



Inverter Compressor Technology for Air Conditioning

Rotary & Scroll



Why LG Inverter Compressor

Technology

LG compressors are continuously evolving group of high-precision machining and assembly technologies from accumulated techniques for generating sustainable world best compressor. Especially we are enabling to give our customers technical support in order to provide best performance compressor through design mechanism and produce key technology of compressor, inverter motor and drive that makes you to achieve optimized product.

Quality

With the product quality and safety evaluation system that performs basic quality and safety evaluation for products at every production stage. Under the quality gate system, all our products undergo a safety check at each quality gate based on a checklist, preventing shipments of products with quality or safety issues. We also have achieved recognition our quality and sustainability from Europe, North America, China and Japan.

Model Variety

In order to offer you a various product portfolio of air conditioning compressor, our range covers single, twin, two stage of rotary compressor and low pressure and high pressure of scroll compressor. It enables to provide you with full support in all application of your needs.

Customer Support

LG compressors promise to deliver a satisfaction level for all your business stage from research, development to the spec-in that exceeds our customers expectations, and strives to provide the highest value to our customers through a fast, accurate and differentiated service & solution as your business partner.

Scroll

Rotary





Rotary Inverter

Product Range

Capacity [kW, R134a]			1.0		1.5		2.6		5.2		8.0			
Capacity [kW, R410A/R32]			2.0		3.2 3.8		5.3 7.3		8.2 10		15			
			A (Φ101mm)		K (Φ112mm)		J (Φ121mm)		P (Φ139mm)					
Displacement [cc/rev.]			7.2	9.2	10.2	12.8	14.1	20.8	24.0	32.5	33.0	44.2	52.5	
Frame	Refrigerant	R410A												
		R134a												
		R22												
		R32												
	Magnet													
	Pump													

Nomenclature

Refrigerant

Q : R22 G : R410A D : R32
N : R407C E : R134a

Compressor size (unit : mm)

S : Φ95 K : Φ118 V : Φ138
A : Φ106 J : Φ128 P : Φ146

Generation code

D : 2-Stage twin rotary T : Twin rotary
M : Modulation U : Ultra EER
S : Super EER H : Twin super EER

Exterior specification (A-Z)

Motor specification (A-Z)

Motor code

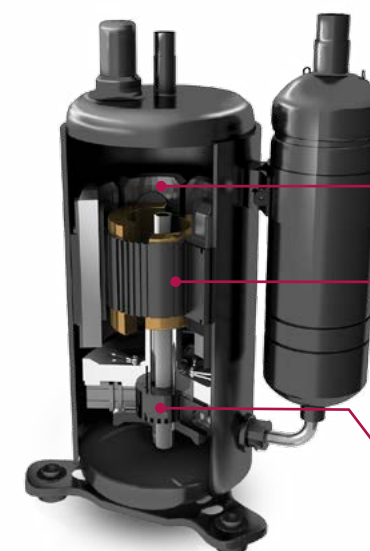
Series	Power source (V)	Motor winding
D	BLDC Inverter	Distributed
M	BLDC Inverter	Concentrated

Capacity

Displacement (ex : 222=22.2cc / rev x 10)

Feature

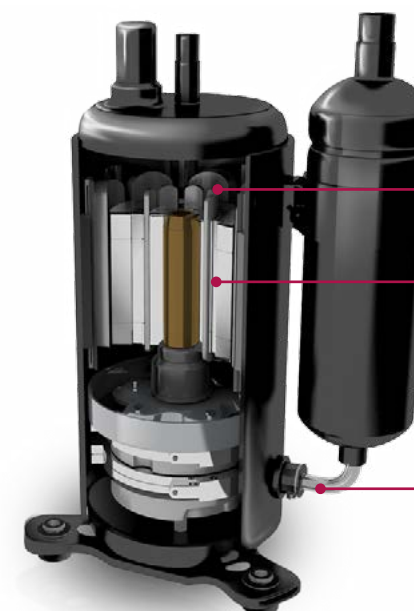
Single Model



Compact size high efficiency variable refrigerant line up
- R410A, R32, R134a

- Low oil discharge for system efficiency & reliability
- High grade rare earth / ferrite magnet
- Low noise with 6-pole motor
- Low loss core design
- Compact design for low mechanical loss & compression loss

