

编号 Code:

日期 Date: 2019.09.16

全封闭旋转式压缩机技术规格书

Specification of Hermetic Rotary Compressor

(参考)

型号 Model: C-2RN163H8W

代号 Code: 808 060 88

客户 Customer: _____

批准 Approval: _____

编制 Designed by	校阅 Checked by	标准化 Standardized by	审核 Reviewed by	批准 Approved by

沈阳中航机电三洋制冷设备有限公司

1、压缩机规格 SPECIFICATION OF COMPRESSOR

项目 Content	单位 Unit	规格 Specification		
压缩机类型 Compressor type		全封闭滚动转子式压缩机 (25F) Hermetic Rotary Compressor (25F)		
应用 Application		High Back Pressure		
额定功率 Rated output	W	1600		
冷却方式 Cooling type		自然空冷 Baldy		
电源 Power source	相数 Number of phase	PH 3		
	电压 Rated voltage	V 380/400/415		
	频率 Rated frequency	Hz 50		
电压范围 Voltage range	V	342~456		
制冷剂 Refrigerant		R407C		
Max. refrigerant charge	g	2014		
冷冻机油 Oil		FV68S 或等同品 FV68S or Equivalent		
冷冻机油油量 Amount of oil charge	ml	750		
气缸容积 Displacement	cm ³	34.2		
电动机 Motor	电机类型 Motor type		3 相感应电动机 3PH Induction Motor (3IR)	
	极数 Number of poles		2	
	绝缘等级 Electrical insulation	级 CLASS	E	
	绕组阻值	C-R	Ω	7.415±5%
		C-S	Ω	7.071±5%
		R-S	Ω	7.239±5%
*最大许容电流 (压缩机每相的最大运转电流) Max allowable current (I _{trip} amps)	A		—	
过载保护器 Overload Protector			内置式	
联接管 Connection tube	吸气管 Suction tube	mm	0. Dφ 12.7	
	排气管 Discharge tube	mm	0. Dφ 9.52	

备注 Remarks:

●电压范围适用于额定条件;

Voltage range is applied at rated conditions

●表中所示电机规格为平均值, 仅供参考

Motor specifications on the table are the average values for your reference

●启动时高压低压需接近平衡。请在电控中安装延时器 (3 min) 或类似装置, 并确认平衡压下能否启动。

It is requested that high and low pressures are nearly balanced at starting.

Please put 3-minutes delayed timer or the same kind of appliances into your units circuit, and then confirm that it can start under balanced pressure condition.

●推荐追加辅助气液分离器容积为 400ml 以上。

The volume of the additional accumulator should be more than 400ml.

2、性能 RATED PERFORMANCE

		单位 UNIT	380V 50Hz	400V 50Hz	415V 50Hz	备注 Remark
制冷能力 Capacity		W	5600	5640	5670	Min 95%
输入功率 Input		W	1930	1925	1925	Max 110%
电流 Current		A	3.49	3.40	3.37	Max 110%
能效比 COP		W/W	(2.90)	(2.93)	(2.95)	参考值 Reference
启动电压 Starting Voltage		V	304min			平衡压: 1.40Mpa (G) Balanced:1.40Mpa (G)
噪声 (声压级) Noise(Sound Pressure Level)		dB (A)	59			四向均值 Average of 4 Directions
振动 Vibration	水平 Horizontal	um	50			压缩机侧面 Compressor side
	圆周 Circumferential	um	240			

测试工况 Test conditions:

	℃	F (参考 Reference)
冷凝温度 Condensing temp	54.4	130.0
蒸发温度 Evaporating temp	7.2	45.0
膨胀阀前液体温度 Liquid temp. entering expansion valve	46.1	115.0
吸气温度 Return gas temp	35	95.0
环境温度 Ambient temp	35	95.0
压缩机冷却方式 Compressor cooling	强制风冷 Fan cooling(5m/s)	

3、一般特性 CHARACTERISTICS

项目 Item	单位 Unit	标准 Criteria	备注
气密试验压力 Leak Tight (No Leakage) (Gauge Pressure)	MPa (G)	2.98	
破坏压力 Hydrostatic Strength (No Leakage) (Gauge Pressure)	MPa (G)	11.77	
绝缘电阻 Insulation Resistance (After Running)	MΩ	Min 100	
耐电压 Dielectric Strength	V	1500 (1Minute)	
残留水分 Residual Moisture	mg	Max 80	
杂质残留量 Residual Contamination	mg	Max 20	

(G): 表压 Gauge

4、零件及图纸清单 PARTS AND DRAWING LIST

部件名称 PARTS NAME	数量 Q' TY	图纸代号 PART' S CODE	备注 REMARK	提供 SUPPLY	
压缩机 COMPRESSOR	1	808 060 88		Yes	
接线盒胶垫 GASKET TERMINAL	1	201 0 5303 Q5E 00X		Yes	
接线盒盖 COVER TERMINAL	1	201 2 6194 00A 00X		Yes	
M5 螺母 NUT 5	1	801 2 8305 102 00X		Yes	
整体减振脚垫 CUSHION RUB	3	819 2 6920 141 00X		Yes	
底脚安装组合 MTG PARTS LIST RC	—	201 0 1520 P0A 00X			No
底脚螺母组件 NUT SPECIAL ASSY	3	819 0 6920 103 00X			No
底脚螺栓 SCREW SPECIAL	3	819 2 6917 145 00X			No

*Yes: 提供 Supply

*No: 不提供, 仅供参考 Out of supply, for reference

压缩机使用基准 (R407C)

COMPRESSOR APPLICATION STANDARD

(R407C•HBP•FIXED•Vertical•BALDY)

为了正确使用 R407C 高温立式旋转式压缩机，特对使用基准和使用界限进行规定。

The following requirements apply to Vertical Type Rotary Compressors. Explain the Standard & standard

*使用基准值：适用于通用状态（具备符合 JIS C9612 或相应标准、过负荷和低温条件等运转条件）下的运转。

Standard: Applicable to operations under conditions in compliance with JIS C 9612 or equivalent conditions (including standard, over-load and low-load conditions).

*使用界限值：适用于过渡条件下（启动时、除霜时）的短时间运转。

Limit: Applicable to transitional short period, such as starting and early stage of defrost mode.

No	项 目 ITEM	使用基准值 Standard	使用界限值 Limit	备 注 Note
1	制冷剂 Refrigerant	R407C HFC32-----23±2.0 wt% HFC125----25±2.0 wt% HFC134a--52±2.0 wt%		
2	平均蒸发温度范围 Evaporating Temp.	-15~+12 °C (0.20~0.65 MPa(G))	-25~+15 °C (0.07~0.73 MPa(G))	蒸发器入口、出口的平均温度 (Comp. suction pressure)
3	平均冷凝温度范围 Condensing Temp.	+30~+60 °C (1.17~2.56 MPa(G))	+65 °C (2.88 MPa(G))	冷凝器入口、出口的平均温度 (Comp. discharge pressure)
4	压缩比 Compression Ratio	6Max	10Max	
5	电机绕组温度 Winding Temp.	115°CMax (标准时 105°C Max) (Unit Capacity Test:105°C Max)	125°CMax	
6	外壳底部温度 Shell Bottom Temp.	上限: 100°CMax 下限: 相对冷凝压力饱和温度+0.5°C以上 Condensing temperature +0.5K Min		冷凝压力为压缩机的排气压力 Condensing pressure is discharge pressure
7	排气温度 Discharge Gas Temp	105°C以下	125°C以下	距压缩机出口 50mm 处排气配 管温度 at around 50mm from the Comp. discharge end
8	吸气温度 Suction Gas Temp.	18°Cmax, 吸入气体的过 热度为 0.5°C 以上 18°Cmax, Superheat:0.5KMin	无吸入液体而产生的声 音（无电流及振动的增 加） No excessive noise	距压缩机入口 50mm 处吸气配 管温度， At around 50mm from the comp. suction head
9	运转电压 Voltage(Run)	额定电压±10% within±10% of rated voltage		
10	启动电压 Voltage(Start)	额定电压的 85%以上 85% of rated voltage or more		
11	开/停周期 On/Off Period	运转时间：至少应使油面回到指定油位所需的时间 ON period: Until the oil level returns center of the cylinder 停止时间：至少应使高低压达到平衡所需的时间 OFF period: Until pressure balance is obtained		1 个周期：10 分钟以上 停止时间：3 分钟以上 At least 7minutes - ON/ 3 minutes - OFF is recommendable.

