

Ring-Pull cap

Production line

拉环盖

生产线



SACMI

ENDLESS INNOVATION SINCE 1919

Ring-Pull caps

拉环盖

CAP AND LINER ARE MADE OF ORGANOLEPTICALLY NEUTRAL MATERIALS THAT ARE HIGHLY SUITABLE FOR BEER, SOFT AND ENERGY DRINKS

瓶盖及内垫均采用无味中性材料,适用于啤酒、软饮以及功能性饮料

Practical and stylish, 26 mm Ring-Pull aluminum caps offer outstanding user-friendliness: to open the bottle just tug the ergonomically shaped ring. Designed for glass, PET or aluminum bottles, both cap and liner are made of organoleptically neutral materials that are highly suitable for beer, soft and energy drinks. Maximum sealing performance and airtightness prevent contact with potential oxidants, thus ensuring product quality. There is also plenty of scope for color/decoration customization of both tab and cap.

兼具实用性与美观性,26mm拉环盖简单易用,轻松揭下拉环即可开盖。专为啤酒、软饮以及功能性饮料的玻璃瓶、PET瓶及铝制瓶设计无味中性材料的瓶盖及内垫。

Ultra-modern one-step closure manufacturing technology - from cap to liner and application of the practical ergonomic-grip tab - has made this solution highly appealing to producers: a solution that is becoming ever-more popular on account of widely acknowledged practicality for end users and multiple, all-new coloring/

极佳的密封性和气密性防止产品氧化,确保产品质量。可为标签及瓶盖定制独家印刷图案。从不同种类瓶盖、内垫再到简单易用的拉环盖,超前的一站式瓶盖生产解决方案已吸引众多生产商:该解决方案因使用性极强,在终端客户中获得了一致好评。而全新的彩色数码印刷技术更为传统瓶盖工艺注入新鲜活力。

