

客 戶:

Customer: _____

日 期: June 09, 2022

Date: _____

瑞智迴轉式壓縮機承認規格書

RECHI ROTARY COMPRESSOR SPECIFICATION FOR APPROVAL

機 種:

Model: _____

44A302A

外

觀:

Configuration: _____

K&FEKD

特殊需求識別碼: **01**

Special Identification Code: _____

客戶承認欄

Approved by customer

設 計 變 更 紀 錄 Design Change Record		承認印欄 Signature	承認日期 Date
附件變更 Change accessory新增 標籤 Add tag 保護器變更 Protector change			
冷媒最大充填量 Maximum Refrigerant Charge Amount	1090g		
冷媒實際充填量 Actual Refrigerant Charge Amount	g		
如冷媒實際充填量超過冷媒最大充填量時，請貴公司通知瑞智公司作適當處理。 If the actual refrigerant charge amount exceeds the approved maximum amount, please notify Rechi Precision Company.			

本規格書從貴公司承認之日起生效, 請回傳一份影本至瑞智公司存證。

This document will be effective with your authorized signature. Please return one copy your with your signature and comments.

承 認 Approved by	審 查 Reviewed by	擔 當 Checked by	製 成 Drafted by
 洪稚鵬 2022.06.09	 羅 正 2022.06.09	 焦 典 2022.06.09	 巫 鴻仙 2022.06.09

壓縮機及標準配件清單

List of Compressor & Accessory Parts

名 稱 Part Name	圖 號 Draw. No.	數量 Q'ty	提 供 Supply	備 註 Remarks
壓縮機成品組合 Compressor Assembly	63875KE0	1	YES	
開關蓋 Terminal Cover	60100314	1	YES	
開關蓋墊片 Terminal Cover Gasket	60100103	1	YES	
開關蓋螺帽 Terminal Cover Nut	60100403	1	YES	
過負載保護器彈簧 OLP Spring	60500101	1	YES	
螺釘護套 Bolt Sleeve	60100601	1	YES	
腳墊 Isolator Grommet	60130203	3	YES	
過負載保護器 Overload Protector	60344903	1	YES	

附屬規格

Accessory specification

名 稱 Part Name	圖 號 Draw. No.	備 註 Remarks
壓縮機性能曲線 Performance curve	44A302A	
安裝圖 Fitting diagram	61010201T	
過負載保護器曲線 Overload Protector Curve	B245-140E-141H	

1. 應用 Application

用 途 Application	窗型、分離式、冷暖氣空調機 Window type, Split type, cooling and heating pump, air conditioner.
冷 媒 Refrigerant	R410A, 1090 Max.
電 源 Power Source	208-230 V, 60Hz, 1 PHASE

2. 一般規格 General Specifications

壓縮機種類 Compressor type	全密閉式馬達壓縮機 Hermetic motor compressor
泵種類 Pump type	迴轉式 Rotary
冷凍機油種類、充填量 Oil type and charge amount	NMOC Ze-Gles RB68EP or equivalent 320 cc ± 10 cc
塗裝 Painting	黑色 Black
總重量(含機油) Net weight (oil included)	11.6 kg (參考值) (For reference)
排氣量 Displacement	11.9 cc/rev
氣缸數 Number of cylinder	1
吸入管內徑 Suction tube I.D.	12.8 ^{+0.2} _{-0.1} mm
吐出管內徑 Discharge tube I.D.	8.1 ^{+0.2} _{-0.1} mm

3. 安規認證 Safety Approval

VPC (Taiwan)	: V418043060080
UL (USA, Canada)	: SA10219

4. 馬達規格 Motor Specifications

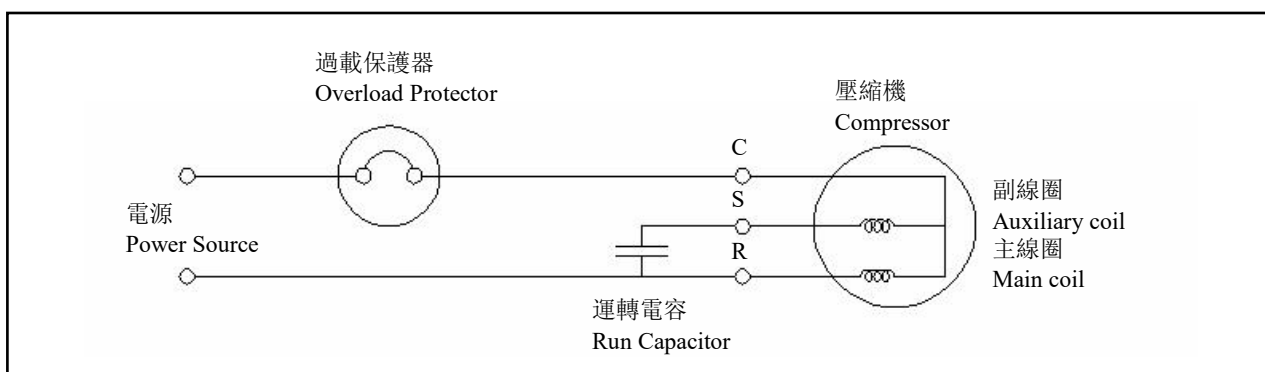
馬達種類 Motor type	單相感應式馬達 Single phase induction motor	
額定電壓, 頻率 Rated voltage , Frequency	208-230 V , 60 Hz	
起動方式 Starting type	永久電容分相式 Permanent split capacitor	
極數 Pole	2	
轉子堵住電流(LRA) Locked Rotor current	29.5 A + 10% Max. (at 230 V)	
絕緣等級 Insulation Grade	E 級 Grade	
線圈電阻 Winding resistance (25°C)	主 線 圈 Main Winding	2.526 Ω $\pm 7\%$
	副 線 圈 Aux. Winding	2.313 Ω $\pm 7\%$

5. 電器零件規格及配線圖

Electrical Component Specifications & Wiring Diagram

過載保護器 Overload protector	Tongbao B245-140E-141H
運轉電容器 Run capacitor	30 μ F / 370 VAC
起動輔助器 PTCR start assist	—

