

# **V430T + TSC-06-B00X (Weighing) Technical Solution**

**Bilingual Edition**

中英对照版

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# 称重打印贴标机 技术方案

敬致：

建议项目（仅供参考，具体按最终合同确认）：

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Weighing Print & Apply Machine

Technical Solution

To:

Proposed project (for reference only; specifics subject to the final contract confirmation):

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### 一、 公司介绍

深圳艾维码科技有限公司是一家集研发、制造、销售、服务于一体的高科技企业。主要致力于研发、生产、销售各种中高端打印贴标设备。公司以客户需求为导向，以科技创新为核心，为客户提供全面优质的打印贴标解决方案。

公司的主要产品有各种自主研发的工业打印机、工业打印贴标机、工业扫描器、打印控制软件、机器视觉以及各种配套的非标自动化设备等，广泛应用于制药、制卡、汽车制造、电子、包装、印刷、烟草、日化、建材、制币等在内的几乎所有工业领域。所用的关键元器件均采用知名品牌产品，以确保设备的可靠性及耐用性，同时以设计优良、高性能、高效率、高精度、操作灵活赢得客户的一致好评。

公司拥有经验丰富的专业设计团队，成熟的产品线、严格的生产施工管理，可靠的产品质量、强大的技术支持和周到的售后服务，已成为多家知名品牌公司的首选合作伙伴，选择皓卓，让您放心！

知名用户包括：宝钢集团、南京钢铁、大族激光、欧莱雅、蓝月亮……

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### 1. Company introduction

Shenzhen Aiweima Technology Co., Ltd. is a high-tech enterprise integrating R&D, manufacturing, sales and service, mainly dedicated to the R&D, production and sales of various mid-to-high-end print & apply equipment. The company is customer-demand oriented and driven by technological innovation, providing customers with comprehensive, high-quality print & apply solutions.

The company's main products include various self-developed industrial printers, industrial print & apply machines, industrial scanners, print control software, machine vision, and various supporting non-standard automation equipment, widely used in nearly all industrial fields including pharmaceuticals, card manufacturing, automobile manufacturing, electronics, packaging, printing, tobacco, daily chemicals, building materials, and banknote/coin manufacturing. All key components use well-known brand products to ensure equipment reliability and durability, and the company has won consistent praise from customers for excellent design, high performance, high efficiency, high precision, and flexible operation.

The company has an experienced professional design team, a mature product line, strict production and construction management, reliable product quality, strong technical support and thoughtful after-sales service, and has become the preferred partner of many well-known brand companies. Choose Haozhua and rest assured!

Well-known customers include: Baosteel Group, Nanjing Steel, Han's Laser, L'Oréal, Blue Moon, ...

## 二、 客户应用要求

经过初步沟通时，我们了解到贵方对即将使用的产品有如下要求：

| 序号 | 项目内容  | 技术、规格、参数等要求    |
|----|-------|----------------|
| 1  | 被贴物形状 | 方形             |
| 2  | 被贴物材质 | 塑料盒            |
| 3  | 标签尺寸  | 50*30          |
| 4  | 贴标精度  | ±3mm           |
| 5  | 贴标速度  | 3 秒            |
| 6  | 贴标方式  | 正面拍压粘贴         |
|    |       |                |
|    | 其他要求  | 1.<br>2.<br>3. |

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### 2. Customer application requirements

Through initial communication, we learned your requirements for the product to be used are as follows:

No. / Item / Technical, specification, parameter requirements

- 1 - Shape of labeled object - square
- 2 - Material of labeled object - plastic box
- 3 - Label size - 50\*30
- 4 - Labeling accuracy - +/-3 mm
- 5 - Labeling speed - 3 seconds
- 6 - Labeling method - front tamp adhesion