SAFETY / NO COUNTERFEIT

can't be re-closed

HYGIENE

protects against bacteria

ALUMINUM

does not rust

SUSTAINABILITY

does not damage the bottle, allowing re-use

USER FRIENDLINESS

no bottle opener needed, just pull the ring

安全 / 防伪

不可再次密封

清洁卫生

洁净无污染

铝制盖壳

盖壳不生锈

可持续性

保持瓶口整洁美观, 有益于回收再利用

简单易用

无需启瓶器, 揭开拉环轻松开盖

HDPE RING

Provides a comfortable and safe grip when opening

HDPE 塑料拉环

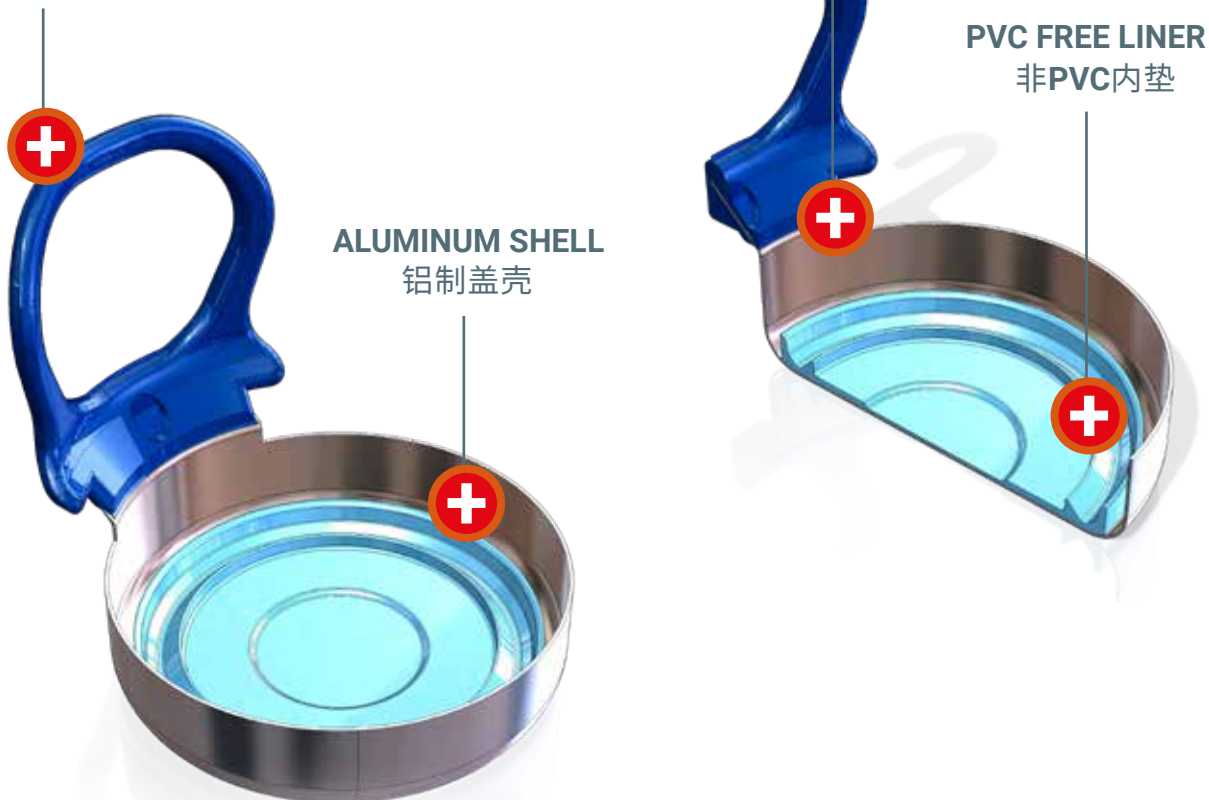
开盖安全, 舒适无忧

SCORE

刻线

PVC FREE LINER

非PVC内垫



SACMI CLOSURES, CONTAINERS & PET

decoration opportunities, far greater than those available with traditional closures.

Again, this cap type - highly suitable for marketing actions such as promotions, competitions etc. - can be made with fully PVC-free liners and different oxygen barrier ratings according to the specific product to be bottled. Maximum pressure seal performance and airtightness make it an excellent solution for beer, CSDs and still drinks.

拉环盖是当代瓶盖市场的又一项创新应用。采用非PVC内垫,可根据不同的瓶装产品提供多种等级的隔氧措施,以其极佳的密封性与气密性,拉环盖为啤酒、含气/不含气饮料的饮料包装市场提供多元化可行性解决方案。





Ring-Pull cap production line

UP TO 1,000 PCS/MIN

拉环盖生产线

生产速度高达每分钟1000个瓶盖



	PTS 001	PMV 136	RCM 48S
Average absorbed elec. power - kW 平均吸收功率 - kw	6.1	24	20
Machine total weight - kg 设备总重量 - kg	10000	6700	6800
Number of dies 模腔数量	7	36	48

