



G
H

A
U
T
O
M
A
T
I
O
N

T
E
C
H
N
O
L
O
G
Y

马
海
菲
自
动
化
机
械
有
限
公
司

2
0
1
7

目录

DIRECTORY

01

公司概况
Company profile

05

自动化系统模块
Automation System Module

11

产品展示
Product display

21

IML系统采集表
IML Selection

25

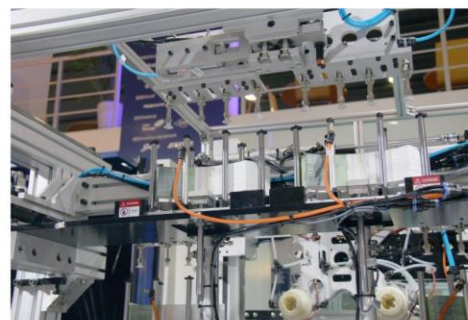
技术培训中心
Technology Training Center

31

用户网络
User network

我们为你实现从概念
到现实的自动化生产系统

WE SERVE YOU FROM
"CONCEPT TO REALITY"



GH打造行业领先

非标准化IML解决方案

GH CREATE INDUSTRY-LEADING
SOLUTIONS FOR NON-STANDARDIZED IML

多元化贴标方式，定动模双向贴标更换灵活性高，便捷的末端执行器更换模式。

企业

简介

COMPANY INTRODUCTION

马海菲自动化机械有限公司 (GH Automation Technology Co.,Ltd) 是一家中外合资企业，拥有国际先进的专业技术，自主研发、设计和集成、制造塑料、包装、输送行业的自动化系统及解决方案。GH 拥有中国、新加坡、澳大利亚等国家从事自动化行业十余年设计经验工程师组成的研发队伍，为客户量身定做自动化系统设备以满足于不同客户不同产业链的稳定、高效率、安全的生产需求；公司的技术队伍拥有多年自动化行业经验，并在多个国家及国内多个省市进行自动化设备的安装、调试和维护，以确保使用 GH 自动化设备生产无忧。

GH 的产品远销至澳大利亚、美国、俄罗斯、新西兰、巴西、土耳其、南非、越南、菲律宾、印度、埃及、哥伦比亚、突尼斯、巴基斯坦、委内瑞拉、约旦等几十个国家。

GH 成立8年来，专业、专注于模内贴标自动化系统研发、制造并销售了300余套各种系列的模内贴标 (IML) 系统。GH 成熟的拥有一模八穴以上的各式贴标方式：平面标、环形标、三面和五面标、环形加底面标。我们最大可进行 1M×1M 桌面平面贴标 20L 圆桶环形贴标。



COMPANY INTRODUCTION

GH Automation Technology

Has developed considerable experience and know-how in the automation industry over many years. It is with this knowledge base that we are able to offer a solution for any automation requirement.

CAPABILITY

We can automate your production line to increase productivity and maintain production consistency. Our offer is to serve you, the customer from "Concept to Reality"

EXPERTISE

•System design, development and integration of;

IML IMI IMD

•Integrated automation solutions and system manufacturing for the plastics and packaging industries

•Customised systems manufacture

•Hybrid and electric linear robots for the plastics industry

•Automated conveying systems for the plastics and packaging industries

•In-house research and development

•Consultancy services for both plastics and packaging industries

GH Automation Technology CE certified and fully compliant

GH Automation Technology are committed to producing high precision and performance IML robotic systems to handle high speed, thin wall packaging for lids. Our technological advancement

innovations and enhanced productivity solutions are industry leading developments in injection moulding IML automation.

FEATURES

GH Automation Technology offer the following features to enhance their systems;

• Rapid Movement

• Precision Guidance Accuracy

• Fully Adjustable Omni-Directional Magazine

• Robot Arm Linear Actuation

• Robot Arm Linear Actuation

• Robot Arm Linear Actuation

These strong technical features ensure continual in-service operation for many years.

GH Automation Technology considerable experience and proprietary knowledge ensure an impeccable track record for quality products

GH Automation Technology is a problem solver with much common sense and the ability to be empathetic

to the customer's situation to fully understand their needs to facilitate a total solution to their problems

GH Automation Technology has the capability to tailor any solution be it straight forward or unconventional

GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

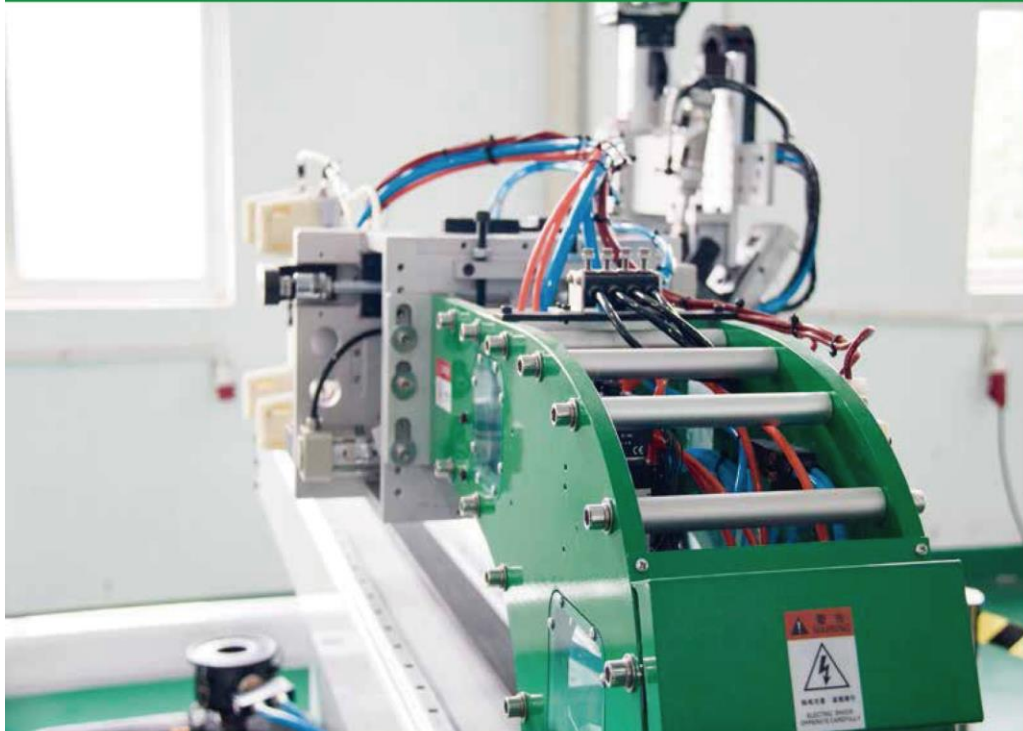
GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

