



冷柜钣金生产线  
Freezer Shell Forming line

青岛海德马克智能装备有限公司  
Qingdao HDMECH Intelligent Equipment Co.,LTD.

地址:青岛市高新技术开发区春阳路8号  
Add:Chunyang Road,8th Qingdao High-  
tech Development Zone  
电话Tel: 0532-85012522  
邮编: 266071  
<http://www.hdmech.com>  
编号: JT-MKT-FM-LGXXY20170203/A-00654







**HDMECH**  
QINGDAO HDMECH INTELLIGENT EQUIPMENT CO.,LTD

精细化的产品 国际化的海德马克

[www.hdmech.com](http://www.hdmech.com)

## 公司简介 Company Profile

青岛海德马克智能装备有限公司（“海德马克”或“公司”）原青岛华东工程机械有限公司，成立于1994年10月28日，注册资金6166万元，位于青岛市高新技术产业开发区春阳路北侧、思源路西侧，公司厂区占地面积13.9万平方米（208亩），总资产3.57亿，现有员工170余人。

海德马克，是一家从事智能化生产线、机器人、物联网技术研发、设计、制造、销售、服务于一体的国家高新技术企业。主要产品包括：冰箱（冷柜）智能化生产线、洗衣机智能化生产线、油烟机智能化生产线、热水器智能化生产线、工业机器人、智能无人高精密锻造操作装备、径锻机、智能数控碾环机、智能数控热处理装备等。

海德马克，先后服务于海尔、海信、美的、澳柯玛、TCL、GE、格力、倍科、一重、二重、上重、太重、沈重、大连华瑞、无锡叶片、马钢、宝钛以及德国罗特艾德等知名企业。

Qingdao HDMECH Intelligent Equipment Co. Ltd. (“HDMECH”) Qingdao Huadong Engineering Machinery Co. Ltd., founded in October 28, 1994, registered capital of 61.66 million yuan, is located in Qingdao high tech Industrial Development Zone, between the north of Chunyang Road, and the west of Siyuan Road, the company covers an area of 139 thousands square meters (208 acres), with total assets of 357 million and enrolled employees more than 170.

HDMECH, is a national high-tech enterprise engaged in the R&D, designing, manufacturing, sales of home appliance intelligent production line, robot, internet of things technology. The main products include: refrigerator (freezer) intelligent production line, wash machine intelligent production line, kitchen ventilator intelligent machine production line, heater intelligent production line, intelligent unmanned-operation high precision forging equipment, industrial robots, intelligent CNC ring rolling machine, radial forging machine, intelligent CNC heat treatment equipment etc..

HDMECH has been supplied production line for Arcelik, Haier, Hisense, Midea, AUCMA, GREE, TCL, GE, and CFHI, CNEG, TAYOR, TYHI, NHI, DHHI, WTB, MIS, BaoTi and Germany Rothe Erde and other famous enterprises.



国家高新技术企业  
山东省企业技术中心  
青岛市液力装备工程技术研究中心  
多个创新研发项目列入国家、省市重点技术创新项  
60t数控重载锻造操作机技术被列入2010年度国家火炬计划  
1000kg全液压重载机器人项目列入国家扩大内需重点资金支持项目  
智能无人高精密锻造操作装备（800KN）被评为2015年度山东省首台套技术装备  
260t锻造操作机项目获得青岛市重点技术攻关项目  
数控精密锻造基层技术研发，被列入青岛市关键技术攻关计划  
“18MN径向锻造压机、径向锻造操作机”被认定为2014青岛市企业技术创新重点项目  
冷柜全自动钣金铆接线开发被列入青岛市企业技术创新重点项目计划  
对开门冰箱门壳自动化生产线的开发被列入青岛市企业技术创新重点项目计划  
洗衣机全自动内筒成型线的开发被列入青岛市企业技术创新重点项目计划

National high-tech enterprise  
Shandong Enterprise Technology Center  
Qingdao hydraulic equipment Engineering Technology Research Center  
A number of innovative R & D projects included in the national, provincial key technological innovation projects  
60t CNC heavy duty forging manipulator technology was included in the 2010 National Torch Program  
1000kg all hydraulic heavy duty robot project included in the national expansion of domestic demand key funding projects  
Intelligent unmanned operation high precision forging equipment (800KN) was named the 2015 annual Shandong province first sets of technical equipment  
The project of 260t forging machine has been awarded the key technical project of Qingdao  
CNC precision forging technology research and development, has been included in the key technology projects in Qingdao  
"18MN radial forging press, radial forging manipulator" was identified as the 2014 Qingdao enterprise technology innovation key projects  
Refrigerator automatic sheet metal rivet line development was included in the key projects of Qingdao city enterprise technology innovation plan  
The development of the automatic door shell production line of the French door refrigerator was included in the key project of Qingdao enterprise technology innovation  
The development of full automatic washing machine drum forming line of was included in the key project of enterprise technology innovation in Qingdao