Twin Model

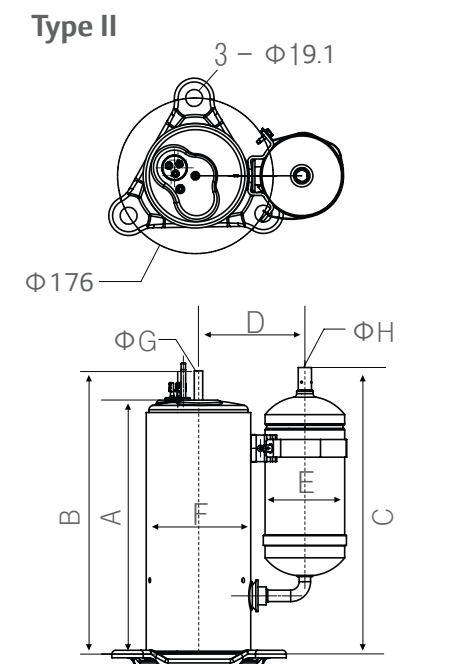


High efficiency 1-suction structure variable application coverage
- Residential, commercial, cold area heat pump

- Low oil discharge structure design for system efficiency & reliability
- Low noise with 6-pole motor
- Low loss core design
- 1-Suction twin pump structure for high seasonal efficiency
- Low suction flow loss design
- Strong reliability design for wide range operation

Type I

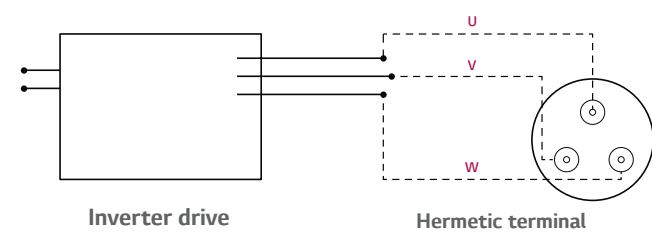
Range (rps)	Dimension (mm)								
	A	B	C	D	E	F	G	H	Type
12~120	231.3	266.3	245.8	101.0	75.0	106.0	8.06	12.8	I
12~120	197.3	232.3	245.8	97.0	75.0	106.0	8.06	12.8	I
12~120	197.3	232.3	245.8	97.0	75.0	106.0	8.06	12.8	I
12~120	231.3	266.3	303.8	101.0	75.0	106.0	8.06	12.8	I
12~120	197.3	232.3	245.8	97.0	75.0	106.0	8.06	12.8	I
12~120	197.3	232.3	303.8	97.0	75.0	106.0	8.06	12.8	I
12~120	231.3	266.3	303.8	97.0	75.0	106.0	8.06	12.8	I
12~120	231.3	266.3	303.8	101.0	75.0	106.0	8.06	12.8	I
12~120	197.3	232.3	303.8	97.0	75.0	106.0	8.06	12.8	I
12~120	231.3	266.3	303.8	97.0	75.0	106.0	8.06	12.8	I
12~120	231.3	266.3	303.8	97.0	75.0	106.0	8.06	12.8	I
12~120	244.6	286.6	316.1	109.7	75.0	118.0	9.7	12.8	I
10~120	287.0	322.0	331.3	109.7	75.0	118.0	9.7	12.8	I
10~120	295.0	330.0	331.3	109.7	75.0	118.0	9.7	12.8	I
10~120	265.5	300.5	315.5	109.7	75.0	118.0	9.7	12.8	I
10~120	265.5	300.5	315.5	109.7	75.0	118.0	9.7	12.8	I
10~120	305.7	340.7	349.5	118.7	90.0	118.0	9.7	12.8	I
10~120	249.5	284.5	331.3	109.7	75.0	118.0	9.7	12.8	I
10~120	269.5	304.5	349.2	118.7	90.0	118.0	9.7	12.8	II
10~120	285.0	320.0	323.0	109.7	75.0	118.0	9.7	12.8	II
10~120	244.5	279.5	339.5	118.7	90.0	118.0	9.7	12.8	I
10~120	274.5	309.5	328.8	118.7	90.0	118.0	9.7	12.8	II
10~120	264.5	299.5	349.5	109.7	75.0	118.0	9.7	12.8	II
10~120	319.7	352.7	365.7	114.2	75.0	127.0	9.7	16.0	II
10~120	299.7	332.7	365.7	114.2	75.0	127.0	9.7	16.0	II
10~120	324.0	357.0	370.0	114.2	75.0	127.0	9.7	16.0	II
12~100	334.8	367.8	436.5	131.4	90.0	146.2	12.8	16.0	II
12~100	334.8	367.8	436.5	131.4	90.0	146.2	12.8	16.0	II
12~100	334.8	367.8	436.5	131.4	90.0	146.2	12.8	16.0	II
20~100	333.1	366.1	369.9	114.2	75.0	127.0	9.7	19.1	II
20~100	383.2	416.2	418.4	131.4	75.0	146.2	12.8	19.1	II
12~120	231.3	266.3	245.8	101.0	75.0	106.0	8.06	12.8	I
12~120	197.3	232.3	245.8	97.0	75.0	106.0	8.06	12.8	I
12~120	197.3	232.3	266.3	97.0	65.0	106.0	8.06	12.8	I
12~120	231.3	266.3	303.8	101.0	75.0	106.0	8.06	12.8	I
12~110	231.3	266.3	303.8	101.0	75.0	106.0	8.06	12.8	I
10~120	245.5	280.5	331.3	109.7	75.0	118.0	9.7	12.8	I
10~120	265.5	300.5	315.5	109.7	75.0	118.0	9.7	12.8	I
10~120	319.7	352.7	365.7	114.2	75.0	127.0	9.7	16.0	II
12~120	334.8	367.8	436.5	131.4	90.0	146.2	12.8	16.0	II
12~100	334.8	367.8	436.5	131.4	90.0	146.2	12.8	16.0	II
12~120	187.7	222.7	212.4	86.0	31.8	106.0	8.06	9.7	I
12~120	187.7	222.7	212.4	86.0	31.8	106.0	8.06	9.7	I
12~120	187.7	222.7	212.4	86.0	31.8	106.0	8.06	9.7	I
12~120	197.7	232.7	212.4	86.0	31.8	106.0	8.06	9.7	I
12~120	187.7	222.7	212.4	86.0	31.8	106.0	8.06	9.7	I