1. PTS 001

Vertical press for molding shells from aluminum sheets

2. PMV 136

In-shell lining machines for aluminum caps

3. CVS 3000 INSPECTION SYSTEM

Easy, intuitive, reliable, networkable

4. RCM 48S

Molding machine for HDPE ring

5. CVS 3000 INSPECTION SYSTEM

Easy, intuitive, reliable, networkable

1. PTS 001

铝盖冲床设备

2. PMV 136

适用于铝盖的加垫设备

3. CVS 3000 INSPECTION SYSTEM

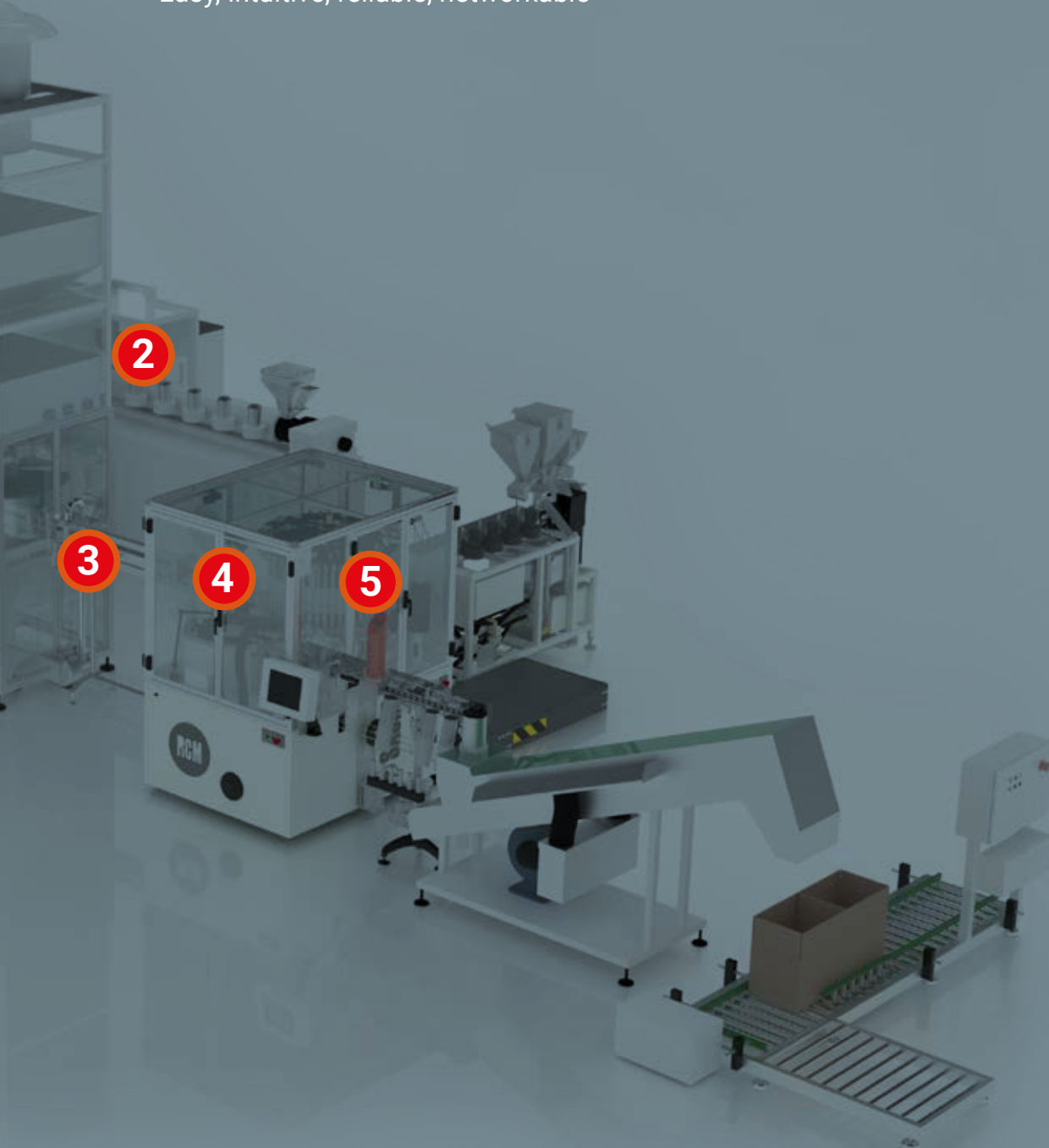
高效、可靠、多产以及远程控制服务支持

4. RCM 48S

HDPE拉环成型设备

5. CVS 3000 INSPECTION SYSTEM

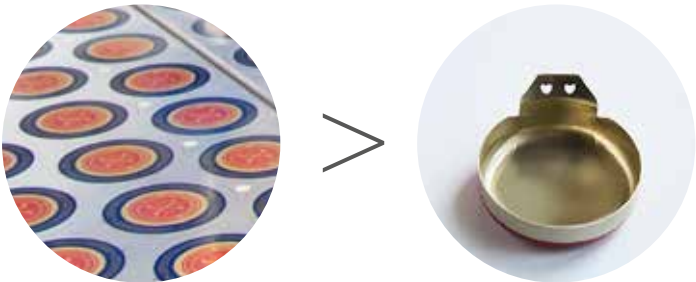
高效、可靠、多产以及远程控制服务支持



PTS 001

BLANKING PRESS FOR
ALUMINUM CAPS

铝盖冲床设备



Single-action mechanical press for the production of Ring-Pull caps suitable for multi-tool molds.

The production process consists in taking pre-cut aluminum sheets with a scroll profile and molding the caps.