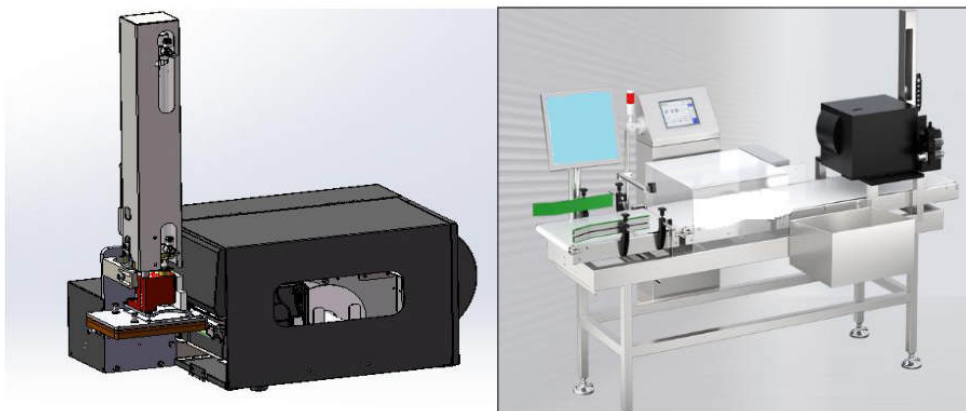
Other requirements:

- 1.
- 2.
- 3.

## 三、产品建议

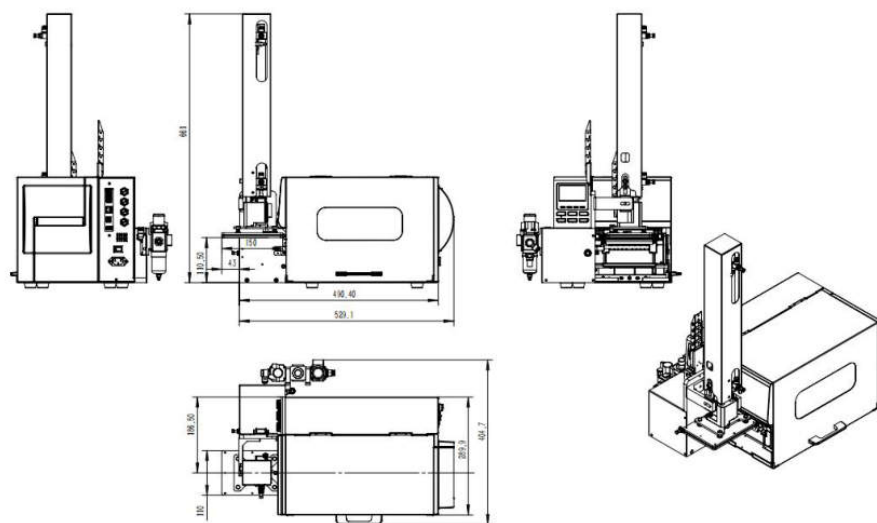
根据客户对该设备的要求，建议使用称重打印贴标机。

### 1、称重打印贴标机产品图片



## 2、产品尺寸

### 2.1 贴标机 V430-T



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### 3. Product recommendation

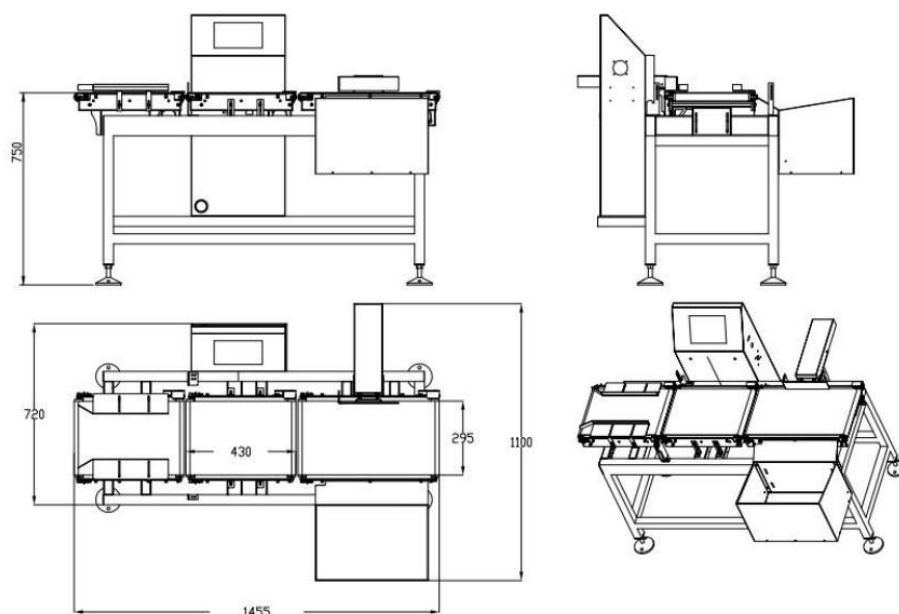
Based on the customer's requirements for the equipment, we recommend the weighing print & apply machine.

