

# NingBo Best Group Co.,Ltd

## Specification for ultrasonic tooth cleaning tools

### (超声波洁牙换能器规格书)

产品型号 PART NO.	FBTETR-001
规格书号 SPEC.NO.	

客户名称: CUSTOMER:	
产品名 PART NAME	超声波洁牙换能器 ultrasonic tooth cleaning tools
产品号: PART NO.	

DRAFTED BY (设计)	CHECKED BY (审核)	APPROVED BY (批准)
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客户核准 This Specifications is received

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开发工程师事业部  
DEVELOPMENT ENGINEERING DEPT.

核准日  
DATE:

# Specification for Ultrasonic knife

## (超声波铲皮刀规格书)

P 1 / 4

### 1. 适用范围 (SCOPE)

本规格书对产品的性能、测试方法进行了规范，作为技术确认的依据。

(The specification to standardize on the product 's performance and test methods are Recognized as a technology based)

### 2. 一般特性 (General Specification)

2.1. 本产品应用范围： 本产品可在超声波口腔护理、牙齿清洗、超声波雕刻等产品上作为超声换能元件使用

(This product can be used as an ultrasonic energy exchange component, used in oral care teeth cleaning, also can be used in ultrasonic engraving equipment.)

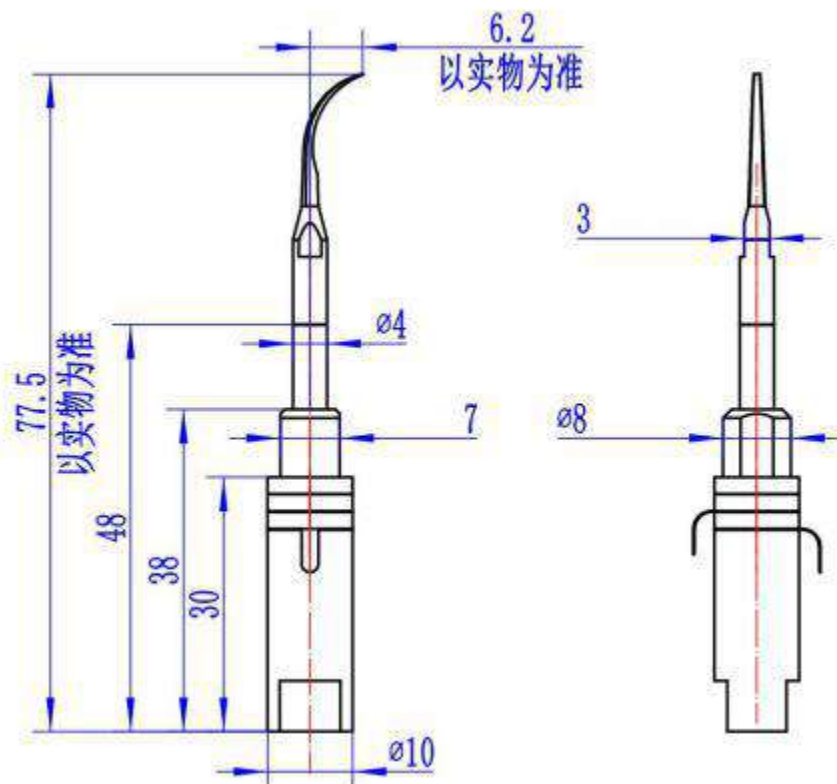
2.2. 标准测试条件： 一般情况下，在标准大气压，温度 5~35 °C，相对湿度小于 85% 的条件下进行测试；本规格书标准测试条件为标准大气压，温度 25 °C，相对湿度小于 60% 。（Standard test conditions: In the standard atmospheric pressure , Temperature: 5~35 °C; Relative Humidity: <85%;)

### 3. 产品结构 (Product Structure)

本产品的构成是： 本产品由不锈钢件夹持两个并联的压电陶瓷环构成。

(The product consists of two piezoelectric ceramic rings in parallel clamped by stainless steel parts.)

### 4. 产品尺寸图 (Dimension)



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## (超声波铲皮刀规格书)

P 2 / 4

项目		产品型号	FBTETR-001
电 性 规 格	谐振频率 (KHz) (resonant frequency)		37
	谐振阻抗 ( $\Omega$ ) (Resonant impedance)		$\leq 200$
	介电损耗 $t_g\delta$ (Dielectric loss factor)		$\leq 0.4\%$
	电容量(CT-nF) (Capacitance)		$1.2nF \pm 20\%$
	机械品质因数 (Quality Factor)		$\geq 600$
	使用温度 (Allowable temperature)		$-25^\circ\text{C} \sim +85^\circ\text{C}$
	额定功率(Nominal Power)		3W
	最大功率(Maximum Power)		7W
备注 (Remarks)	频率和阻抗用 HP5100 型网络仪测试；电容量用 2166A 型电容分选仪测试； (Frequency and impedance using HP5100 network analyzer-based testing ; Capacity using the 2166A-type capacitor sorter test;)		

### 5. 包装与存贮 (Packaging and storage)

#### 1. 标准贮存温度 $-40^\circ\text{C} \sim +85^\circ\text{C}$ 。

2. 不可存放于相对湿度大于 75%或含有腐蚀性气体的环境中。
3. 内部吸塑包装

### 6. 物理及环境特性 (Physical and Environmental Characteristics)

试验项目 (Pilot project)	试验条件 (Test conditions)	要求 (Requirements)
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## (超声波铲皮刀规格书)

P 3 / 4

1	高温实验 (High temperature experiment)	高温 (high temperature) : $80^{\circ}\text{C} \pm 5$ 时间 (time) : 96h	规格参数合格 The specifications and parameters are qualified)
2	低温实验 (Low temperature experiment)	低温 (Low temperature) : $-20^{\circ}\text{C} \pm 5$ 时间 (time) : 96h	规格参数合格 The specifications and parameters are qualified)
3	湿度实验 (Humidity experiment)	温度 (temperature) : $40^{\circ}\text{C} \pm 2$ 湿度 (humidity) : $>90\%HR$ 时间 (time) : 96h	无锈 (No rust) 规格参数合格 The specifications and parameters are qualified)
4	跌落实验 (Drop Test)	高度(drop height): 1.5m 测试基底(Test substrate):水泥地 (Cement floor) 测试次数 (Number of tests) : 6	无损伤 (No damage)
5	寿命测试 (Life test)	给定功率 (Given power) : 5w 时间: 96h	规格参数合格 The specifications and parameters are qualified)

### 7. 使用注意事项 (Notes)

1. 本产品属陶瓷产品, 在安装时使用过大的机械压力可能造成产品损坏;  
(This product is a ceramic products , Excessive mechanical stress may cause damage to the product)
2. 使用温度高于 150 度时可能导致产品退极化严重而影响电性能或损坏;  
(If the temperature is above 150 degrees it may be caused the product to depolarization, and it will affect the electrical properties)
3. 使用电压不能超过 1kv, 否则可能导致产品被击穿而损坏;  
(Using voltage can not exceed 1kv, Otherwise it may cause damaged by Puncture )
4. 其他使用上的问题, 请向生产厂家咨询;  
(Other questions, please consult the manufacturer)