技术专利  
Technology Patents

装料取料伺服仿真机械手发明专利  
生产线传输对中机构及其方法发明专利  
金属板料滚边装置及其方法发明专利  
机械手及其夹持方法发明专利  
钣金件复合加工模具及其方法发明专利  
装出料机及其控制方法发明专利  
机械手控制系统及控制方法发明专利  
自动对中装置、对中方法及带有此装置的仿真手柄发  
冰箱隐形门折弯模具及其折弯方法发明专利  
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Patent of loading and reclaiming servo simulation manipulator  
Patent of production line transmission centering mechanism and method  
Patent of sheet metal rolling device and method  
Patent of manipulator and its clamping method  
Patent of sheet metal part composite machining die method  
Patent of charging and discharging machine and its control method  
Patent of Robot control system and its control method  
Patent of automatic centering device, centering method, and simulation handle with this device  
Patent of refrigerator invisible door bending die and its bending method

荣获100多项国家发明专利及实用新型专利 Won more than 100 national invention patents and utility model



合作与交流  
Cooperation and Exchange



公司一直与上海交通大学、燕山大学、中国海洋大学、济南铸锻所、中国重型机械研究院、马钢设计院等高校及科研院所保持着长期战略合作关系，通过与高校和科研院所的交流与合作提高技术创新能力。

HDMECH has maintained long term strategic relationship with Shanghai Jiao Tong University, Yanshan University, Ocean University of China, Ji'nan JFMMRI, Chinese Heavy Machinery Research Institute, Maanshan Institute and other universities and research institutes, and to improve the technological innovation capability through the exchange and cooperation with universities and research institutes



