LG Electronics Inc.

Ref. No.	LGACC-060202-010
Date	Feb. 02. 2006
Rev. No.	REV.0
Rev. Date	-

SPECIFICATION SHEET for APPROVAL

MODEL : GJ176VAA

CUSTOMER : EMBRITAL

Purchasing Manager : _____

Engineering Manager : _____

LG Electronics Inc.

Sales Manager : _____

Engineering Manager : _____

Please Return 1 Copy on Your Approval.

Compressor Division LG Electronics Inc.

Tel : (55) 269 - 3868 Fax : (55) 268-4897

1.Specification 1.Specification

1.1 Compressor

1	Compressor Model Name	GJ176VAA
2	Compressor Type	Hermetic Motor Compressor
3	Compression Type	Rotary Type (Rolling Piston Type)
4	Displacement	17.6 cm^3 / rev
5	Refrigerant	R410A
6	Oil / Oil Charging Amount	FVC68D(PVE) 600 ± 10 cc
7	Nitrogen Gas Holding Pressure	0.8 ± 0.2 kg/cm^2G
8	Painting	Black Color Paint
9	Net Weight (Including Oil)	15.2 kg (33.51lb)
10	Suction Tube I.D	ϕ 12.8 $^{+0.15}_{-0}$ mm
11	Discharge Tube I.D	ϕ 9.7 $^{+0.1}_{-0}$ mm

1.2 Motor

Motor Type / Starting Type	3PH Induction Motor / INVERTER	
Pole / Rated Output	2 Pole / 1500 watts	
Power Source	3 Ph - 124 volt - 60 Hz	
Rated Revolution	3450 rpm	
Insulation Class	E Class	
Winding Resistance (at 25 °C)	U□V	0.75± 7% ohm
	V□W	0.74± 7% ohm
	W□U	0.71± 7% ohm

1.3 Performance

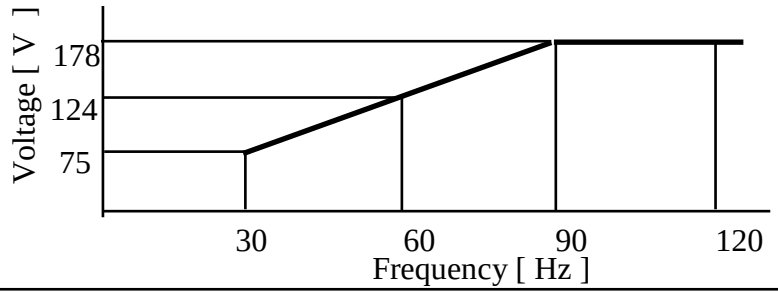
		60Hz 124 volt	90Hz 178 volt
Cooling Capacity	[BTU/h]	16,950	26,900
(± 5.)	[Watts]	4,967	7,883
Power Input (± 5.)	[Watts]	1,803	2,924
EER (± 5.)	[BTU/wh, W/W]	9.4 (2.75)	9.2 (2.70)
Running Current	[A]	10.5	12.0
Sound Pressure Level	[dB(A)]	67 ± 2	72 ± 2
Vibration	[gal]	1400	2200

□) Rating Conditions

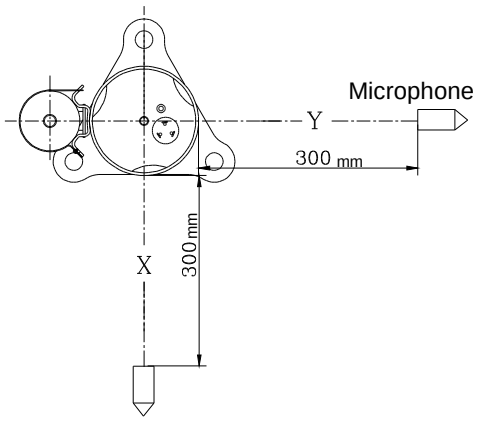
Cond. Temp. : 54.4 ºC (130 ºF)
Evap. Temp. : 7.2 ºC (45 ºF)

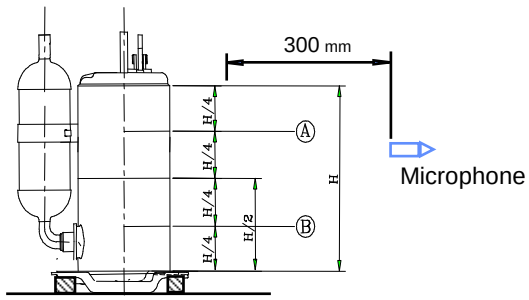
Return Gas Temp. : 35.0 ºC (95 ºF)
Liquid Temp. : 46.1 ºC (115 ºF)
Ambient Temp. : 35.0 ºC (95 ºF)

Standard V/F Characteristic



Noise & Vibration Measuring Points





. Compressor vibration is measured by a vibration meter which is contacted compressor body's Ⓐ, Ⓑ

1.4 Others

Leak Tight Pressure	High Pressure Side	40 kg/cm^2G
	Lower Pressure Side	- kg/cm^2G
Hydrostatic Strength Pressure	High Pressure Side	170 kg/cm^2G
	Lower Pressure Side	80 kg/cm^2G
Insulation Resistance (with 500V D.C Mega Tester)		50 . Min.
Withstand Voltage		at 2,200 V- 1 sec. Leakage Current is less than 5 mA.
Residual Moisture / Residual Impurities		150 mg Max. / 70 mg Max.

