

名 称(Part Name): 轴流风机 Axial fan

型 号(Model No.): EC137-A500-C13 079-07S-F-X02

顾客代码(Customer Code): XXXX-XXX

版 次(Version No.): A/1

客户确认/日期 (Customer Approval/Date):

换版记录 Description of Revision

版本号 No.	换版原因 Notes & Remarks	换版内容 Contents	修订人 Revised by	日期 Date
A/0	初版	/	朱其卫	2023-12-02
A/1	更新电参数	/	朱其卫	2024-01-15

产品规格书

Product Specification

1.0 概述/ Introduction

本规格书主要描述了产品标准、使用环境、技术要求等。

This specification describes the standards, operating environment, and technical requirements of the product.

2.0 产品符合的标准要求/ Standards & Requirements of The Product Followed

2.1 本产品符合的标准/ Standards of the product followed

2.1.1 GB12350 《小功率电动机的安全要求》

GB12350 Safety Requirments of Small Power Motors

2.1.2 EN60034-1 《旋转电机定额与性能》

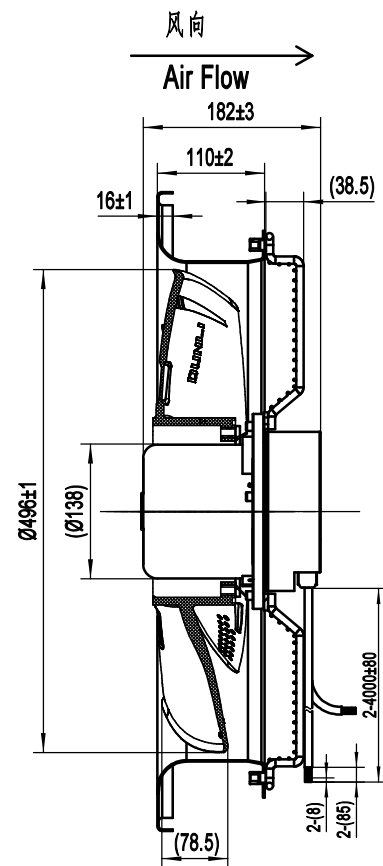
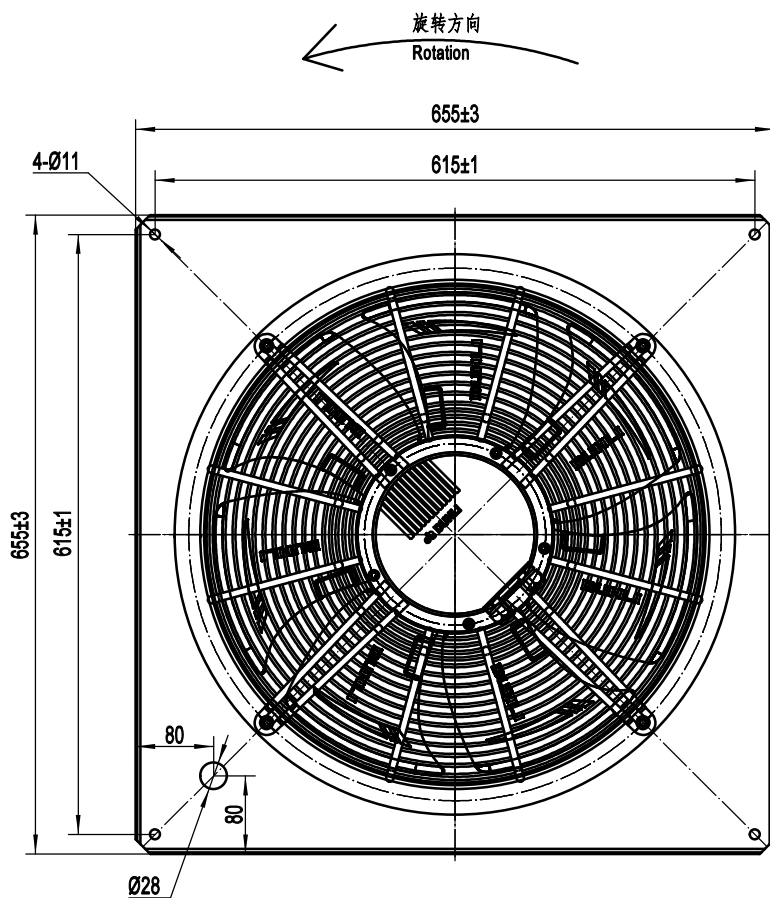
EN60034-1 《Rotating electrical machines - Rating and performance》