GH Automation Technology ranks first in experience and are the leading global manufacturer for in-mould labelling automation solutions

自主研发设计与制造

凭借自有技术研发、制造及全方位售后服务专业团队，可以根据客户的不同需求提供合理快速的解决方案，从设计研发到制造、培训，为客户提供一站式服务。



GH Module



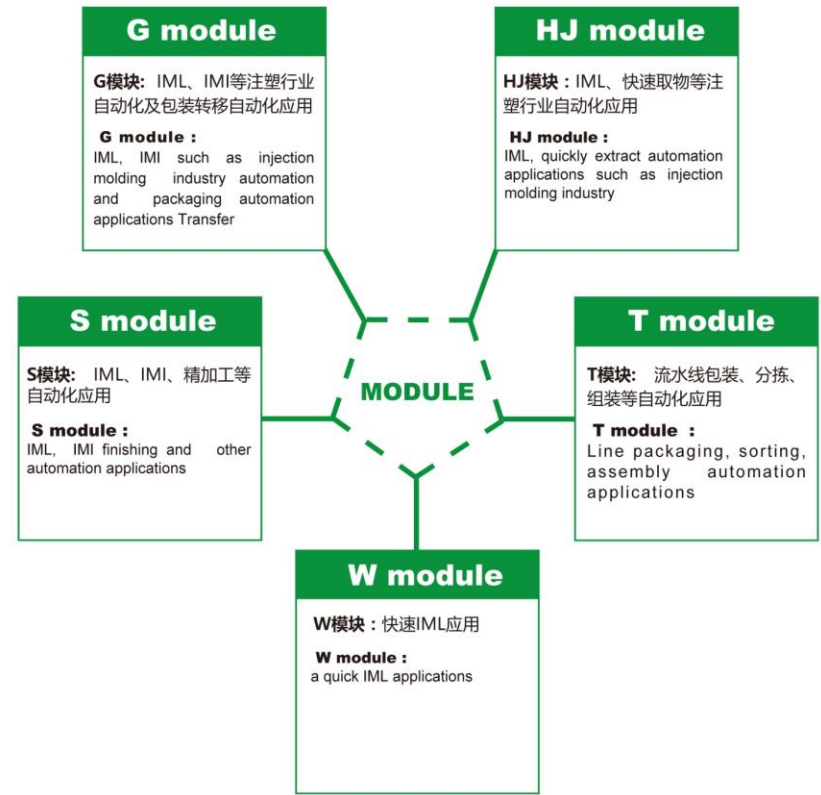
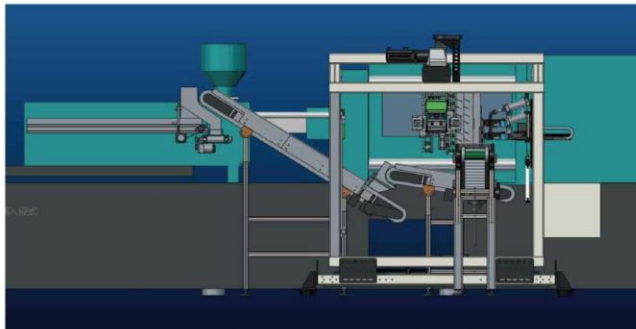
自动化系统模块 **MODULE**

AUTOMATION SYSTEM

自动化系统模块是以一个基础和标准作为一个定义而设计与制造成型。一个模块可以随时根据不同的产品而设计不同的EOAT (End of Arm Tooling) 配搭而成完整的系统, 它也可以和其它设备如输送机、包装机、印刷机、贴标机等并接而成另一种完整的自动化设备。无需花更多时间重新设计与制造。一个模块配上EOAT再另搭一些备件, 可形成一组完整的自动化系统以实现功能如: 取件、嵌件、转移、监视、组装、输送、印刷、贴标、包装等。

先形成模块, 再延伸至自动化系统, 可优化整个系统的制造周期、稳定性和制造成本。以往一个非标系统的设计, 从自动化设备到EOAT需花很多时间再进入制造、组装、调试、修改等。花费很多人力物力, 效率极低, 最终交货期延长, 耽误了最终用户的时间等等。

We have developed our automation systems into number of standard module. The advantage of module is to pre-prepare the key system and keep to a certain level of stock, in order to shorten the delivery period and sufficient time for quality ensure. Once we have standard module, concentration and developing for extension automating system or EOAT will be much simplify. Our standard module can be introduces and apply into plastic industry, packaging industry, machining industry, assembly industry, IML industry.



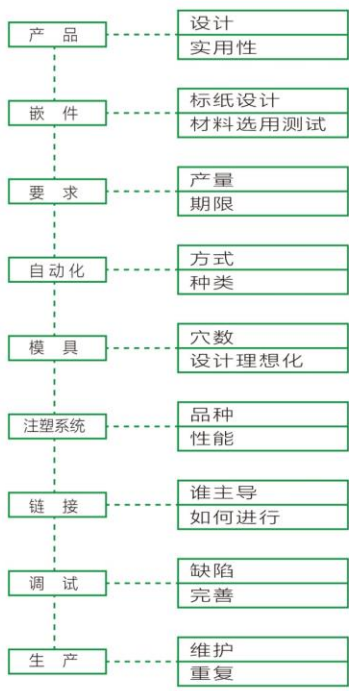


模内贴标 整合系统基本流程

THE BASIC IML PROCESS

市场上很多用户只针对贴标而贴标，没有专注在以下几大要点，在无形中造成很多无法计算的损失，如电力、人力、物力、时间损失等。

完整的系统必须具有以下紧密的基本流程：



产品：很多产品看上去可能都适合贴标，但其实在实际生产时会有很多问题存在，影响生产稳定性和持续性，最常发生的有冲标，标纸被移位等等，它需要一定的产品设计要求。

嵌件：在IML系统中，标纸是机械要面对的嵌件，也是整个系统最为关键的一环。标纸是柔性物体，无法在模内完全固定，容易受到塑料的高温流动和注射压力而变化。即使是产品设计已考虑到防范贴标的问题，但如果标纸选择错误，还是会影响到贴标的最终效果和稳定性，所以从设计、油墨、材料等等都必须关注。

要求：是指最终客户的信息，很多时候客户对于IML系统的复杂性不理解而没有给予设备制造商充足的时间而造成很多无谓的损失。在生产开始前必须要给设备制造商足够的测试时间。

自动化：有了以上的条件，自动化系统才有方向考虑完整的系统，最有挑战的是如何以钢壳柔，一般以吸/抱/夹为主，再根据纸的裁剪形状、纸的材料、纸的性能去设计成一套IML系统。还有一些延伸自动化，如成品累计和打包等。