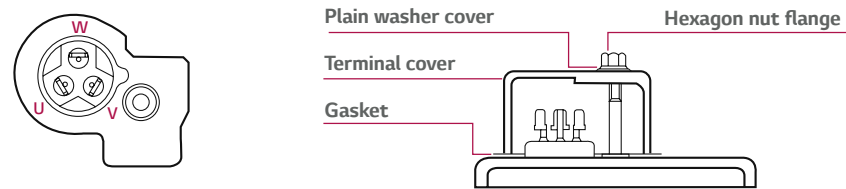
Unit : mm

Note 2:	Test condition	Condenser temperature	Evaporation temperature	Suction temperature	Sub cool
	ASHRAE	54.4°C	7.2°C	35°C	8.3°C
	ARI	54.4°C	7.2°C	18.3°C	8.3°C

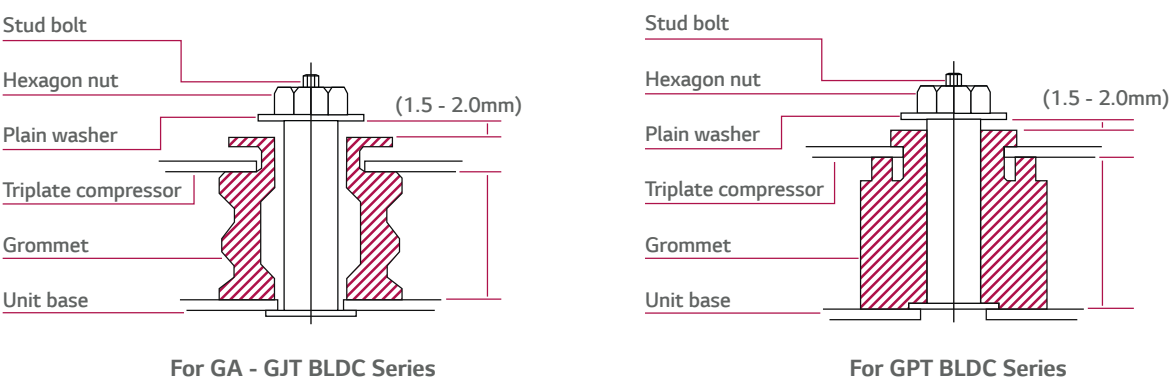
Wiring Diagram



Cover Terminal Fitting



Mounting



Accessory Part

Series	Standard accessory					Optional accessory		
	Terminal cover	Gasket	Plain washer	Hexagon nut	Grommet	Stud bolt	Plain washer	Nut
EA	①	②	③	④	⑤	⑧	⑨	⑩
GA / DA / GK / GKT / GJT	①	②	③	④	⑥	⑧	⑨	⑩
GPT	①	②	③	④	⑦	⑧	⑨	⑩