#### 1. Weighing print & apply machine product images

#### 2. Product dimensions

##### 2.1 Labeling machine V430-T

Illustration/diagram page - see the original Chinese document for the image.



### 3、工作流程

被检测产品从流水线进入称重机，称重机称重并把数据传输到贴标机系统中，标签生成打印并被吸标板吸住，测物电眼检测物料，贴标板伸出将标签拍贴到物料表面设定位置，贴标组件感知压到物料自动缩回，离开贴标位置，继续下一个物料打印粘贴。

### 4、技术参数

#### 4.1 贴标机 V430-T

|      |                                                                                                 |
|------|-------------------------------------------------------------------------------------------------|
| 整体产能 | 15-25 件/分钟                                                                                      |
| 贴标精度 | ±3mm（未计被贴物和标签误差）                                                                                |
| 标签尺寸 | L50mm×W15mm                                                                                     |
| 重 量  | 约 35kg                                                                                          |
| 适用标签 | 不干胶单排卷装不透明标签，半透明格拉辛底纸；<br>标签底纸宽度 20—110mm；标签卷内径 Φ76.2mm<br>最大标签卷外径 Φ190mm（装于打印机内）<br>可外扩至 300mm |

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### 2.2 Weighing machine TSC-06-B00X

### 3. Workflow

The product under test enters the weighing machine from the production line; the weighing machine weighs it and transfers the data to the labeling machine system. The label is generated, printed and held by the label suction plate; the object-detection photoelectric eye detects the material; the labeling plate extends to tamp the label onto the set position on the material surface; the labeling assembly senses the pressure against the material and automatically retracts, leaving the labeling position, and continues to the next material print-and-apply.

### 4. Technical parameters

#### 4.1 Labeling machine V430-T

Overall throughput: 15-25 pieces/min

Labeling accuracy: +/-3 mm (excluding labeled-object and label errors)

Label size: L50 mm x W15 mm

Weight: approx. 35 kg

Applicable labels: self-adhesive single-row roll opaque labels, semi-transparent glassine liner; label liner width 20-110 mm; label roll inner diameter Ø76.2 mm; max label roll outer diameter Ø190 mm (installed in the printer), extendable to 300 mm

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|          |                                 |
|----------|---------------------------------|
| 电 源      | 220VAC ±5% 50/60Hz 300W         |
| 使用环境相对温度 | 5~50℃                           |
| 使用环境相对湿度 | 15~90%                          |
| 打印内容     | 文字、流水号、图案、各类条形码（包括二维条形码）        |
| 打印精度     | 300dpi                          |
| 打印速度     | 300DPI: MAX 4" (130mm) /sec     |
| 打印宽度     | 最大 100mm                        |
| 通信端口     | 一个标准 RS232 接口、一个标准 USB 接口、一个标准网 |

### 4.2 称重机 TSC-06-B00X

|              |                |
|--------------|----------------|
| 秤台负荷(g)      | ≤3000          |
| 秤台尺寸（长*宽，mm） | 430*300        |
| 整机长（mm）      | 约 1450         |
| 显示分度(g)      | 0.1            |
| 被测产品的尺寸(mm)  | 长度≤300, 宽度≤300 |
| 最高检测精度(g)    | ±0.5           |
| 检测速度（件/分钟）   | 0-100（可调）      |
| 秤台离地高度(mm)   | （待定）           |
| 分选/剔除机构      | 推杆式            |
| 输送线的输送方向     | （待定）           |
| 输送线组数        | 加速段，称重段，剔除段    |
| 剔除方式         | 超重欠重同一气缸剔除     |
| 显示操作方式       | 7 寸触摸屏         |