模具：模具看起来简单，其实是最核心的一环，需考虑到：1、寿命；2、有效的冷却；3、IML的成型条件；4、自动化系统的配合空间与定位；5、模具尺寸等。要先考虑以上模具条件后才进行注塑设备选型。

注塑系统：根据以上种种条件选择注塑成型设备就有方向了，目前国内大部分的塑机制造商都没有重视和自动化系统的安全配合考虑，只关注在为了成型而成型。IML应用最广泛的多为薄壁产品，注塑机的选型需要谨慎和认知。

链接：采购方往往都忽略这些环节，为了节省初期投入成本，分别与各个制造商采购，最终到采购自动化设备时，才发现模具、注塑机无法与自动化设备配合，出了问题，无法有效解决，损失往往会更大。

调试：是进入生产的前期，所有的设备和原料集合、配合、运作、成型和发现缺陷的一个阶段。缺陷是难以避免的，或多或少，不得隐藏缺陷和问题，必须改善和完善，但如果采购方单独和各个设备供应商采购，将会出现各种烦恼的环节。另外还有其他问题，如培训也在这个环节里。

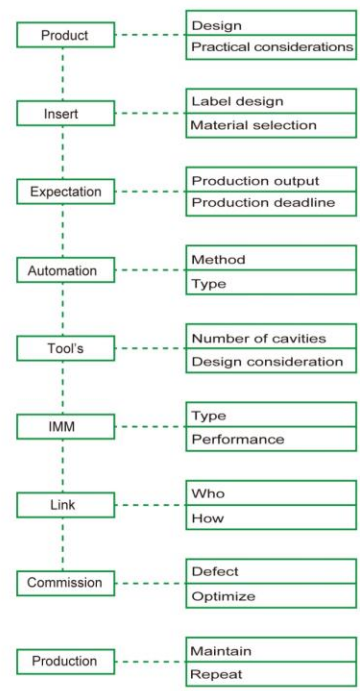
生产：当进入生产后，更应该做的是如何保持重复性、稳定性。影响其重复性和稳定性的有内在因素和外在因素。

内在因素有：各个机械的持久性、疲劳性，标纸的成批稳定性等因素。

外在因素有：室内温度的变化，冷却水的温度和水质控制，压缩空气的质量，工作环境的整理、整齐，员工的素养等因素。

Many manufacturer did not aware the advantage IML, and cause lot of wastage on resources like: utility resources, manpower resources, physical resources and times....etc.

The following are the basic IML process chart and explanation :



Product: Many products look like possible for IML, but when come to production it face lots of problem like label move during injection, label change position after mould closed, consideration of IML defect during production process is very important

Insert: In IML process the label is the main objective, it is one of the most difficult item to handle in automation system. It is a soft and unstable, the change of label position or label appearance may cause by label material / temperature / pressure production environment...etc. Selection of label material and type of printing method and ink or others which is very important too.

Expectation: This mean your end user expectation, many time the user may not understand the process of IML and over expectation, as a manufacturer or supplier should have the right to explain and correct end user, it should have sufficient period for manufacturer or supplier to build and counter those unexpected problem.

Automation: This mean you should consider the IML automation before others as mention below, the automation is to replace human force, the flexibility is not as human, it have lots of mechanical limitation and restriction, the automation system should as simple as possible, automation may have to consider future extending to inspection and packaging too, the advantage of automation is to provide a stability and productivity productions.

Mould: The end products condition and production cycle time is directly effect by mould, is the core of products, the consideration for mould design: efficiency of heat exchange / life of mould / balance of wall thickness / precision of gate / space for automation / workmanship...etc.

IMM: Selection of injection machine for packaging parts should consider higher performant feature, like the speed of injection or injection rate should be high enough to fill in cavity before material harden or flow resistance increase. Next most of this kind of production cycle time are important, the IMM mould closing and opening and screw feeding speed should fast enough to shorten cycle time as well, the stroke of mould opening are important too.

Link: Once all above is already, need some IML specialist or experience technician to handle and communicate and install. Individual purchase equipment are not advisable, you may face the problem in blaming each other when encounter problem.

Commissioning: This is the process whereby for us to find the defect and optimize the defect, the defect may occur on mould, machine, automation system, label...etc. understand process and training should conduct during this period of time.

Production: Once entre into production state, the impotency is how to maintain the production continual condition and stabilization condition. Number of factor have to include into this maintenances like the production environment / the quality of water and air / the knowledge of technician or operator...etc.



模内贴标的优势 IML

ADVANTAGES OF

WE SERVE YOU FROM "CONCEPT TO REALITY"



- 模内贴标产品更具有美观性，兼有丝网印刷和不干胶印刷的优点。它解决了不干胶标签缺乏一体性，而丝印又无法印刷内容丰富这一矛盾。模内标签色彩艳丽，层次丰富，图文精致。
- 模内贴标产品具有一定的防伪作用，更好保护宣传企业品牌形象。模内标签的印刷工艺比传统标签更为先进，难度更大，要求更高；采用模内贴标需要特殊的模具，且模具的制作成本较高。模内贴标是一个环环相扣的生产系统，相互连贯紧密配合，影响因素较多，这些在一定程度上就提高了仿冒的难度和成本。因此，模内贴标被认为是一种较难仿造的包装形式。这为追求质量和品牌的塑料包装制品的用户厂家提供了更为可靠的保护手段。
- 标签与制品为同材质可同时回收利用，环保卫生、安全。
- 模内贴标产品更具有实用性，标签与产品一次成形，使产品表面光滑无缝，能有效提高产品档次，烘托产品价值。模内贴标工艺使产品不会掉油墨，标签不会翘标、脱落、破损、卷曲，而且兼具有防水、防油、防发霉、耐挤压、耐酸碱、耐摩擦、可弯曲、可冷却和耐热功能，使标签在特殊情况下不易损坏和受渍等作用。
- 采用模内贴标可提高生产效益，模内贴标自动化系统工艺：一次成型，标纸缺料警示、自动模内送标、自动取物、自动堆叠、自动传送，一个人可管理2套以上设备供料及包装，全自动设备使产量稳定，不需要像不干胶标签及丝网印刷那样添置设备和增加操作人员、半成品仓库，因此可以省去生产环节，节省劳力提高效率，减少空间提高场地利用率。

The use of in- mold labeling (IML) for injection molding has been around for perhaps 25 years or more but has been gaining interest and serious consideration in the production environment most recently. The advantages are obvious. Applying the label during the molding process eliminates a secondary step and, more importantly, the end result is permanent. This makes IML especially attractive for product liability and instructional information, UPC codes, logos and decoration.