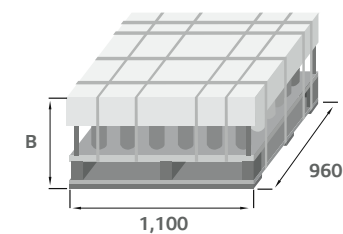


Packing & Container Stuffing Quantity

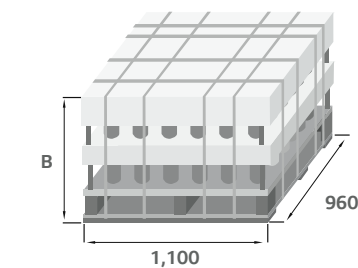
Items	1 Step pallet		2 Step pallet		Packing quantity	1 Container (20ft)			
	Packing quantity	Size	Packing quantity	Size		Pallet quantity			
		B		B		1step	2 step	Accessory	Total
DA / EA / GA	20	430	40	610	1,420	1	35	1	37
GK	20	420	40	645†	1,160	12	23	1	36
DKT / GKT	16	420	32	810	752	1	23	1	25
DJT / GJT	20	510	40	740†	860	3	20	1	24
DPT / GPT	16	520	32	740†	560	11	12	1	24

Note : Packing conditions are subjects to change without notice.

1 Step pallet



2 Steps pallet





Scroll Inverter

Product Range

Capacity [Btu, R410A]		1	2	3	4	5	6	7	17
Frame	LSS	P (Φ 139mm)		B (Φ 160mm)					
	HSS			Q(Φ 147mm)		B (Φ 160mm)			
Frame	LSS	● ● ● ● ●							
	HSS	● ● ● ● ●				● ● ● ● ●			

LSS : Low Side Sell HSS : High Side Sell

Nomenclature

Refrigerant

Type	Series	Ref
LSS	A	R410A
HSS	J	R410A

Compressor size (unit : mm)
P : Φ 139 B : Φ 160 G : Φ 224
Q : Φ 147 R : Φ 179

Generation code (A-Z)

Exterior specification (A-Z)

Motor specification (A-Z)

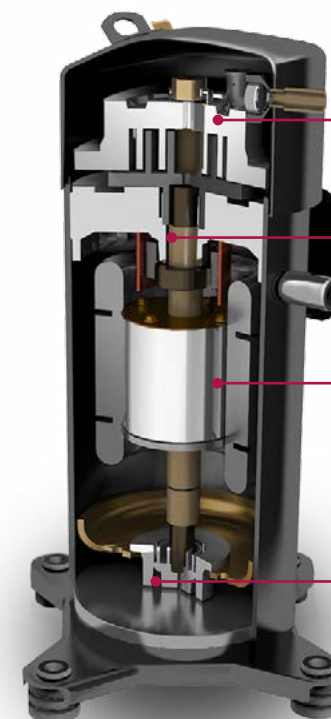
Motor code

Series	Power source (V)	Motor winding
D	BLDC Inverter	Distributed
M	BLDC Inverter	Concentrated

Capacity
(Btu/Hr x 1,000) @ 60Hz

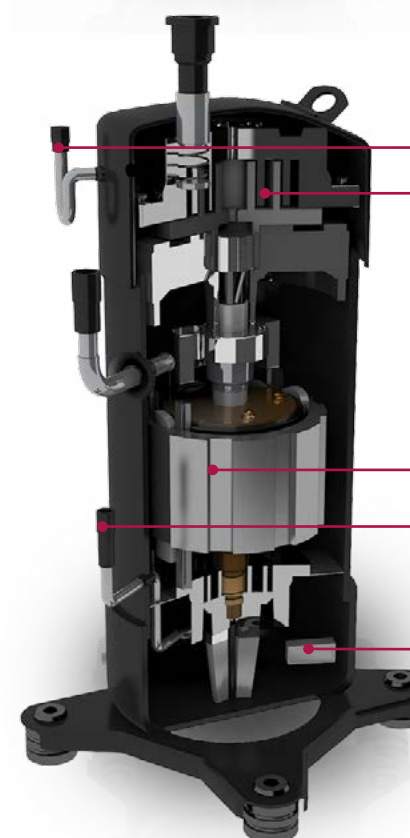
Feature

LSS



- Optimized scroll elements for variable speed performance
- Upper counterweight cup for oil circulation management
- IPM motor technology for highest efficiency
- Proven oil pump for oil delivery at low speed