接線圖 Wiring Diagram



6. 性能及特性 Performance and Characteristics

冷凍能力 Cooling Capacity	3505 ± 5 % Watt *	測試條件 Test conditions 凝縮溫度 Condensing Temperature 蒸發溫度 Evaporating Temperature 液態冷媒溫度 Liquid Temperature 吸入溫度 Return Gas Temperature 環境溫度 Ambient Temperature 風速 Air Velocity	230V / 60 Hz 54.4 °C 7.2 °C 46.0 °C 35 °C 35 °C 1 m / sec
	11965 ± 5 % BTU/hr *		
	3015 ± 5 % Kcal/hr *		
消耗電力 Input power	1170 ± 5 % Watt		
電流 Current	5.1 A (參考值) (For reference)		
絕緣阻抗 Insulation resistance	端子與外殼間之電阻值在 50 M Ω 以上。 Resistance between terminal and shell is to be 50 M Ω min.		
耐電壓強度 Dielectric withstand	端子與外殼間施以 1800 volts 1 秒鐘，感應電流在 10 mA 以下。 A potential of 1800 volts is applied for 1 second between terminals and shell, the current induced is to be less than 10 mA.		
冷機起動電壓 Cold starting voltage	壓縮機在 20～35℃ 的環境溫度且高低壓平衡狀態下，施以 187 volts 須能起動。 At the condition of ambient temperature 20 ～ 35 °C and balanced pressure, the minimum starting voltage is to be 187 volts min.		
熱機再起動電壓 Hot Re-starting voltage	在額定條件下運轉後，高低壓差 0.5 kg/cm ² 內，施以 198 volts 須能起動。 After running at rated condition and pressure difference within 0.5 kg/cm ² , the minimum starting voltage is to be 198 volts min.		
噪音量 Noise level	額定負載條件下，於距壓縮機表面 30 cm 處量測，全周平均噪音量在 65 dB(A) 以下。 At rated loading condition, average noise is to be less than 65 dB(A), at a distance of 30 cm from compressor surface.		
振動量 Vibration	額定負載條件下，壓縮機表面之振動半振幅在 40 μ m 以下。 At rated loading conditions, the half vibration amplitude of compressor surface is to be less than 40 μ m.		
氣密壓力 Leak tight pressure	35 kg / cm ² G Min.		
耐液壓強度 Hydrostatic strength	166 kg / cm ² G Min.		
殘留水份 Residual moisture	40 mg Max.	“Karl Fischer” 法	
	100 mg Max.	按國標 GB/T15765-2021 6.8 乾冰測試法	
殘留雜質 Residual impurity	40 mg Max.		
轉子堵住試驗 Locked- rotor test	壓縮機裝上保護器後，於轉子堵住的條件下通電 15 天，不得異常。 The compressor with overload protector operate under locked-rotor condition for 15 days without abnormality.		

* 1 Kcal/hr=3.968 Btu/hr=1.162 Watt.

7. 使用條件 Operation Condition

冷凝溫度 Condensing temperature	工況 Condition	冷凝溫度 Condensing temperature (pressure)	運轉電壓範圍 Voltage range
	標準工況 Standard Condition	54.4℃ Max. (33.5 kg/cm ² G Max.)	198～253 Volts
	過負載工況 Overload Condition	65.0℃ Max. (42.6 kg/cm ² G Max.)	198～244 Volts
蒸發溫度 Evaporating temperature (pressure)	-10 ～ 15 ℃ (壓力範圍 4.8 ～ 11.8 kg/ cm ² G)		
壓縮比 Compressor ratio	6 Max.		
馬達線圈溫度 Motor coil temperature	130 ℃ Max.		
出口管溫度 Discharge tube temperature	115 ℃ Max.		
運轉/停機週程 ON/OFF cycle	連續運轉: 3 分鐘以上, 停機: 3 分鐘以上 ON: 3 minutes Min, OFF: 3 minutes Min		
容許傾斜運轉 Tilt in operation	9° Max.		
容許運轉電流 Current in operation	8.8 A Max.		
液態冷媒迴流 Liquid refrigerant flood back	運轉中不得有液態冷媒進入缸體。如在冷媒進入壓縮機前有液態產生, 需另裝一儲液器或減少冷媒充填量, 以防止液態冷媒迴流進壓縮機。 In operation, liquid refrigerant is not allowed to flood back to the cylinder chamber. If liquid refrigerant occurs, it should be equipped with another accumulator or refrigerant charge should be reduced to prevent liquid refrigerant flooding back.		
異常噪音 Abnormal noise	運轉中不得有異常噪音發生。 Abnormal noise is not allowed in operation.		

註: 各項電壓條件, 以壓縮機端子處的電壓為準。

The voltage should be measured across the compressor connection terminal.

8. 使用注意事項 Operation Notice

機油 / 冷媒 Oil / Refrigerant	1.所有壓縮機之冷凍機油均經去水、淨化處理，請勿添加額外機油。 The oil is meticulously cleaned and is free from air and moisture. Do not add extra oil into compressor. 2.禁止使用規定之外的冷媒。 Only specified refrigerant can be used.
防衝擊 Against from impact	施於壓縮機之衝擊不得超過 30G。 The impact applied upon the compressor should not be more than 30G.
防濕氣 Against from moisture	1.壓縮機內部已充入乾燥氮氣，使用時請先拔高壓側(排氣口)的橡膠管，否則有冷凍機油噴出的隱患。 The compressor has been filled in dry nitrogen. Please pull out the rubber plug on the high pressure side (discharge tube) at first, otherwise refrigerant oil might eject. 2.壓縮機管塞取下後，需於 10 分鐘內裝入系統，防止水分進入導致壓縮機內部金屬件生銹。 After removing compressor rubber plugs, compressor should be loaded into the system within 10 minutes to prevent moisture from entering and causing rust inside of compressor.
空氣壓縮 Air compressing	禁止壓縮機於空氣中運轉 Compressor operating in the air is prohibited 1.請絕對禁止壓縮機於空氣中運轉，因會導致壓縮機爆炸，且可能導致人員重傷。 Compressor operation in the air is prohibited to avoid explosion which can cause serious injury. 2.如果冷媒配管連接不當，會導致冷媒洩漏，空氣從洩漏位置進入，形成壓縮機於空氣中運轉之狀態，最終導致壓縮機故障或爆炸。 Proper piping is required. Leakage could cause malfunction or explosion. 3.當壓縮機處於以下①②③並存的條件時，易形成壓縮機於空氣中運轉之狀態，產生異常高溫高壓，最終導致冷凍機油的溫度上升到引火點導致爆炸。 When compressor operates under the following ①②③ concomitant conditions, the pressure and temperature inside of compressor becomes high due to the air compression. The temperature of lubricating oil may raise to the flash point to cause explosion. ①冷媒迴路內混入空氣（配管連接部位或壓縮機吸氣側的洩漏）。 Refrigerant and air are mixed in the refrigerant path (leakage occurs at the connection piping or the suction side of compressor). ②冷媒迴路中有堵塞。 Blockage happened in the refrigerant path. ③壓縮機運轉中。 Compressor operate continuously.