12	制冷剂封入量 Refrigerant Charge	油/制冷剂质量比 0.35 以上 Oil/Refrigerant(wt.) \geq 0.35		油比重为 0.94kg/L Gravity of the oil :0.94 kg/L
13	启停频度 Action cycle	20 万个周期以下 200000 cycles Max		
14	压缩机油面 Minimum Oil Level	单缸: 气缸中部以上 1cyl: center of the cylinder 双缸: 上气缸中部以上 2cyl: center of the up cylinder	单缸: 不低于下轴承法兰面 1cyl: Top of the Bearing flank 双缸: 下气缸中部以上 2cyl: center of the low cylinder	
15	异常压力上升 Pressure Rise	15F/20F: 4.90MPa (G) Max 33F : 3.92MPa (G) Max		热交换器风扇停止等 ex. Condenser fan motor failure
16	水分 System Moisture Level	200ppm Max		
17	非冷凝气体 System non condensate gas Level	制冷回路中非冷凝气体在 1% (容积比) 以下 残留氧气 0.1% (容积比) 以下 1 Vol.% Max Residual Oxygen 0.1Vol.% Max		抽真空 24 小时后真空度应在 1.01kPa 以下 24 hrs. after vacuuming: 1.01kPa Max
18	倾斜 Tilt	使用时压缩机的倾斜在 5° 以内 5 deg. Max		

备注 Remarks:

1. 安装注意事项 Compressor installation notes

(1) 压缩机在开封状态下, 请勿放置 15 分钟以上

Installation shall be completed within 15 minutes, after removing the rubber plugs.

(2) 压缩机请勿压缩空气

Do not compress air.

(3) 压缩机在真空状态下请勿通电;

Do not energize under vacuumed condition.

(4) 压缩机在搬运时, 请勿严重倾斜、跌落或受冲出

Do not tilt over when carrying.

(5) 请勿损坏压缩机的涂装表面、接线盒盖及气液分离器等

Do not remove the paint, Cover, Accumulate.

(6) 高压保护设定值为 2.84Mpa(G) 以下。

High pressure switch(Set less than 2.84Mpa(G))

(7) 3 相电源机型推荐安装逆向保护装置。

The 3 phase power supply is recommended to install the reverse protection device

(8) 禁止压缩机反转

Do not revers compressor operation.

(9) 配管(铜管)应力推荐如下

Copper Piping Stress (half amplitude).

启动/停止时 Start & Shutdown: 34.32N/mm² Max

运转 Run : 12.26N/mm² Max

电线的选定

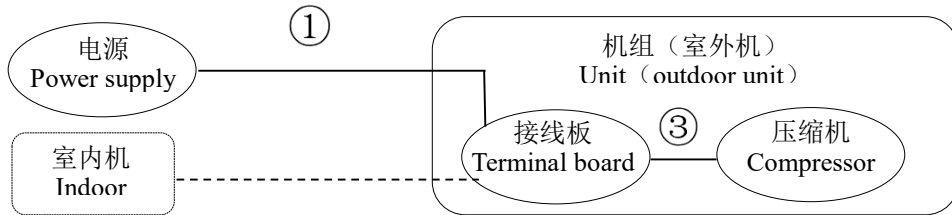
SELECTION OF ELECTRICAL WIRE

压缩机启动时会产生很大的电流，从而造成电压下降，因为电压下降的大小有时可能会造成压缩机启动困难，所以，根据电动机启动电流，推荐 2 项的电线规格选定表

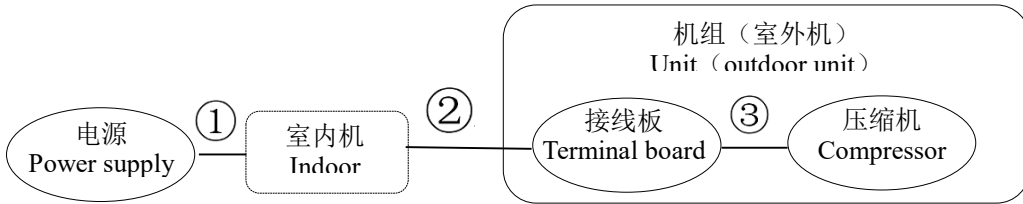
The voltage drop will be occurred due to the large current at the compressor starting. It should be difficult to start the compressor depending upon the voltage drop level, Therefore, we would recommend you to select the wire size from the below "electrical wire size selection table" which is depended on motor's starting current.

1、系统型式 Type of unit

(01) 一体型系统和商用系统 Window & Commercial Type unit



(02) 分体型系统 Split type (Separate type)



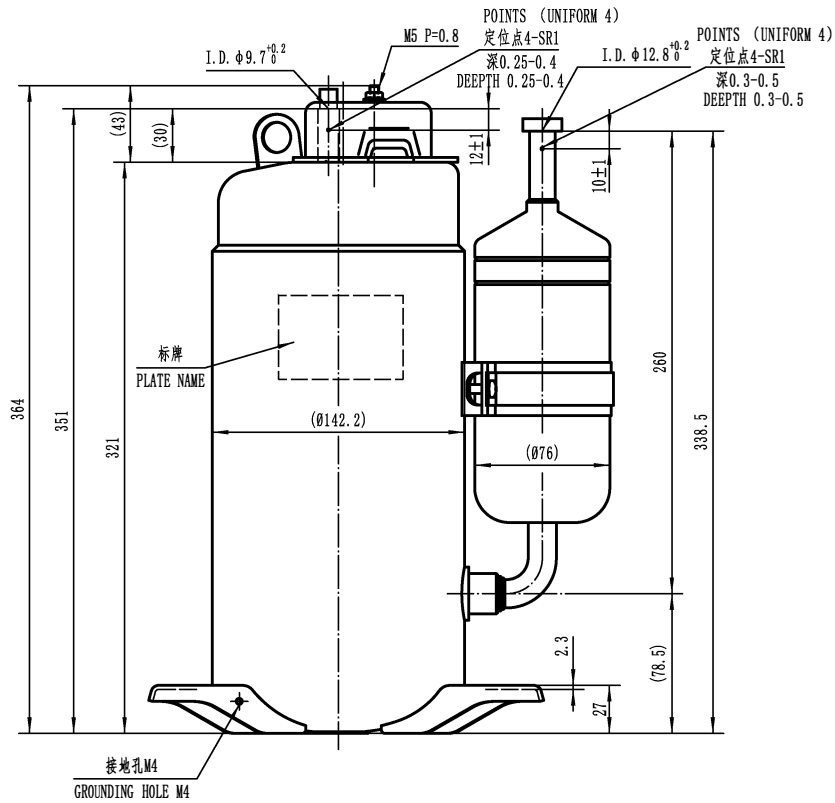
2、电线尺寸选定表 Selection of electrical wire's size table

