380	6.5	1.05	195	D	H	1
QHD-30K	30.7	3200	1883	8.7	1.7	195	C	H	1
		1800	1714	8	1.05	195	D	H	1
THSD329KS	32.9	3400	2000	9.3	1.7	195	C	H	2
		1850	1762	8	1.05	195	D	H	2
QHD-36K	35.7	3720	2190	10.3	1.7	195	C	H	1
		2085	1986	9.3	1.05	195	D	H	1
THSD456KS	45.6	4710	2771	12.9	1.7	195	C	H	2
		2530	2400	11.4	1.05	195	D	H	2

R404A&R448A&R449A&455A 1PH 208–230V ~ 60Hz

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
KXD135YS	13.5	2050	1025	4.8	2.0	310	C	V	1
		950	905	4.3	1.05	310	D	V	1
KXD164YS	16.4	2500	1250	5.8	2.0	310	C	V	1
		1230	1130	5.3	1.08	310	D	V	1
SXD236YS	23.6	3350	1862	8.6	1.8	330	C	V	1
		1760	1660	7.5	1.06	330	D	V	1
TXD307YS	30.7	3775	2221	10	1.7	340	C	V	1
		2185	1980	9.6	1.1	340	D	V	1
TXD357YS	35.7	4390	2582	12.3	1.7	340	C	V	1
		2540	2300	11	1.1	340	D	V	1
KHD135YS	13.5	950	905	4.3	1.05	185	D	H	1
KHD164YS	16.4	1230	1130	5.3	1.08	185	D	H	1
SHD236YS	23.6	1760	1660	7.5	1.06	195	D	H	1
THD307YS	30.7	2185	1980	9.6	1.1	195	D	H	1
THD357YS	35.7	2540	2300	11	1.1	195	D	H	1

Commercial / Mobile Refrigeration

AC

R404A&R448A&R449A&455A 1PH 115V ~ 60Hz

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
KXSD110TS	11.0	1600	800	7.0	2.0	330	C	V	2
		880	704	6.3	1.25	330	D	V	2
KHSD110TS	11.0	1565	803	7.0	1.95	180	C	H	2
		850	708	6.5	1.2	180	D	H	2
KXD164TS	16.4	2400	1200	10.8	2.0	320	C	V	1
		1210	1100	9.8	1.1	320	D	V	1
KHD164TS	16.4	2338	1200	10.6	1.95	185	C	H	1
		1210	1100	9.8	1.1	185	D	H	1
KXSD203TS	20.3	2964	1520	13.5	1.95	345	C	V	2
		1625	1300	12.2	1.25	345	D	V	2
KHSD203TS	20.3	2888	1520	13.5	1.9	180	C	H	2
		1560	1300	12.2	1.2	180	D	H	2
SXD236TS	23.6	3400	1790	15.8	1.9	330	C	V	1
		1800	1636	14.5	1.1	330	D	V	1
SHD236TS	23.6	3400	1790	15.8	1.9	195	C	H	1
		1800	1636	14.5	1.1	195	D	H	1
TXSD329TS	32.9	4080	2400	21	1.7	435	C	V	2
		2205	2100	18.5	1.05	435	D	V	2
THSD329TS	32.9	4080	2400	21	1.7	435	C	H	2
		2205	2100	18.5	1.05	435	D	H	2
TXD357TS	35.7	4410	2600	22.8	1.7	340	C	V	1
		2500	2275	20	1.1	340	D	V	1
THD357TS	35.7	4410	2600	22.8	1.7	195	C	H	1
		2500	2275	20	1.1	195	D	H	1

R404A&R448A&R449A&455A 3PH 380V ~ 50Hz/60Hz

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Height (mm)	Test Conditions	Form	Number of Cylinders
TXD357F	35.7	2300	2180	4.6	1.06	330	D	V	1
TXSD456F	45.6	2700	2500	6.7	1.08	435	D	V	1