# 设备参数表

## Technical specifications

Perfect Product / International Hdmech  
精细化的产品 / 国际化的海德马克



系列 Series	产品类型 Product type	成品图 Product drawing	截面图 Sectional view	U型产品成形尺寸 U shape product dimension	设备节拍 Cycle time	加工品种转换时间 Processing variety changing time		适用材质 Applicable material	产品合格率 Qualification rate	工艺流程	Technological process	设备构成 Equipaent composition
冷柜系列 Freezer series	冷柜U壳+背板线 Freezer U shell+back panel			U壳上下边折弯边 10 20 U shell upper and lower bending edges 10 20 U壳L边长 30 100 U shell L edge length 30 100 U壳宽边（侧面） 400 800 U shell wide edge (side ) 400 800 U壳高边（深度） 500 850 U shell height edge (depth) 500 850 U壳长边（正面） 440 1600 U shell long edge(front) 440 1600 U壳板材总长 1200 3200 U shell sheet length 1200 3200 U壳板材总宽 650 900 U shell sheet width 650 900 后背板上边折弯边 10 20 Back panel upper and lower bending edge 10 20 后背板板材总长 350 1600 Back panel sheet length 350 1600 后背板板材总宽 500 850 Back panel sheet width 350 1600	≤18s/件(pcs)	无需更换模具 No need to replace the mold	无需更换模具，可以具备混流生产。混流换型节拍增加2秒—20秒。No need change molds,have the capacity of mixed producing.Cycle time of Mixed producing model chang over :increase 2s to 20s	冷轧板、PCM板 Cold rolled sheet、PCM	99.50%	1) U壳自动加工段： 自动上料→组合冲切段1→辊轧→组合冲切段2→端部90°折弯（可选，预涂板结构）→端部取角折弯（两组：R3及R15，可换R25产品）→U折弯1→U折弯2→机械人取料。 2) 后背板自动加工段： 自动上料→组合冲切→侧90°折弯→端卡槽折弯（预涂板卡槽成型）→出料输送。 3) 门铰链TOX自动焊接： 后背板出料→后背板定位→机械人1取件/放件→铰链加强铁定位→TOX焊接1（两点）→机械人2取件/放件→铰链加强铁定位→TOX焊接2（两点）→180°翻转→后背板定位→待取件。该段包含铰链堆垛机及补给工序。 4) 外箱TOX焊接： U壳输送/后背板机械人取件→U壳进入3路双向小车/后背板进入侧板定位机→背板定位/U壳进入定位机→U壳定位→侧向、纵向机构压平→TOX焊接2→顶部顶压→出料→进入TOX焊接2段（流程及工序相同）。	1)U shell automatic processing section Automatic feeding→Punching 1→Rollforming→Punching 2→Ends 90°bending (option,pre-painted sheet structure)→Ends R bending(two sets R3 and R15,exchangeable R15 products)→Folding U 1→Folding U 2→Robot unloading 2)Back panel processing section Automatic feeding→Punching →Side 90°bending→End groove bending(Pre-painted groove forming)→Conveyor 3) Hinge TOX automatic clinching Back panel conveyor→back panel positioning→Robot 1 taking/putting→Hinge positioning→TOX clinching(two points)→Robot 2 taking/putting→Hinge positioning→TOX clinching (two points)→180°overturn→Back panel positioning →Waiting take.This section contains hinge stocking and feeding. 4) Outer shell TOX clinching U shell transport/back panel robot taking→U shell enter cras/back panel enter clinching station to position→Back panel positioning/U shell enter positioning→U shell positioning→Lateral and longitudinal structures pressing→TOX 2 clinching →Top touching→Discharging→Enter TOX clinching 2 section(process same)	U壳自动成型加工段、冷柜后背板自动成型加工段、U壳取件机械人、铰链加强铁自动补给机构及机械人、铰链及外箱TOX焊接设备、气动系统、液压系统以及电控系统等部分组成 U shell automatic processing section、back panel automatic processing section、U shell unloading robot、Hinge automatic feeding and Robot、Hinge& TOX clinching equipment、Pneumatic system、Hydraulic system &Electrical control system and so on
	冷柜左右板线 Freezer left & right panel line			成型后宽度范围：400mm—700mm； After forming width range: 400mm-700mm 成型后高度范围：650mm—900mm。 After forming height range: 650mm-900mm	≤15s/件(pcs)	无需更换模具 No need to replace the mold	无需更换模具，可以具备混流生产。混流换型节拍增加2秒—10秒。No need change molds,have the capacity of mixed producing.Cycle time of Mixed producing model chang over :increase 2s to 20s	冷轧板、PCM板 Cold rolled sheet、PCM	99.50%	自动上料→冲切→辊轧成型→分切→折弯→取料 Automatic feeding→Punching→rolling→divding→ bending→Unloading	自动上料、冲切系统、辊轧成型机、分切机、折弯机、下料 Automatic feeding、Punching system、Rolling、Divding、Bending、Unloading	
	冷柜前后板线 Freezer front & back panel line			工件展开尺寸：长度800mm至2500mm，宽度：500至900mm Product open dimension:length 800mm to 2500mm,width 500 to 900 mm	≤15s/件(pcs)	无需更换模具 No need to replace the mold	无需更换模具，可以具备混流生产。混流换型节拍增加2秒—10秒。No need change molds,have the capacity of mixed producing.Cycle time of Mixed producing model chang over :increase 2s to 20s	冷轧板、PCM板 Cold rolled sheet、PCM	≥99.5%	自动上料→冲切→侧折弯→端折弯→下料 Automatic feeding→Punching→Side bending→End bending→Unloading	自动上料、冲切系统、侧折弯机、端折弯机、下料 Automatic feeding、Punching system、Side bending、Ends bending、Unloading	
	冷柜门壳线 Freezer door line			成型后宽度范围：450mm—850mm； After forming width range:450—850mm 成型后高度范围：300mm—1500mm。 After forming height range: 300mm—1500mm	≤15s/件(pcs)	无需更换模具 No need to replace the mold	无需更换模具，可以具备混流生产。混流换型节拍增加2秒—10秒。No need change molds,have the capacity of mixed producing.Cycle time of Mixed producing model chang over :increase 2s to 20s	冷轧板、PCM板 Cold rolled sheet、PCM	≥99.5%	自动上料→冲切→侧折弯→下料 Automatic feeding→Punching→Side bending→Unloading	自动上料、冲切系统、侧折弯（根据产品配置数量） Automatic feeding、Punching system、Side bending(according to the product to configurate the quantity)	
	冷柜内胆壁成型线 Freezer tank side wall forming line			展开长度：700mm至3000mm，宽度250mm至750mm、折U间距250~300mm Open length dimension:700mm to 3000mm,width 250mm to 750 mm.Folding U distance 250~300mm	单次折U型<15s/件；双折U型<20s/件。 One time folding U <15s/pcs;two times folding U <15s/pcs	无需更换模具 No need to replace the mold	一键换型 One key change modle	压花铝板 δ 0.25-0.35mm，预涂钢板 δ 0.25-0.35mm Embossed aluminum sheet δ 0.25-0.35mm.Pre-painted sheet 0.25-0.35mm	≥99.5%	自动上料（含板材定位）→冲切→辊轧翻边→折正反30度角→折U→下料 Automatic feeding (with sheets positioning)→Punching→Rollforming→Bending positive and negative 30 degree angle→Folding U→Unloading	自动上料、冲切、侧面辊轧压边、正反30度折边、折U机 Automatic feeding、Punching、Side rollforming、30 degree bending、Folding U	
	冷柜内胆底线 Freezer tank bottom wall forming line			工件展开尺寸：长度280mm至1800mm，宽度：320至850mm Product open dimension :length 280mm to 1800 mm,width 320 to 850 mm.	平底内胆底产品 ≤12s/套； Flat botton inner product ≤12s/pcs Z型内胆底产品 ≤15s/套 Z shape inner production ≤12s/pcs	无需更换模具 No need to replace the mold	一键换型 One key change modle	压花铝板 δ 0.25-0.35mm，预涂钢板 δ 0.25-0.35mm Embossed aluminum sheet δ 0.25-0.35mm.Pre-painted sheet 0.25-0.35mm	≥99.5%	自动上料 →冲切 1→冲切 2 →冲切 3→上下 90°折弯 →左右 90°折弯 →四个圆角翻边 →双折 →下料 Automatic feeding→Punching 1→Punching 2→Punching 3→Upper and lower 90° bending→Left & right 90°bending→Four round corner flanging→Double bending→Unloading	自动上料、冲切 1、冲切 2、冲切 3、上下 90°折弯、左右 90°折弯、四个圆角翻边、双折、下料。 Automatic feeding、Punching 1、Punching 2、Punching 3、Upper and lower 90 degree bending、Left and right 90 degree bending、Four corner flanging、Double bending、Unloading	



# 冷柜外箱组合生产线

## Rreezer cabinet shell combined production line

Perfect Product / International Hdmech  
精细化的产品 / 国际化的海德马克

**HDMECH**  
海德马克

冷柜铆接线主要生产冷柜前围板、后背板以及两者的组合铆接，该整套设备可根据客户具体需要，做到节拍、成本、性能相结合。

整套生产线由三条线组成：前围板成型线1条，后背板成型线1条，围板和背板的铆接线1条，可根据客户具体产品要求，我方对设备进行规划设计。

The freezer rivet line mainly used in combination rivet of freezer U shell and back panel, The whole line may accord to the customer's production drawing requirement, realizing cycle combination of time, budget, capability.