Significant Benefits Include:

- Eliminates Screen Printing, Label Application Or Pad Printing On Product No Corona Or Flame Treating
- Higher Quality Graphics Rapid Changing Of Graphics
- Recyclable With Label Material Same As Molded Product Less Storage Space, Press To Final Packaging
- Less Handling, Cleaner, More Sanitary





侧取式IML系统G系列

G Series Side Loading IML System

WE SERVE YOU FROM "CONCEPT TO REALITY"

多元化贴标方式，定动模双向贴标更换灵活性高，便捷的治具更换模式。G系列IML可满足小批量订单及多套模具生产，高精度、高速侧入式G系列提供更多贴标解决方案。

IML-G系列

- 灵活性、精确度高的侧入高速模内贴标机(IML)。
- 精密的机械结构并集成标库系统和产品堆叠系统。
- 抽屜式标库，在标纸达到最低设定量的情况下警示装置自动提醒，操作方便简单并可随时填充标纸。
- 可定、动模双向灵活贴标，更换产品生产容易，只需要调整标库位置和更换贴标、取出、堆叠治具，调出相应程序，既可生产。
- 适合成型周期短，产品多元化生产。

FLEXIBLE IML-G Module

- High flexibility and acceleration, side entry In-Mould Labeling robot specially designed for IML applications through innovation and technology developed by GH Automation technology
- A compact machine that combines the robot label magazine and stack system for moulded parts housed in a refined and elegant assembly
- The system, complete with turntable for the label refilling station enables continuous production
- Both the label magazine and gripper (mandrel) can be easily changed

参数表格/Parameter table

| Descriptions | 形式 | Unit 单位 | Reference 内容 |
|--------------------------------|-------------|--------------|----------------|
| IMM suitable | 通用机型 | Ton | <380 |
| Max. line speed | 最大线速度 | M/sec | 3.6 |
| Max. acceleration speed | 最大加速度 | M/S^2 | 30 |
| Max. main arm load (+ gripper) | 主臂最大负载(含治具) | kg | 6 |
| In mould dry cycle | 模内时间(空循环) | sec | 1 |
| External dimension | 机器尺寸 | + - mm | 3300*2600*3300 |
| Max. distance into cavity | 进入模内最大行程 | mm | 200 |
| Max. stack arm distance | 堆叠手臂行程(垂直) | mm | 900 |
| Calculate cycle time | 计算干循环周期 | sec | 4 |
| Air consumption | 空气消耗量 | L/min | 1600 |
| Working pressure | 工作压力 | bar | 5-7 |
| power consumption | 电源消耗量 | KVA/hr | 4.5 |
| Accuracy | 复位定位精度 | mm | ±0.05 |
| Overall weight | 机器重量 | kg | 1500 |
| Max. static voltage | 静电电压(最大) | Negative VDC | -20 |

图片仅供参考，以实际产品为准 Above data for reference only

Suitable for Tubs and Lids

Feature: Hybrid for small and medium machine、High flexibility、short cycle time High acceleration、High precision、Easy operation、Fast change from one mould to another



- 定模动模双向贴标
In mould labeling system available for both Fixed/Movable mold
- 可用于多腔模具
Available for multi-cavity mold
- 更换模具时无需更换机械结构
When change the mold without changing the mechanical structure
- 容易更换标库和堆叠位置
Easy to change label magazine and the stack station





侧取式IML系统GX系列

GX Series Side Loading IML System

WE SERVE YOU FROM "CONCEPT TO REALITY"

多元化贴标方式，定动模双向贴标更换灵活性高，便捷式标仓+末端执行器更换模式。GX系列IML可满足小批量订单及多套模具生产，高精度、高速侧入式GX系列提供更多贴标解决方案

IML-GX系列

- 灵活性，精确度高的侧入高速模内贴标机 (IML)
- GX4配置4套高精度伺服电机
- 精密的机械结构并集成标库系统和产品堆叠系统。
- 可定、动模双向灵活贴标，更换产品生产容易
- 适合成型周期短，产品多元化生产
- 整体性标仓+末端执行器，快捷式插头。交换模具、产品生产容易。只需交换相应产品的标仓及末端执行器、调出相应程序，即可生产。

IML-GX series

- High flexibility and acceleration, side entry In-Mold Labeling robot specially designed for IML applications through innovation and technology developed by GH Automation Technology.
- A compact machine that combines the robot label magazine and stack system for molded parts housed in a refined and elegant assembly.
- The system, complete with turntable for the label refilling station enables continuous production.
- Both the label magazine and gripper (mandrel) can be easily changed.

参数表格/Parameter table

| Descriptions | 形式 | Unit 单位 | Reference 内容 |
|--------------------------------|-------------|--------------|----------------|
| IMM suitable | 适用机型 | Ton | <380 |
| Max. line speed | 最大线速度 | M/sec | 3.6 |
| Max. acceleration speed | 最大加速度 | M/S^2 | 30 |
| Max. main arm load (+ gripper) | 主臂最大负载(含治具) | kg | 6 |
| In mould dry cycle | 模内时间 (空循环) | sec | 1 |
| External dimension | 机器尺寸 | + - mm | 3600*3000*2300 |
| Max. distance into cavity | 进入模内最大行程 | mm | 200 |
| Max. stack arm distance | 堆叠手臂行程 (垂直) | mm | 900 |
| Calculate cycle time | 计算干循环周期 | sec | 4 |
| Air consumption | 空气消耗量 | L/min | 1600 |
| Working pressure | 工作压力 | bar | 5-7 |
| power consumption | 电源消耗量 | KVA/hr | 4.5 |
| Accuracy | 复位定位精度 | mm | ±0.05 |
| Overall weight | 机器重量 | kg | 1500 |
| Max. static voltage | 静电电压 (最大) | Negative VDC | -20 |

图片仅供参考，以实际产品为准 Above data for reference only

Suitable for Tubs and Lids

Feature: Hybrid for small and medium machine、High flexibility、short cycle time High acceleration、High precision、Easy operation、Fast change from one mould to another

- 定模动模双向贴标
In mould labeling system available for both Fixed/Movable mold
- 可用于多腔模具
Available for multi-cavity mold
- 更换模具时无需更换机械结构
When change the mold without changing the mechanical structure
- 容易更换标仓和末端执行器位置
Easy to change label magazine and the stack station





侧取式IML系统W系列

W Series Side Loading IML Series

WE SERVE YOU FROM "CONCEPT TO REALITY"