Commercial / Mobile Refrigeration

DC

R290 DC 312

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
JVSP150Z220	15.0	2260	922	4.5	2.45	4500	900-5400	243	C	V	2
		1249	735	3.5	1.7	4500	900-5400	243	D	V	2
KHSP203Z220	20.3	2400	1091	5.2	2.2	3600	900-5400	185	C	H	2
		1450	1000	4.6	1.45	3600	900-5400	185	D	H	2

R290 1PH 220–240V ~ 50Hz&60Hz

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
KHP164KS	16.4	1510	735	3.4	2.05	2850	/	185	C	H	1
		905	670	3	1.35	2850	/	185	D	H	1
KHSP203KS	20.3	1870	912	4.3	2.05	2850	/	185	C	H	2
		1120	830	3.9	1.35	2850	/	185	D	H	2
SHP236KS	23.6	2240	1092	4.7	2.05	2850	/	195	C	H	1
		1280	964	3.6	1.33	2850	/	195	D	H	1

R290 1PH 115V ~ 60Hz

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
KHP164TS	16.4	1812	884	7.8	2.05	3460	/	185	C	H	1
		1086	805	7	1.35	3460	/	185	D	H	1
KHSP203TS	20.3	2244	1095	9.7	2.05	3460	/	185	C	H	2
		1345	996	8.8	1.35	3460	/	185	D	H	2
SHP236TS	23.6	2688	1310	11.5	2.05	3460	/	195	C	H	1
		1536	1157	10.2	1.33	3460	/	195	D	H	1

R32&R454B 1PH 115V ~ 60Hz

Model	Displacement (cc/rev)	Capacity (W)	Input Power (W)	Current (A)	COP (W/W)	Rated Speed (rpm)	Speed Range (rpm)	Height (mm)	Test Conditions	Form	Number of Cylinders
KHN088TS	8.8	1658	947	8.3	1.75	3460	/	185	C	H	1
		820	820	7.3	1	3460	/	185	D	H	1
KHSN110TS	11.0	2072	1184	10.4	1.75	3460	/	185	C	H	2
		1025	1025	9.1	1	3460	/	185	D	H	2
SHN138TS	13.8	2600	1486	13.1	1.75	3460	/	195	C	H	1
		1285	1285	11.3	1	3460	/	195	D	H	1
THN228TS	22.8	4300	2457	21.5	1.75	3460	/	195	C	H	1
		2120	2120	18.5	1	3460	/	195	D	H	1

BOYARD

Nominal Rating Of Refrigeration Compressor

Product Category			Capacity(W)@te(℃)–23.3°						
Series	Refrigerant	Power Supply	500	1000	1500	2000	2500	3000	3500
Fixed Speed	R404A	AC220-240V～50Hz							
	R448A	AC208-230V～60Hz							
	R449A	AC115V～60Hz							
	R455A	AC380V～50/60Hz							
	R290	AC220-240V～50Hz							
		AC115V～60Hz							
	R32	AC220-240V～50Hz							
	R454B	AC115V～60Hz							
Variable Speed	R134a	DC12V							
		DC24V							
		DC48V							
		DC72V							
		DC96V							
		DC312V							
	R404A R448A R449A R455A	DC12V							
		DC24V							
		DC48V							
		DC72V							
		DC96V							
		DC312V							
	R290	DC12V							
		DC24V							
		DC48V							
		DC312V							
	R32 R454B	DC12V							
		DC24V							
		DC48V							
		DC312V							