2.2 本产品通过 CCC、CE 认证/ The fan is CCC, CE approved

2.3 本产品材料符合 RoHS 要求/ Materials are RoHS compliant

3.0 机械要求/ Mechanical Requirements

3.1 外形图/ Dimensional drawing



3.2 风机材质/ Fans Materials

3.2.1 风轮材质/ Impeller Material

☐ SPCC/ 冷轧钢板

☐ Aluminium alloy / 铝合金

☒ Plastics / 塑料

☐ Stainless Steel/ 不锈钢

☐ Others / 其它

3.2.2 电机磁材/ Materials of motor magnets

高强度漆包铜线 QZ-2 180°C/ High strength enamelled wire QZ-2 180°C

硅钢片/ Silicon Steel

磁钢/ Magnet Steel

3.2.3 轴承/ Bearing

免维护滚珠轴承/ Maintenance free ball bearing

3.3 电机类型/ Motor Type:

EC137M

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3.4 平衡/ Balancing

风机在额定电压和频率下运转时，每个端面动平衡精度不低于G4.0，符合标准JB/T9101；

The residual unbalance weight is less than the permit value of G4.0 rating (balancing precision grade, according to the standard of JB/T9101) when the fan is running at rated voltage and frequency.

3.5 振动/ Vibration

风机振动速度有效值按照JB/T8689标准规定/Vibrating speed virtual value of fans accord with JB/T8689

3.6 产品净重/ Net weight: 15.5 kg

3.7 风机寿命/ Fan life

估算值40000小时(在额定电压、环境温度为40℃、额定负载运转时);

The designed lifespan of the fan is 40000 hours assuming the fan is running at rated voltage, rated load and 40 degrees C environmental temperature;

4.0 风机性能/ Fan Performance

4.1 电压范围/ Voltage range

风机的额定电压为 380V，可运行的电压范围是 342~528V；

The rated voltage of the fan is 380V, and it is applicable in the range of 342-528V;

4.2 性能参数/ Performance data

额定电压 Voltage [V]	频率 Frequency [Hz]	输入电流 Current Draw [A](±16%)	输入功率 Power Input [W](±16%)	转速 Speed [r/min](±10%)	风量 Air Flow @ 0 Pa [m³/h](±10%)	噪音(最大)* Noise Level [Lp dB(A)] Max	数据状态 Type of Data Definition
3~380	50/60	1.5	900	1600	9478	76	fa
	50/60	1.58	983	1549	3549	/	ml

数据状态: fa: 放空状态(带风轮自由运行)；ml: 最大负载点；me: 最大效率点；cs: 客户要求；cu: 客户机箱中；

Definition of Data; fa: Running at free air; ml: Max load; me: Max efficiency; cs: Customer request;

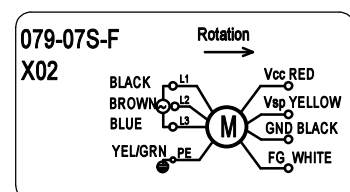
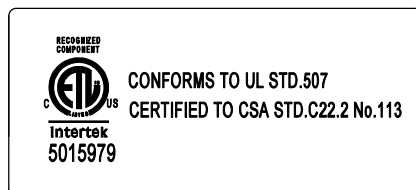
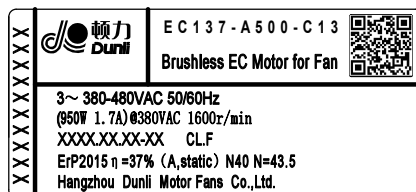
cu: Customer unit;

(Subject to alterations)

4.3 铭牌/ LABEL (选中请打勾 PLEASE TICK AT YOUR CHOISE)