易动IML侧入W模块它设计精简、操作便利，适用于长期固定产品生产；达到高效，高质量的模内贴标自动化系统。

IML-W系列

- 易动型侧入高速模内贴标系统(IML)
- 操作简便、设置简易和维护方便
- 适用于长期固定产品生产
- 精密的机械结构并集成标库系统和产品堆叠系统。
- 适合成型周期短，产品多元化生产。
- 标配抽屉式标库，在标纸达到最低设定量的情况下警示装置自动提醒，操作方便简单并可随时填充标纸。

IML-W series

- The most reliable techniques in robotics automation available in the industry today
 - Able to handle the thinnest label with the highest accuracy for label placement
 - Fast label insertion into the mould and complete downstream automation
- BENEFITS**
- Maximum savings
 - High speed
 - Minimal waste
 - Consistent quality
 - Simple to operate
 - Has been developed to core with

参数表格/Parameter table

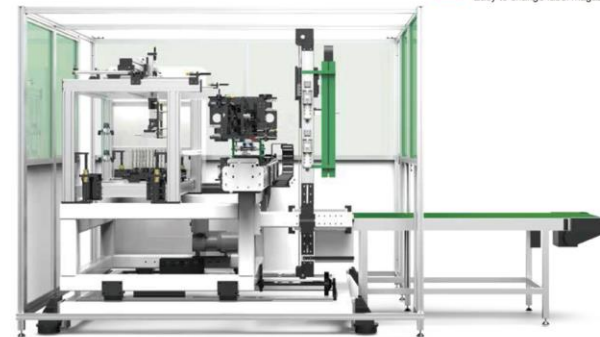
| Descriptions | 形式 | Unit 单位 | Reference 内容 |
|--------------------------------|-------------|--------------|----------------|
| IMM suitable | 适用机型 | Ton | <300 |
| Max. line speed | 最大线速度 | M/sec | 3.8 |
| Max. acceleration speed | 最大加速度 | M/S^2 | 40 |
| Max. main arm load (+ gripper) | 主臂最大负载(含治具) | kg | 6 |
| In mould dry cycle | 模内时间(空循环) | sec | 1 |
| External dimension | 机器尺寸 | + - mm | 2600*2200*2000 |
| Max. distance into cavity | 进入模内最大行程 | mm | 200 |
| Max. stack arm distance | 堆叠手臂行程(垂直) | mm | 600 |
| Calculate cycle time | 计算干循环周期 | sec | 4 |
| Air consumption | 空气消耗量 | L/min | 1000 |
| Working pressure | 工作压力 | bar | 5-7 |
| power consumption | 电源消耗量 | KVA/hr | 4.5 |
| Accuracy | 复位定位精度 | mm | ±0.05 |
| Overall weight | 机器重量 | kg | 1200 |
| Max. static voltage | 静电电压(最大) | Negative VDC | -20 |

图片仅供参考，以实际产品为准 Above data for reference only

Suitable for Tubs or Lids

Feature: Single servo for small and medium machine、High flexibility、short cycle time High acceleration、High precision、Easy operation、For repeating production、Economical

- 适用于长期生产
Suitable for long-term production
- 可用于多腔模具
Available for multi-cavity mold
- 更换模具时无需更换机械结构
change the mold without changing the mechanical structure
- 容易更换标库和治具
Easy to change label magazine and the stack station





上取式IML系统S系列

S Series Top Loading IML System



WE SERVE YOU FROM "CONCEPT TO REALITY"

无论项目是否多元化，全伺服顶入式模内贴标系统能解决最大可达20L环形贴标、1M²大型平面贴标，顶入式S系列可提供更多的贴标及自动化生产解决方案。

IML-S系列

- 顶入式模内贴标系统 (IML)
- 集成全伺服机械手和S型标库系统、产品堆叠系统的精密装置
- 贴标治具和标库更换方便简易
- 水平式取标系统，机械手自动拾取标签并放入模腔
- 抽屉式标库，在标纸达到最低设定量的情况下警示装置自动提醒，操作方便简单并可随时填充标纸

IML-S series

- GH Automation technology economic top entry IML robot systems
- Specially designed for large part and large IML
 - Compact machine that combines the electric robot and label transfer station
 - Easy label magazine and gripper (mandrel) change-over
 - Easy and friendly in operating and mould change
 - Label magazine easily refillable without stopping production

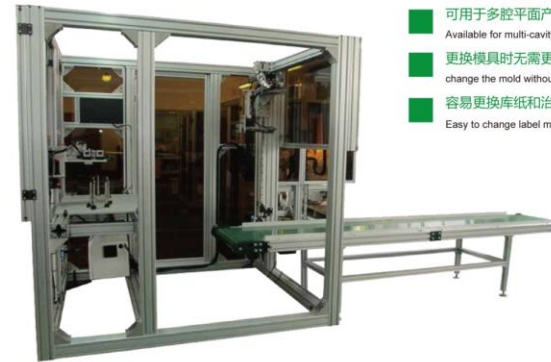
参数表格/Parameter table

| Descriptions | 形式 | Unit 单位 | Reference 内容 |
|--------------------------------|-------------|------------------|--------------|
| IMM suitable | 适用机型 | Ton | <1100 |
| Max. line speed | 最大线速度 | M/sec | 2 |
| Max. acceleration speed | 最大加速度 | M/S ² | 20 |
| Max. main arm load (+ gripper) | 主臂最大负载(含治具) | kg | <25 |
| In mould dry cycle | 模内时间(空循环) | sec | 3-10 |
| External dimension | 机器尺寸 | + - mm | / |
| Max. distance into cavity | 进入模内最大行程 | mm | <500 |
| Max. stack arm distance | 堆叠手臂行程(垂直) | mm | <1800 |
| Calculate cycle time | 计算干循环周期 | sec | 12 |
| Air consumption | 空气消耗量 | L/min | 500 |
| Working pressure | 工作气压 | bar | 5-7 |
| power consumption | 电源消耗量 | KVA/hr | 3.5 |
| Accuracy | 复位定位精度 | mm | ±0.05 |
| Overall weight | 机器重量 | kg | 800to2000 |
| Max. static voltage | 静电电压(最大) | Negative VDC | -20 |

图片仅供参考，以实际产品为准 Above data for reference only

Suitable for all kind of IML

Feature: All servo from small to big IML are available、Where cycle time is not paramount Electric robot、High flexibility、Space saving、High precisions、Easy operation、Fast change from one mould to another



- 可用于单腔大型产品
Available for single-cavity of large product
- 可用于多腔平面产品
Available for multi-cavity of single sided IML
- 更换模具时无需更换机械结构
change the mold without changing the mechanical structure
- 容易更换库纸和治具
Easy to change label magazine and the stack station