启动电流 (A) Starting Current	配线规格 Size of electrical wire (mm ²)							
	记号①或记号①+② (耐热温度60℃以上) Remark③ or Remark①and② (heat-resistance Temperature:"60℃"min.)							记号③ (耐热温度120℃以上) Remark③ (heat-resistance temperature: "120℃"min.)
	3m max	5m max.	10m max	15m max.	20m max	30m max.	50m max	1m max.
20max	2.0	2.0	2.0	2.0	3.5	5.5	8.0	2.0
30max	↑	↑	↑	3.5	5.5	↑	14.0	↑
40max	↑	↑	3.5	5.5	↑	8.0	↑	↑
50max	↑	↑	↑	↑	8.0	14.0	22.0	↑
60max	↑	↑	5.5	↑	↑	↑	↑	↑
70max	3.5	3.5	↑	8.0	14.0	↑	↑	3.5
80max	↑	↑	↑	↑	↑	22.0	30.0	↑
90max	↑	↑	↑	14.0	↑	↑	↑	↑
100max	↑	↑	8.0	↑	↑	↑	38.0	↑
110max	↑	↑	↑	↑	↑	↑	↑	↑
120max	↑	5.5	↑	↑	22.0	30.0	↑	↑

3、有关接地的注意事项Caution of ground

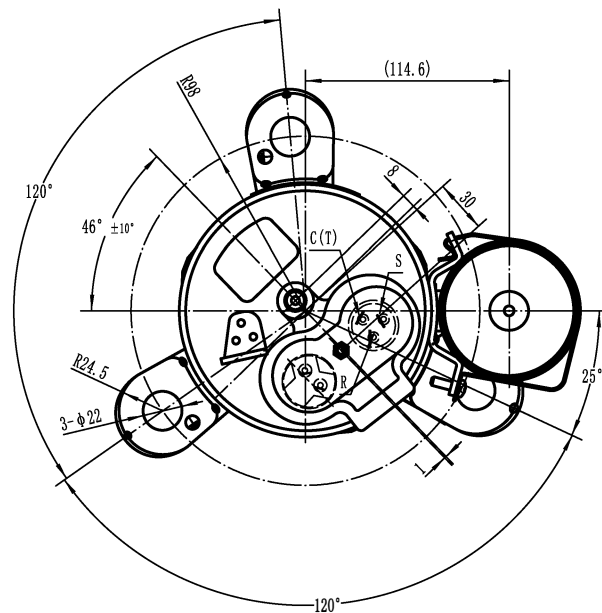
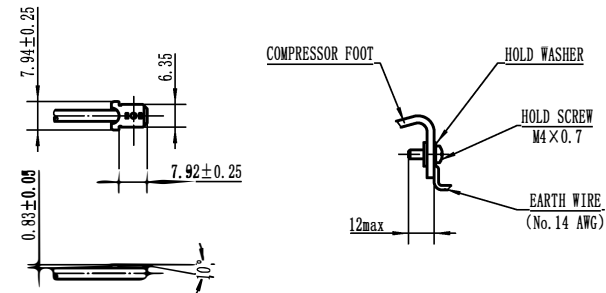
压缩机中装有本公司确认的电机保护装置，但电机保护装置并不是全部都能保护，由于种种原因，电机有时也可能有损伤，所以请在成品、机器等上设置接地部件，安装时请务必接地。

Compressor shall be used the motor protector which our company approved onl. This motor protector does not cover the protection against all. Due to the various factors the compressor's motor may occur to burn out. Therefore, please be sure that the production shall be designed with the ground and installed it in the field.

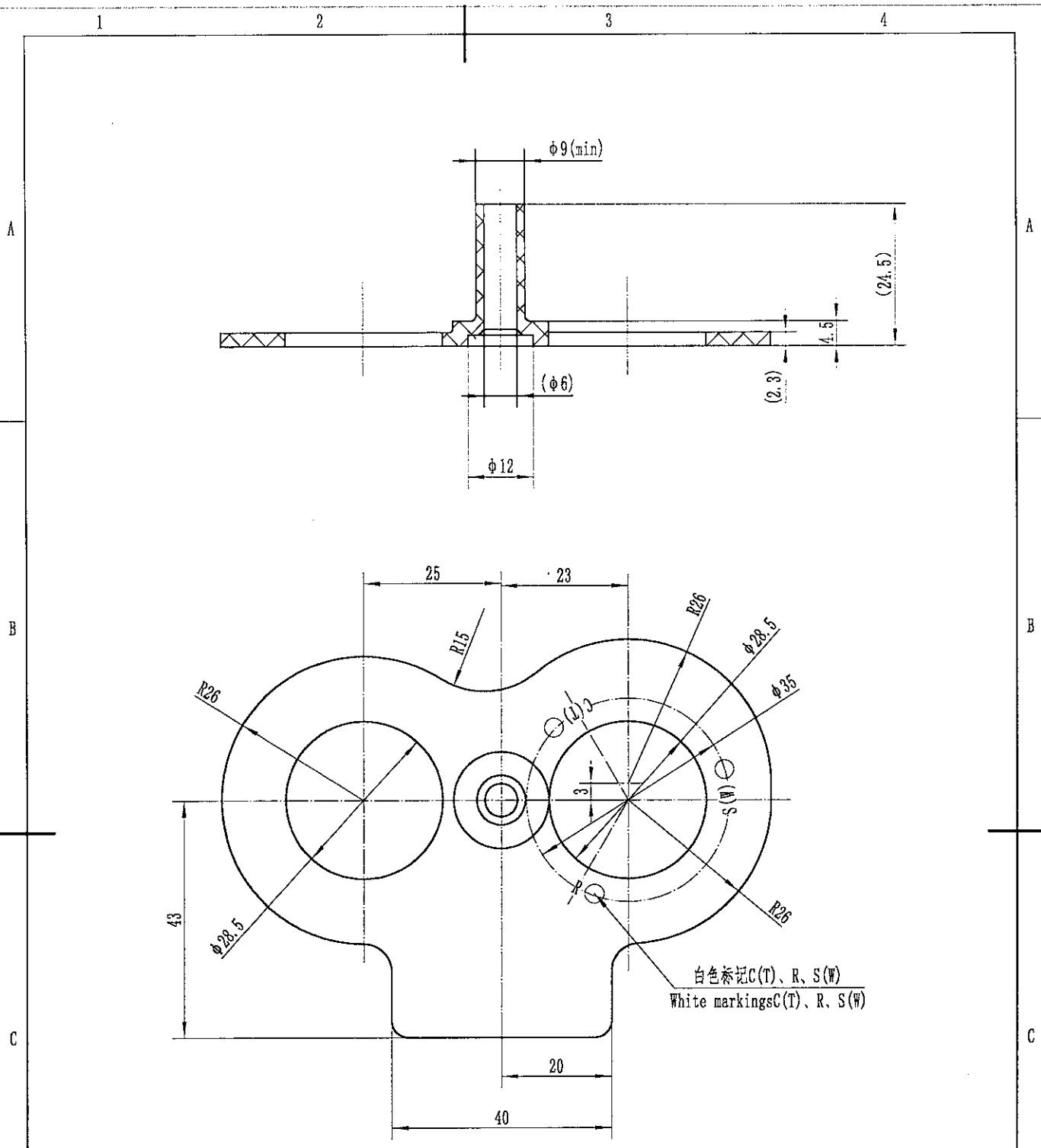


技术要求

- M5螺母的紧固力矩为 $1.47 \sim 1.96N \cdot m$ (15~20kgf·cm) ;
NUT 5 TIGHTENING TORQUE IS $1.47 \sim 1.96N \cdot m$ (15~20kgf·cm) .
- 未注尺寸公差 ± 2 , 未注角度公差 $\pm 2^\circ$.
DIMS TOLERANCE ± 2 , ANGULAR TOLERANCE $\pm 2^\circ$.
- Weight (with oil): 20.68 kg



4	801 2 8305 102 00X	M5螺母	NUT 5	1			
3	201 2 6194 00A 00X	接线盒盖	COVER TERMINAL	1			
2	201 2 5303 Q5E 00X	接线盒胶垫	GASKET TERMINAL	1			
1	808 060 88	压缩机	COMPRESSOR	1			
序号 No	代号 Code	名称 Name.		数量 Q' TY	材料 Material	备注 Remark	
设计 Designed		压缩机外形图 COMPRESSOR OUTLINE		808 060 88			
审核 Reviewed				重量 Weight	比例 Scale	1:3	
标准化 Standardized				沈阳中航机电三洋制冷设备有限公司 AVIC ELECTROMECHANICAL (SHENYANG) SANYO REFRIGERATION EQUIPMENT CO., LTD.			
批准 Approved							