HSS



- Vapor injection for high efficiency at low ambient temperature
 - Optimized scroll elements for variable speed performance
 - High efficiency motor optimized compressor
 - HiPOR™(High Pressure Oil Return) for high reliability : LG's unique new oil return technology
 - Oil level sensor for high reliability
- HiPOR™ offers
- Innovative reduction of the oil discharging
 - Assure the long-term reliability
 - Improvement of the heat transfer in HEX

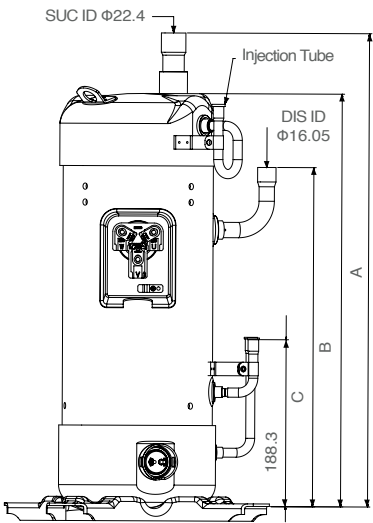
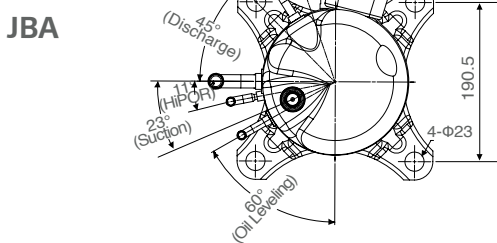
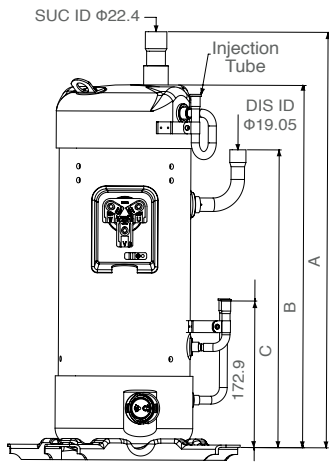
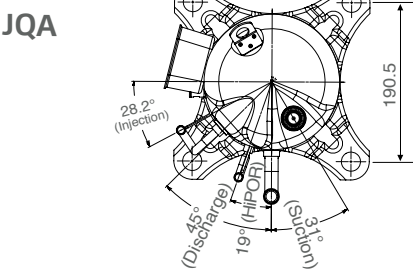
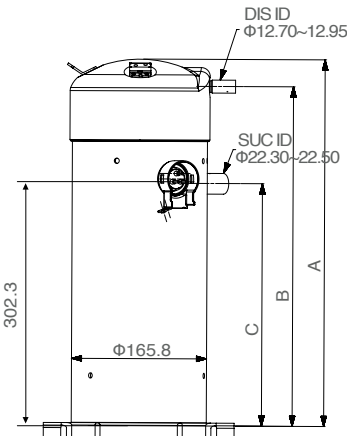
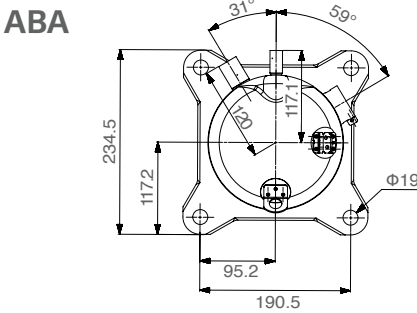
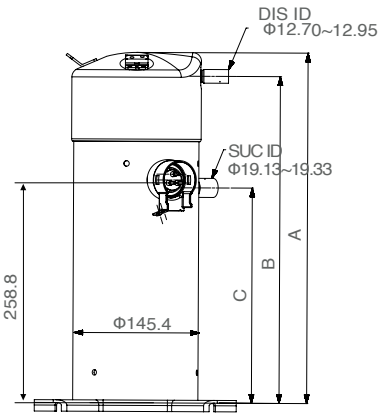
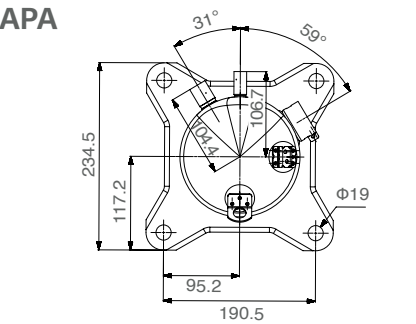
Specification