侧取式IML系统HJ系列

HJ Series Side Loading IML System

WE SERVE YOU FROM "CONCEPT TO REALITY"

专为250tons机型以下设计的IML系统，以简易、轻便和经济为出发点，适用于平面贴标。

IML-HJ系列

- 侧入式机械IML系统。
- 双节侧入手臂，加快速度，减小模内时间
- 因机械的限制，是应用在平面IML。
- 安装操作简易，占地空间小。
- 功能含取标、贴标、取物、堆叠、输送。
- 手臂安装在机器定模板上。因安全起见，建议安装机器的非操作面。

IML-HJ series

Side Entry IML Robotic System

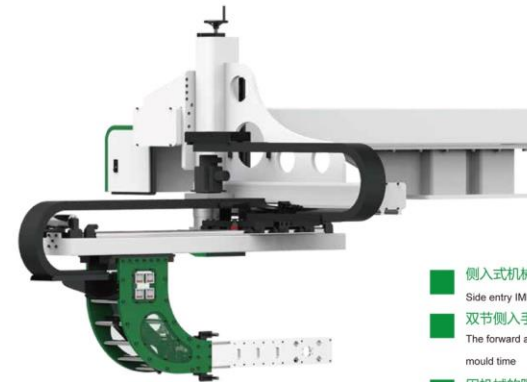
- The forward arm built in telescopic,
- increasing the speed of forward arm, shorten arm in mould time
- The limitation of structure, it can apply on flat label IML
- Easy in installation and operation , space saving
- Capability include label pick, label place, part pick, part place, conveying.
- For safety concern, install on non-operator side is advisable.

参数表格/Parameter table

| Descriptions | 形式 | Unit | 单位 | Reference | 内容 |
|--------------------------------|-------------|--------------|----|--------------|----|
| IMM suitable | 通用机型 | Ton | | <300 | |
| Max. line speed | 最大线速度 | M/sec | | 3.6 | |
| Max. acceleration speed | 最大加速度 | M/S^2 | | 30 | |
| Max. main arm load (+ gripper) | 主臂最大负载(含治具) | kg | | <6 | |
| In mould dry cycle | 模内时间(空循环) | sec | | 3-10 | |
| External dimension | 机器尺寸 | + - mm | | 2000*900*850 | |
| Max. distance into cavity | 进入模内最大行程 | mm | | <120 | |
| Max. stack arm distance | 堆叠手臂行程(垂直) | mm | | / | |
| Calculate cycle time | 计算干循环周期 | sec | | 4 | |
| Air consumption | 空气消耗量 | L/min | | 500 | |
| Working pressure | 工作气压 | bar | | 5-7 | |
| power consumption | 电源消耗量 | KVA/hr | | 2.5 | |
| Accuracy | 复位定位精度 | mm | | ±0.1 | |
| Overall weight | 机器重量 | kg | | 240 | |
| Max. static voltage | 静电电压(最大) | Negative VDC | | -20 | |

图片仅供参考，以实际产品为准 Above data for reference only

Suitable for flat label IML only, this design concept base on light duty application and for small injection machine, it still maintain the basic IML requirement and function, no doubt for saving end user initial investment cost.



侧入式机械IML系统

Side entry IML robotic system

双节侧入手臂，加快速度，减小模内时间

The forward arm built in telescopic, increasing the speed of forward arm, shorten arm in mould time

因机械的限制，是应用在平面IML

The limitation of structure, it can apply on flat label IML

安装操作简易，占地空间小

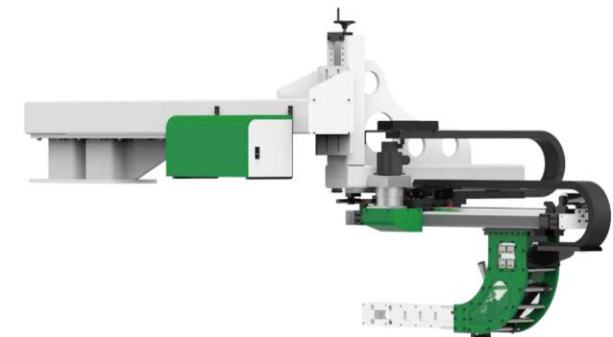
Easy in installation and operation , space saving

功能含取标、贴标、取物、堆叠、输送

Capability include label pick, label place, part pick, part place, conveying.

手臂安装在机器定模板上。因安全起见，建议安装机器的非操作面

For safety concern, install on non-operator side is advisable





GH-IML

专业 专注 模内贴标系统制造
In Mould Labeling System

IML Selection 模内贴标系统采集表

Customer 用户: _____ Date 日期: _____ Area 地区: _____ By 填表: _____

贴标产品类型 Type of labling

环形标 Wrap Around IML



- 环形标适用于圆形、椭圆形、方形多边形规则形产品
- 环形标, 标纸需从产品侧面底部起侧面部分贴标和全面贴标

- Suitable for :
- Round / Oval
 - Square / Rectangular and Multi-Sided containers
 - Either
 - Full or Partial height

平面标 Single Sided IML



- 适用于各种形状的平面盖子或其他各类平面产品的单面贴标

- Suitable for :
- Lids
 - Irregular Shaped containers

3面标 5面标 3 side label / 5 side label



- 适用于非圆形容器的3面和5面贴标
- 可用于正方形, 长方形或多边形容器
- 标纸可同时贴产品底部及产品侧面

- Suitable for :
- Container underside
 - Non-round
 - Square / Rectangular and Multi-Sided containers

环形带底部标 Wrap + Flat IML

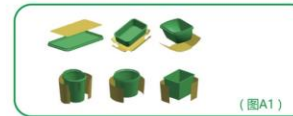


- 适用于圆形、椭圆形、方形多边形规则形产品的侧面及底面贴标
- 标纸可同时贴产品的侧面和平面底部

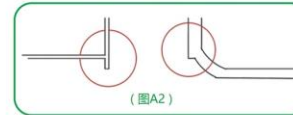
- Suitable for :
- Round / Oval
 - Square and Rectangular containers

I. Part 产品

- (1) Type 种类: ____ (Lid / Tub 盖、桶、杯、盒.....等图A1)
(2) Shape 形状: ____ (Square / Round 圆、方.....等图A1)



- (3) Weight 重量: ____ g
(4) Sample 样品: Yes / NO
(5) Size L x W x H 产品尺寸: ____ mm
(6) Thickness 壁厚: ____ mm
(7) Material 材料: ____ (如: PP / PS.....等)
(8) Below condition: Yes / NO
是否有以下的条件: 有 / 无(图A2)