铝盖冲床设备适用于生产拉环盖。

生产过程包括铝板预切割、刻线以及拉环盖成型。





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- Metal sheet feed in strips, 7 punches x 22 strokes for Ring-Pull cap
 - Mold control and operation monitoring (if equipped with sensors)
 - Lubrication via thermo-regulated circuit
 - Ram with independent vertical adjustment in the 4 columns
 - Rev counter with 1/100 resolution on each point of ram adjustment
 - Sheet feed with electronic system
 - Pneumatic ram movement compensators
 - Easy machine levelling
 - Main linkage supports temperature monitoring
- 金属板材送料, 7腔22冲, 适用于生产拉环盖
 - 模具控制和监控生产过程(若已选配传感器)
 - 通过温度调节电路润滑
 - 4列垂直可调节凸轮
 - 带1/100分辨率的转速计数器, 可对凸轮的每个点进行调整
 - 电控铝板进料
 - 凸轮气动调整装置
 - 设备高度可调
 - 主联动装置支持温控单元



Scrap sheet

铝板废料



Ram and mold

凸轮和模具

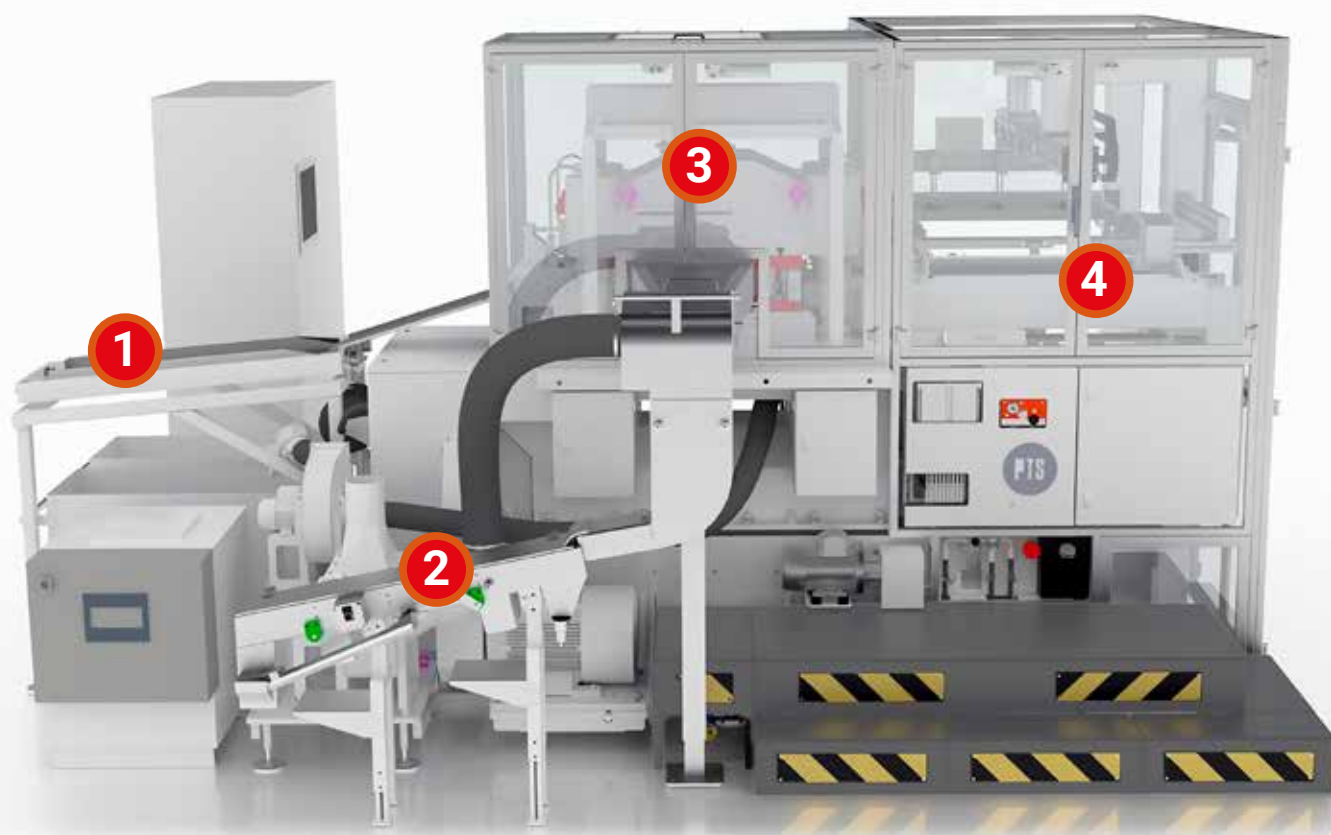
TECHNICAL FEATURES

技术参数

Version 版本	Transfer press 多工位冲床设备
Cap dial - mm 瓶盖直径—毫米	26
N. of punches 模具数量	7
Max prod. capacity pcs/min 最大生产效率(个/每分钟)	1000
Elec. power average absorbed - kW (50 hz) 平均吸收电功率—千瓦(50赫兹)	6.1
Compressed air consump. 0.55 MPa - NI/min 压缩空气量 0.55Mpa—NI/分钟	1400
Dimension mm 设备面积尺寸 - 毫米	4800x4000x2500
Molding force kN 锁模力 kN	600
Speed rpm. 每分钟转速	200
Weight kg 重量 - 千克	10000