儲存時間 Storage period	1.壓縮機須於製造日期起一年內裝入系統。 Compressor must be installed to the unit within 1 year after the compressor manufactured date which is shown on the label of compressor. 2.壓縮機應存放在濕度低、灰塵少的室內倉儲，儲存時需按包裝箱上之規定進行疊放，超出規定疊放易導致包裝材料破損，疊放之壓縮機有倒塌的隱患。 Compressor should be placed in the indoor storage where is at lower humidity and with less dust, and stack up according to notes on the packing components. If the stacks are over the limitation, the stack-compressor may collapse and damage.
接線 Wiring	壓縮機啟動運行前，請嚴格按照接線方式正確連接，絕對禁止壓縮機反向運轉，避免電機零部件燒毀。 Please connect compressor properly according to the wiring diagram before compressor being used to prevent compressor operating in the wrong direction and burning out motor.
組裝 Assembly	1.焊接排氣管端的配管時，需完全避免焊槍火焰燒灼到電接頭，建議焊接時不要移除電接頭防護蓋或者增加擋火材料對電接頭進行防護，否則會導致電接頭受到高溫衝擊產生破裂，導致洩漏。 The flame of welding torch should avoid the terminal while welding the discharging tube. We suggest to keep terminal cap on the terminal or use fire blocking component to protect terminal and avoid high temperature which might cause terminal breakage and leakage. 2.鎖緊頂蓋直釘螺帽時，需管控鎖緊扭力，避免螺牙出現滑絲或斷裂，建議扭力值為 20 kgf-cm(2.0 N-m)以下。 The torque to lock the terminal cover nut should be controlled to avoid screw damage. The suggested torque is under 20 kgf-cm(2.0 N-m). 3.退腳架接地螺釘的工具需保持與螺釘方向垂直，防止接地螺釘凹槽被破壞，導致滑牙無法退出。 The tool for unlocking ground screw should keep perpendicular to the screw to prevent damage while using.
警告 Warning	請不要裸手觸摸運行中或剛停機正處於高溫狀態下的壓縮機，避免燙傷。 Please do not touch the compressor in operation or the compressor under high temperature with undraped hands to avoid scalding.
測試 Test	若要對壓縮機進行性能測試，首次測試前，建議按正常工況運轉 1 小時後再進行，使系統內部零部件充分潤滑磨合。 To do performance tests for compressor, it is recommended to operate new compressor at rated working conditions for 1 hour to make sure all parts inside of compressor are lubricated well.
有效期限 Duration of effectiveness	本規格書在貴公司簽字承認後正式生效，如有設計變更經貴公司承認，本規格書自動無效。 This document will be effective with your authorized signature. When further design modification is approved by the customer, this document will be invalid automatically.