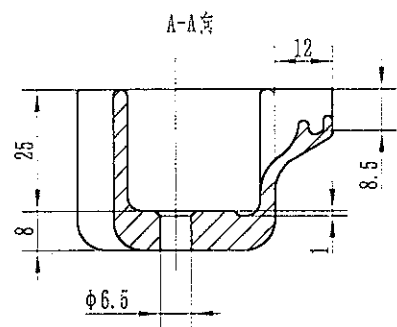
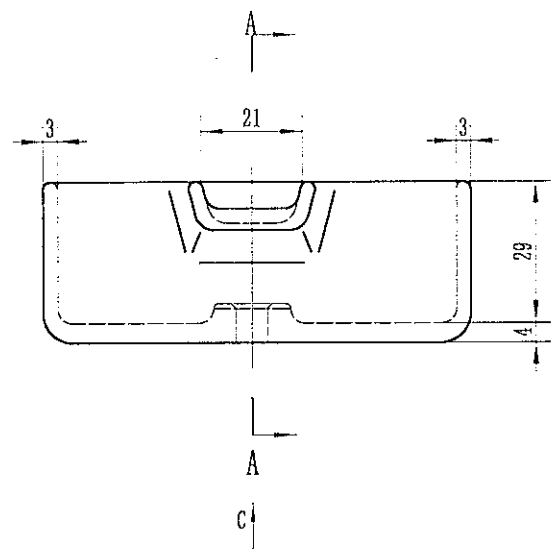
技术要求 NOTES

- 1、硬度: HS70±5, 颜色: 黑色
Hardness; HS70±5, Color: Black.

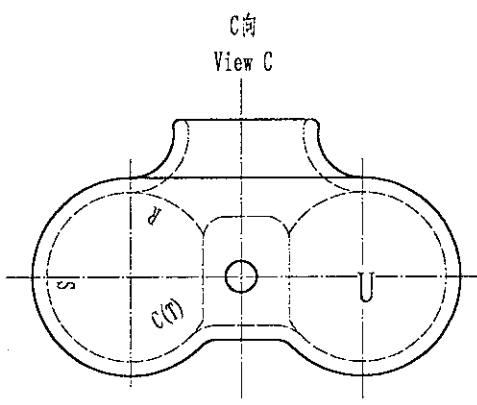
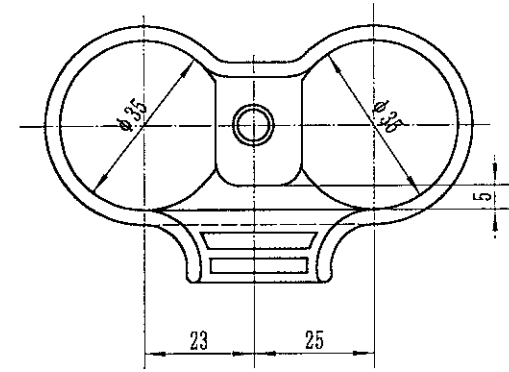
设计 Designed	马晓亮	2019.3.7	接线盒胶垫 GASKET TERMINAL 阻燃型硅橡胶 Flame retardant silicone rubber	201 2 5303 Q5E 00X		
审核 Reviewed	王永亮	2019.4.2		重量 Weight	比例 Scale	1:1
标准化 Standardized	刘阳	2019.4.2		沈阳中航机电三洋制冷设备有限公司 AVIC ELECTROMECHANICAL (SHENYANG) SANYO REFRIGERATION EQUIPMENT CO., LTD.		
批准 Approved	夏树鹏	2019.4.2				

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A



B



C

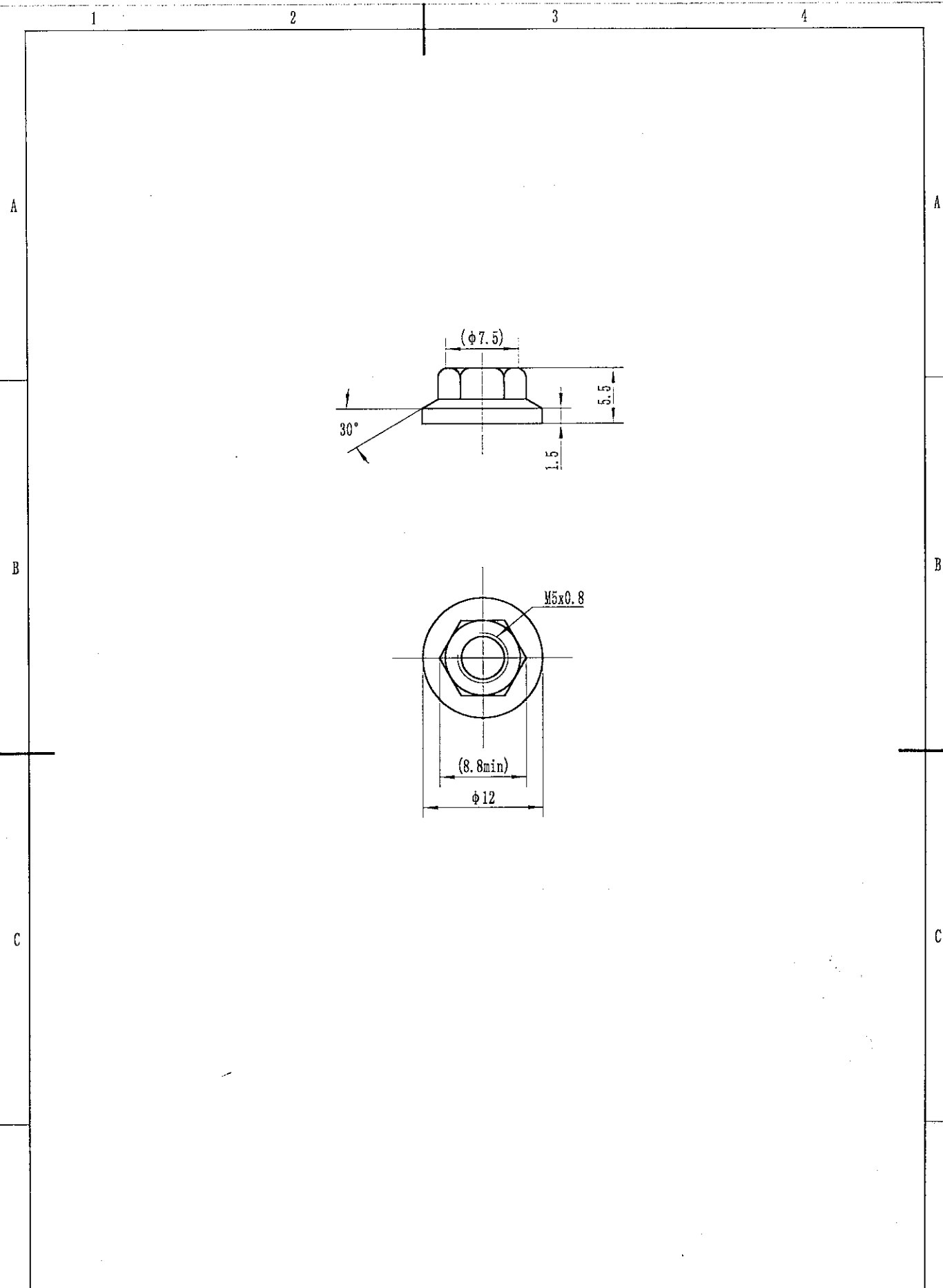
D

设计 Designed	马晓亮	2019.3.7
审核 Reviewed	王东亮	2019.4.2
标准化 Standardized	刘晶	2019.4.2
批准 Approved	王树鹏	2019.4.2

接线盒盖
COVER TERMINAL
PBT

201 2 6194 00A 00X	
重量 Weight	比例 Scale 1:1.5
沈阳中航机电三洋制冷设备有限公司 AVIC ELECTROMECHANICAL (SHENYANG) SANYO REFRIGERATION EQUIPMENT CO., LTD.	

