HLYD series 智能多工位液压机线体

Intelligent multi-station hydraulic press lines

HELI 鹤立企业

HLYD series 智能多工位液压机线体

Intelligent multi-station hydraulic press lines

适用范围 Scope Of Application

本机为智能多工位液压机线体。主要适用于金属材料的拉伸，冲压、修边、翻边、弯曲、冷挤压等成型工艺的连续全自动生产。

This machine is a Intelligent multi-station hydraulic press lines. It is mainly used for continuous and fully automatic production of metal material drawing, stamping, trimming, flanging, bending, cold extrusion and other forming processes.

本系列机器结构
Structure of machines

HLYD为三梁多柱锁紧封闭式结构
HLYD is a three-beam and multi-column locking enclosed structure

结构紧凑，性价比高。油箱位于机顶后方。滑块采用四柱导向，上下运动。机架采用钢板焊接，整个机架刚性强固。配合自动化生产，迎合现代化的生产需求。

With compact structure and high cost performance. The oil tank is located behind the top of fuselage. Each slider is guided by four columns and moves up and down. The frame is welded by steel plate, the whole frame is rigid and strong. Cooperate with manipulators to realize fully automated production and meet modern production requirements.

HLYND为整体封闭框架式结构
HLYNS is an integral closed frame structure,

机架采用榫卯连接箱体结构，焊接后，经热处理消除床身内应力，机身整体高刚性。滑块采用四角八面导轨导向，导向精度可调并调节方便，导轨材料采用高力黄铜，动、静导轨板之间形成摩擦副，设备高精密。

The frame adopts mortise and tenon joint box structure, after welding, heat treatment to eliminate the internal stress of the bed, and the overall high rigidity of the fuselage. The slide block is guided by four-corner eight-sided guide rail, the guiding accuracy is adjustable and easy to adjust, the guide rail material is made of high-force brass, friction pairs are formed between the moving and static guide rails, and the equipment is high precision.

本系列机器的优势
Advantages of machines

生产频率更高、生产效率更好
The production frequency is higher and the production efficiency is better

把多台设备合并到一台设备。结构非常紧凑，生产多道工序的产品，传送距离大大缩小。采用多工位工艺制取代常规单台联机结构，提高了机器的功能，有效的简化机器，降低了机器故障，机器更加整体美观（专利号：2019.3 0013247.0），自动化更强，对需要大批量生产的产品是一种非常好的选择（通过科学技术成果鉴定，具有国际先进水平。专利号：2019.2 0039872.7）。

Combine multiple devices into a single device.Very compact structure, production of multi – process products, transport distance greatly reduced.Adopting multi–step process system instead of the conventional single online structure, improve the function of the machine, can effectively simplify, reduce the machine failure, and the machine overall appearance is more beautiful (patent no. : 2019.3 0013247.0), automation stronger, is a very good choice to mass production of the product , (through scientific and technological achievements appraisal, with international advanced level.Patent No. : 2019.2 0039872.7).

生产配合度高
High production coordination degree.

机器具有非常高人性化特点：手持调模器，同步顶出，机器状态三色灯，多状态的机械夹手（专利号：2019.20039539.6），自定义程序等。所以非常适合需要多道工序生产的产品成型。机器整体封闭式结构，整个机架刚性强固，偏心负载受力强悍，生产效果非常显著。

The machine has very humanized characteristics: Hand–held modulator, synchronous ejection, three–color lights of machine state, multi–state mechanical clamps (Patent No.: 2019.2 0039539.6) , custom program etc. So it is very suitable for the molding of products that need multiple processes.The machine has a closed structure, the whole frame is rigid and strong, the eccentric load is strong, and the production effect is very remarkable.

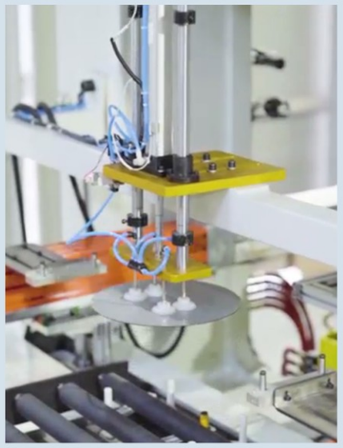
出色的速度、位置和压力控制性能
Excellent speed, position and pressure control performance

采用电液伺服控制，实现闭环控制回路。特定条件下，拉伸速度在3-60mm/s内任意设置。不同的产品及材料，调整不同的拉伸速度，增加拉伸的柔性效果。自主研发的定压，定位精度运算系统 (专利号:2019SR020725)，定压及定位達到非常高的精度。

Electro–hydraulic servo control is adopted to realize the closed loop control. Under certain conditions, the stretching speed can adjust in 3–60mm/s. For different products and materials, different stretching speed can be adjusted to increase the flexibility of stretching.We are independently developed the constant pressure and positioning precision operation system (Patent No. 2019SR0207225), The constant pressure and positioning achieve very high accuracy.