性能曲線圖

Performance Curve

機型

Model

電源

Power Supply

運轉電容

Run Capacitor

44A302A

230V / 60Hz / 1PH

30 μ F / 370 VAC

吸入溫度

Return Gas Temperature

35°C

過冷度

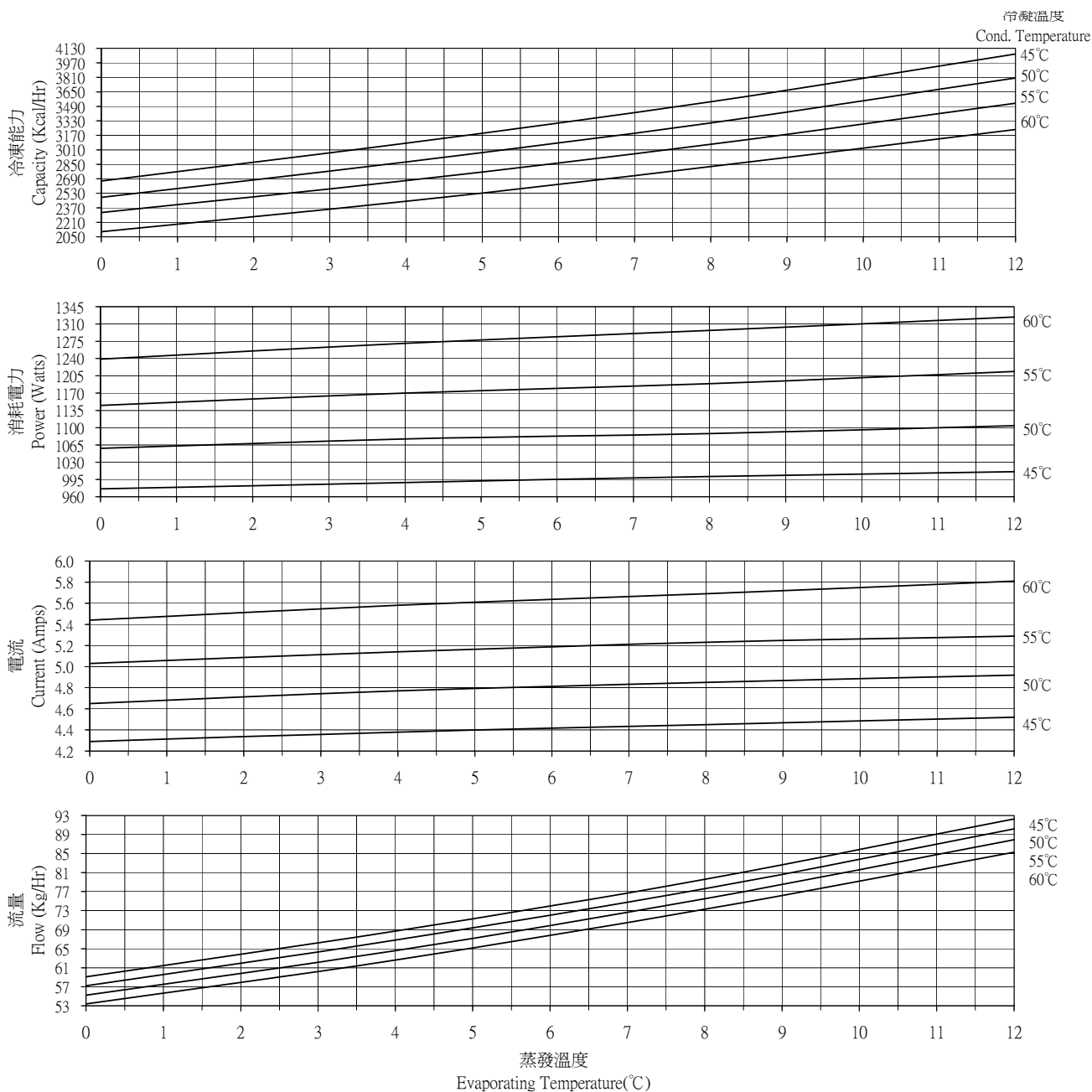
Subcooling

8.3°C

週圍溫度

Ambient Temperature

35°C



承認
APPROVED

審查
CHECKED

製成
DRAFTED

謝
2008.09.12
明峯

謝
2008.09.12
明峯

徐
2008.09.12
金輝

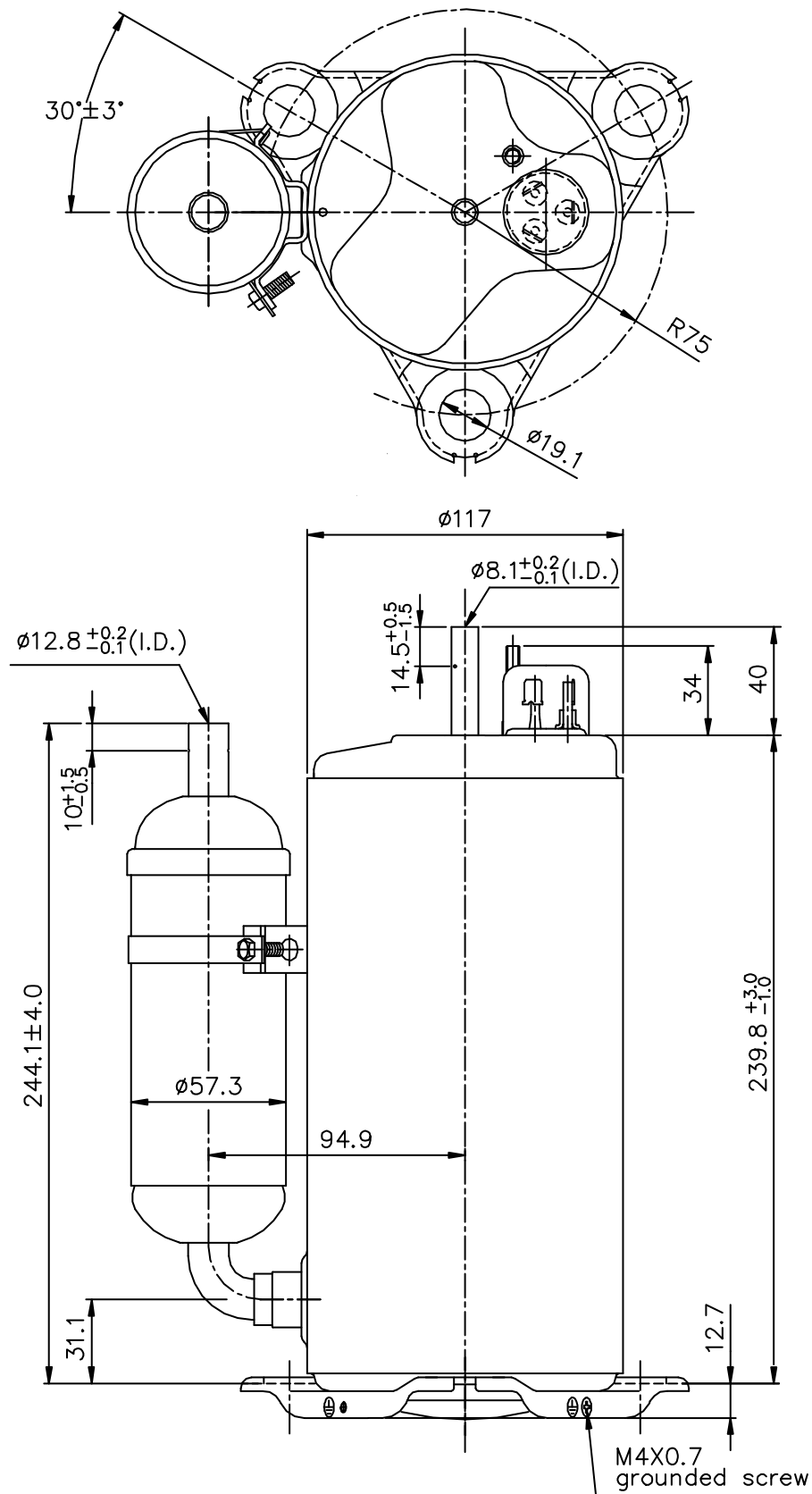
CO., LTD

圖名 Dwg. Name

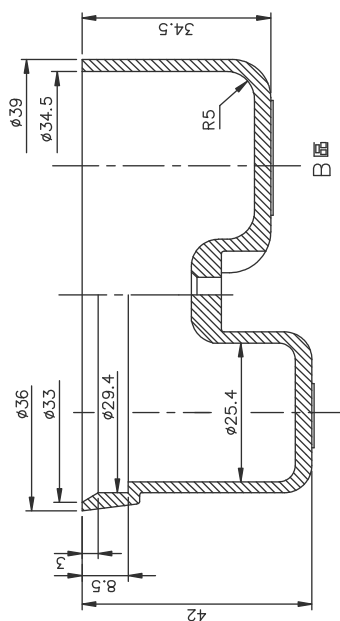
圖號 Dwg. No.

性能曲線圖

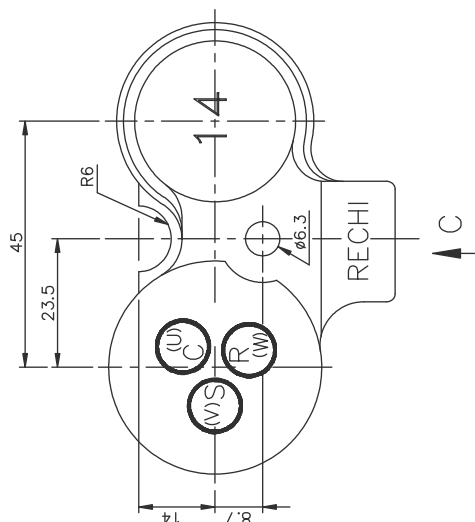
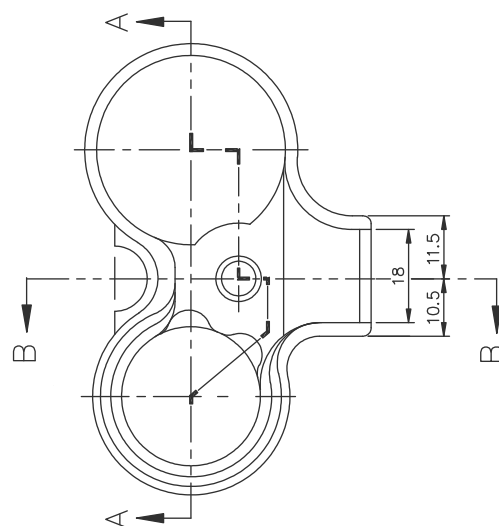
44A302A