1.5 Electrical Component

Part Name	Specification
Running Capacitor	NA
Overload Protector	NA

2.Delivered Parts List

Parts Name	Type (Model)	EA	Parts Dwg. NO. LG	Supply	
Compressor	GJ176VAA	1		(YES)	NO
O.L.P	.	1	-	YES	(NO)
Cover, Terminal	.	1	3550U - L005B	(YES)	NO
Gasket	.	1	4986U - L004A	(YES)	NO
Nut, Hexagon Flange	.	1	1NFZU - L001A	(YES)	NO
Washer, Plain Cover	.	1	1WPZU - L001A	(YES)	NO
Grommet	.	3	4022U - L002A	(YES)	NO
Sleeve, Grommet	.	3	4816U – L001C	(YES)	NO
Bolt, Stud	.	3	1BSZU - L002B	YES	(NO)
Washer, Plain	.	3	1WPZU - L003A	YES	(NO)
Nut, Hexagon	.	3	1NHZU - L001A	YES	(NO)
Capacitor	.	1	-	YES	(NO)

.) Refer to Attachments (Accessory Parts Drawings.)

3.Operating Limit

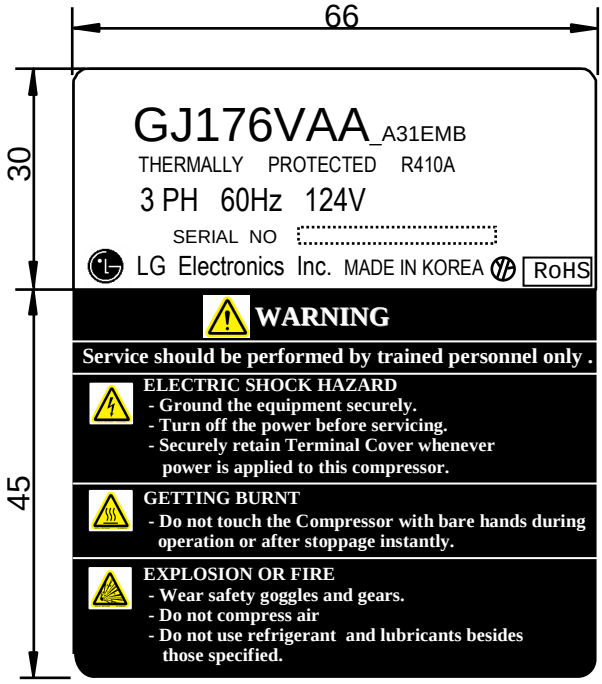
Discharge Pressure	[kg / cm^2 G]	42 max.
Suction Pressure	[kg / cm^2 G]	4.0 ~ 16.0
Motor Coil Temp.	[^oC]	135 Max.

Refrigerant Charge Limit	1,650g Max.
Continuous Flood Back	Continuous Flood Back before the compressor should not be more than 10% of the total circulation quantity of refrigerant.
On/Off Interval & Cycles	On / Off = 3 Minutes / 3 Minutes 20,000 Cycles or less
Voltage Range	Rated Voltage ±10 %
Frequency Range	Rated Frequency ± 2 %
Pressure Difference in Operating	The Pressure Difference in operating shall be 0.49 MPa or more, but 3 minutes starting excluded.
Pressure Difference at Starting	When starting, discharge pressure is balanced with suction pressure.
Tilt in Operation	The allowable tilt of the compressor in operation shall be 5 ^{o} or less

*** Effective Period of This Document ***

This document will be effective after LG's receipt with your authorized signature.
When design modification is approved by the customer, the current document is unavailable.

*** LABEL ***



Ref. No.	LGACC-060202-010
Date	Feb. 02. 2006
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Attachment

PAGE

1. Performance Curve : A-1
2. Performance Table : A-2
3. Compressor Drawing : A-3
4. Wiring Diagram : A-4
5. Accessory Fitting : A-5
6. Part Drawings : A-6 ~ A-11