1 2 3 4



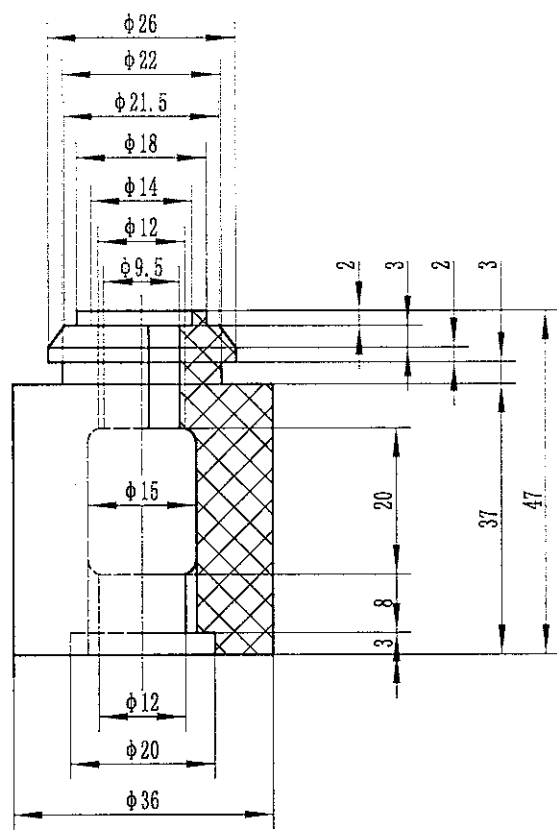
设计 Designed	马晓亮	2019.3.7	M5螺母 NUT 5	801 2 8305 102 00X	
审核 Reviewed	王承高	2019.4.2		重量Weight:	比例Scale: 2:1
标准化 Standardized	刘磊	2019.4.2	A3	沈阳中航机电三洋制冷设备有限公司	
批准 Approved	王树刚	2019.4.2		AVIC ELECTROMECHANICAL (SHENYANG) SANYO REFRIGERATION EQUIPMENT CO., LTD.	

A

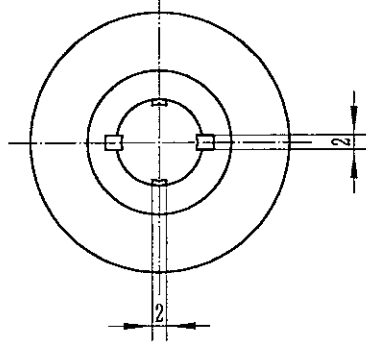
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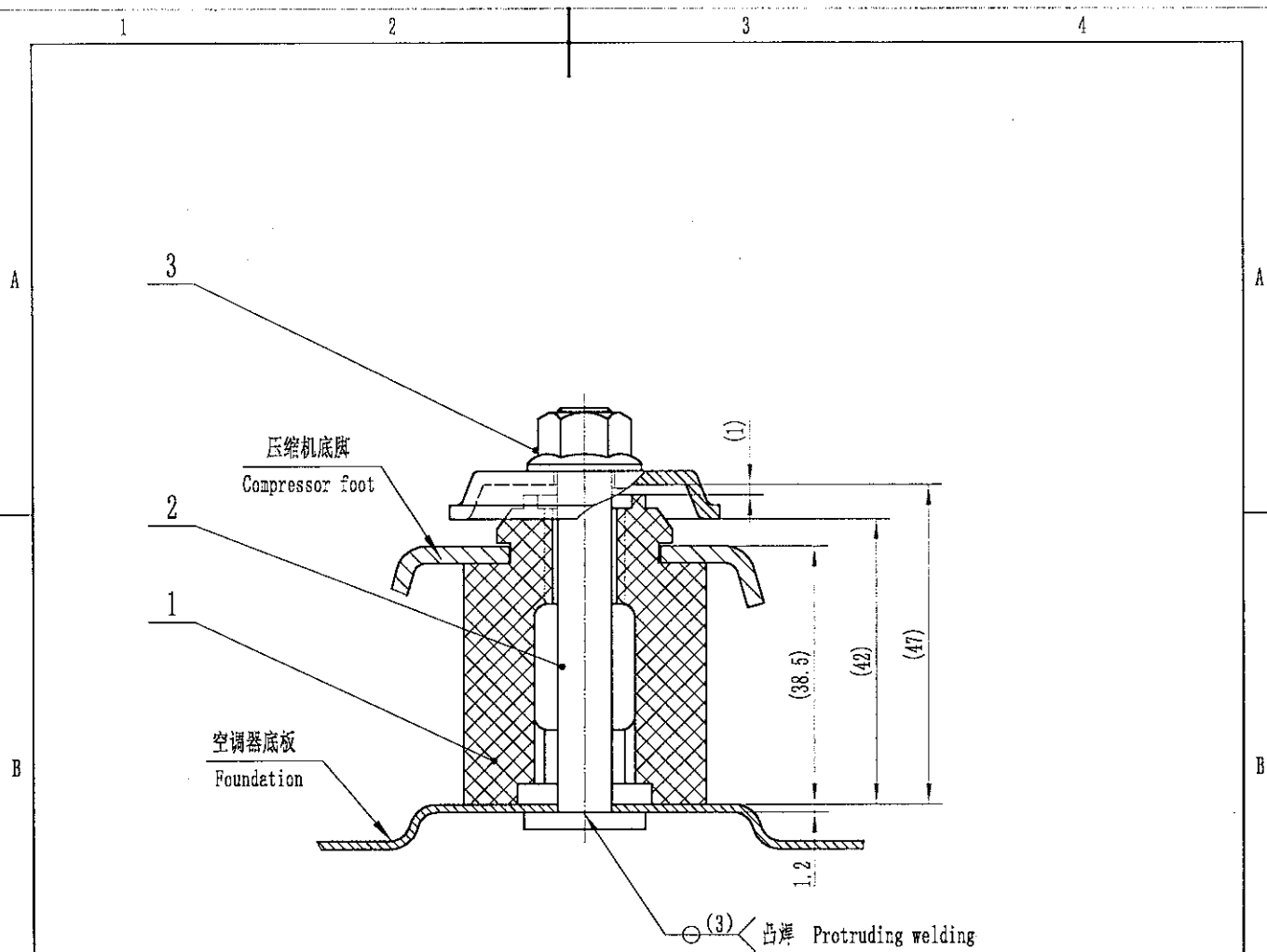
A
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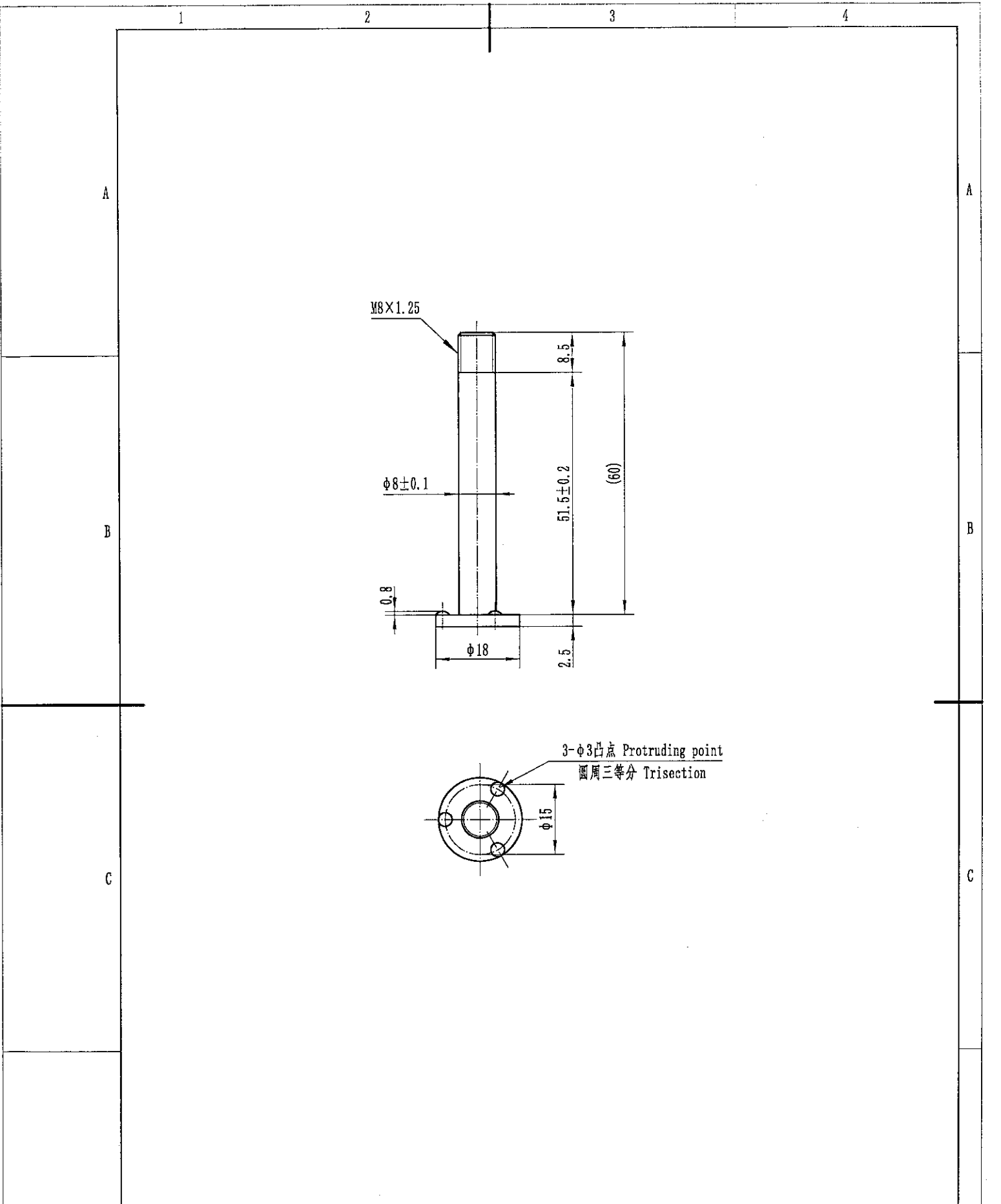
技术要求 NOTES