1. Scrap sheet unloading
2. Cap collection
3. Press
4. Loader

1. 铝板废料卸料
2. 瓶盖输送
3. 冲压
4. 投料





PMV 136

IN-SHELL LINING
MACHINES FOR
ALUMINUM CAPS

适用于铝盖的加垫设备



Automatic lining machines designed to extrude pellet-form material (e.g. PVC-free, PE, EVA), cut it into single doses, insert them into aluminum screw caps and mould the liner according to a clearly defined profile. Machine productivity is strongly influenced by the material type and the weight and profile of the liner.

In-shell casting technology allows liners to be shaped to maximise closure performance and minimise the weight of the used compound.

全自动加垫设备适用于热塑材料（如非PVC料, PE料和EVA），通过将熔融后挤出的原料切割成单个球状粒料，并投入盖壳后最终模压成型。设备产能与所使用的原料、内垫重量以及形状密切相关。

壳内加垫工艺使瓶盖发挥最大性能，并有效减轻瓶盖的重量。



The machine is equipped with cap outfeed conveyor belt predisposed for the installation of a CVS3000 vision system.

THE MACHINE IS EQUIPPED WITH:

- Extruder with 45 mm screw, equipped with inverter-controlled AC motor to feed the molten material. Screw temperature and rpm are managed by the control system
- Molten material by-pass valve to clean the extruder, to start and stop the machine
- Low frequency magnetic induction unit to heat the caps, equipped with cooling system
- Cooling system which allows independent temperature control of moulds and accessories
- CVS3000 vision system to control quality of the liner
- Optional additional camera to check the decoration
- Pneumatically operated faulty cap reject device
- Outgoing cap counter with flow diverter for boxing
- Operator interface via PC

出盖口传送带预留有位置,用于CVS3000视像检测系统的安装。

设备包括:

- 挤出机配有 45毫米直径螺杆,AC马达和变频器控制,适用于进料。温控和螺杆数量由控制系统控制
- 熔料旁路阀适用于清洗挤出机,可以在设备开启和停止时启动
- 低频磁性感应装置用于加热瓶盖,配有冷却系统
- 冷却系统有效控制模具和辅助装置的温度
- 配有摄像机的控制系统检测内垫
- 带摄像机(可备选CVS视像检测系统)的控制系统安装转盘检测平面印刷质量
- 剔除装置气动剔除瓶盖次品
- 带分流器的出盖计数器用于装箱
- PC操作界面



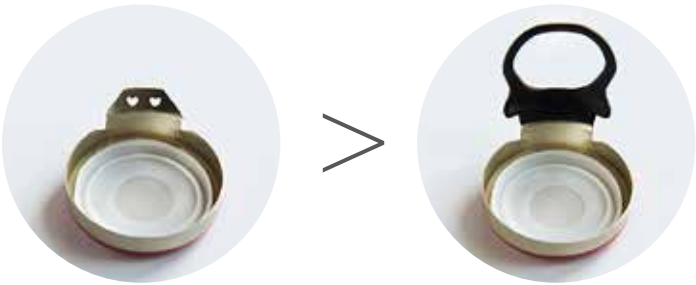
TECHNICAL FEATURES

技术参数

Version 版本	Inshell 内成型加垫机
Cap dial - mm 瓶盖直径—毫米	26
N. of punches 模具数量	36
Max prod. capacity pcs/min 最大生产效率(个/每分钟)	1000
Elec. power average absorbed - kW (50 hz) 平均吸收电功率—千瓦(50赫兹)	24
Compressed air consump. 0.55 MPa - NI/min 压缩空气量 0.55Mpa—NI/分钟	900
Dimension mm 设备面积尺寸 - 毫米	4000x4000
Weight kg 重量 - 千克	6700