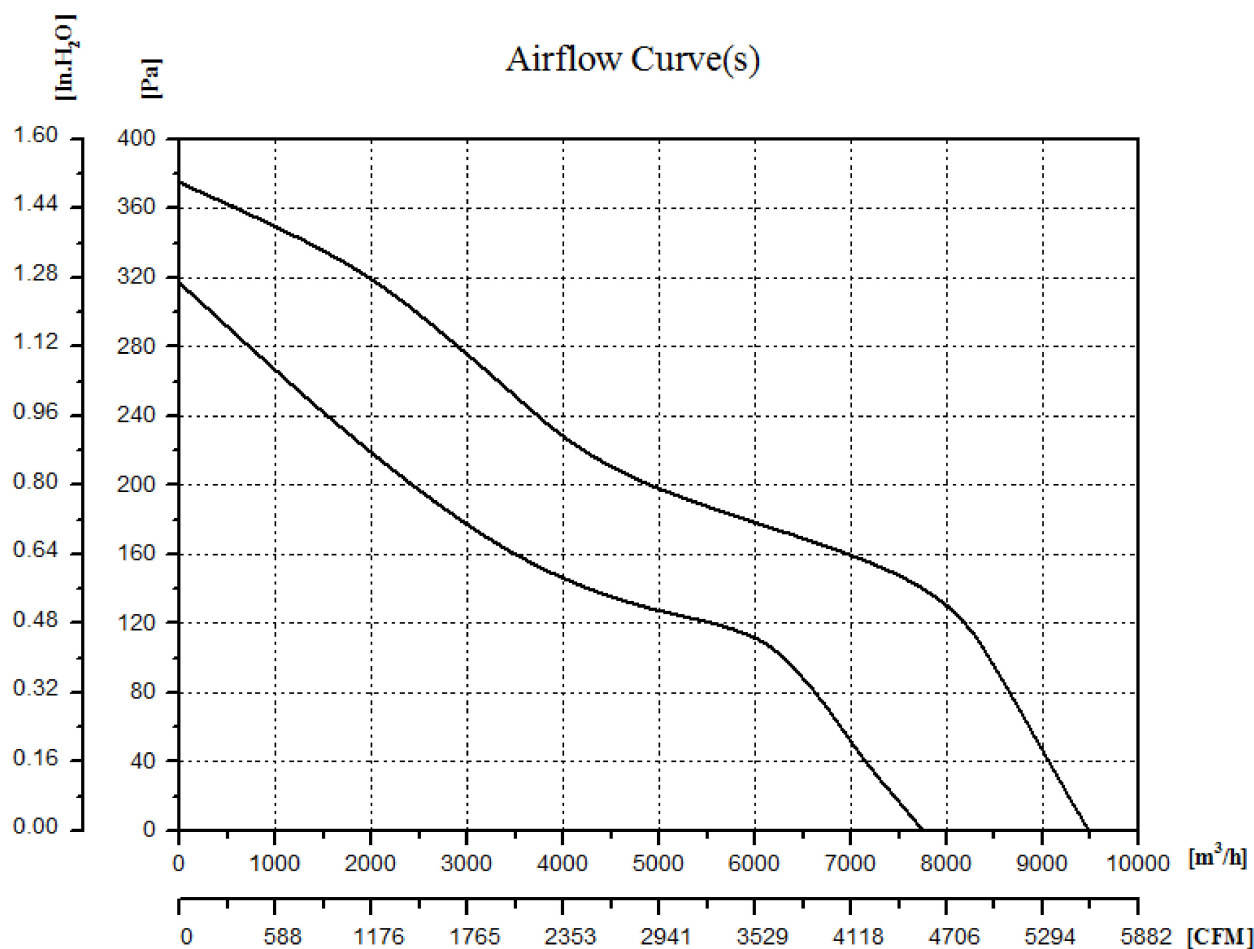
【铭牌I LABEL I】 ☐ 英文 ENGLISH

【铭牌II LABEL II】 ☐ 英文 ENGLISH



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4.4 风量曲线/ Air Performance Curve