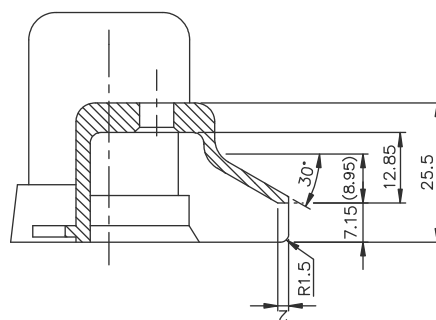
承認 APPROVED	審查 CHECKED	製成 DRAFTED		
			圖名 Dwg. Name	圖號 Dwg. No.
			壓縮機外觀圖 Compressor outline drawing	63875KE0



A-A SECTION



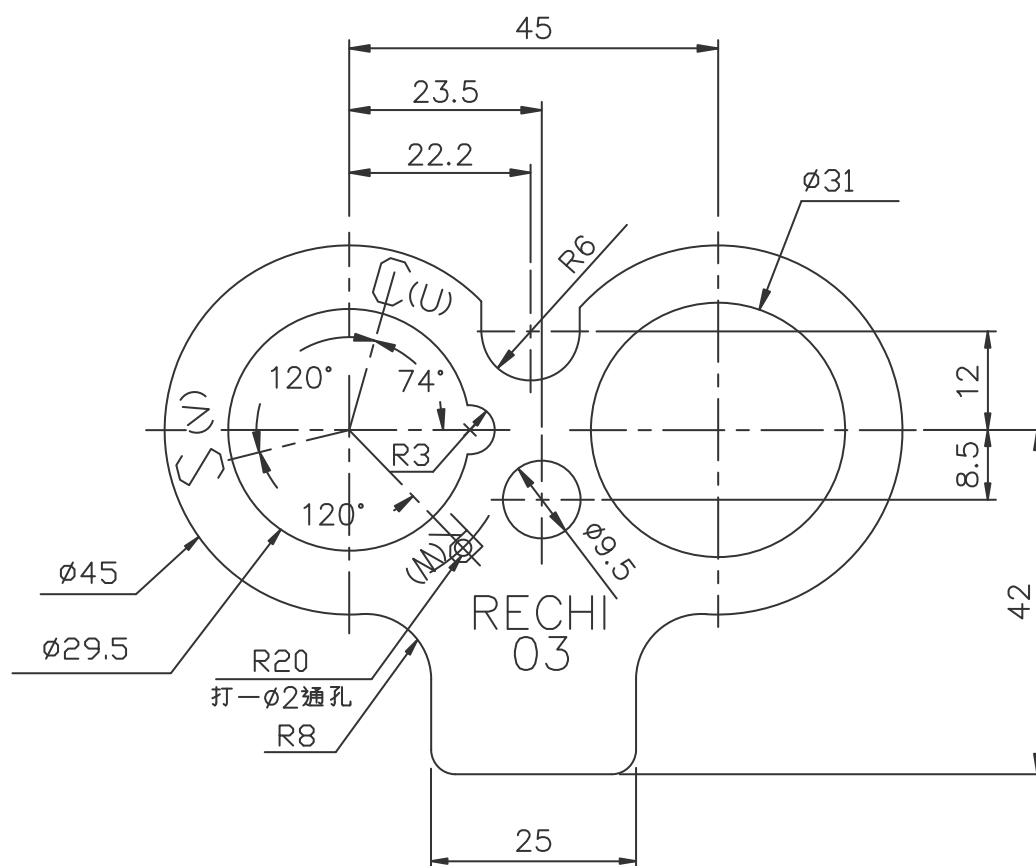
VIEW C



B-B SECTION

註：
1. 材料 (Material): PET
2. 需符合 (Must Match) UL 94-5VA

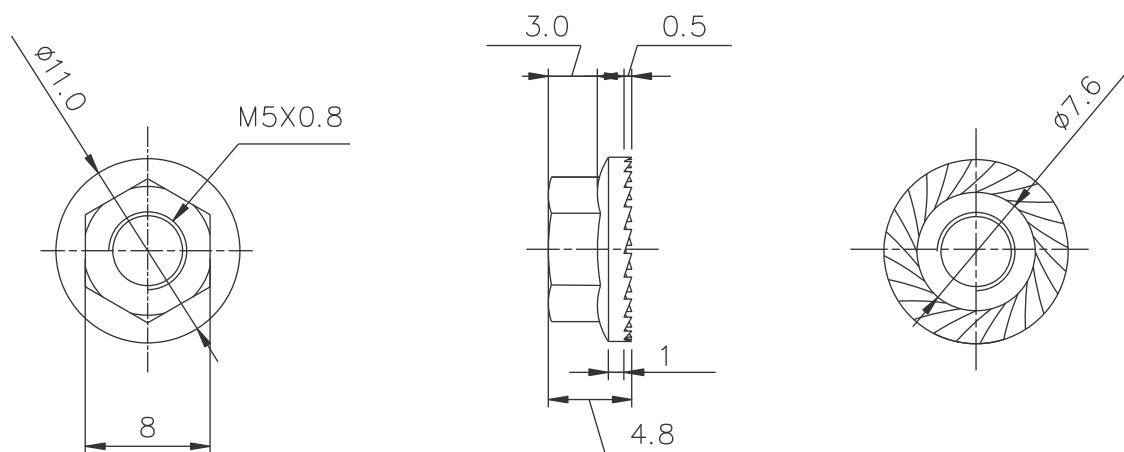
承認 APPROVED	審查 CHECKED	製成 DRAFTED		
			圖名 Dwg. Name	圖號 Dwg. No.
			開關蓋 Terminal Cover	60100314