Test Condition

Test Condition	Te (℃)	Tc (℃)	SC (deg)	Ts (℃)
Refrigeration	–23.3	54.4	22.2	18.3

R404A 50HZ Series Product Performance

Performance Data–R404A 1PH 50Hz

Model	Condensing Temp(℃)		Evaporating Temp.(℃)			
			-35	-25	-15	-5
QXD-16K	Capacity(W)	40	611	933	1363	1945
		45	574	873	1268	1792
		50	520	789	1130	1597
QHD-16K	Input Power(W)	40	628	688	754	820
		45	668	732	807	887
		50	708	774	860	956
KXSD203KS	Capacity(W)	40	757	1155	1687	2407
		45	711	1080	1570	2218
		50	644	977	1398	1977
KHSD203KS	Input Power(W)	40	778	852	933	1015
		45	826	906	999	1097
		50	877	958	1064	1183
QXD-23K	Capacity(W)	40	880	1343	1961	2798
		45	827	1256	1825	2579
		50	749	1136	1626	2298
QHD-23K	Input Power(W)	40	904	991	1085	1180
		45	961	1053	1162	1276
		50	1019	1114	1237	1375
QXD-30K	Capacity(W)	40	1145	1747	2551	3640
		45	1075	1634	2375	3355
		50	974	1478	2115	2989
QHD-30K	Input Power(W)	40	1176	1289	1411	1535
		45	1250	1370	1511	1660
		50	1326	1449	1610	1789
QXD-36K	Capacity(W)	40	1331	2032	2966	4233
		45	1250	1900	2761	3901
		50	1133	1718	2459	3476
QHD-36K	Input Power(W)	40	1368	1498	1641	1785
		45	1453	1593	1758	1930
		50	1542	1685	1872	2080
TXSD456KS	Capacity(W)	40	1700	2595	3789	5407
		45	1597	2427	3527	4983
		50	1447	2195	3141	4440
THSD456KS	Input Power(W)	40	1747	1914	2096	2280
		45	1856	2035	2245	2465
		50	1969	2152	2391	2657

Test Condition

Subcooling Temp.	8.3℃	Test Voltage	AC220V～50Hz
Return Gas Temp.	18.3℃	Motor Type	CSR
Compressor Type	Liquid Injection	Refrigerant	R404A

BOYARD

R448A 50HZ Series Product Performance

Performance Data–R448A 1PH 50Hz

Model	Condensing Temp(℃)		Evaporating Temp.(℃)			
			-35	-25	-15	-5
QXD-16K	Capacity(W)	40	573	898	1341	1950
		45	543	846	1258	1814
		50	496	772	1131	1632
QHD-16K	Input Power(W)	40	587	657	733	809
		45	624	699	786	876
		50	661	738	836	945
KXSD203KS	Capacity(W)	40	710	1111	1660	2414
		45	672	1047	1558	2245
		50	614	956	1400	2020
KHSD203KS	Input Power(W)	40	727	814	907	1002
		45	773	865	972	1084
		50	818	914	1035	1170
QXD-23K	Capacity(W)	40	825	1292	1930	2807
		45	781	1217	1811	2610
		50	714	1111	1627	2348
QHD-23K	Input Power(W)	40	845	946	1054	1165
		45	898	1006	1131	1260
		50	951	1063	1203	1360
QXD-30K	Capacity(W)	40	1074	1681	2510	3651
		45	1016	1583	2356	3395
		50	928	1445	2117	3055
QHD-30K	Input Power(W)	40	1100	1231	1372	1515
		45	1168	1308	1471	1640
		50	1237	1382	1565	1769
QXD-36K	Capacity(W)	40	1248	1954	2919	4246
		45	1182	1841	2739	3948
		50	1080	1681	2462	3553
QHD-36K	Input Power(W)	40	1279	1431	1595	1762
		45	1359	1521	1710	1907
		50	1438	1607	1819	2057
TXSD456KS	Capacity(W)	40	1595	2496	3728	5423
		45	1509	2352	3499	5043
		50	1379	2147	3144	4538
THSD456KS	Input Power(W)	40	1633	1828	2037	2250
		45	1735	1943	2184	2435
		50	1837	2053	2324	2628

Test Condition

Subcooling Temp.	8.3℃	Test Voltage	AC220V～50Hz
Return Gas Temp.	18.3℃	Motor Type	CSR
Compressor Type	Liquid Injection	Refrigerant	R448A