RCM 48S

MACHINE FOR MOLDING AND APPLYING THE PLASTIC RING 拉环压塑成型设备

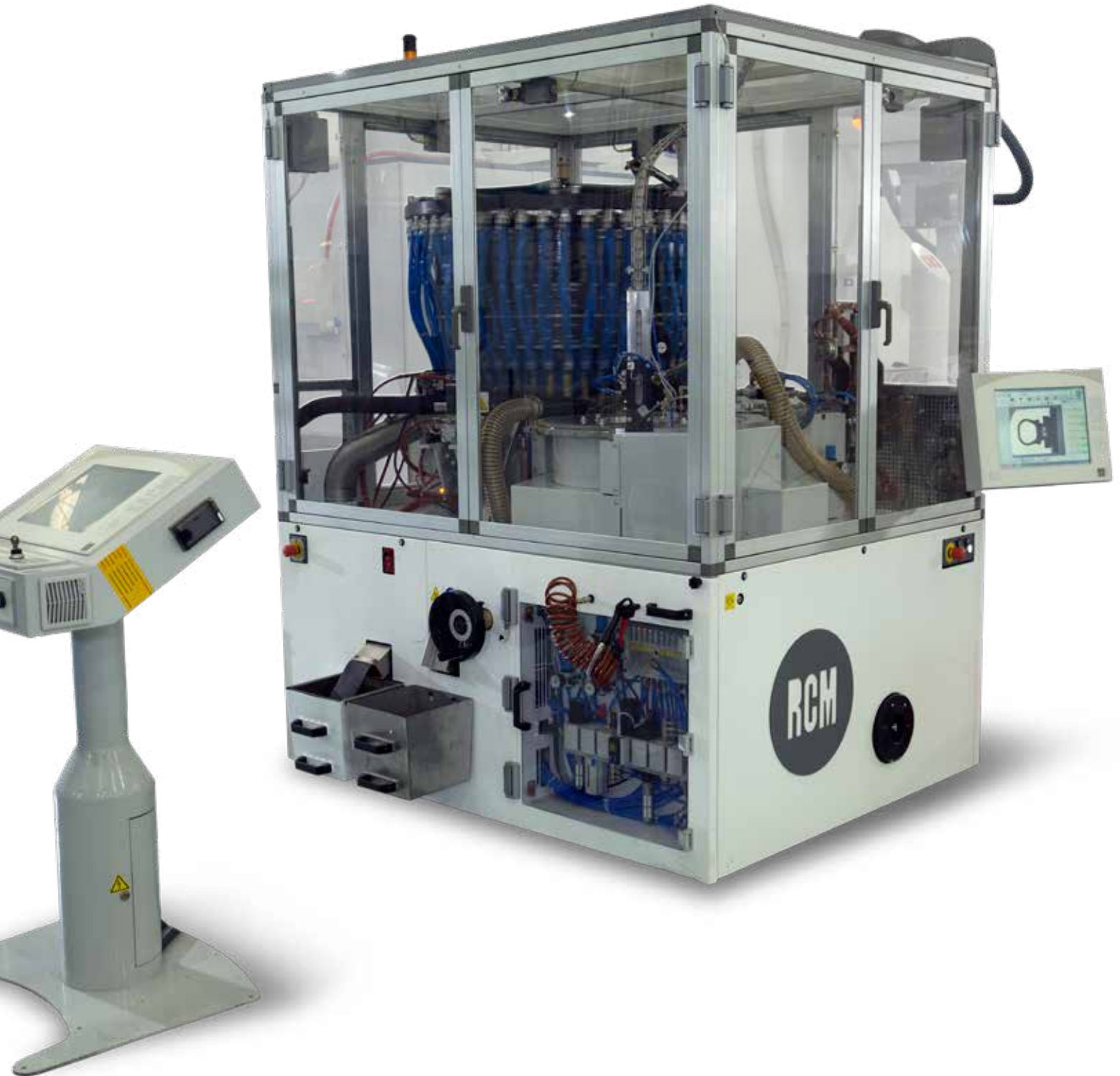


Automatic molding machine suitable for extruding granulated material (e.g. PE), cutting it into pellets, inserting the pellet into a cavity where the aluminum shell is already positioned and molding the ring according to a well defined profile.

The output of the machine strongly depends on the type of resin used for the ring.