PERFORMANCE CURVE

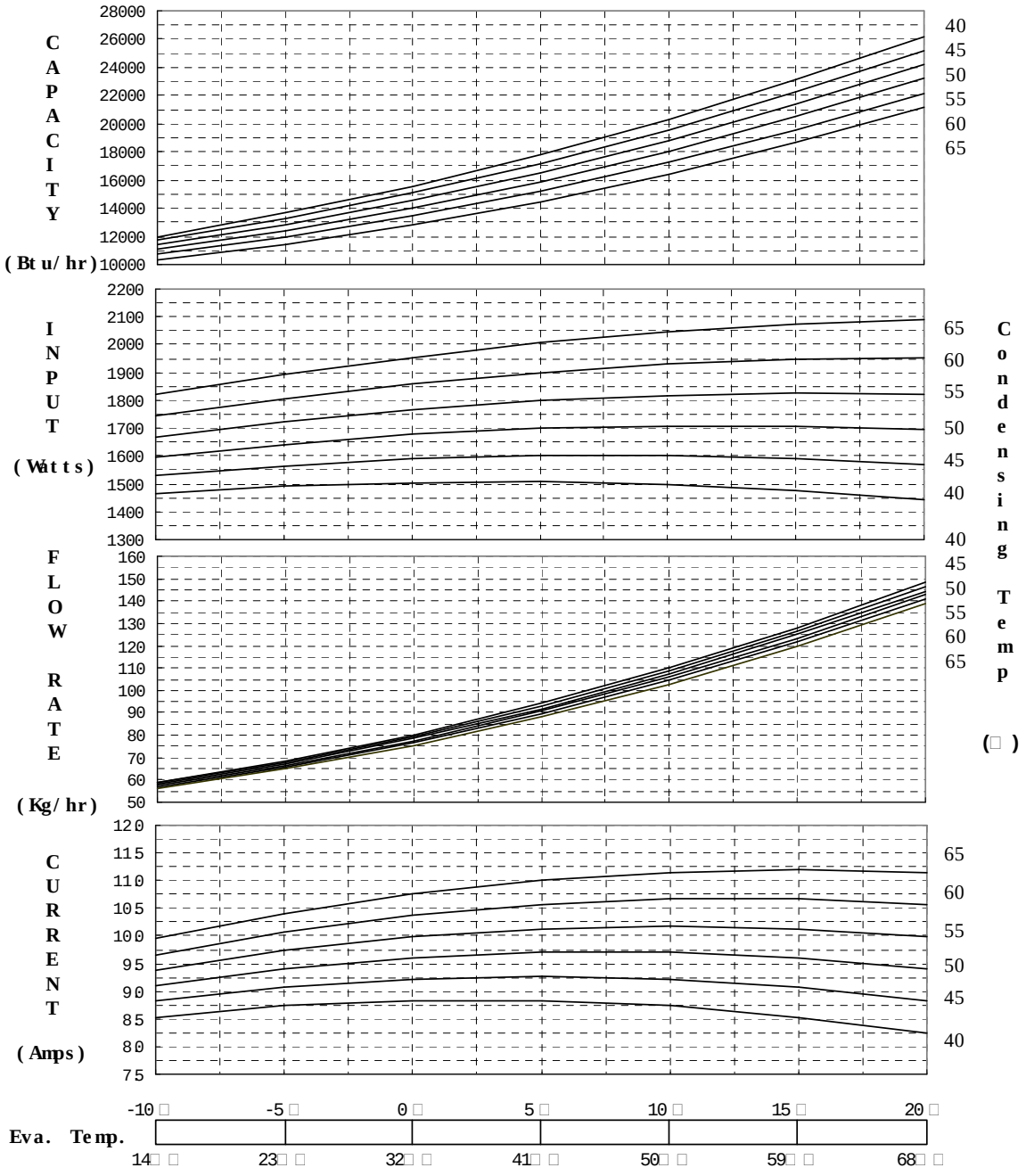
MODEL : GJ176VAA (3PH, 124V-60Hz)

● Rated Condition

Evaporating Temp.	7.2 □	45.0□ □
Condensing Temp.	54.4 □	130.0□ □
Suction Gas Temp.	35.0 □	95.0□ □
Subcooled Temp.	8.3 □	15.0□ □
Ambient Temp.	35.0 □	95.0□ □

Motor Type : AC INVERTER
Running Capacitor : - □ - VAC

Based on 124V at 60Hz



PERFORMANCE TABLE

MODEL : GJ176VAA (3PH, 124V-60Hz)