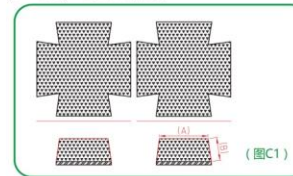


II. Production 生产情况

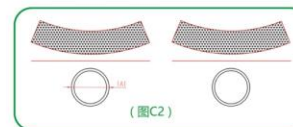
- (1) Cycle time 成型周期: _____ sec
(2) Stacking 堆叠和排列: _____

III. Mould 模具

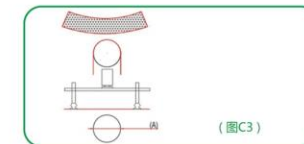
- (1) Number of cavities 模穴数量: _____
(2) Cavity to cavity distance 穴与穴中心距: ____ mm
For 3 and 5 side labeling / 五面标模具中心计算方法:
(A + B x 2) + 20mm (图C1)



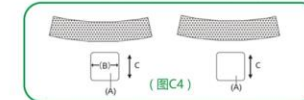
- Cavities horizontal layout for round full wrap / 圆桶模具产品水平放置中心距计算方法: A x 3.1416 + 60mm (图C2)



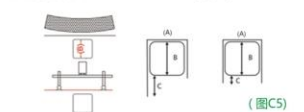
- Cavities vertical layout for round full wrap / 圆桶模具产品垂直放置中心距计算方法: (A x 3.1416 ÷ 2 - A) ÷ 2 + A + 100mm + 50mm (图C3)



- Cavities horizontal layout for square full wrap / 方盒模具产品水平放置中心距计算方法: (B + C) x 2 + 60mm (图C4)

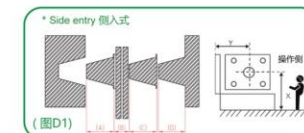


- Cavities vertical layout for square full wrap / 方桶模具产品垂直放置中心距计算方法: B+C+100+50mm (图C5)



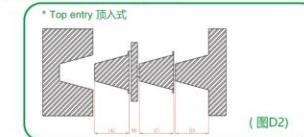
IV. Injection machine 注塑机情况

- (1) 注塑机品牌和型号: _____
(2) Clamping force 锁模力: _____ tons
(3) Opening stroke 开模行程: _____ mm
(4) X and Y dimension / X和Y尺寸: _____ mm



- G Side entry IML robot / 侧入系列注塑机开模行程计算方法: A+100mm+C+D+20mm (图D1)

- L Top entry IML robot / 顶入系列注塑机开模行程计算方法: A+50mm+C+D+20mm (图D2)





机型配置参照表 GH IML Standard Features

WE SERVE YOU FROM "CONCEPT TO REALITY"

| 序号 NO. | Descriptions | G module | | | W module | | S module | HJ module | 项目 |
|-----------|----------------------------------|----------|----|-----|----------|----|----------|-----------|-----------|
| | | G5 | G3 | GX4 | W3 | W4 | S4 | HJ | |
| 1 | Controller Sigmatek | ● | ● | ● | ○ | ○ | ○ | ○ | 西格玛泰克 |
| 2 | Controller GH | | | | ● | ● | ● | ● | GH控制系统 |
| 3 | Touch screen | ● | ● | ● | ● | ● | ● | ● | 触屏控制器 |
| 4 | Cycle time 10 sec below | ● | ● | ● | ● | ● | | ● | 十秒周期以下 |
| 5 | Cycle time 10 sec above | | | | | | ● | | 十秒周期以上 |
| 6 | Side loading arm servo | ● | ● | ● | ● | ● | | ● | 侧入伺服 |
| 7 | Twin in mould arm pneumatic | | | | ① | | | ● | 入模臂气动 |
| 8 | Twin in mould arm servo | ● | ● | ● | ① | ● | | | 入模臂伺服 |
| 9 | Top loading servo | | | | | | ● | | 全电顶入式 |
| 10 | Label pick pneumatic | | ● | ● | ● | ● | | ● | 气动取标 |
| 11 | Label pick servo | ● | | | | | | | 伺服取标 |
| 12 | Stack arm pneumatic | | ● | | | | ● | ● | 气动堆叠 |
| 13 | Stack arm servo | ● | | ● | ● | ● | ○ | ○ | 伺服堆叠 |
| 14 | Adjustable main structure | ● | ● | ● | ● | ● | | | 可调节主轴 |
| 15 | Adjustable label station | ● | ● | ● | ● | ● | ● | ● | 可调节标库 |
| 16 | Adjustable stack arm | ● | ● | ● | ● | ● | | | 可调节堆叠 |
| 17 | Vertical label pick up | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 水平取标 |
| 18 | Horizontal label pick up | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 垂直取标 |
| 19 | Roll label device | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 卷标装置 |
| 20 | Fix label magazine table | ● | ● | ● | ● | ● | ● | ● | 固定式标库 |
| 21 | Rotary label magazine | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 旋转式标库 |
| 22 | Slide label magazine | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 抽屉式标库 |
| 23 | Second pair label magazine | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 备用标库 |
| 24 | Label level buzzer | ● | ● | ● | ● | ● | ● | ● | 标纸最小量报警器 |
| 25 | Label pulse function(vertical) | ● | ● | ● | ● | ● | ● | ● | 抖标功能 |
| 26 | Label pulse function(horizontal) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 伸缩脱标功能 |
| 27 | Label U shape pick function | ○ | ○ | ○ | ○ | ○ | ○ | ○ | U型取标功能 |
| 28 | Label sweeper | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 扫标功能 |
| 29 | Label reposition unit | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 标纸二次定位 |
| 30 | EOAT | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 治具 |
| 31 | Full wrap and flat labelling | ● | ● | ● | | | ● | | 绕标和平标 |
| 32 | Full wrap or flat labelling | | | | ● | ● | | ● | 绕标或平标 |
| 33 | Static generator | ● | ● | ● | ● | ● | ● | ● | 静电系统 |
| 34 | Vacuum generator | ● | ● | ● | ● | ● | ● | ● | 真空发生器 |
| 35 | Vacuum pump | ● | ● | ● | ● | ● | | | 真空泵 |
| 36 | Vacuum sensor | ● | ● | ● | ● | ● | ● | ● | 真空感应系统 |
| 37 | Pressure regulator | ● | ● | ● | ● | ● | ● | ● | 气压调节系统 |
| 38 | Vacuum release function | ● | ● | ● | ● | ● | ● | ● | 破真空功能 |
| 39 | Number of vacuum point | 8 | 8 | 8 | 8 | 8 | 8 | 6 | 真空点 |
| 40 | Number of pressure point | 8 | 8 | 8 | 8 | 8 | 8 | 4 | 压力点 |
| 41 | Basic safety guard | ● | ● | ● | ● | ● | ● | ● | 防护栏 |
| 42 | Conveyor 3M | ● | ● | ● | | | | | 输送机3M |
| 43 | Conveyor 2M | | | | ● | ● | ● | ● | 输送机2M |
| 44 | Conveyor parts full indicator | ○ | ○ | ○ | ○ | ○ | ○ | ○ | 输送机感应系统 |
| 45 | IMM<300tons | | | | | | | ● | IMM<300吨 |
| 46 | IMM<400tons | ● | ● | | ● | ● | | | IMM<400吨 |
| 47 | IMM<500tons | | | ● | | | | | IMM<500吨 |
| 48 | IMM<1200tons | | | | | | ● | | IMM<1200吨 |