本系列机器的优势
Advantages of machines

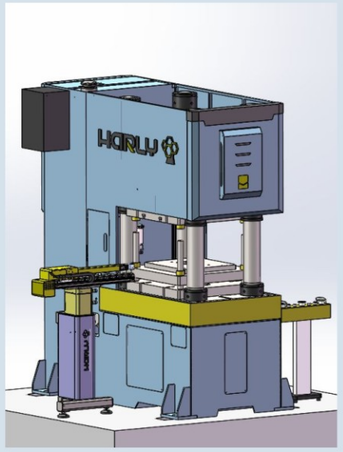
可靠的辅助装置：多状态的机械夹手
Reliable assistive devices: multi-state mechanical clamps



自动化的基础是稳定性。不同的产品,不同的工序,种类的多样性必须要有可靠的机械夹手在不同的状态下有效的执行工作。多状态的机械夹手(专利号:2019.2 0039539.6) 在这种环境下诞生。让你感觉到高难度的搬运变的没有难度。生产的可靠性大大提高。

The basic of automation is stability. Different products, different processes, the variety of types must have reliable mechanical clamps in different states of effective execution of the work. The multi–state mechanical clamps (patent No. : 2019.2 0039539.6) was born in this environment. Let you feel the difficult handling becomes no difficulty. The reliability of production has been greatly improved.

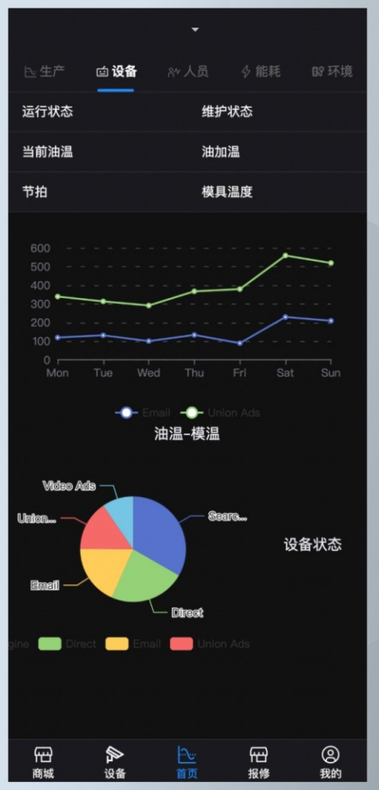
自动化及智能化离我们很近
Automation and Intelligent is near to us



标准配置二次元，三次元机械手及上料装置，搭配自定义步进程序，实现设备全自动生产。智能上设备选配扫描枪，模具识别装置，搭配生产信息化管理系统，实现智能化信息化生产。同时设备配备了图构点检，智能维护等功能，保证生产的可靠性。

Automatic selection of robot and feeding device, with freely defined stepping logic system software, to achieve automatic production of equipment. Intelligent equipment is equipped with scanning gun, mold identification device and production information management system to realize intelligent information production. At the same time, the equipment is equipped with mapping point inspection, intelligent maintenance and other functions to ensure the reliability of production.

具备了先进的智能服务
Advanced intelligent service



"让客户无忧"是我们一直奋斗的目标，设备的故障我们必须第一时间知道。手机扫描屏幕上的"智能服务"二维码，我们的设备服务平台就告诉你设备出现了什么问题，接下来的事，请放心交给我们。

Let customer reassure is our goal, we must know the failure of the machine in the first time. Scan the "intelligent service" QR code on the screen, our machine service platform will show what is the problem, then the next thing, please rest assured to us.