The whole set of production line is made up by : 1 front U shell forming line, back broad forming line, rivet line U shell and back broad • On the base of customer's production drawings requirement, we design the technical plan .



本设备为海信冷柜外箱铆接成型线。兼容产品范围大，做到了所有产品不换模，设备节拍18S/件，自动化程度高，设计理念先进，是国内第一条冷柜外箱铆接线。

该成型线主要由前围板成型线、后背板成型线、冷柜外箱铆接系统以及配套的气动系统、液压系统与电控系统等组成。

在生产产品时，通过触摸屏或工控电脑操作，设备可根据设定参数自动调整，并能实现产品混流生产。

This freezer automatic rivet line is suitable for wide range of production dimensions .For all models, no need changing die , the cycle of the line is 18s/piece , high automation, advanced design concept. The Chinese frist autoamtic freezer cabinet rivet line.

The line consist of front U shell forming line, back broad shell forming line, freezer cabinet rivet system and matching pneumatic system, hydraulic system and electrical control system etc.

When producing ,the line is able to automatic adjust according to the setting parameters through touch screen or industrial PC operation, and can achieve mixed flow production.





# 冷柜U壳成型线

## Freezer U shell forming line

Perfect Product / International Hdmech  
精细化的产品 / 国际化的海德马克

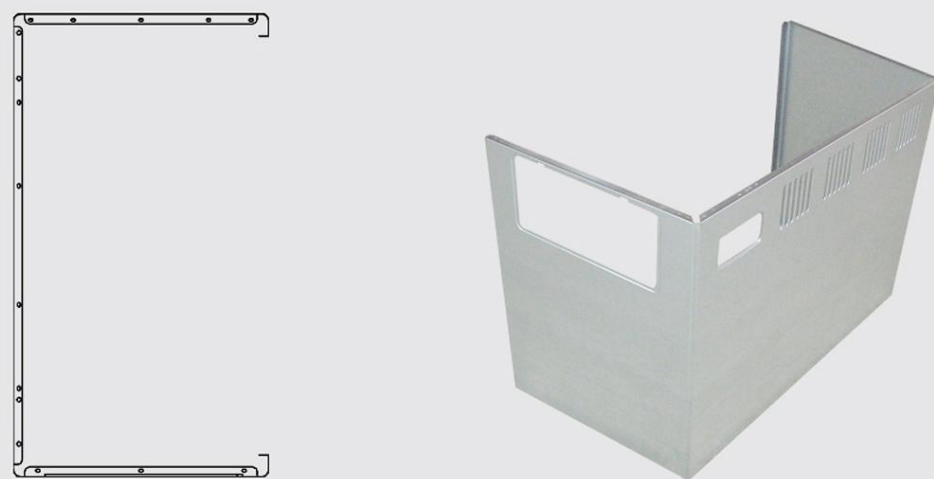
**HDMECH**  
海德马克

冷柜前围板成型线主要生产冷柜的U型围板，冷柜产品的斜口柜及平口柜可兼容生产，该整套设备可根据客户具体需要，做到节拍、成本、性能相结合。我方制作的前围板成型线，运行稳定，生产效率高，可实现一键换型，能满足客户大批量生产及多品种生产的需要。

整套成型线一般包含：上料定位系统、组合冲切系统、翻边辊轧成型机或侧折弯机、端部折L弯机、折U机、冷板自动焊接系统或彩板自动组合铆接系统等，具体根据客户产品要求，我方对设备进行合理规划设计。

With high-end configuration, this line is of stable operation, high efficiency and can realize one-button change.

The full line consists of loading & locating system, punching system, turning-over and rolling-forming system, L bending, U bending and supplementary welding system which is designed by product requirement.



我方制作的冷柜前围板成型线，产品兼容尺寸范围大，设备可满足异型柜、平口柜产品的混合生产，设备节拍可根据客户需求设计。整线需调整部分全部采用伺服控制，自动化程度高，设计理念先进。

该成型线主要有自动上料机、组合冲切系统、翻边辊轧机或侧折弯机、两端L弯机、折U机以及配套的气动系统、液压系统与电控系统等部分组成。

设备在生产产品时，长度、宽度方向上能够根据设定参数进行自动调整；通过触摸屏或工控电脑实现型号存储及调取使用，可做到多型号混流生产。

Our production of freezer front panel forming line, the product is compatible with a wide range of sizes, equipment to meet the special-shaped counters, flat mouth cabinet products mixed production, equipment cycle time can be designed according to customer needs. The whole line to be adjusted all the use of servo control, a high degree of automation, advanced design concepts.