R449A 50HZ Series Product Performance

Performance Data–R449A 1PH 50Hz

Model	Condensing Temp(℃)		Evaporating Temp.(℃)			
			-35	-25	-15	-5
QXD-16K	Capacity(W)	40	534	838	1255	1830
		45	507	793	1181	1706
		50	465	726	1068	1541
QHD-16K	Input Power(W)	40	544	612	683	758
		45	579	699	734	822
		50	615	690	784	889
KXSD203KS	Capacity(W)	40	661	1037	1554	2265
		45	628	981	1462	2112
		50	576	899	1321	1907
KHSD203KS	Input Power(W)	40	674	757	845	938
		45	716	865	908	1017
		50	762	855	971	1100
QXD-23K	Capacity(W)	40	769	1206	1806	2633
		45	730	1141	1699	2455
		50	670	1045	1536	2217
QHD-23K	Input Power(W)	40	783	881	983	1090
		45	833	1006	1056	1183
		50	886	993	1129	1279
QXD-30K	Capacity(W)	40	1000	1569	2349	3425
		45	949	1484	2211	3194
		50	871	1360	1998	2885
QHD-30K	Input Power(W)	40	1019	1146	1278	1418
		45	1083	1308	1374	1538
		50	1152	1292	1468	1664
QXD-36K	Capacity(W)	40	1163	1824	2732	3983
		45	1104	1725	2571	3714
		50	1013	1581	2324	3354
QHD-36K	Input Power(W)	40	1184	1332	1487	1649
		45	1260	1521	1598	1789
		50	1340	1503	1707	1935
TXSD456KS	Capacity(W)	40	1486	2330	3490	5088
		45	1410	2204	3284	4744
		50	1294	2019	2968	4285
THSD456KS	Input Power(W)	40	1513	1702	1899	2107
		45	1609	1943	2041	2285
		50	1711	1920	2181	2471

Test Condition

Subcooling Temp.	8.3℃	Test Voltage	AC220V～50Hz
Return Gas Temp.	18.3℃	Motor Type	CSR
Compressor Type	Liquid Injection	Refrigerant	R449A

R455A 50HZ Series Product Performance

Performance Data–R455A 1PH 50Hz

Model	Condensing Temp(℃)		Evaporating Temp.(℃)			
			-35	-25	-15	-5
QXD-16K	Capacity(W)	40	568	887	1322	1923
		45	533	829	1232	1774
		50	483	752	1099	1586
QHD-16K	Input Power(W)	40	576	646	721	796
		45	579	684	769	858
		50	644	719	813	920
KXSD203KS	Capacity(W)	40	703	1097	1636	2381
		45	660	1026	1525	2196
		50	598	930	1361	1963
KHSD203KS	Input Power(W)	40	712	800	892	986
		45	716	847	951	1062
		50	798	890	1007	1139
QXD-23K	Capacity(W)	40	817	1276	1902	2768
		45	767	1193	1772	2553
		50	696	1081	1582	2282
QHD-23K	Input Power(W)	40	828	930	1037	1146
		45	833	985	1106	1235
		50	927	1035	1171	1324
QXD-30K	Capacity(W)	40	1063	1660	2474	3600
		45	998	1552	2306	3321
		50	905	1407	2058	2968
QHD-30K	Input Power(W)	40	1077	1210	1349	1490
		45	1083	1281	1439	1606
		50	1206	1346	1523	1723
QXD-36K	Capacity(W)	40	1236	1930	2877	4187
		45	1160	1805	2681	3862
		50	1052	1636	2393	3452
QHD-36K	Input Power(W)	40	1253	1407	1569	1733
		45	1260	1490	1673	1868
		50	1403	1565	1771	2003
TXSD456KS	Capacity(W)	40	1579	2465	3675	5348
		45	1482	2306	3425	4933
		50	1344	2090	3056	4409
THSD456KS	Input Power(W)	40	1600	1797	2004	2214
		45	1609	1903	2137	2386
		50	1792	1999	2262	2559

Test Condition

Subcooling Temp.	8.3℃	Test Voltage	AC220V～50Hz
Return Gas Temp.	18.3℃	Motor Type	CSR
Compressor Type	Liquid Injection	Refrigerant	R455A