- 1、颜色：黑色，硬度：HS40±5。
Color: Black, Hardness: HS40±5.
- 2、未注公差±1。
DIMS TOLERANCE ±1.

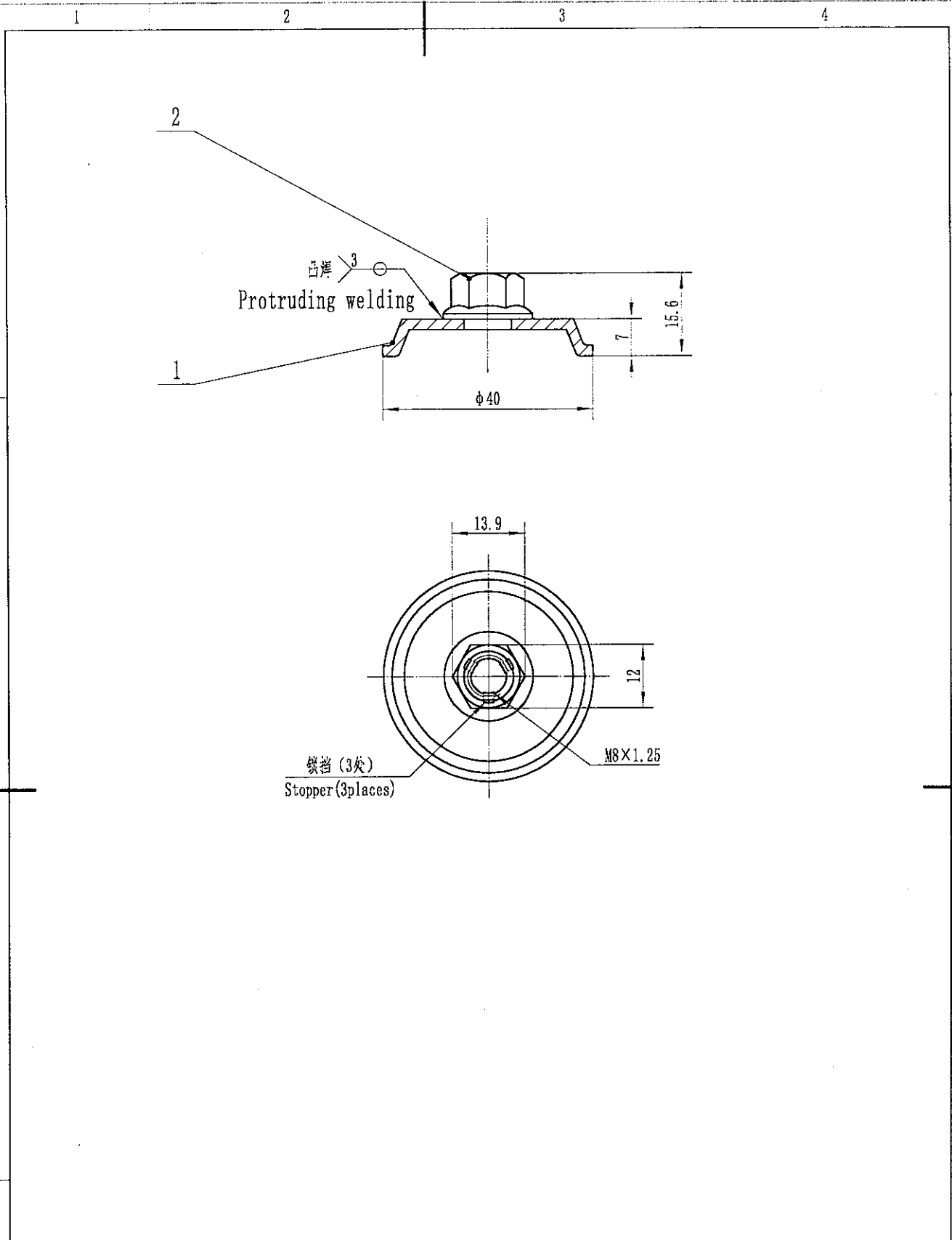
设计 Designed	马晓亮	2019.3.11	整体减振胶垫 CUSHION RUB 乙丙橡胶 EPDM	819 2 6920 141 00X		
审核 Reviewed	于永高	2019.4.2		重量 Weight	比例 Scale	1:1
标准化 Standardized	刘昂	2019.4.2		沈阳中航机电三洋制冷设备有限公司 AVIC ELECTROMECHANICAL (SHENYANG) SANYO REFRIGERATION EQUIPMENT CO., LTD.		
批准 Approved	王林博	2019.4.2				



3	819 0 6920 103 00X	底脚螺母组件 NUT SPECIAL ASSY	3		
2	819 2 6917 145 00X	底脚螺栓 SCREW SPECIAL	3		
1	819 2 6920 141 00X	整体减振胶垫 CUSHION RUB	3		
序号 NO.	代号 Code	名称 Name	数量 Q' TY	材料 Material	备注 Remark
设计 Designed	马晓亮 2019.3.7	底脚安装组合 MTG PARTS LIST RC	201 0 1520 POA 00X		
审核 Reviewed	王永亮 2019.4.2		重量 Weight:	比例 Scale	1:1
标准化 Standardized	刘磊 2019.4.2		沈阳中航机电三洋制冷设备有限公司		
批准 Approved	夏树刚 2019.4.2		AVIC ELECTROMECHANICAL (SHENYANG) SANYO REFRIGERATION EQUIPMENT CO., LTD.		