The forming line mainly contain automatic feeding、punching system、roll forming or side bending、two ends bending、folding U and pneumatic system、hydraulic system、control system.

When the line producing, the line can be automatic adjusted on the direction of length、width according to the setting parameter; Through the touch screen or industrial computer to achieve model storage and use, can do a variety of models mixed flow production





# 冷柜后背板成型线

## Freezer back panel forming line

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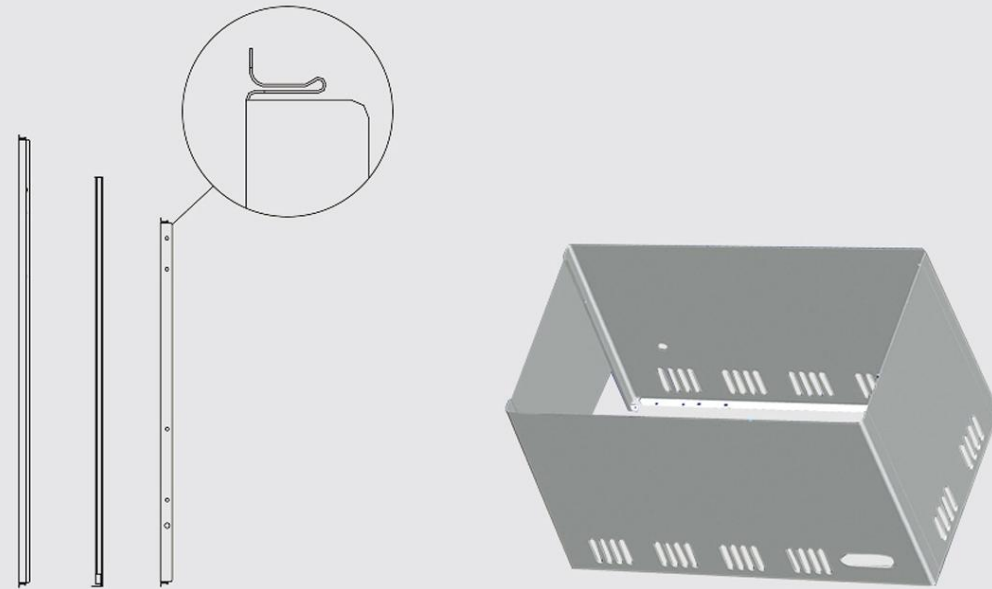
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冷柜后背板成型线多采用我公司独创技术，板料在上料工位定位后，后续全程通过伺服机械手输送完成对板料的冲切、折弯等工序，完全实现产品的柔性生产。设备具有产品兼容性好、易操作、生产效率高、制作成本低等优点。

整套成型线一般包含：上料定位系统、冲切系统、侧折弯机、端折弯机或卡槽成型机、下料滚杠线等组成，根据客户产品具体要求，我方对设备进行合理规划设计。

Built with most of technologies independently innovated by our company, after positioning the sheet from feeding station, this production line is able to complete punching and bending by servo manipulator in full processes, complete realization of flexible production. It is good compatibility, easy to operate, highly efficient, low cost of price.

The full line consists of loading & locating system, punching system, side bending machine, end bending machine or groove bending machine, unloading system. According to the customer's specific requirements, we have a reasonable planning of equipment



我方制作的冷柜后背板成型线，产品生产柔性强，用以完成冷柜后背板的切角、冲孔、拉伸、折弯成型等设计要求，板料输送多采用伺服机械手夹持输送，上料一次定位后，后续工序由机械手步进完成，无需定位，提高生产节拍和设备稳定性。

该成型线主要由上料机、冲切系统、侧折弯机、端折弯机或卡槽推弯机以及配套的气动系统、液压系统与电控系统等部分组成。

设备在生产产品时，宽度方向上能够根据设定的参数进行自动调整，长度方向通过伺服机械手设置距离，步进冲切完成所有产品元素。通过触摸屏或工控电脑实现型号存储及调取使用，可做到多型号混流生产。

Our production of back panel forming line, product production is flexible, to complete the freezer back panel notching, punching, stretching, bending and other design requirements, sheet metal conveyor servo servo holding more, feeding a positioning, the follow-up process by the robot Step by step, no need to locate, improve production rhythm and equipment stability

It is composed of loading station, punching station, side bending station or groove bending station, and matched pneumatic system, hydraulic systems and control system.

When the line producing, the line can adjust automatic on the width direction according to the setting parameter, and the adjustment on the length direction by setting manipulator distance, step by step to finish the product. Through the touch screen or industrial computer to achieve model storage and use, can do a variety of models mixed flow production





# 冷柜外箱铆接线

## Freezer cabinet shell clinching line

Perfect Product / International Hdmech  
精细化的产品 / 国际化的海德马克

**HDMECH**  
海德马克

该系统由铰链加强铁TOX铆接段和外箱铆接段组成，用以完成加强铁和背板的自动TOX铆接，然后完成后背板和前围板的自动扣合及铆接。

设备自动化程度高，无需人工辅助，工件输送周转全部采用多关节机器人完成，精度高。冷柜外箱自动铆接设备属于国内首条，推动了冷柜钣金成型业的发展。

The system consists of a hinged reinforcement of the TOX clinching section and a clinching action of the outer shell to complete the automatic TOX clinching of the iron and back panels and then complete the automatic engagement and clinching of the back panel and the U panel.