R404A 60HZ Series Product Performance (AC 115V)

Performance Data–R404A 1PH 50Hz

Model	Condensing Temp(℃)		Evaporating Temp.(℃)			
			-35	-25	-15	-5
KXSD110TS	Capacity(W)	40	510	823	1261	2034
		45	503	790	1163	1660
		50	456	694	1056	1519
KHSD110TS	Input Power(W)	40	516	570	629	675
		45	549	607	673	727
		50	583	652	721	787
KXD164TS	Capacity(W)	40	760	1227	1881	3032
		45	750	1177	1734	2475
		50	679	1035	1575	2265
KHD164TS	Input Power(W)	40	769	849	937	1006
		45	818	905	1003	1084
		50	869	973	1074	1174
KXSD203TS	Capacity(W)	40	941	1519	2328	3753
		45	928	1457	2146	3063
		50	841	1281	1949	2804
KHSD203TS	Input Power(W)	40	952	1051	1160	1245
		45	1013	1120	1242	1342
		50	1076	1204	1330	1453
SXD236TS	Capacity(W)	40	1094	1766	2706	4363
		45	1079	1694	2495	3561
		50	978	1489	2266	3260
SHD236TS	Input Power(W)	40	1107	1222	1349	1447
		45	1178	1302	1444	1560
		50	1251	1400	1546	1689
TXSD329TS	Capacity(W)	40	1472	2376	3641	5870
		45	1451	2279	3356	4790
		50	1315	2003	3048	4385
THSD329TS	Input Power(W)	40	1489	1644	1814	1947
		45	1584	1752	1942	2099
		50	1683	1883	2080	2272
TXD357TS	Capacity(W)	40	1597	2578	3951	6369
		45	1575	2473	3642	5198
		50	1427	2174	3308	4759
THD357TS	Input Power(W)	40	1616	1784	1969	2113
		45	1719	1901	2108	2277
		50	1826	2043	2257	2466

Test Condition

Subcooling Temp.	8.3℃	Test Voltage	AC220V～50Hz
Return Gas Temp.	18.3℃	Motor Type	CSR
Compressor Type	Liquid Injection	Refrigerant	R404A

BOYARD

R448A 60HZ Series Product Performance (AC 115V)

Performance Data–R448A 1PH 50Hz

Model	Condensing Temp(℃)		Evaporating Temp.(℃)			
			-35	-25	-15	-5
KXSD110TS	Capacity(W)	40	478	792	1241	2040
		45	475	765	1154	1680
		50	434	679	1057	1553
KHSD110TS	Input Power(W)	40	482	544	611	666
		45	513	580	655	718
		50	544	622	701	779
KXD164TS	Capacity(W)	40	713	1181	1851	3041
		45	708	1141	1720	2504
		50	647	1012	1576	2315
KHD164TS	Input Power(W)	40	719	811	911	993
		45	765	864	976	1071
		50	811	928	1044	1161
KXSD203TS	Capacity(W)	40	883	1461	2291	3764
		45	877	1412	2129	3100
		50	801	1253	1951	2866
KHSD203TS	Input Power(W)	40	890	1004	1128	1229
		45	947	1070	1208	1326
		50	1004	1149	1293	1437
SXD236TS	Capacity(W)	40	1026	1699	2663	4376
		45	1020	1641	2475	3604
		50	932	1456	2268	3332
SHD236TS	Input Power(W)	40	1035	1167	1311	1429
		45	1101	1243	1405	1541
		50	1167	1335	1503	1671
TXSD329TS	Capacity(W)	40	1380	2285	3583	5887
		45	1372	2208	3329	4848
		50	1253	1959	3051	4482
THSD329TS	Input Power(W)	40	1392	1570	1763	1922
		45	1481	1673	1890	2074
		50	1570	1796	2022	2247
TXD357TS	Capacity(W)	40	1498	2480	3888	6388
		45	1488	2396	3613	5260
		50	1360	2126	3311	4863
THD357TS	Input Power(W)	40	1511	1703	1913	2085
		45	1607	1815	2051	2250
		50	1704	1949	2194	2439