设计 Designed	马晓亮	2019.3.11	底脚螺栓 SCREW SPECIAL	819 2 6917 145 00X	
审核 Reviewed	王尔亮	2019.4.2		重量 Weight	比例 Scale
标准化 Standardized	刘磊	2019.4.2	SWRM6	沈阳中航机电三洋制冷设备有限公司 AVIC ELECTROMECHANICAL (SHENYANG) SANYO REFRIGERATION EQUIPMENT CO., LTD.	
批准 Approved	史树琳	2019.4.2			



2		底脚垫圈	WASHER			
1		底脚螺母	NUT SPECIAL			
序号 No	代号 Code	名称 Name.		数量 Q' TY	材料 Material	备注 Remark
设计 Designed	马晓亮 2019.3.11	底脚螺母组件 NUT SPECIAL ASSY		819 0 6920 103 00X		
审核 Reviewed	王水吉 2019.4.2			重量 Weight:	比例 Scale	1:1
标准化 Standardized	刘磊 2019.4.2			沈阳中航机电三洋制冷设备有限公司		
批准 Approved	王树彪 2019.4.2			AVIC ELECTROMECHANICAL (SHENYANG) SANYO REFRIGERATION EQUIPMENT CO., LTD.		

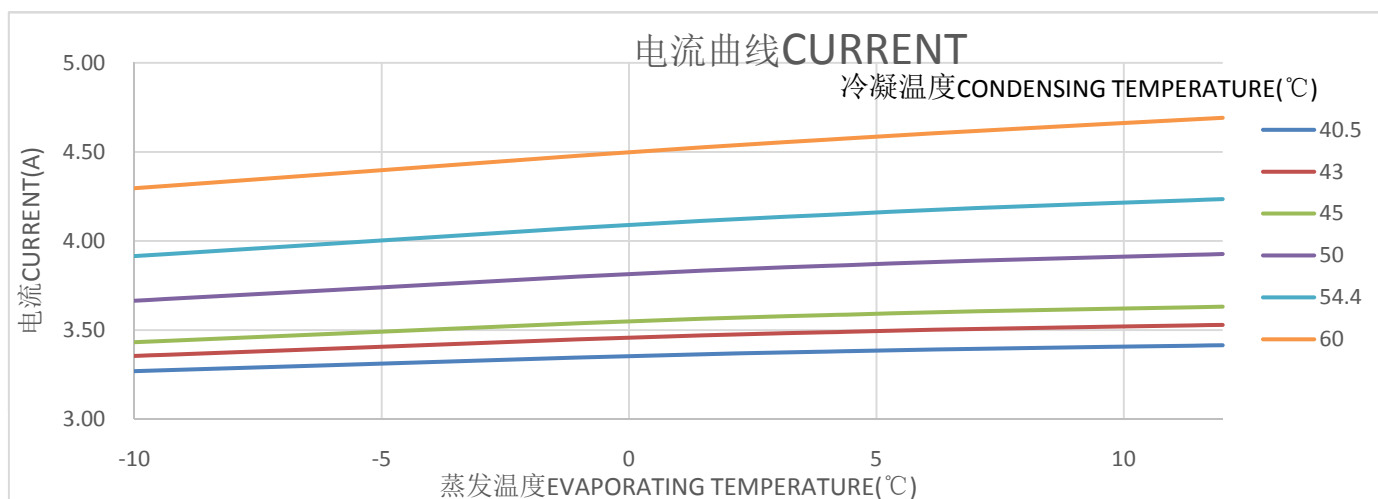
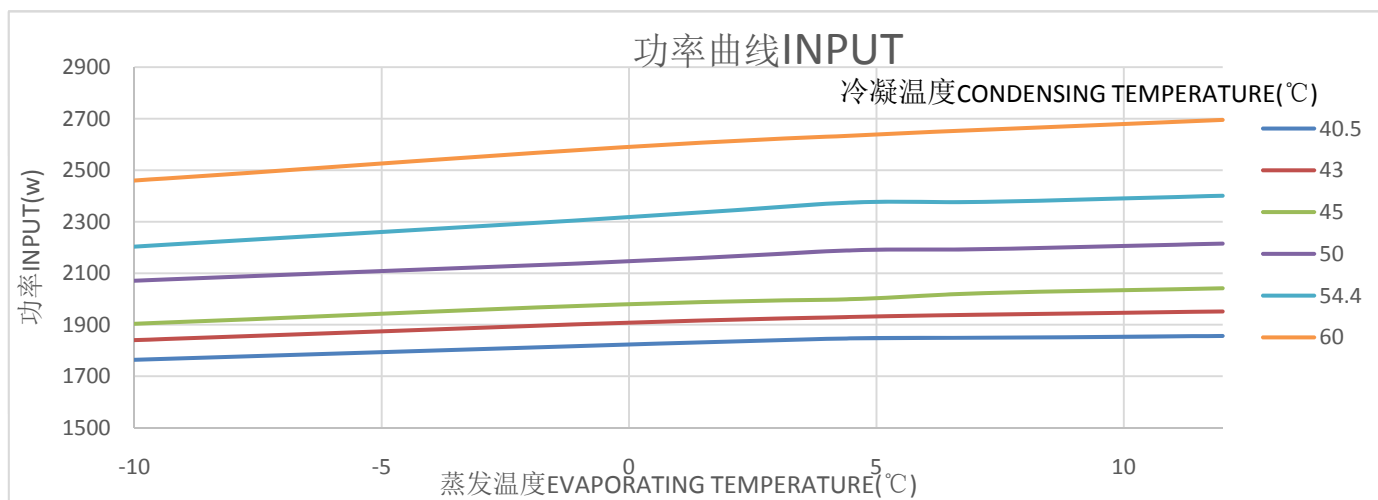
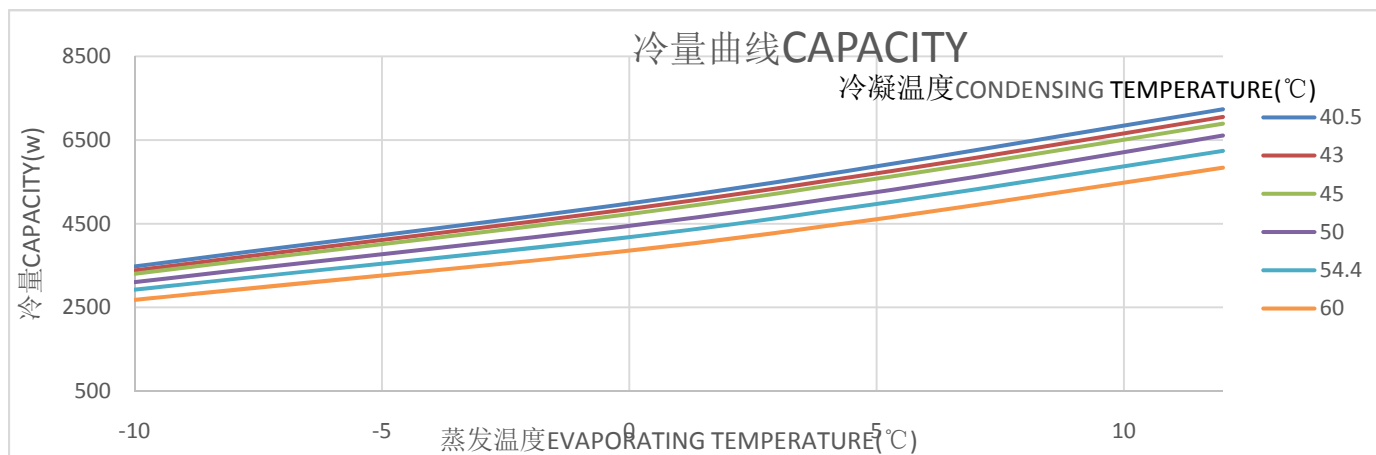
C-2RN163H8W 性能曲线