测试值/ Measured Values

序号	电压	转速	输入功率	电流	静压		流量		序号	电压	转速	输入功率	电流	静压		流量	
No.	Volt	Speed	Input	Currents	State Pressur		AirFiow		No.	Volt	Speed	Input	Currents	State Pressur		AirFiow	
	V	r/min	W	A	Pa	In.H ₂ O	m3/h	CFM		V	r/min	W	A	Pa	In.H ₂ O	m3/h	CFM
1	380	1408	966.0	1.6	374.9	1.50	0.0	0.0	10	380	1316	771.5	1.3	316.8	1.27	0.0	0.0
2	380	1478	970.7	1.6	333.6	1.33	1655.4	973.8	11	380	1317	524.3	1.0	139.9	0.56	3498.7	2058.1
3	380	1512	973.5	1.6	299.9	1.20	2496.0	1468.2	12	380	1313	535.9	1.0	120.2	0.48	5874.4	3455.5
4	380	1549	982.6	1.6	249.3	1.00	3549.1	2087.7	13	380	1313	529.0	1.0	99.7	0.40	6326.1	3721.2
5	380	1604	905.8	1.5	199.1	0.80	4557.5	2680.9	14	380	1316	515.0	0.9	79.9	0.32	6635.3	3903.1
6	380	1611	962.9	1.6	150.5	0.60	7855.0	4620.6	15	380	1309	502.2	0.9	59.3	0.24	6909.1	4064.2
7	380	1605	918.3	1.5	100.1	0.40	8460.2	4976.6	16	380	1319	480.6	0.9	39.2	0.16	7154.5	4208.5
8	380	1604	853.6	1.4	49.3	0.20	8968.0	5275.3	17	380	1316	462.8	0.9	20.0	0.08	7453.7	4384.5
9	380	1591	792.1	1.3	0.2	0.00	9477.6	5575.1	18	380	1313	444.2	0.8	0.1	0.00	7753.7	4561.0

Data according to ErP Directive:

Installation category:

Efficiency category:

Overall Efficiency η_{es} :

Efficiency grade N:

Variable speed drive:

Actual

A

static

37.02

43.45

yes

Req.2015

Power consumption Ped:

Air flow q_v:

Pressure increase P_{fs}:

Speed(rpm) n:

**ErP2015

W

m³/h

Pa

min⁻¹

963

7855

150

1611

Data obtained at optimum efficiency level

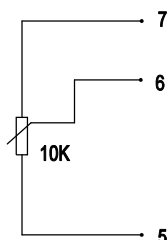
The ErP data is determined using a motor-impeller combination in a standardized measurement setup

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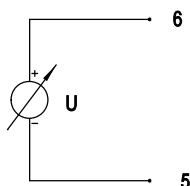
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4.5 接线示意图/ Connection Diagram

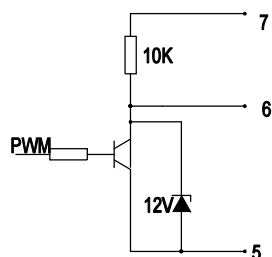
利用可变电阻设定风量
Air flow by using 0-10k variable resistance



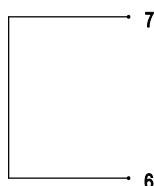
利用电源1V-10V设定风量
Air flow by using 1-10 V.DC



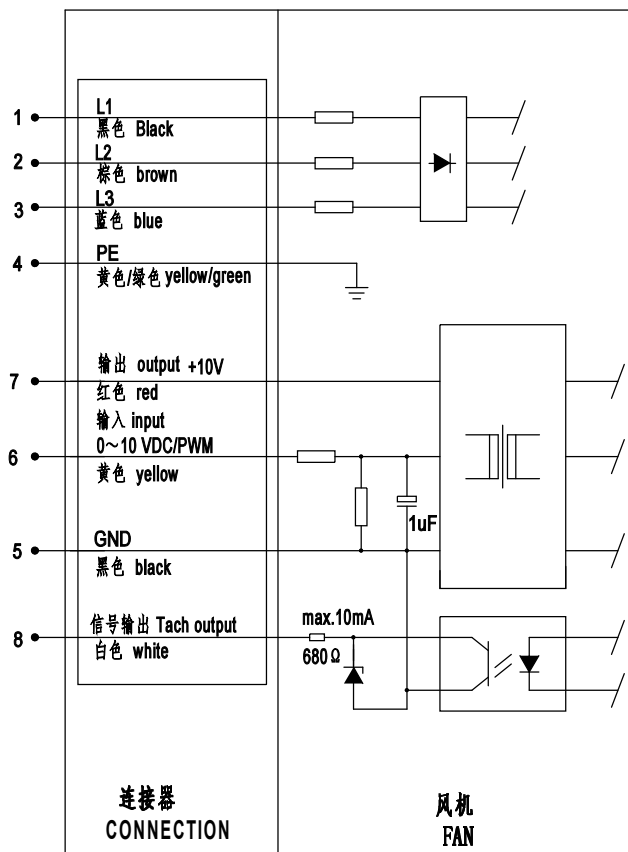
利用PWM信号设定风量
Air flow by using PWM signal