拉环压塑成型设备适用于干混热塑材料(如PE料),切割单元用于将熔融后挤出的原料切割成单个球状粒料,并将球状粒料投入盖壳,经投料后模压成型。

机械产能与所使用的原料和内垫形状有关。



THE MACHINE IS EQUIPPED WITH:

- Independent temperature control systems for molding punches and accessories
- Device to eliminate any burr that appears in the band during the molding process
- Turret predisposed for installation of CVS3000 Vision System for Quality Control, of liner, ring and decoration
- Pneumatic-driven waste rejection of defective caps
- Cap output counter with flow diverter on boxing area
- Screw extruder for plastic granulated material (e.g. PE) equipped with:
 1. Extruder with 45 mm diameter screw, equipped with A/C motor and controlled by inverter, for melted compound feeding. Temperature and number of screw revs are managed by a control system
 2. Volumetric pump to ensure consistent plastic quantities at the extruder outlet in order to guarantee constant ring weight (300 mg)
 3. Melted compound by-pass valve for cleaning the extruder, for machine start-ups and stops
 4. Profibus automation and control system
 5. PC operator interface

设备配有:

- 独立温控装置,适用于上模腔和辅助装置。
- 自动剔除带毛边的拉环。压缩空气连接空气加热器。
- 塔轮适用于视像检测设备(可选CVS),主要用于质量控制。适用于内垫检测、拉环检测及印刷面检测
- 气动剔除不良盖
- 出盖口配有瓶盖计数器
- 挤出螺杆用于塑料颗粒材料(例如:PE材质):
 1. 挤出机配有45mm直径螺杆,AC马达和变频器控制,适用于进料。温控和螺杆数量由控制系统控制
 2. 安装在挤出机出口的容积泵提供塑料数量,保证提供一个恒定的拉坏重量(300 mg)
 3. 熔料旁路阀适用于清洗挤出机,可以在设备开启和停止时启动
 4. 现场总线自动和控制系统
 5. PC操作界面

The machine also has a quality control vision system equipped with 3 cameras: this system can control the plastic ring and the outside decorated side of the closure at a speed of up to 1,300 closures per minute.

视像检测设备配有3个摄像头用于检测塑料拉环和瓶盖侧壁(包括瓶盖印刷面),生产速度最高可达每分钟1,300个瓶盖。

TECHNICAL FEATURES

技术参数

Cap dial - mm 瓶盖直径——毫米	26
Cap height - mm 瓶盖高度毫米	7
Max prod. capacity pcs/min 最大生产效率(个/每分钟)	1000
Elec. power average absorbed - kW (50 hz) 平均吸收电功率——千瓦(50赫兹)	20
Cap material 盖壳材料	Aluminum 铝盖
N. of forming sets 模腔数量	48
Type of plastic to be processed 适用塑料	HDPE
Max. weight of Ring-Pull g. 拉环最大克重	0.3
Quality control type on Ring-Pull external side 拉环视像检测设备	Video camera (CVS) 采用摄像检测(CVS)

CVS 3000

INSPECTION SYSTEM

视像检测设备

Every stage of cap manufacturing is controlled by the CVS3000 to ensure the highest quality level and process monitoring.

From the lined shell to the completed caps, every component is carefully inspected with high-resolution cameras and the latest vision technologies.

Thanks to intuitive graphics and a user-friendly interface, based on Windows Embedded and available in several languages, the operator can interact with the equipment with ease.

A self-learning procedure allows the correct inspection parameters to be found quickly, without any specific skills. Moreover, the CVS3000 can provide the Quality Control and Maintenance Department with statistical information about monitored production, giving real-time information such as:

- Total inspected caps
- Total defective caps
- Number of ejected caps by defect type
- Maximum number of consecutive ejections
- Production speed
- Correlation of defect by tool number
- Line efficiency (OEE – Overall Equipment Effectiveness)

视像检测设备高度关注瓶盖生产的每一个加工环节,保障和监督产品质量,为优质产品保驾护航。

采用高清摄像头和顶尖检测技术,对瓶盖产品全方位无死角监督,从而控制产品品质,全面检测百无疏漏。

视像检测设备以微软软件为主要运行软件,有多国语言可供选择,操作界面简单易用,为操作人员提供便捷。

视像检测设备配有引导程序,协助工作人员准确查找所需的检测数据。视像检测设备实时监控生产,为品控和设备维护部门提供有效参数,可提供的数据包括:

- 检测产品数量
- 缺陷产品数量
- 因缺陷问题剔除产品总数量
- 连续剔除产品数量
- 生产速度
- 与缺陷产品关联的模号
- 生产效率(OEE – 设备综合效率)



This information is saved on a SQL database and can easily be accessed remotely or downloaded to any ERP system; data is also available in Excel format.