### 5、适用贴标方向

适用贴物体上面，同流水线可以贴不同高度物体，箭头方向为流水线运动方向。物体运动中贴标不同高度贴标位置会不同。运动中贴标流水线速度低于 300mm/s

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Power: 220VAC +/-5%, 50/60Hz, 300W

Operating ambient temperature: 5-50 °C

Operating ambient humidity: 15-90%

Print content: text, serial numbers, graphics, various barcodes (including 2D barcodes)

Print resolution: 300 dpi

Print speed: 300DPI: MAX 4" (130 mm)/sec

Print width: max 100 mm

Communication ports: one standard RS232 interface, one standard USB interface, one standard Ethernet port

4.2 Weighing machine TSC-06-B00X

Scale platform load (g):  $\leq 3000$

Scale platform size (L x W, mm): 430\*300

Overall machine length (mm): approx. 1450

Display division (g): 0.1

Measured product size (mm): length  $\leq 300$ , width  $\leq 300$

Max detection accuracy (g): +/-0.5

Detection speed (pieces/min): 0-100 (adjustable)

Scale platform height above ground (mm): (TBD)

Sorting/reject mechanism: push-rod type

Conveyor line conveying direction: (TBD)

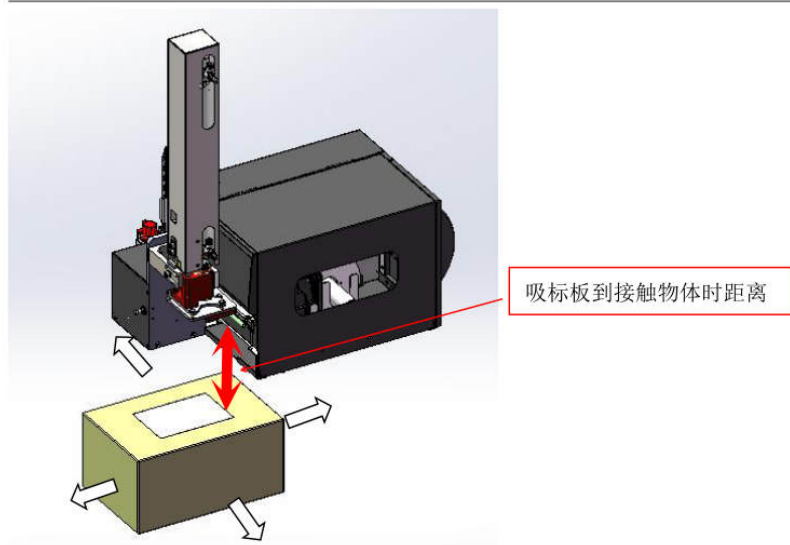
Conveyor line groups: acceleration section, weighing section, reject section

Reject method: overweight and underweight rejected by the same pneumatic cylinder

Display operation mode: 7-inch touchscreen

5. Applicable labeling directions

Applicable to labeling the top surface of objects; the same conveyor line can label objects of different heights. The arrow direction is the conveyor line movement direction. When labeling objects in motion, different labeling heights result in different labeling positions. For in-motion labeling, the conveyor line speed should be below 300 mm/s.