Saturated Evaporating Temperature	Items		Saturated Condensing Temperature 40□ (104□)	45□ (113□)	50□ (122□)	55□ (131□)	60□ (140□)	65□ (149□)
	Capacity	(Btu/h)	11968	11696	11397	11069	10713	10329
-10□	Input	(Watts)	1464	1529	1597	1668	1742	1819
(14□)	Flow Rate	(kg/h)	59.05	58.69	58.23	57.67	57.02	56.26
	EER	(Btu/Wh)	8.18	7.65	7.13	6.63	6.15	5.68
	Current	(Amps)	8.53	8.82	9.10	9.38	9.67	9.95
	Capacity	(Btu/h)	13633	13250	12838	12399	11931	11436
-5□	Input	(Watts)	1489	1565	1643	1723	1807	1893
(23□)	Flow Rate	(kg/h)	68.63	68.05	67.37	66.58	65.70	64.72
	EER	(Btu/Wh)	9.15	8.47	7.82	7.19	6.60	6.04
	Current	(Amps)	8.73	9.07	9.40	9.73	10.07	10.40
	Capacity	(Btu/h)	15576	15081	14557	14006	13427	12820
0□	Input	(Watts)	1504	1589	1676	1767	1860	1956
(32□)	Flow Rate	(kg/h)	80.32	79.51	78.60	77.59	76.48	75.27
	EER	(Btu/Wh)	10.36	9.49	8.69	7.93	7.22	6.56
	Current	(Amps)	8.83	9.22	9.60	9.98	10.37	10.75
	Capacity	(Btu/h)	17796	17189	16554	15891	15200	14481
5□	Input	(Watts)	1506	1601	1698	1798	1901	2006
(41□)	Flow Rate	(kg/h)	94.10	93.07	91.93	90.70	89.37	87.93
	EER	(Btu/Wh)	11.82	10.74	9.75	8.84	8.00	7.22
	Current	(Amps)	8.83	9.27	9.70	10.13	10.57	11.00
	Capacity	(Btu/h)	20293	19575	18828	18053	17251	16420
10□	Input	(Watts)	1497	1601	1708	1818	1930	2046
(50□)	Flow Rate	(kg/h)	109.98	108.72	107.37	105.91	104.35	102.69
	EER	(Btu/Wh)	13.56	12.23	11.02	9.93	8.94	8.03
	Current	(Amps)	8.73	9.22	9.70	10.18	10.67	11.15
	Capacity	(Btu/h)	23068	22238	21380	20493	19579	18637
15□	Input	(Watts)	1476	1590	1706	1826	1948	2073
(59□)	Flow Rate	(kg/h)	127.97	126.48	124.90	123.22	121.43	119.55
	EER	(Btu/Wh)	15.63	13.99	12.53	11.22	10.05	8.99
	Current	(Amps)	8.53	9.07	9.60	10.13	10.67	11.20
	Capacity	(Btu/h)	26121	25179	24208	23210	22184	21130
20□	Input	(Watts)	1443	1567	1693	1822	1954	2089
(68□)	Flow Rate	(kg/h)	148.05	146.34	144.53	142.62	140.62	138.51
	EER	(Btu/Wh)	18.10	16.07	14.30	12.74	11.35	10.12
	Current	(Amps)	8.23	8.82	9.40	9.98	10.57	11.15

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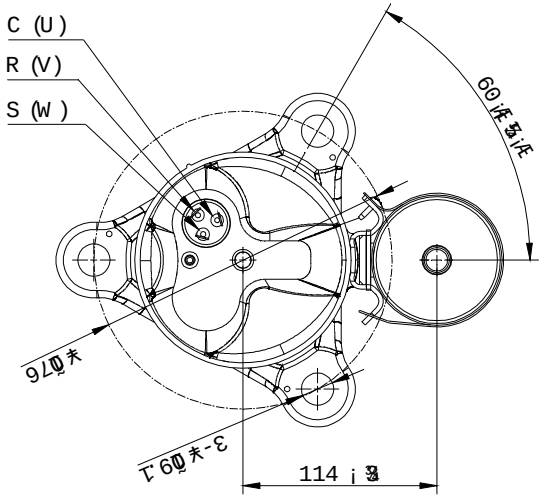
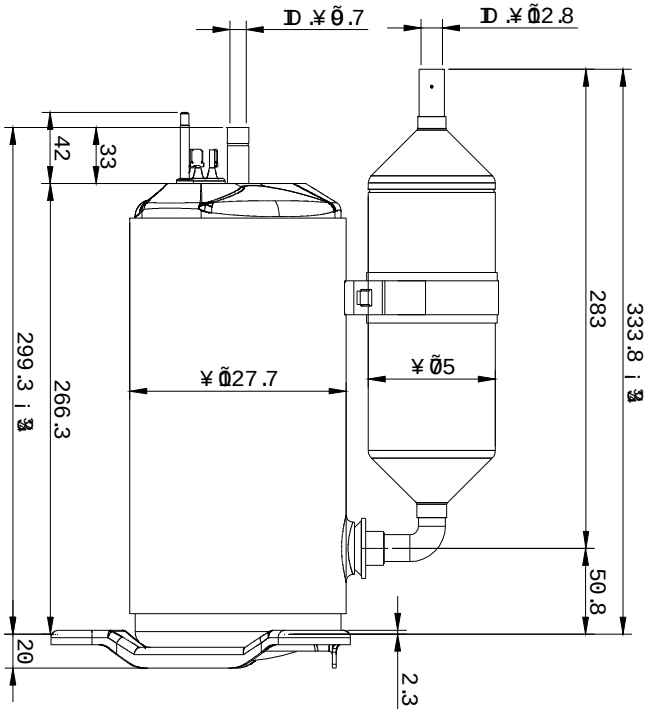