本系列机器的专利 Patents of machine

证书号第6696977号

发明专利证书

发 明 名 称：多工位液压机

发 明 人：阮立鹤

专 利 号：ZL 2019 1 0022930.X

专利申请日：2019年01月10日

专 利 权 人：浙江鹤立智能机械有限公司

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授权公告日：2024年02月09日　　授权公告号：CN 109570374 B

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2024年02月09日

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其他事项参见续页

参数表 Parameter list

项目 Item		单位 Unit	60T		80T		100T		120T		160T		200T		260T		320T		400T		500T		630T				800T				1000T			
油缸类型 Cylinder model			P型 (model)	D型 (model)	P型 (model)	D型 (model)	P型 (model)	D型 (model)	P型 (model)	D型 (model)	P型 (model)	D型 (model)	P型 (model)	D型 (model)	P型 (model)	D型 (model)	P型 (model)	D型 (model)	P型 (model)	D型 (model)	P型 (model)	D型 (model)	P型 (model)	P2型 (model)	D型 (model)	D2型 (model)	P型 (model)	P2型 (model)	D型 (model)	D2型 (model)	P型 (model)	P2型 (model)	D型 (model)	D2型 (model)
公称压力 Normal pressure		Mpa	25.5	25	25.7	25.5	25.5	25.5	25	25.5	26	25	25.5	26	25.5	25.5	25	25.5	25.5	25.2	25.3	25.5	26		25.5		26		25.7		26		25.3	
快下 Fast descend	压力 Pressure	Ton	6.5	6	8.5	8	10	10	12	12	15	15	15	20	15	24	15	31	19	39	22	51	31		31		41		40		52		51	
	速度 speed	mm/s	0-446	0-477	0-430	0-427	0-452	0-470	0-478	0-451	0-458	0-446	0-458	0-451	0-461	0-486	0-455	0-462	0-469	0-460	0-400	0-402	0-481		0-462		0-450		0-460		0-404		0-402	
快压 Fast press	压力 Pressure	Ton	13		16		20		24		32		32		32		32		39		44		63				81				103			
	速度 speed	mm/s	0-225		0-222		0-227		0-238		0-230		0-230		0-230		0-230		0-230		0-200		0-235				0-225				0-203			
压制 Press	压力 Pressure	Ton	60	60	80	80	100	100	120	120	160	160	200	200	260	260	320	320	400	400	500	500	630		630		800		800		1000		1000	
	速度 speed	mm/s	0-48	0-47	0-45	0-45	0-45	0-45	0-47	0-48	0-45	0-44	0-45	0-45	0-45	0-45	0-45	0-45	0-45	0-45	0-40	0-41	0-23	0-46	0-23	0-46	0-23	0-46	0-23	0-46	0-20	0-41	0-20	0-40
回程 Ascend	压力 Pressure	Ton	6	6	8	8	10	10	12	12	15	15	15	19	15	25	15	31	20	43	22	49	32		33		40		38		51		50	
	速度 speed	mm/s	0-456	0-470	0-462	0-463	0-455	0-464	0-475	0-466	0-465	0-434	0-465	0-489	0-462	0-465	0-468	0-463	0-451	0-412	0-402	0-422	0-461		0-436		0-452		0-483		0-407		0-408	
主缸最大行程 Cylinder max stroke		mm	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450		450		450		450		450		450	
最大闭合高度 Max daylight		mm	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600		600		600		600		600		600	
油缸步距系数 Cylinder interval coefficient		mm	185	140	195	155	200	170	210	190	235	215	260	240	290	265	325	290	355	325	395	355	440		400		490		445		545		500	
*油缸步距系数 2 Cylinder interval coefficient 2		mm	93	70	98	78	100	85	105	95	118	108	130	120	145	133	163	145	178	163	198	178	220		220		245		223		273		250	
下工作台板 working platen	左右 L-R	mm	步距B*(步数S+1) 空位、内出料位作为步数计算 Interval B*(interval S+1) Empty station and inner discharge station as interval number calculated.																															
	前后 F-R	mm	860														900		950		1000		1050											
侧门宽度 Side door width		mm	1300																1350		1400		1450											
上工作台板 Slide Area	左右 L-R	mm	步距B-40 Interval B-40																															
	前后 F-R	mm	800														850		900		950		1000											
产品出料方法 Product discharge method			侧出料/后出料(优先侧出料) Side discharge/ rear discharge (preferred side discharge)																															
产品进料方法 Product feeding method			左进料/右进料(优先左进料) Left feeding/ Right feeding (Preferred left feeding)																															