Test Condition

Subcooling Temp.	8.3℃	Test Voltage	AC115V～60Hz
Return Gas Temp.	18.3℃	Motor Type	CSR
Compressor Type	Liquid Injection	Refrigerant	R448A

R449A 60HZ Series Product Performance (AC 115V)

Performance Data–R449A 1PH 50Hz

Model	Condensing Temp(℃)		Evaporating Temp.(℃)			
			-35	-25	-15	-5
KXSD110TS	Capacity(W)	40	446	739	1162	1914
		45	444	717	1083	1580
		50	407	639	998	1466
KHSD110TS	Input Power(W)	40	447	506	569	623
		45	476	580	612	674
		50	507	582	657	732
KXD164TS	Capacity(W)	40	664	1102	1732	2853
		45	662	1069	1614	2356
		50	607	952	1488	2186
KHD164TS	Input Power(W)	40	666	755	849	929
		45	710	864	912	1005
		50	755	868	980	1092
KXSD203TS	Capacity(W)	40	822	1364	2144	3532
		45	819	1323	1998	2916
		50	752	1179	1842	2706
KHSD203TS	Input Power(W)	40	824	934	1051	1150
		45	878	1070	1129	1244
		50	935	1074	1213	1351
SXD236TS	Capacity(W)	40	956	1586	2493	4106
		45	953	1538	2323	3390
		50	874	1370	2141	3146
SHD236TS	Input Power(W)	40	958	1086	1222	1337
		45	1021	1243	1313	1446
		50	1087	1249	1410	1571
TXSD329TS	Capacity(W)	40	1286	2133	3353	5523
		45	1282	2069	3125	4560
		50	1176	1843	2881	4232
THSD329TS	Input Power(W)	40	1289	1461	1644	1799
		45	1374	1673	1766	1946
		50	1462	1680	1897	2113
TXD357TS	Capacity(W)	40	1396	2315	3639	5993
		45	1391	2245	3391	4949
		50	1276	2000	3126	4592
THD357TS	Input Power(W)	40	1399	1586	1784	1952
		45	1490	1815	1916	2111
		50	1587	1823	2058	2293

Test Condition

Subcooling Temp.	8.3℃	Test Voltage	AC115V～60Hz
Return Gas Temp.	18.3℃	Motor Type	CSR
Compressor Type	Liquid Injection	Refrigerant	R449A

BOYARD

R455A 60HZ Series Product Performance (AC 115V)

Performance Data–R455A 1PH 50Hz

Model	Condensing Temp(℃)		Evaporating Temp.(℃)			
			-35	-25	-15	-5
KXSD110TS	Capacity(W)	40	474	782	1224	2011
		45	467	750	1129	1643
		50	423	661	1028	1509
KHSD110TS	Input Power(W)	40	473	535	601	655
		45	476	567	641	704
		50	531	606	682	758
KXD164TS	Capacity(W)	40	706	1166	1824	2999
		45	696	1118	1683	2450
		50	631	985	1532	2249
KHD164TS	Input Power(W)	40	704	797	896	977
		45	710	846	955	1049
		50	791	904	1016	1130
KXSD203TS	Capacity(W)	40	874	1443	2258	3712
		45	861	1384	2084	3032
		50	781	1220	1896	2784
KHSD203TS	Input Power(W)	40	872	987	1109	1209
		45	878	1047	1182	1299
		50	979	1119	1258	1399
SXD236TS	Capacity(W)	40	1016	1678	2625	4315
		45	1001	1609	2423	3525
		50	908	1418	2205	3237
SHD236TS	Input Power(W)	40	1014	1147	1289	1405
		45	1021	1217	1375	1510
		50	1138	1300	1463	1627
TXSD329TS	Capacity(W)	40	1367	2257	3532	5805
		45	1347	2165	3259	4743
		50	1222	1907	2966	4355
THSD329TS	Input Power(W)	40	1364	1543	1734	1891
		45	1374	1638	1849	2032
		50	1531	1749	1968	2188
TXD357TS	Capacity(W)	40	1484	2449	3832	6299
		45	1461	2349	3536	5146
		50	1326	2070	3218	4725
THD357TS	Input Power(W)	40	1480	1675	1882	2052
		45	1490	1777	2007	2205
		50	1662	1898	2135	2375