检测参数和统计数据都将自动存储于SQL数据库, 以便于远程或通过ERP管理系统下载所需数据。因不同需求, 数据也可转换成Excel 格式。



1. SHELL DEFECTS:

- Ovalization
- Deformations
- Voids
- Chipped
- Indicative measurement of the diameter

1. 盖壳缺陷:

- 椭圆形
- 变形
- 空隙
- 缺损
- 测量直径

2. LINER DEFECTS:

- Missing liner
- Flashes of material in the profile
- Voids of material in the profile
- Contamination
- Black specks
- Bubbles

2. 内垫缺陷:

- 内垫缺失
- 飞边
- 空隙
- 污染
- 黑斑
- 气泡

3. TAB DEFECTS:

- Missing tab
- Integrity
- Lack of material
- Excess of material
- Visible burns
- Correct position
- Indicative measurements

3. 检测拉环:

- 拉环缺失
- 完整性
- 缺少原料
- 原料过量
- 可视毛边
- 校准
- 测量尺寸



4. ARTWORK DEFECTS:

- Artwork number reading

4. 检测模腔号:

- 识别模腔号

5. ARTWORK DEFECTS:

- Missing artwork
- Registration errors
- Off-centre
- Missed colour planes
- Wrong colours
- Colour variations (ΔE)
- Wrong artwork
- Scratches
- Dents
- Voids in the artwork
- Contamination
- Fish-eyes
- Smears
- Smudges

5. 检测产品印刷:

- 印刷缺失
- 印刷偏色
- 对中
- 漏印
- 用色错误
- 色差
- 印刷错误
- 刮擦
- 凹陷
- 空隙
- 污染
- 鱼眼
- 模糊
- 污斑

CVS3000 in PMV136 machine

视像检测设备 适用于检测内垫

TECHNICAL FEATURES

技术参数

Calculation unit 电脑	Industrial PC equipped with i7 processor 计算机配有奔腾7处理器
Operating System 操作系统	Windows Embedded 64 bit 微软视窗系统
Inspection of the liner and shell 检测盖壳和内垫	High resolution monochrome camera LED illuminator 高清黑白摄像头和LED光源
Inspection of the artwork 检测印刷	High resolution colour camera LED illuminator 高清彩色摄像头和LED光源
Ejection device for liner/shell defects 内垫或盖壳剔除装置	Pneumatic solenoid valve 气动电磁阀
Ejection device for artwork defects 剔除装置(专用于产品印刷缺陷)	Pneumatic solenoid valve 气动电磁阀
FRS (Failsafe Rejection System) FRS(故障安全控制系统)	Part presence sensor 电子传感器
	Pneumatic solenoid valve 气动电磁阀
Tracking device 跟踪装置	Encoder 编码器

CVS3000 in RCM48S machine

视像检测设 备适用于检 测拉环

TECHNICAL FEATURES

技术参数

Calculation unit 电脑	Industrial PC equipped with i7 processor 计算机配有奔腾7处理器
Operating System 操作系统	Windows Embedded 64 bit 微软视窗系统
Inspection of the liner and shell 检测盖壳和内垫	High resolution monochrome camera LED illuminator 高清黑白摄像头和LED光源
Inspection of the tab 检测拉环	High resolution monochrome camera LED illuminator 高清黑白摄像头和LED光源
Inspection of the artwork 检测印刷	High resolution colour camera LED illuminator 高清彩色摄像头和LED光源
Inspection of the artwork number (optional) 识别模腔号(备选件)	High resolution colour camera LED illuminator 高清彩色摄像头和LED光源
Ejection device liner/shell/tab defects 内垫/盖壳/拉环剔除装置	Pneumatic solenoid valve 气动电磁阀
Ejection device for artwork defects 剔除装置(专用于产品印刷缺陷)	Pneumatic solenoid valve 气动电磁阀
FRS (Failsafe Rejection System) FRS(故障安全控制系统)	Part presence sensor 电子传感器
	Pneumatic solenoid valve 气动电磁阀
Tracking device 跟踪装置	Encoder 编码器



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