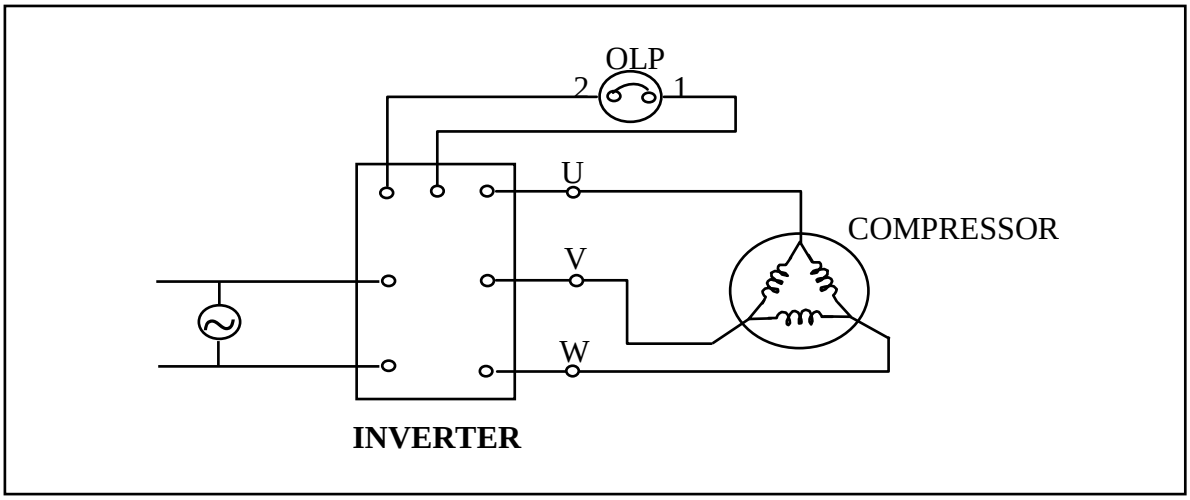


NOTES
1. PAINTING : BLACK PAINT (ELECTRO DEPOSITION)
2. OIL : FVC68D(PVE) OR EQUIVALENT 600 cc CHARGED
3. NITROGEN CHARGED AFTER DEHYDRATION

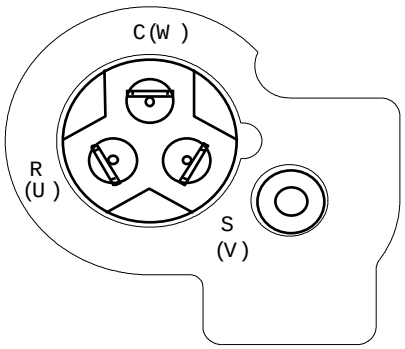
UNIT	mm	SCALE	N / S	COMP. OUT LINE
DES. ENGR.		CHF. ENGR.		
Feb / 02 / 2006 S. J. KU		Feb / 02 / 2006 W.H. JEONG		GJ176VAA
LG Electronics Inc. Comp Division		CUSTOMER Embrital		