註(NOTE)：

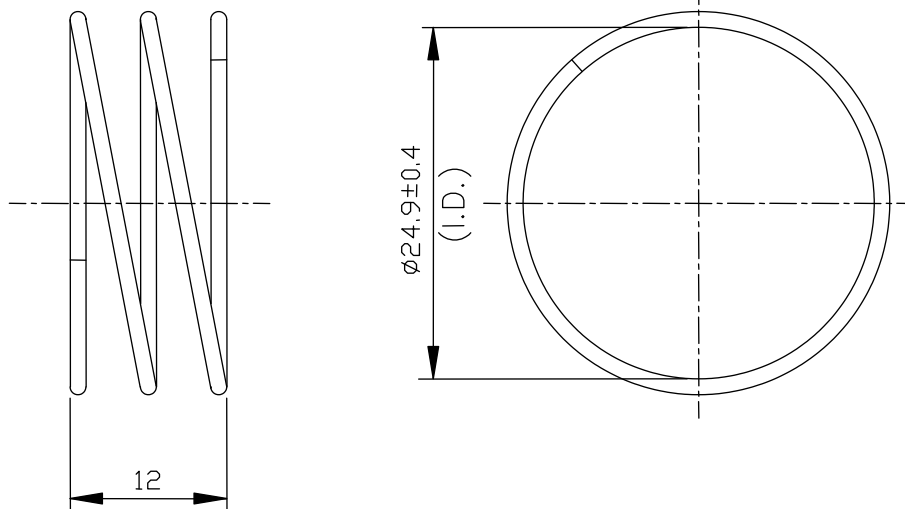
- 1.材料(Material)：EPDM.
- 2.硬度(Hardness)：60°±5°A
- 3.厚度(Thickness)：1.5mm

承認 APPROVED	審查 CHECKED	製成 DRAFTED		
			圖名 Dwg. Name	圖號 Dwg. No.
			開關蓋墊片 Terminal Cover Gasket	60100103



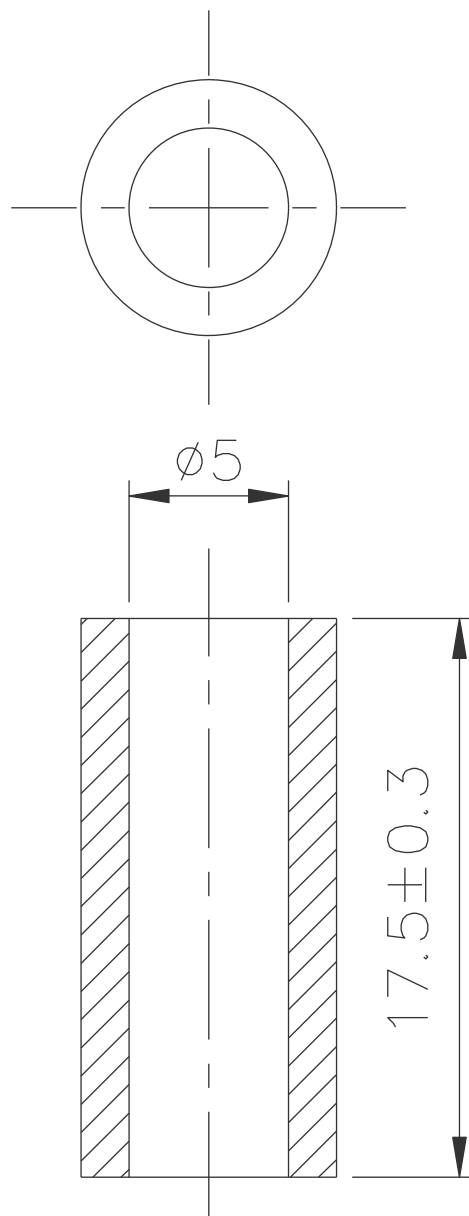
註(Note): 1. 材料(Material) : SWRCH12A

承認 APPROVED	審查 CHECKED	製成 DRAFTED		
			圖名 Dwg. Name	圖號 Dwg. No.
			開關蓋螺帽 Terminal Cover Nut	60100403



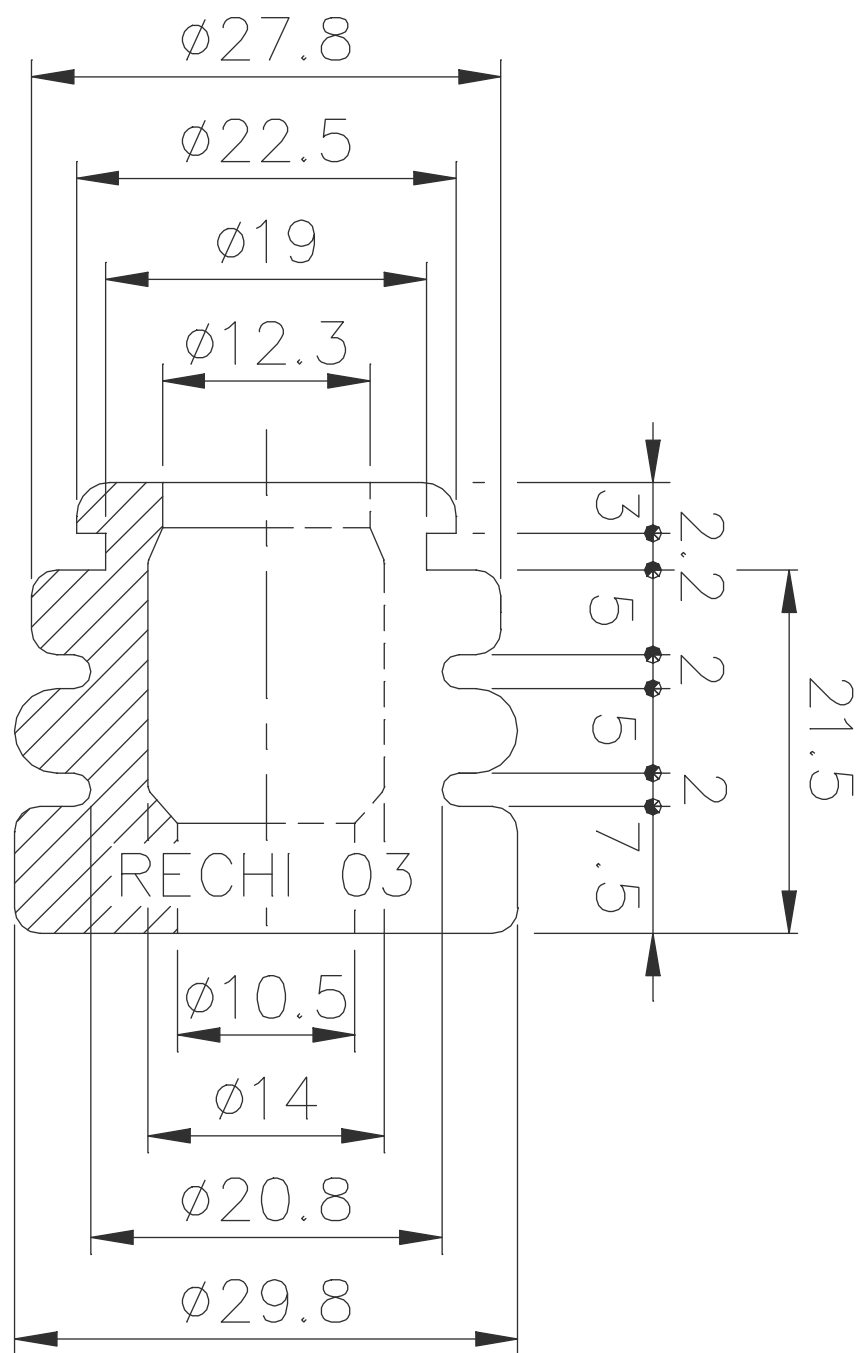
註(Note) : 1.材料(Material) : 鋼琴線(Piano Wire)
 ASTM A228
 2.線徑(Wire Dia) : $\phi 1.2$