Refrigerant	Type	Series	Model	Power	Cooling capacity	
					[Btu/hr]	[Watts]
R410A	LSS	APA	APA020DAA	DC380V	24,700	7,239
			APA026DAA	DC380V	31,000	9,086
		ABA	ABA042DBA	DC380V	53,500	15,680
			ABA051DAA	DC380V	64,500	18,904
	HSS	JQA	JQA048MAA	DC380V	59,800	17,514
			JQA048MBA	DC220V	59,500	17,426
		JBA	JBA068MAA	DC380V	84,000	24,602
			JBA068MBA	DC220V	84,000	24,602

Note : Figures in the table are subject to change without prior notice for performance improvement.

Input	EER	COP	Test condition (Cond / Eva Temp)	Range	Dimension (mm)		
					A	B	C
[Watts]	[Btu/W.hr]	[W/W]	[°F]	[rps]			
1,280	19.3	5.66	100 / 45	20~70	406.6	379.2	249.7
1,566	19.8	5.80	100 / 45	20~70	406.6	379.2	249.7
2,716	19.7	5.77	100 / 45	20~70	449.1	415.8	296.9
3,241	19.9	5.83	100 / 45	20~70	449.1	415.8	296.9
2,915	20.5	6.01	100 / 45	15~150	427.6	351.4	490.4
2,915	20.4	5.98	100 / 45	15~150	427.6	351.4	490.4
4,095	20.5	6.01	100 / 45	15~150	446.6	325.8	511.2
4,200	20.0	5.87	100 / 45	15~150	446.6	325.8	511.2

Dimension



Unit : mm

Unit : mm

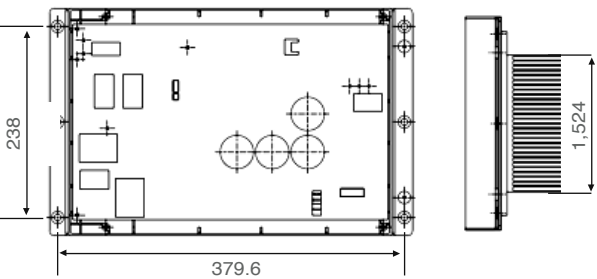
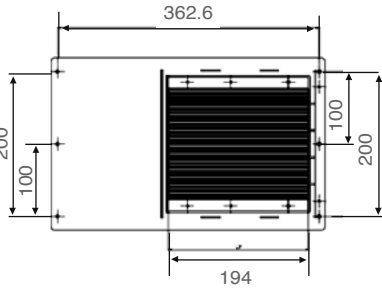
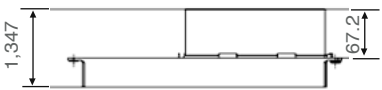
Specification

Drive	Contents		4kW Drive	6kW Drive
	1	Model name (P/No.)	PDR040K010 / 020	PDR060K010 / 020
	2	Rated input voltage	1 Φ, 208-230Vac, 50/60Hz	1 Φ, 208-230Vac, 50/60Hz
	3	Maximum input current	18Arms	29Arms
	4	Maximum input power	4,000 W	6,000 W
	5	Operating compressor Hz	20 ~ 70Hz	20 ~ 70Hz
	6	Converter type / boost up voltage	PFC / 380Vdc	PFC / 380Vdc
	7	PFC ON/OFF Control	Based on Input power 900 / 600 W *1	Based on Input power 900 / 600 W *1
	8	Compressor connection color	Red (U) / Yellow (V) / Blue (W)	Red (U) / Yellow (V) / Blue (W)
	9	Ambient operating temperature	-20°C ~ 48°C	-20°C ~ 48°C
	10	Storage temperature	-40°C ~ 60°C	-40°C ~ 60°C
	11	Max. storage relative humidity	85%	85%