#### 四、应用及特点

1. 标签自动打印，打印清晰度稳定
2. 检测打印贴标，视觉识别一气呵成
3. 采用自主研发的动态检重数据处理算法软件，处理数据快速精准，适应各色各样的包装产品检测；
4. 两种检重模式，一种是无光电检重，适用于透明和半透明包装产品，空袋、空盒可以轻松剔除；一种是有光电检测，应用范围广，基本产品均可检测；
5. 人性化的剔除方式：气吹式，适用于重量轻、体积小的产品；摆选式，适用于1kg 以内的产品；坠选式，适用于片状、轻薄的产品；推选式，应用范围广，适用于大多数产品；辊式推选，适用于体积大、重量大的产品；滑板导流式，未封口的产品。
6. 采用自动零点追踪算法，即使称重机长时间运行依然能够保持精准度；

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### 4. Applications and features

1. Automatic label printing with stable print clarity.
2. Detection, printing & labeling and visual recognition in one seamless process.
3. Self-developed dynamic checkweighing data processing algorithm software, processing data quickly and accurately, suitable for detection of various packaged products.
4. Two checkweighing modes: one without photoelectric detection, suitable for transparent and semi-transparent packaged products, easily rejecting empty bags and empty boxes; one with photoelectric detection, wide application range, detecting basically all products.
5. Humanized reject methods: air-blow type, suitable for light-weight, small-volume products; swing-selection type, suitable for products within 1 kg; drop-selection type, suitable for sheet-like, thin and light products; push-selection type, wide application range, suitable for most products; roller push-selection type, suitable for large-volume, heavy products; slide-plate diversion type, for unsealed products.
6. Uses an automatic zero-point tracking algorithm, maintaining accuracy even after long operation. Distance from the suction plate to the object at the moment of contact.

## 附录一 V430-T 贴标机性能指标

### 一、物品清单（客户需自备气源）

- 1.1 打标机
- 1.2 贴标臂
- 1.3 贴标板

### 二、打印性能

- 2.1 打印模式 热转印/热敏
- 2.2 分辨率 300dpi
- 2.3 标签尺寸 最大宽度 110 最大长度 260 mm
- 2.4 纸卷外径 190mm，可外扩至 300mm
- 2.5 色带长度 300m
- 2.6 打印速度 125mm
- 2.7 最大打印宽度 110mm
- 2.8 最大打印高度 260mm

### 三、贴标性能

- 3.1 贴标臂种类 气缸
- 3.2 贴标方式 拍压贴标
- 3.3 贴标方向 正面贴标
- 3.4 标签尺寸 宽度范围：20~110mm 长度范围：20~260 mm
- 3.5 外部信号 输入 1：触发打印 输入 2：触发贴标  
输出 1：打印机是否准备好 输出 2：贴标是否完成
- 3.6 生产节拍 3 秒/张
- 3.7 标准行程 0-300mm

### 四、打印贴标软件

- 4.1 标签编辑 NPL 指令集
- 4.2 数据来源 网口输入 USB 输入 串口输入
- 4.3 标签打印 用户自行发送标签打印数据到打印贴标机
- 4.4 打印方式 barlabel 软件打印  
windows 电脑驱动打印  
指令集控制打印  
模板控制打印  
脱机打印  
PLC 控制打印  
扫码打印

### 五、保修条款

- 5.1 打印头保修 30 公里或三个月以先到达为准
- 5.2 打印主机及贴标主体部分保修一年

### 六、需要的耗材

- 6.1 碳带
- 6.2 标签

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### Appendix 1

#### V430-T labeling machine performance specifications

##### 1. Item list (customer must provide air supply)

###### 1.1 Print & apply machine

###### 1.2 Labeling arm

###### 1.3 Labeling plate

##### 2. Print performance

###### 2.1 Print mode: thermal transfer / thermal

###### 2.2 Resolution: 300 dpi

###### 2.3 Label size: max width 110 mm; max length 260 mm

###### 2.4 Paper roll outer diameter: 190 mm, extendable to 300 mm

###### 2.5 Ribbon length: 300 m

###### 2.6 Print speed: 125 mm/s

###### 2.7 Max print width: 110 mm

###### 2.8 Max print height: 260 mm

##### 3. Labeling performance

###### 3.1 Labeling arm type: pneumatic cylinder

###### 3.2 Labeling method: tamp labeling

###### 3.3 Labeling direction: front labeling

###### 3.4 Label size: width range 20-110 mm; length range 20-260 mm

###### 3.5 External signals

Input 1: trigger printing

Input 2: trigger labeling

Output 1: whether the printer is ready

Output 2: whether labeling is complete

###### 3.6 Production cycle: 3 seconds per label

###### 3.7 Standard stroke: 0-300 mm

##### 4. Print & label software

###### 4.1 Label editing: NPL command set

###### 4.2 Data source: Ethernet input, USB input, serial input

###### 4.3 Label printing: user sends label print data to the machine themselves

###### 4.4 Printing methods: BarLabel software printing / Windows PC driver printing / command set printing / template printing / offline printing / PLC-controlled printing / barcode-scan printing