Equipment, a high degree of automation, without manual assistance, the work piece delivery turnover all the use of multi-joint robot to complete, high precision. Freezer outer shell automatic clinching equipment belonging to the first domestic, to promote the development of the refrigerator sheet metal forming industry.



本设备为海信冷柜外箱铆接线，用以承接前围板和后背板钣金产品，分别完成后背板的铰链加强板的自动铆接，完成后背板与前板的扣合及自动铆接。铆接完出料后，人工安装附件，也可考虑增加自动铆接附件功能。

铰链加强铁铆接段功能：同时兼容双铰链/四铰链加强铁TOX铆接，自动补给、自动铆接。该段包含加强铁堆垛机、机器人取料机、加强铁定位及铆接段、TOX铆接枪和铆接机器人等组成。

外箱铆接段功能：主要完成冷柜U壳和后背板自动扣合及穿刺铆接，功能包含U壳机器人输送、后背板机器人输送、定位扣合系统、自动铆接枪、联动移栽小车等组成。

The equipment for the Hisense freezer outer shell clinching line, to undertake the U shell and back panel sheet metal products, respectively, after the completion of the rear panel hinge reinforcement plate automatic clinching, after the completion of the back panel and the front panel of the fastening and automatic clinching. Clinching finished, the manual installation of accessories, but also consider the increase in automatic clinching accessories function.

Hinge to strengthen the iron clinching section function: At the same time compatible with double hinge / four hinges to strengthen the iron TOX clinching, automatic supply, automatic clinching. This section consists of reinforced iron stacker, robot reclaim, reinforced iron positioning and clinching section, TOX clinching gun and clinching robot.

Outer shell clinching section function: Mainly complete the freezer U shell and back panel automatic snap and piercing clinching, the function includes U shell robot transmission, backplane robot transmission, positioning buckle system, automatic riveting gun, linkage transfer car and other components.





# 冷柜前后板成型线

## Freezer front and back panel forming line

Perfect Product / International Hdmech  
精细化的产品 / 国际化的海德马克

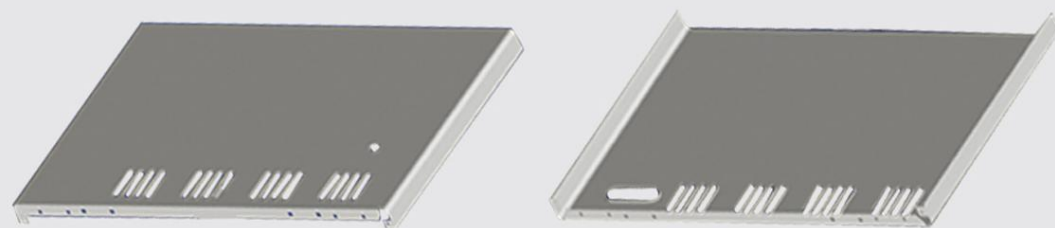
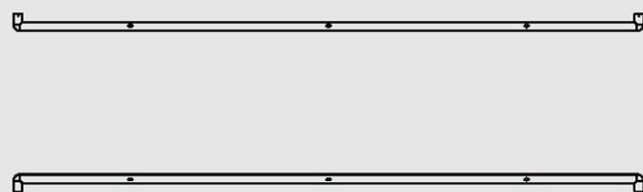
**HDMECH**  
海德马克

冷柜前后板成型线主要生产冷柜四拼版结构的前、后围板，前后围板可以共线生产，也可以分线生产，具体根据客户图纸及生产需求制作。板料在冲切及折弯过程中，根据产品需要，输送系统采用机械手夹持及皮带输送相结合设计理念，保证产品运行的稳定性、可靠性又兼容多品种的柔性生产。

整套成型线一般包含：上料定位系统、冲切系统、侧折弯机（或辊轧成型机）、端折弯机1、端折弯机2、端折弯机3（端部R弧折弯），根据客户具体需求，我方对设备进行规划设计。

The front and back panels can be collinear production, can also be sub-line production, according to the customer drawings and production needs of the production. Sheet material in the punching and bending process, according to product needs, the conveyor system using a combination of manipulator and belt conveyor design concept to ensure product stability, reliability and compatibility of many varieties of flexible production.

The entire molding line generally includes: feeding positioning system, punching system, side bending machine (or roll forming machine), end bending machine 1, end bending machine 2, end bending machine 3 (end R arc Bending, according to the specific needs of customers, our equipment planning and design.