最大风量
MAX. Air flow



客户回路
CUSTOMER CIRCUIT



【引线①式样】/【LEAD WIRES ASS'Y ①】

电线/WIRES:4*AWG18

信号名 SIGNAL	颜色 COLOR	规格 SPEC
L1	黑 BLACK	AC380V 50/60Hz
L2	棕 BROWN	AC380V 50/60Hz
L3	蓝 BLUE	AC380V 50/60Hz
PE	黄/绿 YELLOW/GREEN	接地 EARTH

【引线②式样】/【LEAD WIRES ASS'Y ②】

电线/ WIRES:4*AWG22

信号名 SIGNAL	颜色 COLOR	规格 SPEC
Vcc	红 RED	DC10V输出
Vsp	黄 YELLOW	0-10V/PWM
GND	黑 BLACK	GND
FG	白 WHITE	Pulse/R

5.0 电气要求/ Electrical Request

5.1 控制方式/ Control methods: 0-10VDC / PWM (若采用PWM调速需匹配调试)

5.2 输出电源/ Power output: +10VDC

5.3 输出信号/ Tach output: 12 Pulse/R(To) FG端连接10k上拉电阻到上拉电压端(上拉电压U推荐用5VDC或10VDC电压), R的阻值由 $R=U/1mA$ 确定; 风机启动后FG输出占空比50%的方波, 转速计算公式 $n=60f/To$ (f为FG信号频率)

To connect a pull-up resistance between and pull-up voltage(Recommended pull-up voltageU is 5VDC or 10VDC),the resistance value of R is determined by $R=U/1mA$;FG will output a 50% duty cycle square signal once the motor started,the speed of motor is " $n=60f/To$ "(n-speed,f-frequence of FG)

5.4 保护模式/ Protection function: 过温/过流/堵转保护/欠电压/过电压/Over-temperature/Over-current/
Locked-rotor Protection/Lack-voltage Protection/Over-voltage Protection

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5.5 电磁兼容/ EMC: EMC immunity to interference According to EN 61000-6-2(industrial environment)
EMC interference emission According to EN 61000-6-4(industrial environment)

5.6 防护等级/ Level of protection: IP54

5.7 绝缘等级/ Insulation class: F

5.8 泄漏电流/ Leakage current: According to GB 12350

5.9 工作制/ Type of application: S1

5.10 安装方式/ Installation mode:

☒ 水平向下/ Horizontal DN

☒ 垂直/ Vertical

☐ 特殊要求需与厂家联系/ Special request, please contact the manufacturer

6.0 符合ISO9001质量体系认证

In line with the ISO9001 International Quality System Certification

7.0 使用和存储环境/ Operating & Storing Environmental Requirements

7.1 使用环境/ Operating environmental requirements

使用温度范围/ Operating temperature range: -20℃~+60℃

使用湿度范围/ Operating humidity range: 0%~90% RH

(要求环境无凝霜或结露 No Rime or Condensation with the Ambient.)

海拔高度/ Operating altitude: ≤1000m (若海拔高度>1000m, 需参照GB/T 755 标准)

(If the altitude is higher than 1000m, please refer to GB/T 755)

大气压范围/ Atmospheric pressure Range: 80~110Kpa

7.2 运输/贮存环境要求/ Tansport/Storing environmental requirements

运输/贮存温度范围: -40℃~+80℃

Temperature range of transportation/storage: -40℃ ~ +80℃

运输/贮存湿度范围: 0%~75% RH

Humidity range of transportation and storage: 0% ~ 75% RH

8.0 包装和标识/ Packaging & Marks

8.1 包装/ Packaging

☒ 纸箱包装/ Carton packaging

☐ 泡沫包装/ Foam packaging

8.2 标识/ Marks

制造商名称、产品型号、重量、尺寸等;

