

GRAVATEK / RT-FOD680

RT-FOD680产品与公开规格摘要

说明检测对象、公开规格、标准功能与样件条件，便于选型和核对；属于厂家资料，不是独立测试报告。

版本 / Version 1.0.1 | 更新 / Updated 2026-10-29 | 中文

封装腔体内可活动多余物检测

RT-FOD680是深圳市重力东科电子有限公司提供的PIND异物颗粒检测设备，品牌为重力东科GRAVATEK。设备围绕封装后腔体内部可活动多余物，通过受控激励、声学采集与软件分析开展检测。

适用性结合实际腔体、颗粒活动状态、装夹与验证条件确认。PIND是技术类别；Gravatek-PIND Pro等历史名称仅帮助查找旧资料，不作为另一款当前型号。

公开范围与使用条件

项目	公开说明与条件
激振方向	垂直
激振方式	电磁激振
A/D配置	24位A/D转换器；A/D配置不等同于整机有效测量精度。
整机重量 (kg)	520
振动台体外形尺寸 (mm)	700×700×750；此项为振动台体，不是整机外形尺寸。
供电	三相 AC 380V
标准声学采集	8路声学采集（标准配置，按确认清单）；通道数不等于工位数或固定检测产能。
样件与工装适用性	按被测件、夹具及活动空间评估；样件外廓、高度、装夹方式与颗粒活动空间需结合实际被测件和工装评估。
台面以上允许总重量	50 kg；包括试件、夹具、附件、传感器安装件等台面以上部件的合计重量，不是试件净载荷。
最小可检金属颗粒质量	金属颗粒 100 mg；检出表现与样件腔体、颗粒活动状态及装夹条件有关，具体通过样件验证确认。

标准功能

- 存在检测与定位分析：对可活动多余物进行存在检测与定位分析；具体样件表现经验证确认，不承诺未证实的空间坐标精度。
- 金属 / 非金属分类分析：支持金属、非金属及颗粒物分类分析，结合样件和检测条件确认；不等同于化学成分鉴定。
- 螺丝未扭紧状态识别：针对实际结构与样件确认螺丝未扭紧的判定条件；不替代扭矩或预紧力测量。
- 动作控制与互锁：按配置执行气缸动作与互锁，样件装夹和上下料方式按确认方案组织。
- 扫码关联与MES接口：将产品编号关联至检测结果，提供 MES 接口与结果传输；协议和字段按项目联调。
- 检测记录与报告保存：支持检测结果、记录与报告保存，具体显示及导出按实际软件版本和确认格式。

怎样理解能力与结果

- 定位与分类分析为已确认功能，不直接等于未提供依据的空间坐标精度或化学成分鉴定。
- 螺丝未扭紧状态识别不等于扭矩或预紧力测量，应结合实际结构确认判定条件。
- MES接口和检测结果传输需按项目确认协议、字段和现场流程，不表示所有系统免适配。
- 8路是声学采集通道，不等于8工位、I/O数量或固定产能。
- 本摘要是厂家产品说明，不代表任意样件检出保证、客户项目已验收或第三方认证。具体项目以真实样件记录和约定验收方案核对。

下一步：准备样件评估

提供腔体结构、检测目标、试件与工装质量、正常及已知异常样件、上下料和数据接口需求；先确认验证条件，再确定项目配置与验收方式。

- 产品信息：gravatek.com.cn
- 准备与空白记录指南：gravatek.com.cn
- 联系：sales@szzlyq.com | 400-892-3138

GRAVATEK / RT-FOD680

RT-FOD680 product and public specification summary

Manufacturer information on the inspection object, approved public specifications, standard functions and specimen-dependent limits.

版本 / Version 1.0.1 | 更新 / Updated 2026-10-29 | English

Inspection of loose particles in sealed cavities

RT-FOD680 is a PIND particle inspection device from Shenzhen Zhongli Dongke Electronic Equipment Co., Ltd. The brand is GRAVATEK. It applies controlled excitation and acoustic acquisition to inspect loose particles inside product cavities after sealing.

Inspection suitability depends on the actual cavity, particle mobility, mounting and validation conditions. PIND is the method category; Gravatek-PIND Pro is a historical name retained for finding earlier information, not an additional current model.

Public scope and conditions

Item	Public information and qualification
Excitation direction	Vertical
Excitation method	Electromagnetic excitation
A/D configuration	24-bit A/D converter; The A/D configuration is not the effective measurement precision of the complete machine.
Complete machine weight (kg)	520
Vibration body dimensions (mm)	700×700×750; These dimensions refer to the vibration body, not the complete machine.
Power supply	Three-phase AC 380V
Standard acoustic acquisition	8 acoustic channels; standard configuration subject to the agreed configuration list; The channel count is not the number of stations or a fixed inspection throughput.
Specimen and fixture suitability	Assess the specimen, fixture and available movement clearance; Assess the actual specimen and fixture for outer dimensions, height, mounting and particle movement clearance.
Maximum permitted mass above the tabletop	50 kg; The combined mass includes the specimen, fixture, accessories and sensor mounting parts above the tabletop; it is not the specimen net load.

Item	Public information and qualification
Minimum detectable metal particle mass	Metal particles 100 mg; Detection performance depends on the specimen cavity, particle mobility and clamping conditions, and must be confirmed through specimen validation.

Standard functions

- Detection & localization analysis: Detect loose particles and perform localization analysis. Confirm performance on the specimen without assuming unverified spatial accuracy.
- Metal / non-metal classification: Support metallic, non-metallic and particle classification analysis, subject to specimen and inspection conditions; this is not chemical composition analysis.
- Loose-screw-state identification: Confirm loose-screw decision conditions for the actual structure and specimen; this does not replace torque or preload measurement.
- Motion control & interlocks: Execute configured cylinder movements and interlocks; mount and handle specimens according to the agreed solution.
- Barcode association & MES: Associate product identification with results and provide MES interfaces and transfer, with project-specific protocol and field integration.
- Inspection records & reports: Save inspection results, records and reports. Display and export follow the delivered software version and agreed formats.

How to interpret the result

- Localization and classification analysis are confirmed functions. They do not establish an unspecified coordinate accuracy or chemical composition identification.
- Untightened-screw state identification does not measure torque or preload. Confirm the decision conditions for the actual specimen structure.
- MES interfaces and result transfer require project confirmation of protocols, fields and the site workflow. Standard interfaces do not mean every MES is ready without integration.
- The 8 acoustic channels are acquisition channels, not 8 stations, an I/O count or a guaranteed production rate.
- This manufacturer summary does not establish a universal detection rate, an accepted customer installation or third-party certification. Use specimen records and an agreed acceptance plan for a specific project.

Prepare for specimen evaluation

Provide the cavity structure, inspection objective, specimen and fixture mass, normal and known-abnormal specimens, handling requirements and data-interface needs. Agree the validation conditions before committing to a production task.

- Product information: gravatek.com.cn
- Preparation and blank records: gravatek.com.cn
- Contact: sales@szzlyq.com | 400-892-3138