本设备为新飞电器冷柜前、后板成型线，前、后板各分一条成型线制作，设备运行节拍14S/件，满足新飞规划产能的需要。该成型线用以完成冷柜前、后板的切角、冲孔、拉伸、折弯成型，设备运行稳定，操作简单，可实现一键换型。

该成型线主要由上料机、1#冲切机、2#冲切机、3#翻边机、侧折弯机、两端折弯机I、两端折弯机II、两端折弯机III、下料滚杠线以及配套的气动系统、液压系统与电控系统等部分组成。

设备在生产产品时，长度、宽度方向上能够根据设定参数（伺服驱动）进行自动调整；数据通过触摸屏设定和存储，至少能够存储50种型号的数据，换型时能根据型号设定自动调整。

The equipment for the Xinfai front panel, the back panel forming line, front and back panel of a molding line production, equipment running cycle time 14S / pieces to meet the needs of Xinfai planning capacity. The forming line is used to complete the front and rear panel cutting angle, punching, stretching, bending forming, equipment operation is stable, simple operation, can be achieved one key changing.

The line mainly by the feeding machine, 1 # punching machine, 2 # punching machine, 3 # flanging machine, side bending machine, both ends of the bending machine I, both ends of the bending machine II, both ends of the bend Machine III, unloading and supporting the pneumatic system, hydraulic system and electronic control system and other components.

Equipment in the production of products, the length, width direction can be set according to set parameters (servo drive) for automatic adjustment; data through the touch screen settings and storage, at least to be able to store 50 models of data, change the type can be set automatically Adjustment.





# 冷柜左右侧板线

## Freezer left and right panel forming line

Perfect Product / International Hdmech  
精细化的产品 / 国际化的海德马克

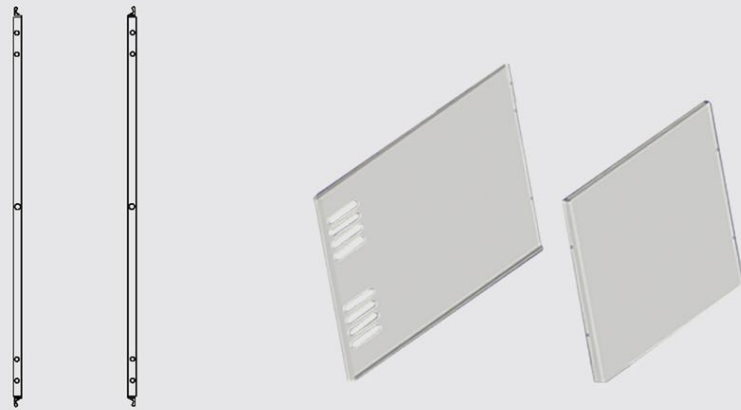
**HDMECH**  
海德马克

冷柜左右侧板成型线主要生产冷柜四拼版结构的左右侧板，左右侧板一般分为两种：第一种为辊轧成型迷宫后，前后板插接式；第二种为左右侧板折直角弯，前后板通过塑料插件连接。第一种结构，可以共线生产，在产品冲切、辊轧成型完成后通过中间切断折弯机（一切二的方式）同时获得左板和右板。第二种结构，可根据产能及图纸需要，规划共线或者分线生产。

整套成型线第一种结构包含：上料定位系统、冲切系统、辊轧成型机、中间切断L弯机；第二种结构包含：上料定位系统、冲切系统、侧折弯机（或辊轧成型机）、两端折弯机I、两端折弯机II。根据客户具体需求，我方对设备进行规划设计。

Freezer left and right side panels forming line mainly produce the left and right panel of four splicing board freezer. side panels are divided into two types: the first one is the roll maze after the roll, the front and rear boards are plugged in; the second is the left and right side panels Fold the right angle, front and rear panels through the plastic plug-in connection. The first structure, can be collinear production, in the product punching, roll forming is completed by the middle cut off the bending machine (one cut two way) at the same time to obtain the left and right plate. The second structure, according to capacity and drawing needs, planning collinear or sub-line production.

The first structure includes: feeding system, punching system, roll forming machine, intermediate cutting L bending machine; the second structure includes: feeding positioning system, punching system, side bending machine (or Roll forming machine), both ends of the bending machine I, both ends of the bending machine II. According to the specific needs of customers, our equipment planning and design.



本设备为新飞电器冷柜左右侧板成型线，左右侧板共线生产（左右侧板采用一切二的方式），设备运行节拍14S/套，满足新飞规划产能的需要。该成型线用以完成冷柜左右侧板的切角、冲孔、拉伸、辊轧成型、切断折弯，设备运行稳定，操作简单，可实现一键换型。

该成型线主要由上料机、1#冲切机、2#冲切机、辊轧成型机、3#冲切机、中间切断折L机、下料滚杠线以及配套的气动系统、液压系统与电控系统等部分组成。

设备在生产产品时，长度、宽度方向上能够根据设定参数（伺服驱动）进行自动调整；数据通过触摸屏设定和存储，至少能够存储50种型号的数据，换型时能根据型号设定自动调整。

The equipment for the Xinfai left and right side panel. Production line adopts producing together (left and right side panel using one cutting into two method), equipment running cycle time 14S / sets to meet the needs of the Xinfai planning capacity. The forming line is used to complete the chamfering angle of the left and right side plates of the freezer, punching, drawing, rolling forming, cutting and bending, the equipment is stable and the operation is simple.

The molding line mainly by the feeding machine, 1 # punching machine, 2 # punching machine, roll forming machine, 3 # punching machine, the middle cut off L machine, rolling under the rolling line and supporting the pneumatic system, hydraulic system and electronic control system and other components. Equipment in the production of products, the length, width direction can be set according to set parameters (servo drive) for automatic adjustment; data through the touch screen settings and storage, at least to be able to store 50 models of data, change the type can be set automatically adjustment.