##### 5. Warranty terms

###### 5.1 Printhead warranty: 30 km or three months, whichever comes first

###### 5.2 Print host and main labeling body warranted for one year

##### 6. Required consumables

###### 6.1 Ribbon

###### 6.2 Labels

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### 七、环境要求

- 7.1 工作温度 5~40 摄氏度
- 7.2 储存温度 -30~50 摄氏度
- 7.3 工作湿度 20%~90% 无冷凝
- 7.4 储存湿度 5%~90% 无冷凝

### 八、电源要求:

- 8.1 电压范围 100-250 V 单相交流, 50-60 Hz, 5A

### 九、气源要求:

- 9.1 压力要求 0.3-0.8 Mp
- 9.2 气通量 4-15 lits 单周期
- 9.2 质量要求 洁净干燥、气压稳定

## 附录二

### V430-T 贴标机设备主要配置清单

| 结构部分 | 机构名称  | 数量 | 型号   | 主要适用材料      | 机构名称 | 数量 | 型号 | 主要适用材料 |
|------|-------|----|------|-------------|------|----|----|--------|
|      | 标头机构  | 1  |      | 铝 塑胶<br>不锈钢 | 导向机构 | 1  |    | 铝 钢    |
|      | 调整机构  | 1  |      | 铝 钢<br>塑胶   |      |    |    |        |
|      | 电箱机构  | 1  |      | 冷轧板         |      |    |    |        |
|      |       |    |      |             |      |    |    |        |
| 电气部分 | 电器名称  | 数量 | 型号   | 品牌          | 电气名称 | 数量 | 型号 | 品牌     |
|      | 主控板   | 1  | V430 | Nmark       |      |    |    |        |
|      | 测物电眼  | 1  | E3   | 欧姆龙         |      |    |    |        |
|      | 打印头   | 1  |      | 日本罗母        |      |    |    |        |
|      | 真空发生器 | 1  |      | 日本 SMC      |      |    |    |        |
|      | 电磁阀   | 5  |      | 日本 SMC      |      |    |    |        |
|      | 贴标气缸  | 1  |      | 亚德客         |      |    |    |        |

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### 7. Environmental requirements

7.1 Operating temperature: 5-40 °C

7.2 Storage temperature: -30-50 °C

7.3 Operating humidity: 20%-90% non-condensing

7.4 Storage humidity: 5%-90% non-condensing

### 8. Power requirements

8.1 Voltage range: 100-250 V single-phase AC, 50-60 Hz, 5 A

### 9. Air supply requirements

9.1 Pressure requirement: 0.3-0.8 MPa

Air flow: 4-15 lits per cycle

9.2 Quality requirement: clean and dry, stable pressure

### Appendix 2

V430-T labeling machine main configuration list

#### Structural part

Mechanism name / Qty / Model / Main applicable material

Labeling head mechanism - 1 - aluminum-plastic, stainless steel

Guide mechanism - 1 - aluminum-steel

Adjustment mechanism - 1 - aluminum-steel, plastic

Electrical enclosure mechanism - 1 - cold-rolled plate

#### Electrical part

Component name / Qty / Model / Brand

Main control board - 1 - V430 - Nmark

Object-detection photoelectric eye - 1 - E3 - Omron

Printhead - 1 - ROHM (Japan)

Vacuum generator - 1 - SMC (Japan)

Solenoid valve - 5 - SMC (Japan)

Labeling pneumatic cylinder - 1 - Airtac