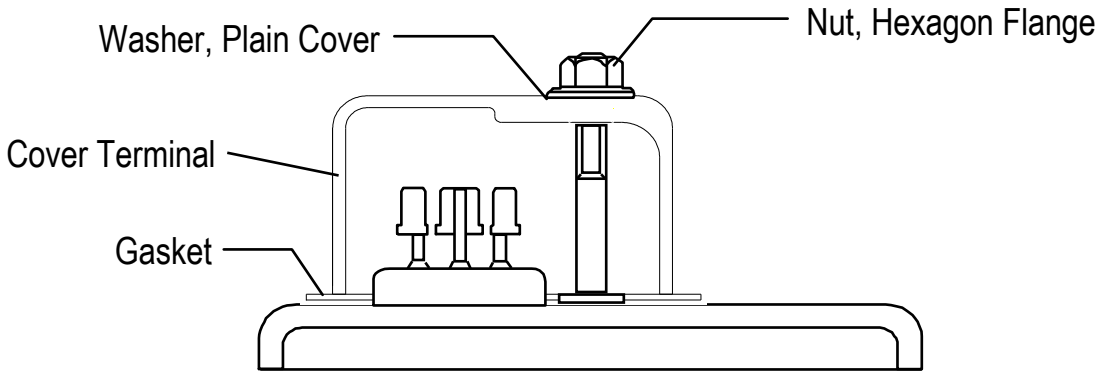
A-3

WIRING DIAGRAM



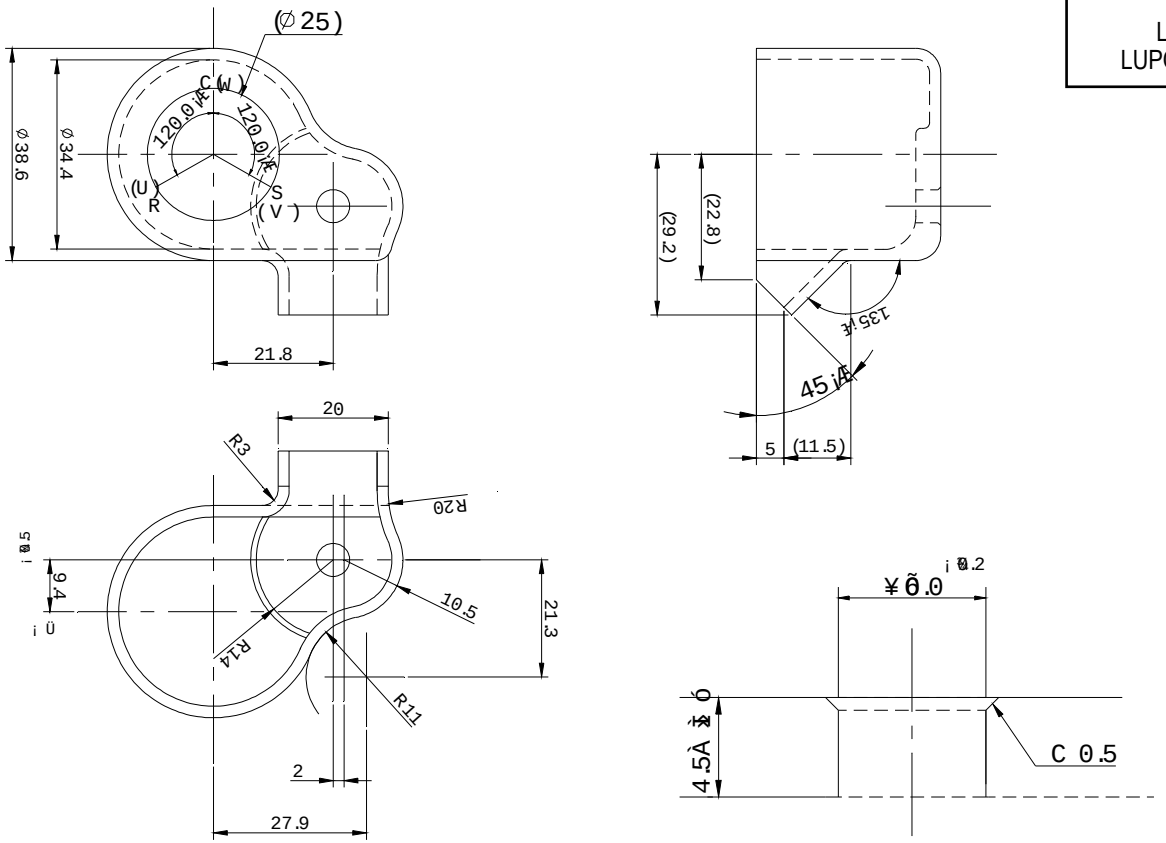
Accessory Fitting

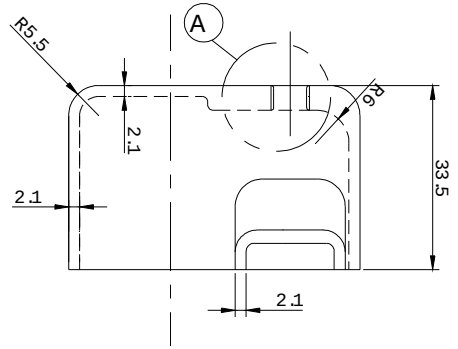




C,S,R Mark Embossed on Cover Terminal

MATERIAL	COLOR	REMARK
LG CHEM. LUPOX TE-5006F	BLACK	MARKS(C(W),R(U),S(V))