# 冷柜门壳成型线

## Freezer door shell forming line

Perfect Product / International Hdmech  
精细化的产品 / 国际化的海德马克

**HDMECH**  
海德马克

冷柜门壳成型线多采用我公司独创技术，板料在上料工位定位后，后续全程通过伺服机械手输送完成对板料的冲切、折弯等工序，实现产品的柔性生产。设备具有产品兼容性好、易操作、换模方便、生产效率高等优点，在触摸屏上进行配方设置，可直接调取，实现一键换型。

整套成型线一般包含：上料定位系统、冲切系统、折弯系统I、折弯系统II、折弯系统III，根据客户具体需求，我方对设备进行规划设计。

Freezer door forming line adopts more HDMECH's independent technology, sheet metal in the feeding position after the follow-up through the servo robot to complete the processing of sheet metal punching, bending and other processes to achieve the product of flexible production. This production line has some advantages such as good product compatibility, easy operation, convenient mold changing, and high production efficiency, in the touch screen on the recipe settings can be directly transferred to achieve a key for the type.

The whole forming line generally includes: feeding system, punching system, bending system I, bending system II, and bending system III, HDMECH can make the design according to the specific needs of customers.



本设备为海信冷柜门壳成型线，设备运行节拍12S/件。该成型线用以完成冷柜门壳的切角、冲孔、拉伸、折弯成型，设备运行稳定，操作简单，可实现一键换型。

该成型线主要由上料机、冲切系统、划膜机、折弯系统I、折弯系统II、折弯系统III以及配套的气动系统、液压系统与电控系统等部分组成。

设备在生产产品时，长度、宽度方向上能够根据设定参数（伺服驱动）进行自动调整；数据通过触摸屏设定和存储，至少能够存储50种型号的数据，换型时能根据型号设定自动调整。

The production line is for the Hisense Freezer door forming line, the production line cycle time is 12S / piece. The forming line is used to finish the chamfering, punching, stretching and bending of the cabinet, the equipment is stable and the operation is simple.

The forming line is mainly composed of feeding machine, punching system, scribing machine, bending system I, bending system II, bending system III and supporting pneumatic system, hydraulic system and electric control system and so on.

Equipment in the production of products, the length, and width direction can be set according to set parameters (servo drive) for automatic adjustment; data through the touch screen settings and storage, at least to store 50 models data, change the type can be automatically adjusted according to model settings.





# 冷柜内胆成型线

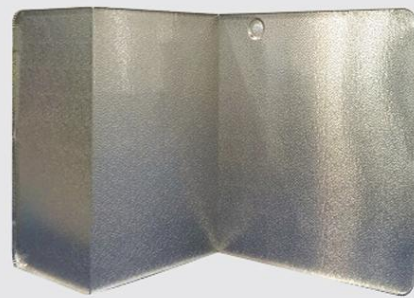
## Freezer inner bottom tank forming line

Perfect Product / International Hdmech  
精细化的产品 / 国际化的海德马克

**HDMECH**  
海德马克

该生产线用于冷柜内胆底板的加工生产，含自动上料工位、冲切工位（1、2）、折弯工位（1、2）、四角翻边工位、单板取料工位及双折工位等各部分组成的快节奏、超柔性自动生产加工线，另配套电气控制系统、机械夹手输送系统及机械结构等组成。无需换模，以压花铝定尺板为主要生产原料的自动化加工设备，且各段可独立、手动操作加工工件。另可根据客户具体产品要求，我方对设备进行规划设计。

The production line is used for the freezer inner tank manufacturing, including automatic feeding station, punching station (1,2), bending station (1,2), four corners of the flanging station, flat shape product unloading station and double bending station and other stations to form fast cycle time and ultra-flexible automatic production and processing lines, and the other supporting electrical control system, mechanical fixture delivery system and mechanical structure and other components. No need to change the mold to embossed aluminum sheet as the main production of raw materials, automatic processing equipment, Each section can be independent, manual processing work piece. According to the clients' specific requirements, HDMECH makes the design accordingly.



本设备为冷柜内胆底成型线。兼容产品范围大，做到了所有产品不换模，设备节拍12S/件，自动化程度高，设计理念先进。  
整套设备含自动上料工位、冲切工位（1、2）、折弯工位（1、2）、四角翻边工位、单板取料工位、双折工位以及配套气动系统、伺服控制系统等组成。  
在生产产品时，通过触摸屏或工控电脑操作，设备可根据设定参数自动调整，并能实现产品混流生产。

This production line is used for freezer inner tank forming. This production line has high-extent automation with advanced design concept, Compatible products range is huge, and all products do not need to change the mold, the cycle time is 12S / piece.

The complete production line consists of automatic feeding station, punching station (1,2), bending station (1,2), four corner flanging station, flat shape product unloading station, double bending station and supporting pneumatic system, Servo control system and other components.

During the production, through the touch screen or industrial computer operation, the device can be automatically adjusted according to the parameters adjustment, and can achieve mixed product production.

