



## 全液压重载机器人 Full hydraulic heavy loads manipulator

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

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**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



# 全液压重载机器人

## Full hydraulic heavy loads manipulator

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

**HD**HDMECH  
海德马克

### 应用条件 Application condition

在高温、重载、高精度、高自动化的生产过程中，建议使用全液压重载机器人。

In the process of high temperature, heavy load, high precision and high automation, it is recommended to use the full hydraulic heavy loads manipulator.

### 技术特点 Technical features

活动半径大，承载能力强，自动化程度高，定位精度高

The full hydraulic heavy loads manipulator has the advantages of large radius of motion, strong bearing capacity, high degree of automation and accurate positioning accuracy

### 分类 Classification

全液压重载机器人具有地旋式和轨道式两种结构，地旋式重载机器人活动范围在回转半径范围内；轨道式重载机器人不仅在回转半径范围内活动，还可在轨道方向上直线移动，轨道位置可以在地面安装或悬空安装。

The full hydraulic heavy loads manipulator has two structures, rotating on the ground or walking on the track, the active range of the manipulator rotating on the ground is within the the radius of gyration; the manipulator walking on the track is not only in rotary radius, but also can move in the straight line in the track direction, the position of the track can be installed on the ground or suspended in the air.



轨道式重载机器人（轨道置于地面）the manipulator walking on the track（the track on the ground）



地旋式重载机器人The manipulator rotating on the ground



轨道式重载机器人(轨道悬空)the manipulator walking on the track（the track in the air）



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### 全液压重载机械手参数 Technical parameters

技术规格			300kg	500kg	800kg	1000kg	1200kg	1500kg	2000kg	3000kg	5000kg
重复定位精度 Repeat positioning accuracy			±2	±2	±2	±2	±3	±3	±3	±4	±4
整体尺寸 Overall dimension	工作回转半径 Max (mm)	Max. working radius	M	5500	6200	7940	8500	9000	9100	10000	10000
	工作回转半径 Min (mm)	Min. working radius	N	2500	3500	3170	3900	4400	4500	4600	4600
	总长	Total length	A	4200	6000	6400	6600	7000	7000	7000	7000
	总宽	Total width	B	2800	3000	3050	3500	4100	4300	4820	4820
总高		Total height	C	3450	3700	3730	3760	3790	3800	3820	3860
机器人装机功率 (kW)		Installed power		40	60	65	65	70	75	80	100
机器人重量 (Kg)		Weight		10500	14000	18500	20000	21000	24000	30000	48000
控制方式		Control mode		手动/半自动/自动 Manual/semi-automatic/automatic							
安装方式		Installation mode		移动/固定 Move/Be fixed							
钳口运动范围 Jaw movement range	最小 (mm)	Min	D	5300	3400	2870	3500	4000	4000	4000	4100
	最大 (mm)	Max		2800	6000	7640	8100	8600	8600	8500	8500
夹钳中心距地面 Distance between Clamp center and the ground	最大 (mm)	Max	E	1450	1800	2250	2300	2350	2350	2400	2500
	最小 (mm)	Min		770	800	850	900	950	950	1000	1100
伸缩 Telescopic	行程 (mm)	Stroke	F	3000	3700	4750	4600	4600	4600	4800	4800
	速度 (mm/s)	Speed		1000	1000	1000	1000	1000	1000	1000	1000
	定位精度 (mm)	positioning accuracy		±1	±1	±1	±1	±1.5	±1.5	±1.5	±2
行走 Travel	运动距离 (mm)	Stroke		21000	21000	21000	21000	21000	21000	21000	21000
	速度 (mm/s)	Speed		1000	1000	1000	1000	1000	1000	1000	1000
	定位精度 (mm)	positioning accuracy		±1	±1	±1	±1	±1.5	±1.5	±1.5	±2
	轨距 (mm)	Track	G	2000	2580	2580	2580	2800	3000	3200	4500
	轨道长度 (m)	Track length		27	27	27	27	27	27	27	27
	动力系统	Power system		滑触线/拖链 Sliding contact line / drag chain							
升降 Lift	最低中心高 (mm)	Minimum center distance		700	700	850	900	950	950	1000	1100
	运动距离 (mm)	Moving distance	H	680	1000	1400	1400	1400	1400	1500	1600
	速度 (mm/s)	Speed		400	500	550	550	500	500	500	500
	定位精度 (mm)	positioning accuracy		±1	±1	±1	±1	±1	±1	±1	±2
旋转 Clamp rotate	回转角度	Rotation angle		±100	±135	±100	±100	±100	±100	±100	±100
	速度 (°/s)	Speed		60	60	60	60	60	60	60	60
	定位精度 (°)	positioning accuracy		±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.01
仰俯 Pitching	倾斜角度 (上)	Upward angle	I	0							
	倾斜角度 (下)	Downward angle		-3							
	速度 (°/s)	Speed		5	5	5	5	4	4	4	5
回转 Body rotation	回转角度	Rotation angle		±90	±90	±90	±90	±90	±90	±90	±90
	速度 (°/s)	Speed		20	15	10	10	10	10	10	10
夹持 Clamp	夹持范围 (mm)	Clamping range	J	0-500	100-700	150-900	200-1400	200-1500	250-1600	250-1600	300-1600
	开口/闭合时间	Speed		<5s							

◆ 全液压重载机械手外形图 Outline drawing