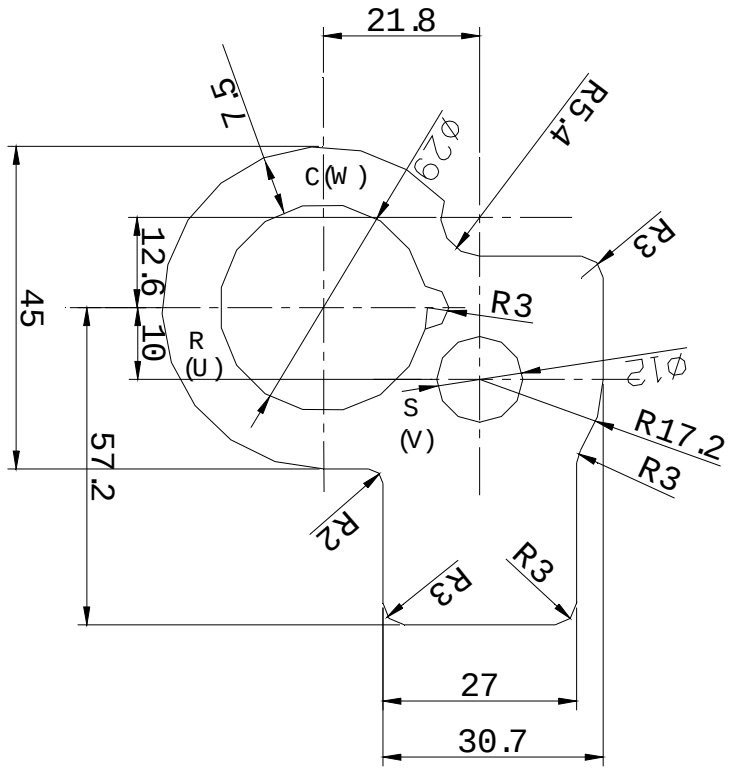


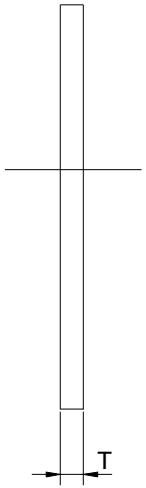


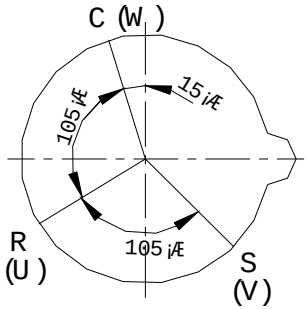
A POINT DETAIL

UNIT	mm	SCALE	N / S	COVER, TERMINAL
DES. ENGR.		CHF. ENGR.		
Feb / 02 / 2006 S. J. KU		Feb / 02 / 2006 W.H. JEONG		3550U-L005B
LG Electronics Inc. Comp Division		CUSTOMER		

T (Thickness)	MATERIAL	REMARK
1.0 +0.2 -0	SILICON	MARKS (C(W),R(U),S(V))

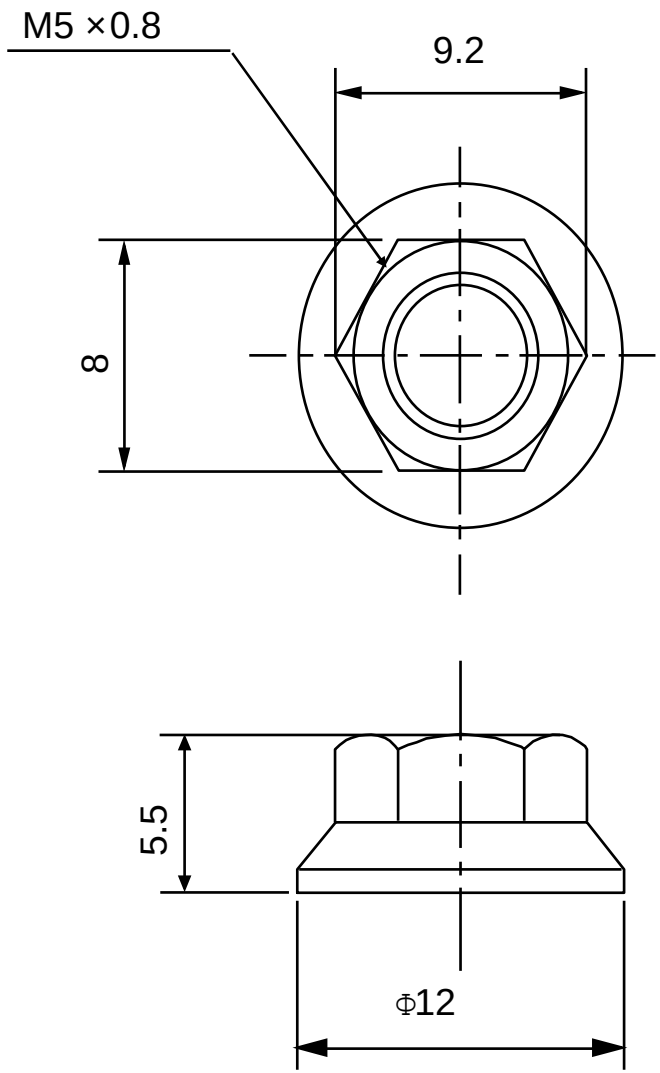






MARKING POINT

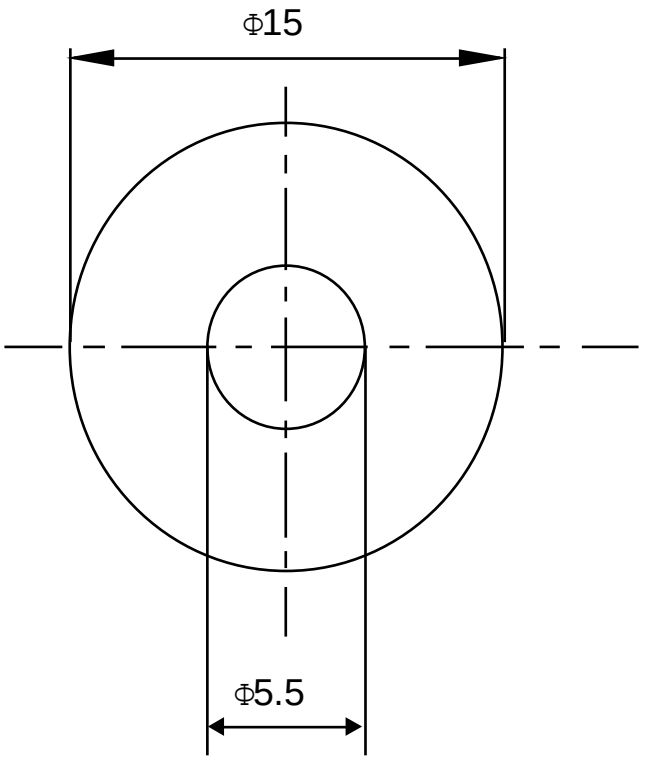
UNIT	mm	SCALE	N / S	GASKET
DES. ENGR.		CHF. ENGR.		
Feb / 02 / 2006 S. J. KU		Feb / 02 / 2006 W.H. JEONG		4986U-L004A
LG Electronics Inc. Comp Division		CUSTOMER		