承認 APPROVED	審查 CHECKED	製成 DRAFTED		
			圖名 Dwg. Name	圖號 Dwg. No.
			OLP 彈簧 OLP Spring	60500101



註(Note)：1.材料(Material)：Silicone

承認 APPROVED	審查 CHECKED	製成 DRAFTED		
			圖名 Dwg. Name	圖號 Dwg. No.
			螺釘護套 Bolt Sleeve	60100601

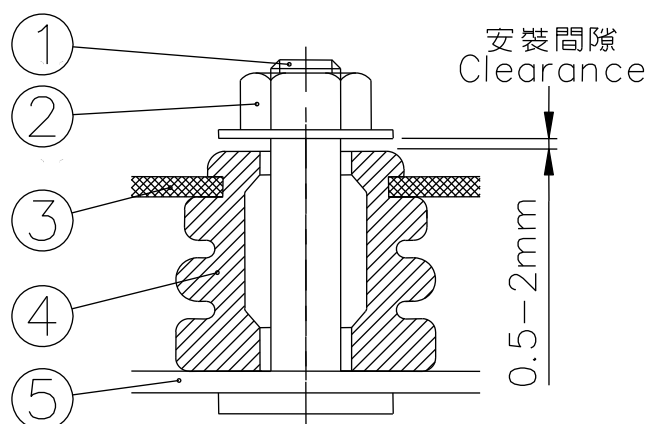


註(NOTE): 1.材料 (Material): EPDM
2.硬度(Hardness): $37^{\circ} \pm 5^{\circ}$

承認 APPROVED	審查 CHECKED	製成 DRAFTED		
			圖名 Dwg. Name	圖號 Dwg. No.
			腳墊 Isolator Grommet	60130203

腳座安裝圖

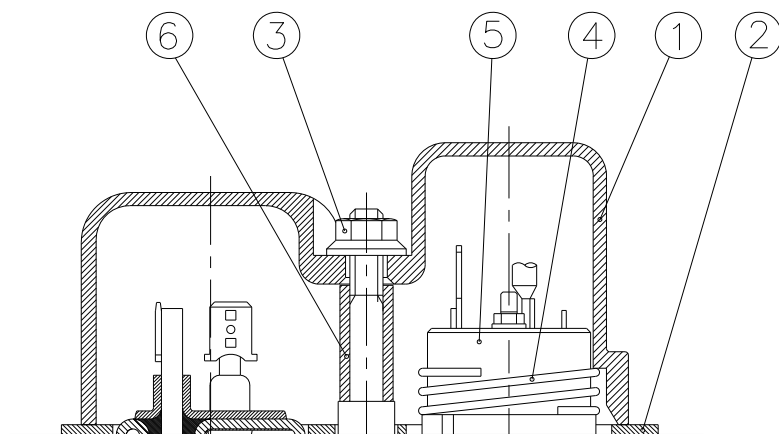
Mounting Diagram



1	螺栓 Mounting Bolt
2	螺帽 Nut
3	壓縮機腳座 Compressor Base
4	腳墊 Isolator Grommet
5	冷氣機底座 Base Plate