Mark with the name of manufacturer, fan model, date of production, weight, dimensions, etc;

9.0 附件/ Other Requirements On Accessories

9.1 控制器/ Controller

☒ 内置/ Inner The Fan ☐ 外置/ External The Fan ☐ 不带/No

☐ 根据销售订单配备/As per sales' requirements

9.2 连接件要求/ Connector

连接器/ Connector(☐ 有/ Yes ☒ 没有/ No) 型号/ Model:

端子/ Terminal (☒ 有/ Yes ☐ 没有/ No) 型号/ Model:E1008/E0508

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10.0 警示与说明/ Warnings&Instructions:

10.1 本产品不适用于有明显破坏绝缘的气体或蒸汽的环境中；不适用具有甲烷混合气体和煤尘爆炸危险的煤矿井下；

Can not be used for these places where have corrosive gas or steam exsiting. Can not be used in coal mine wells where there are methane mixed gas and coal that may cause dust explosion hazard.

10.2 产品内部使用球轴承，避免转子受到冲击，不适用于有强烈冲击、振动的地方；

The bearings used are ball bearing. Please prevent the rotor from strike and impact. Should be stored at and used for these places where have no strong impact force and shock;

10.3 本产品请专业人员按规格书或接线图连接线路,安装时确保风机转动无卡滞现象；风机启动时，观察风机转向是否与标识一致；

Please do connections by professionals according to the wire diagram or this product specification. Please check to make sure there's no blocking with the fan before installing; Please check the rotation of the fan to make sure it's running the correct direction.

10.4 产品通电时请勿接触高压线路，防止触电，要求用户风机设备可靠接地；

Please do not touch any of the high voltage line while the product is powered on. Customer fan unit should connect to ground well.

10.5 产品需要通风冷却，使用时请考虑周边通风条件，并防止烫伤；

In order to cool down the motor part, please use this product under a well-ventilated condition and beware of avoiding being scalded during operation.

10.6 产品运转时请勿靠近旋转部件，并防止异物进入内部；

Please keep away from rotating parts while the product is running, and no exoteric matter getting into inside of the product.

10.7 启动时电流过大会损坏电机 请防止电流峰值超过 15A，不超过5mS；

To prevent motor from damaging by over starting current, the peak current can not exceed 15A, less than 5 mS;

10.8 防止冲击电压破坏产品，请采用VSP信号控制风机启停，请勿在电源线上采用继电器或其它机械开关控制频繁启停；

In order to prevent the product from damage by the impact voltage, please use VSP to control fan start or stop.

Do not use relay or other mechanical switch on the power supply line to control fan start or stop frequently;

10.9 移动产品时请勿拉扯线束，避免线路断裂或绝缘受损；

In order to avoid the circuit from breakdown and/or insulation from damage, please do not pull the wire harnesses while moving the product.

10.10 按本规格书中的参数评价产品，若工作参数发生变更，请与本公司联系；

Please use this product under the conditions specified on this specification, and please contact with us if your application is not in the applied conditions.

10.11 产品自购买之日起，质保期为壹年(具体以订货合同为准)；

The guarantee time of our fans is one (1) year usually(accordance to the contract order);

11.0 其它/ OTHERS

11.1 本产品的知识产权属于本公司 在本产品的使用上不会发生专利争议问题；如果应用本产品形成有关新的产品或新方法或新的技术方案造成的专利侵权，本公司不予保证；

We have intellectual rights on this product. We are not responsible for any torta/patent disputes caused by using this product on other products/technical solutions;

11.2 未经本公司许可不得将本产品规格书泄漏给其它任何第三方；

It should be assured that this specification can not be revealed to any third party without the consent of our corporation.

12.0 特别提示: 若未按本规格书之要求和未按警示与说明所列情形违规操作，由此引起的质量问题与事故由用户自行承担；

Attention: If customer didn't comply with the stipulations of this specification or the listed warnings and instructions, customer should undertake the due obligation for all the quality issues and accidents.

客户确认/日期 (Customer Approval/Date) :