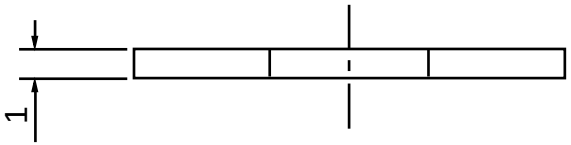


A-8

* MATERIAL : STEEL (CR3 COATING)

UNIT	mm	SCALE	N / S	NUT,HEXAGON FLANGE
DES. ENGR.		CHF. ENGR.		
20 / 12 / 99 Y. K. CHO		20/ 12 / 99 H. C. JEONG		1NFZU-L001A
LG Electronics Inc. COMP. Division		CUSTOMER		



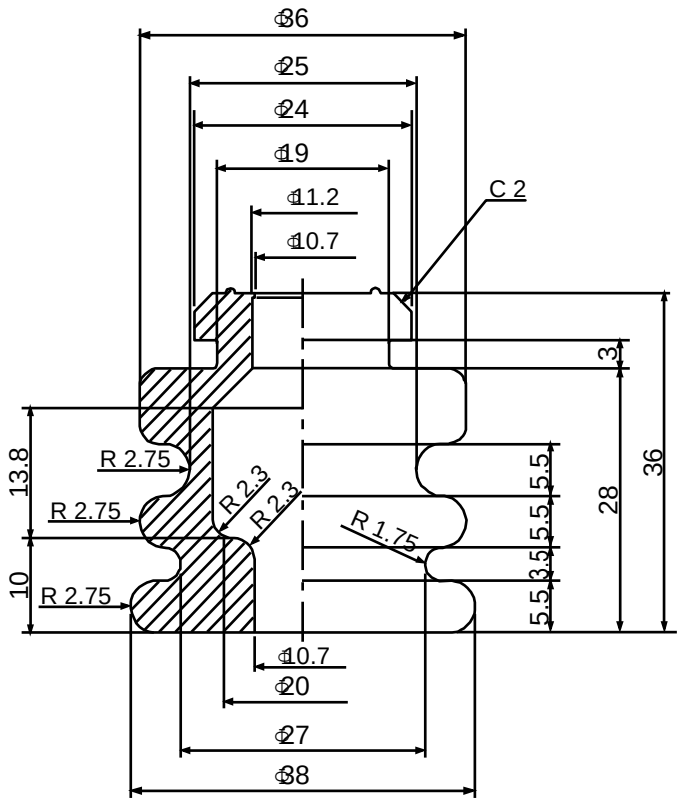


* MATERIAL : POLYAMIDE (NYLON)

UNIT	mm	SCALE	N / S	WASHER, PLAIN COVER
DES. ENGR.		CHF. ENGR.		
20 / 12 / 99 Y. K. CHO		20/ 12 / 99 H. C. JEONG		1WPZU-L001A
LG Electronics Inc. COMP. Division		CUSTOMER		

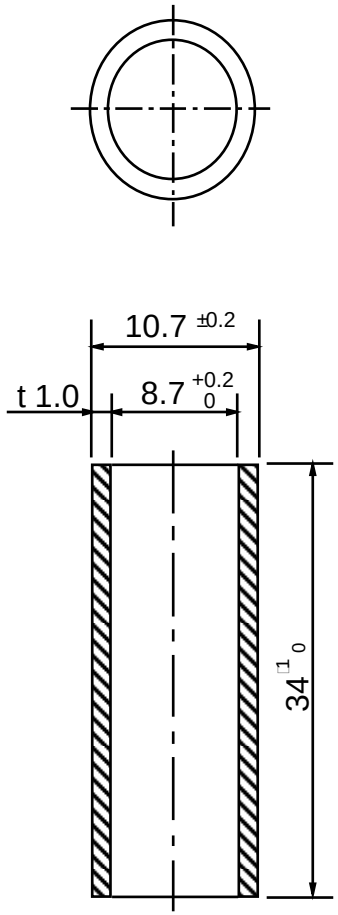
A-9

A-10



* MATERIAL : NATURAL RUBBER

UNIT	mm	SCALE	N / S	GROMMET
DES. ENGR.		CHF. ENGR.		
20 / 12 / 99 Y. K. CHO		20/ 12 / 99 H. C. JEONG		4022U-L002A
LG Electronics Inc. Comp. Division		CUSTOMER		



NOTES
1. MATERIAL : SCP1
2. SURFACE TREATMENT : CR3 COATING

UNIT	mm	SCALE	N / S	Sleeve, Grommet
DES. ENGR.		CHF. ENGR.		
26 / 12 / 97 H. S. JEONG		26 / 12 / 97 H. W. LEE		4816U-L001C
LG Electronics Inc. Comp. Division		CUSTOMER		