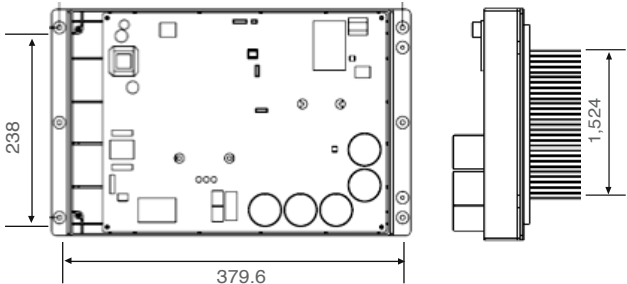
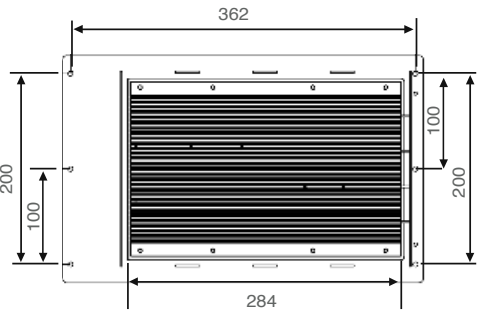
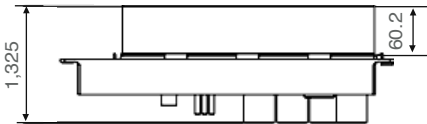
Reactor	Contents		4kW Drive	6kW Drive
	1	Model name (P/No.)	PDR040K030	PDR060K030
	2	Rated input voltage	1 Φ, 208-230Vac, 50/60Hz	1 Φ, 208-230Vac, 50/60Hz
	3	Maximum input current	18Arms	29Arms
	4	Inductance at 20KHz, 1VAC (20°C)	200μH ± 15%	450μH Min

Noise filter	Contents		6kW Drive	
	1	Model name (P/No.)	PDR060K040	
	2	Rated input voltage	1 Φ, 220-240Vac, 50/60Hz	
	3	Maximum input current	29Arms	
	4	Inductance at 1KHz, 1Vac (20°C)	4.03mH Min. (Synthetic inductance)	

4 kW Drive

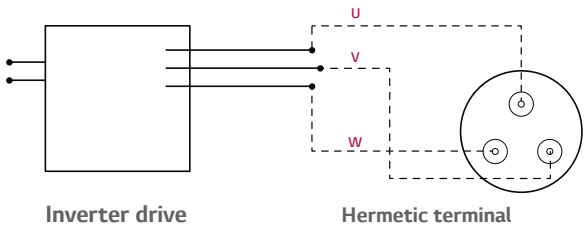


6 kW Drive

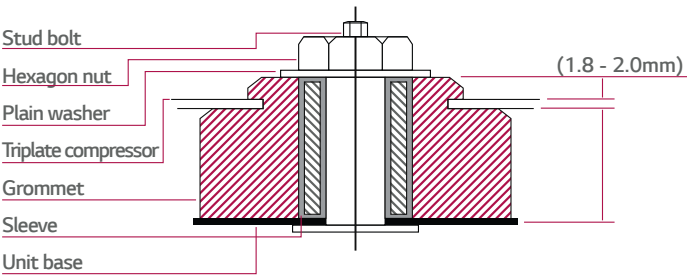


Unit : mm

Wiring Diagram



Mounting



Accessory Part



Note : 4kW Drive has on board noise filter

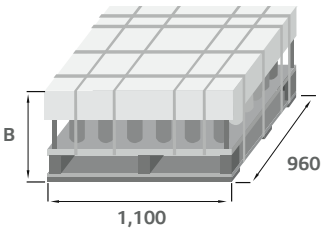
Packing & Container Stuffing Quantity

Unit : mm

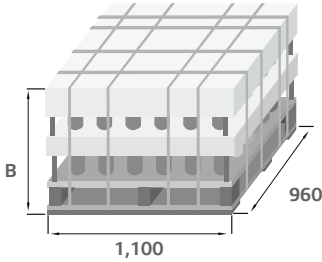
Items	1 Step pallet		2 Steps pallet		1 Container (20ft)				
	Packing quantity	Size B	Packing quantity	Size B	Packing quantity	Pallet quantity			
						Step 1	Step 2	Accessory	Total
AP	12	560	24	980 ↓	564	1	23	1	25
AB	12	560	24	980 ↓	432	12	12	0	24
JB / JQ	9	-	18	985 ↑	315	35	-	1	36

Note 1 : Only available 1 Step pallet for HSS. Note 2 : Packing conditions are subjects to change without notice.

1 Step pallet



2 Steps pallet





Global Network

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