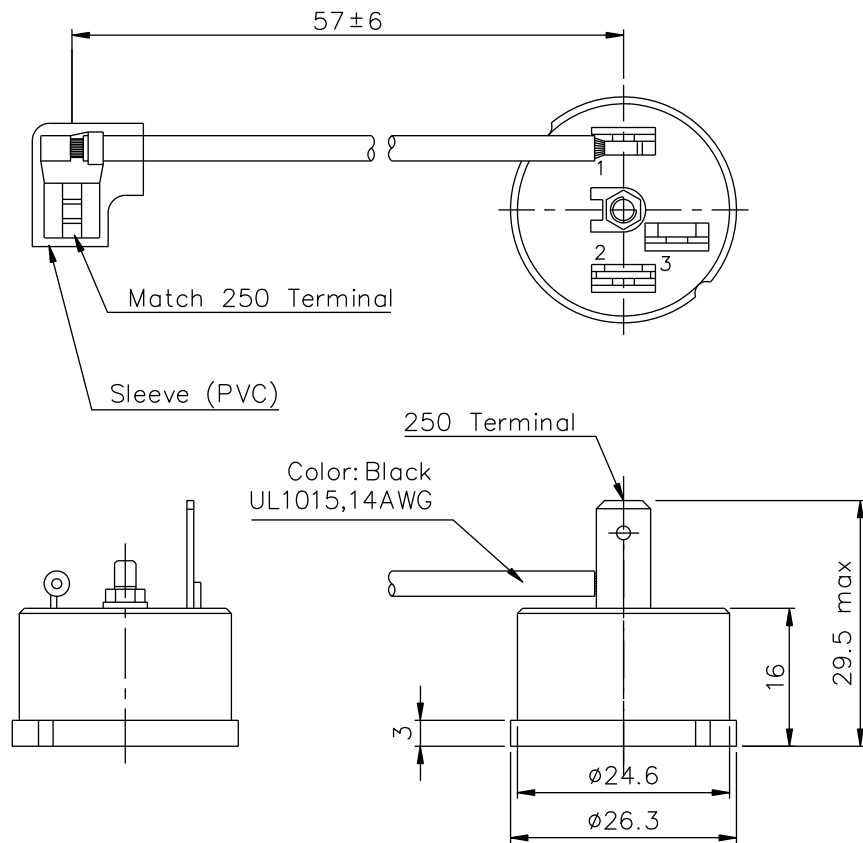
開關蓋安裝圖

Terminal Cover Assembly



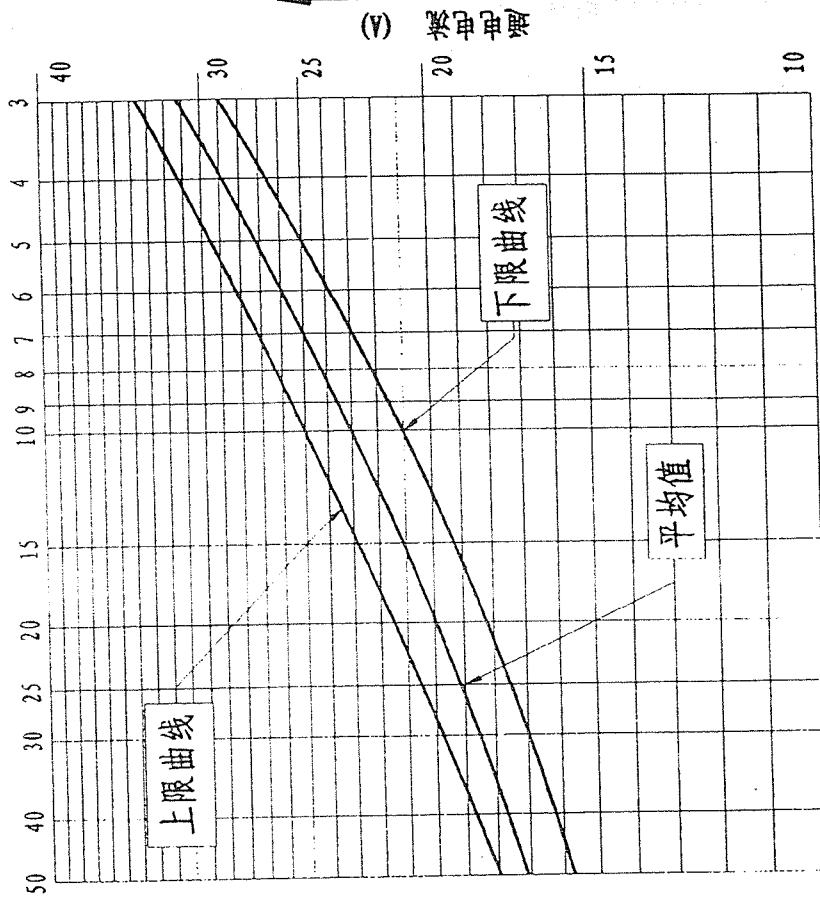
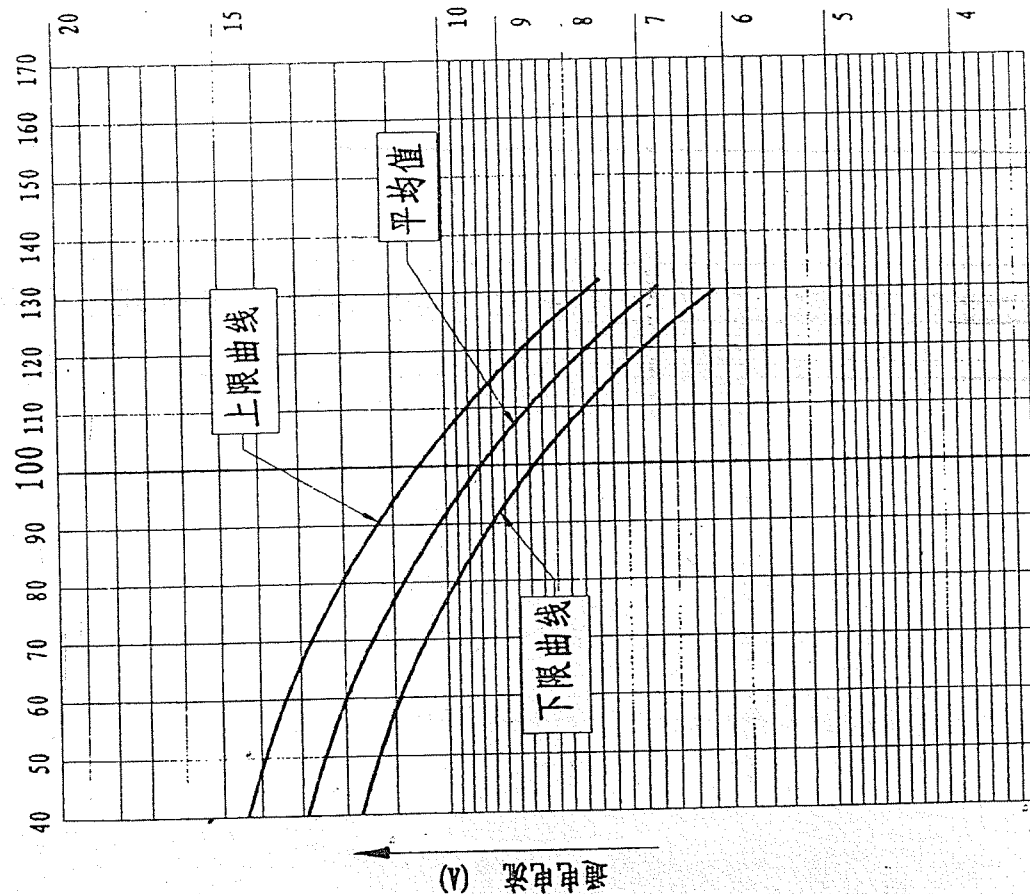
1	開關蓋 Terminal Cover
2	開關蓋墊片 T.C.Gasket
3	開關蓋螺帽 T.C.Nut
4	過載保護器彈簧 OLP Spring
5	過載保護器 Overload Protector
6	螺釘護套 Bolt Sleeve

承認 APPROVED	審查 CHECKED	製成 DRAFTED		
			圖名 Dwg. Name	
			圖號 Dwg. No.	
			安裝圖 Fitting diagram	61010201T



	Part No.	Draw. No.	OPEN ±7°C	CLOSE ±11°C	U/T A/°C	S/T A/sec (@25°C)	Cover	Manufacturer
•	B245-140E-141H	60344903	145	70	9.4/100	24.5/2~12	YES	TONGBAO

承認 APPROVED	審查 CHECKED	製成 DRAFTED		
			圖名 Dwg. Name	圖號 Dwg. No.
			過載保護器 Overload Protector	603XXXXX



动作时间 (S)

过电流特性 (环境温度25°C)

B245-140E-141H

型号	B245-140B-141H (B250-145-141E)	日期	2002.1.14
备注	FOR 39R151C		
编制	陈志明	审核	陈志明

佛山通宝股份有限公司

R410A 標 籤 (Label)



承 認 APPROVED	審 查 CHECKED	製 成 DRAFTED		
			圖 名 Dwg. Name	圖 號 Dwg. No.
			標 籤 Compressor Marking Label	60802323