● Standard 标准 ○ Option 选配 ① Option pair 相对选配



技术培训中心 TECHNOLOGY TRAINING CENTER

WE SERVE YOU FROM "CONCEPT TO REALITY"

为了切实提高本公司内部技术人员、售后服务人员的整体水平，服务质量，整体素质，致力于更好的为客户服务，本公司于2016年12月正式启用技术培训中心，该培训中心还致力于培训客户方的技术人员，让客户工厂的技术人员能够做到独立的维护、保养本GH设备。



培训内容：成套模内贴标系统的认识、基本计算、工艺、问题与处理，规范、保养和维护。

培训课程大纲：





餐具自动化包装系统

Cutleries automatic packaging systems

WE SERVE YOU FROM "CONCEPT TO REALITY"

我们提供成套的餐具自动化包装系统

注塑成型的餐具直接堆叠到成品堆叠区，达到设置的堆叠高度，再进行套袋包装。

主要特征：

- 高速伺服模内侧入抓取和传递功能的自动化系统
- 垂直伺服堆叠功能的驱动臂
- 气动旋转装置将累计到数量的餐具转移到下一个装载点
- 二轴伺服手臂抓取餐具并放置到包装机
- 全自动套袋包装输送装置
- 最小累计数量：12个
- 最大累计数量：50个
- 包装机最大层叠量：2层

其他没有指定的可自选或面谈

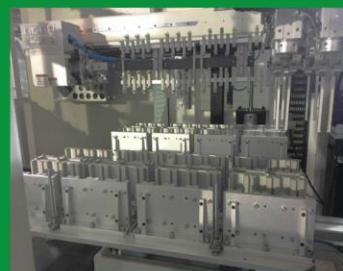
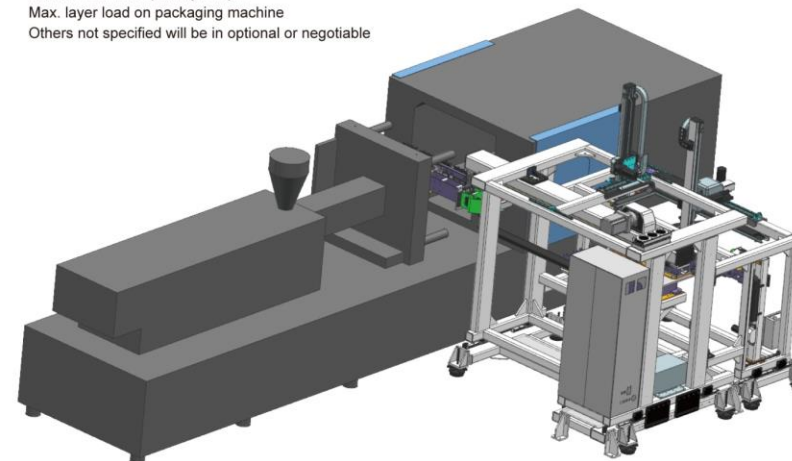
- 稳定生产 Consistence productivity
- 稳定产量 Consistence quantity
- 稳定输出 Consistence output
- 节约人力 Safe labour
- 节约空间 Safe space
- 节约时间 Safe time

We provide inline cutleries automatic packaging system

The moulded cutlery from injection moulding machine will directly accumulated on a stack station till a setting height before more to bag packaging system

The main feature:

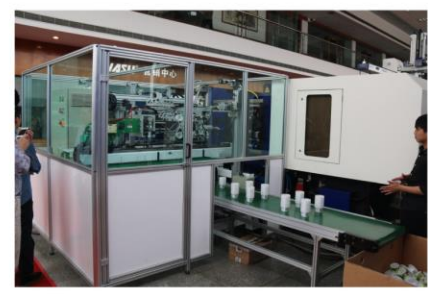
- A high speed servo side entry robotic system for in -mould pick and transfer function
- A vertical servo driven arm for stack function
- A pneumatic rotary device to transfer accumulated cutleries to next loading station
- A two axis servo arm for picking up cutleries and placed onto bag packaging machine
- A full automatic bag packaging machine with conveying device
- Min. accumulate quantity: 12 pcs
- Max. accumulate quantity: 50 pcs
- Max. layer load on packaging machine
- Others not specified will be in optional or negotiable





公司案例 GH-IML COMPANY CASE

WE SERVE YOU FROM "CONCEPT TO REALITY"





用户网络 User Network

WE SERVE YOU FROM "CONCEPT TO REALITY"



马海菲公司成立8年来，专业、专注于模内贴标自动化系统研发、制造并销售了300余套各种系列的模内贴标（IML）系统，产品远销至澳大利亚、美国、俄罗斯、新西兰、巴西、土耳其、南非、越南、菲律宾、印度、埃及、哥伦比亚、突尼斯、巴基斯坦、委内瑞拉、约旦、迪拜、印度尼西亚、韩国、泰国、孟加拉等几十个国家。

GH Automation Technology systems are currently operating in many parts of the world including:

- Australia、Turkey、Vietnam、Philippine、Russia、Venezuela、
- South Africa、USA、Columbia、Syria、Egypt、Pakistan、Jordan、
- New Zealand、Dubai、Indonesia、Korea、Malaysia、Thailand、
- Bangladesh

| | |
|---------------------------|--------------------------------------|
| 马海菲自动化机械有限公司 | GH Automaton technology Co.,Ltd |
| 地址：浙江省临海市古城街道两水村香樟路2号 | Add:ZheJiang LinHaiShi Guchengjiedao |
| 邮编：317000 | liangshuicun XiangZhang Lu 2 hao |
| 电话：0576-85303386 | P.C:China 317000 |
| 传真：0576-85303389 | Tel:+86-576-85303386 |
| 邮箱：info@gh-automation.com | Fax:+86-576-85303389 |
| 网址：www.gh-automation.com | E-mail:info@gh-automation.com |
| | Web:www.gh-automation.com |

 GH Automation Technology 马海菲自动化机械

 User 用户