C-2RN163H8W PERFORMANCE CURVE

测试工况 Test conditions

吸气温度 Return gas temp(°C)	35
环境温度 Ambient temp(°C)	35
蒸发温度 Evaporating temp(°C)	-10、0、4.4、7.2、12
冷凝温度 Condensing temp(°C)	40.5、43.0、45.0、50.0、54.4、60.0

电压 Rated voltage: 380V



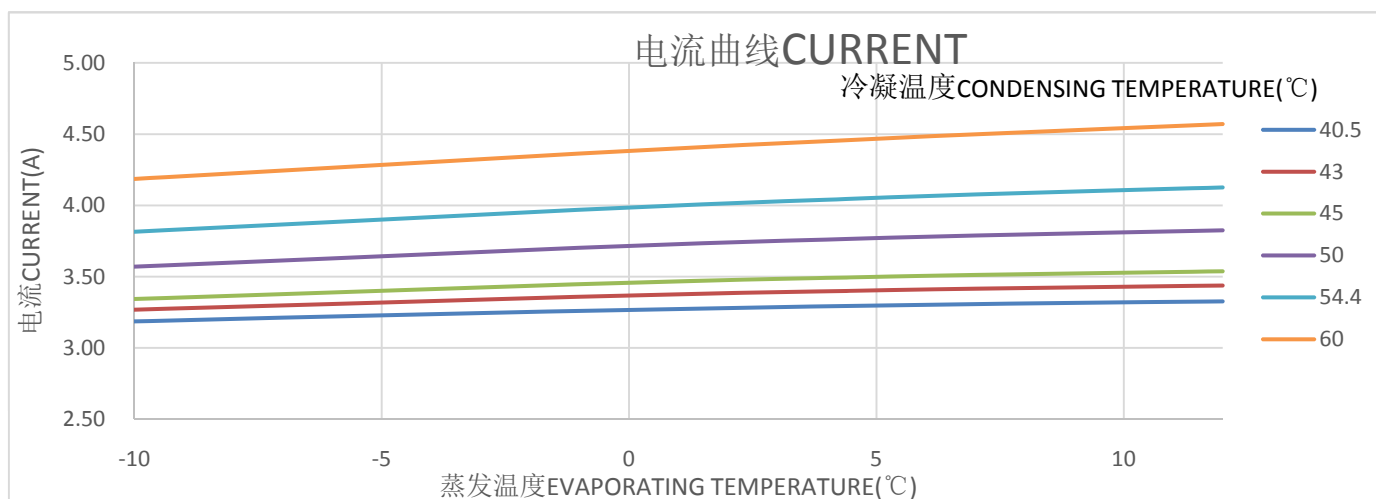
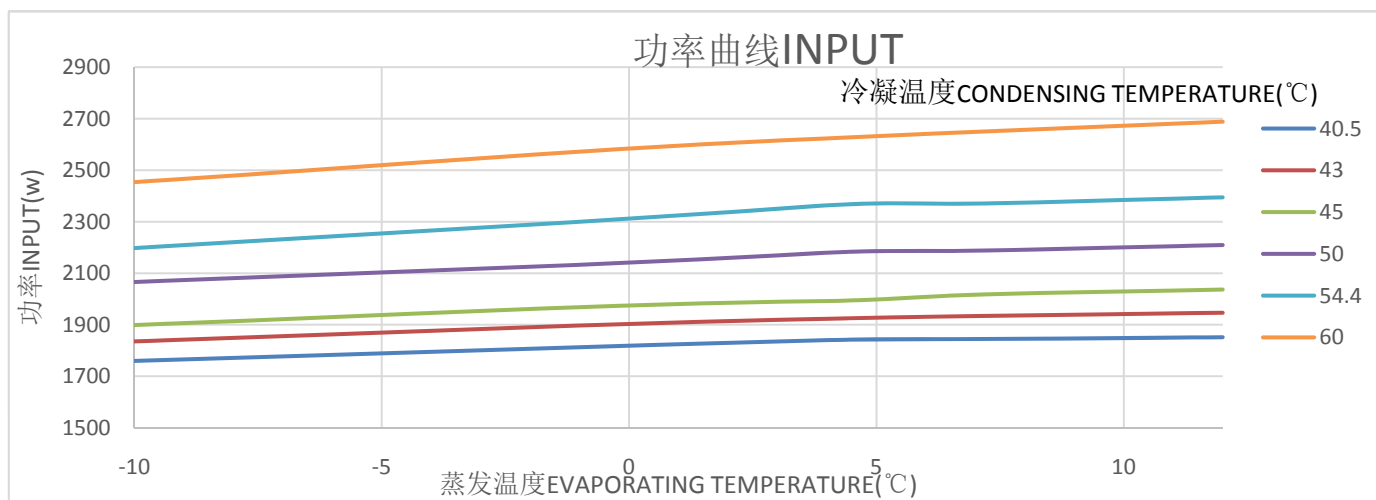
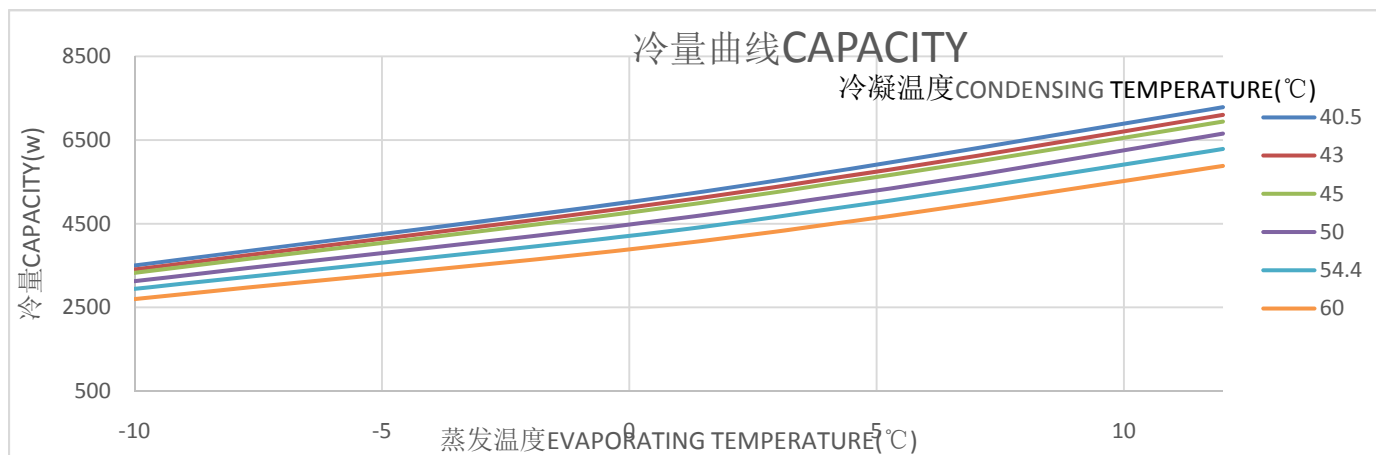
C-2RN163H8W 性能曲线

C-2RN163H8W PERFORMANCE CURVE

测试工况 Test conditions

吸气温度 Return gas temp(°C)	35
环境温度 Ambient temp(°C)	35
蒸发温度 Evaporating temp(°C)	-10、0、4.4、7.2、12
冷凝温度 Condensing temp(°C)	40.5、43.0、45.0、50.0、54.4、60.0

电压 Rated voltage: 400V



C-2RN163H8W 性能曲线

C-2RN163H8W PERFORMANCE CURVE

测试工况 Test conditions

吸气温度 Return gas temp(°C)	35
环境温度 Ambient temp(°C)	35
蒸发温度 Evaporating temp(°C)	-10、0、4.4、7.2、12
冷凝温度 Condensing temp(°C)	40.5、43.0、45.0、50.0、54.4、60.0

电压 Rated voltage: 415V