Test Condition

Subcooling Temp.	8.3℃	Test Voltage	AC115V～60Hz
Return Gas Temp.	18.3℃	Motor Type	CSR
Compressor Type	Liquid Injection	Refrigerant	R455A

R404A 60HZ series product performance (AC 220V)

Performance Data–R404A 1PH 60Hz

Model	Condensing Temp(℃)		Evaporating Temp.(℃)			
			-35	-25	-15	-5
KXD135YS	Capacity(W)	40	604	922	1346	1921
		45	567	862	1253	1770
		50	514	780	1116	1577
KHD135YS	Input Power(W)	40	621	680	745	810
		45	659	723	798	876
		50	700	765	849	944
KXD164YS	Capacity(W)	40	734	1120	1635	2334
		45	689	1047	1522	2151
		50	624	947	1356	1916
KHD164YS	Input Power(W)	40	754	826	905	984
		45	801	878	969	1064
		50	850	929	1032	1147
SXD236YS	Capacity(W)	40	1056	1612	2353	3358
		45	992	1507	2190	3095
		50	899	1363	1951	2757
SHD236YS	Input Power(W)	40	1085	1189	1302	1416
		45	1153	1264	1394	1531
		50	1223	1337	1485	1650
TXD307YS	Capacity(W)	40	1373	2096	3061	4368
		45	1290	1961	2849	4026
		50	1169	1773	2538	3587
THD307YS	Input Power(W)	40	1411	1546	1693	1842
		45	1499	1644	1814	1991
		50	1591	1739	1932	2147
TXD357YS	Capacity(W)	40	1597	2438	3560	5080
		45	1500	2280	3314	4681
		50	1359	2062	2951	4171
THD357YS	Input Power(W)	40	1641	1798	1969	2142
		45	1744	1912	2109	2316
		50	1850	2022	2246	2496

Test Condition

Subcooling Temp.	8.3℃	Test Voltage	AC220V~60Hz
Return Gas Temp.	18.3℃	Motor Type	CSR
Compressor Type	Liquid Injection	Refrigerant	R404A

BOYARD

R448A 60HZ Series Product Performance (AC 220V)

Performance Data–R448A 1PH 60Hz

Model	Condensing Temp(℃)		Evaporating Temp.(℃)			
			-35	-25	-15	-5
KXD135YS	Capacity(W)	40	567	887	1325	1927
		45	536	835	1243	1792
		50	490	763	1117	1612
KHD135YS	Input Power(W)	40	580	649	724	799
		45	617	690	776	865
		50	653	729	826	934
KXD164YS	Capacity(W)	40	688	1077	1609	2341
		45	651	1015	1510	2176
		50	595	926	1357	1958
KHD164YS	Input Power(W)	40	705	789	879	971
		45	749	839	943	1051
		50	793	886	1003	1134
SXD236YS	Capacity(W)	40	990	1550	2316	3368
		45	937	1461	2173	3132
		50	856	1333	1953	2818
SHD236YS	Input Power(W)	40	1014	1135	1265	1398
		45	1078	1207	1357	1513
		50	1141	1275	1443	1632
TXD307YS	Capacity(W)	40	1288	2017	3012	4381
		45	1219	1900	2827	4074
		50	1114	1734	2540	3666
THD307YS	Input Power(W)	40	1320	1477	1646	1818
		45	1402	1570	1765	1968
		50	1484	1659	1878	2123
TXD357YS	Capacity(W)	40	1498	2345	3503	5095
		45	1418	2209	3287	4738
		50	1296	2017	2954	4263
THD357YS	Input Power(W)	40	1535	1717	1914	2114
		45	1630	1826	2052	2288
		50	1726	1929	2183	2469

Test Condition

Subcooling Temp.	8.3℃	Test Voltage	AC220V~60Hz
Return Gas Temp.	18.3℃	Motor Type	CSR
Compressor Type	Liquid Injection	Refrigerant	R448A

R449A 60HZ Series Product Performance (AC 220V)

Performance Data–R449A 1PH 60Hz

Model	Condensing Temp(℃)		Evaporating Temp.(℃)			
			-35	-25	-15	-5
KXD135YS	Capacity(W)	40	528	828	1240	1808
		45	501	783	1167	1685
		50	460	717	1055	1522
KHD135YS	Input Power(W)	40	537	604	675	748
		45	572	690	725	812
		50	608	682	775	878
KXD164YS	Capacity(W)	40	641	1006	1506	2196
		45	609	951	1417	2047
		50	558	872	1281	1849
KHD164YS	Input Power(W)	40	653	734	820	909
		45	694	839	881	986
		50	738	828	941	1066
SXD236YS	Capacity(W)	40	923	1447	2167	3160
		45	876	1369	2039	2946
		50	803	1254	1843	2661
SHD236YS	Input Power(W)	40	940	1057	1179	1308
		45	999	1207	1267	1419
		50	1063	1192	1354	1535
TXD307YS	Capacity(W)	40	1200	1883	2819	4111
		45	1139	1780	2653	3833
		50	1045	1631	2398	3462
THD307YS	Input Power(W)	40	1222	1375	1534	1702
		45	1300	1570	1649	1846
		50	1382	1551	1762	1996
TXD357YS	Capacity(W)	40	1396	2189	3278	4780
		45	1325	2070	3085	4457
		50	1215	1897	2789	4025
THD357YS	Input Power(W)	40	1421	1599	1784	1979
		45	1512	1826	1917	2147
		50	1607	1803	2049	2321

Test Condition

Subcooling Temp.	8.3℃	Test Voltage	AC220V～60Hz
Return Gas Temp.	18.3℃	Motor Type	CSR
Compressor Type	Liquid Injection	Refrigerant	R449A

BOYARD

R455A 60HZ Series Product Performance (AC 220V)

Performance Data–R455A 1PH 60Hz

Model	Condensing Temp(℃)		Evaporating Temp.(℃)			
			-35	-25	-15	-5
KXD135YS	Capacity(W)	40	561	876	1306	1900
		45	527	819	1217	1753
		50	478	742	1086	1566
KHD135YS	Input Power(W)	40	569	638	712	787
		45	572	676	759	848
		50	637	710	804	909
KXD164YS	Capacity(W)	40	682	1064	1586	2308
		45	640	995	1478	2129
		50	580	902	1319	1903
KHD164YS	Input Power(W)	40	691	776	865	955
		45	694	821	922	1030
		50	773	863	976	1104
SXD236YS	Capacity(W)	40	981	1531	2283	3321
		45	920	1432	2127	3064
		50	835	1298	1898	2738
SHD236YS	Input Power(W)	40	994	1116	1244	1375
		45	999	1182	1327	1482
		50	1113	1242	1405	1589
TXD307YS	Capacity(W)	40	1276	1992	2969	4320
		45	1197	1863	2767	3985
		50	1086	1688	2469	3562
THD307YS	Input Power(W)	40	1293	1452	1619	1789
		45	1300	1537	1727	1928
		50	1448	1615	1827	2067
TXD357YS	Capacity(W)	40	1484	2316	3453	5024
		45	1392	2166	3217	4635
		50	1263	1963	2871	4142
THD357YS	Input Power(W)	40	1503	1688	1882	2080
		45	1512	1788	2008	2242
		50	1683	1878	2125	2404

Test Condition

Subcooling Temp.	8.3℃	Test Voltage	AC220V～60Hz
Return Gas Temp.	18.3℃	Motor Type	CSR
Compressor Type	Liquid Injection	Refrigerant	R455A