注: 一. 以上爲標準配置, 實際配置可以客户要求定做
二. 下工作臺板前後尺寸、側門寬度、上工作臺板前後按各工位中最大噸位確定尺寸
三. HLYD型液壓機步距設定說明

1. 最小步距設定: 選擇最大相鄰兩油缸步距系數之和 例如:

(1) 型號: HLYD-PH900-5
(2) 型號意思: 多工位900噸5工位液壓機(方缸滑塊導向)
(3) 步距噸位排列:

1工位	2工位	3工位	4工位	5工位
160T	260T	200T	160T	120T

(4) 最小步距選擇: 260T與200T的步距系數之和
(5) 查步距系數表可以得出最小步距爲: 290+260=550
(6) 當步距過大可增加空位減小步距, 此時步距系數選帶 “*” 符號的步距系數2進行計算

Note: 一. Above is standard configuration, the actual configuration can be customized to customer requirements
二. We are all according the biggest tonnages to sure the working platen size (F-A), side door width and slide size (F-A).
三. HLYD series hydraulic press interval setting explain

1. Minimum interval setting: chose the interval coefficient sum of max two adjacent cylinder

(1) Model: HLYD-PH900-5
(2) Model meaning: Multi-station 900 Tons five stations hydraulic press (square cylinder slider guiding)
(3) Interval tonnage arrangement:

First station	Second station	Third station	Fourth station	Fifth station
160T	260T	200T	160T	120T

(4) Minimum interval choose: The interval coefficient sum of 260T and 200T
(5) Check interval coefficient list to get minimum interval is: 290+260=550
(6) When the interval is so big, we can increase empty station to reduce interval. This moment, we can choose the interval coefficient 2 with “*” symbolic to calculate

参数表 Parameter list

液压垫技术参数
Hydraulic cushion technology parameters

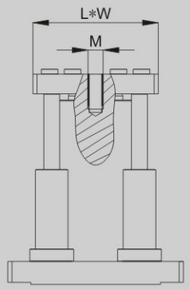
项目 Item	单位 Unit	HLBF -A5	HLBF -A10	HLBF -A15	HLBF -A20	HLBF -A25	HLBF -A30	HLBF -A40	HLBF -A50	HLBF -A60	HLBF -A80	HLBF -A100	HLBF -A120	HLBF -A160	HLBF -A200	HLBF -A250	HLBF -A300
吨位 Tonnage	T	5	10	15	20	25	30	40	50	60	80	100	120	160	200	250	300
行程 stroke	mm	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160
垫板尺寸L*W Cushion size	mm	350*350mm										400*400	420*420	460*460	520*520	580*580	620*620
顶杆直径 Ejector rob diameter	mm	∅20		∅25		∅30		∅35		∅40		∅50		∅60		∅75	
顶杆孔与孔中心直径距离 Diameter distance from ejector rob hole to hole centre	mm	I. II. III型 (model)										I. II. III. IV型 (model)		I. II. III. IV. V型 (model)		II. III. IV. V. VI型 (model)	
☆ 工作台中心孔直径 Center hole diameter of worktable	mm	∅50	∅50	∅60	∅60	∅70	∅70	∅80	∅80	∅100	∅100	∅120	∅120	∅150	∅150	∅190	∅190
☆ 液压垫中心螺纹M Cushion centre thread M	mm	M12	M16	M20	M24	M24	M24	M30*3.5	M30*3.5	M36*4	M36*4	M48*5	M48*5	M48*5	M64*6	M64*6	M76*6

一. 标准 "☆"符号为选配结构
Standard "☆" is optional configuration construction

二. 标准配置版本号3.0, 实际配置可以客户要求定做
standard configuration version No, 3.0, the actual configuration can be customized to customer requirements

三. 工作台板上的顶杆孔中心距离Z分下列选型
Centre distance of ejector rob hole of working platen Z has following model

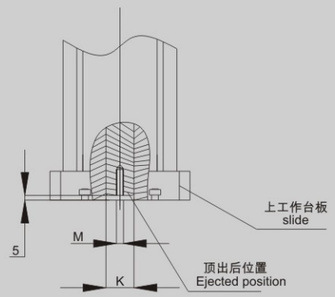
	I型 (model)	II型 (model)	III型 (model)	IV型 (model)	V型 (model)	VI型 (model)
Z	∅220	∅260	∅300	∅350	∅400	∅500



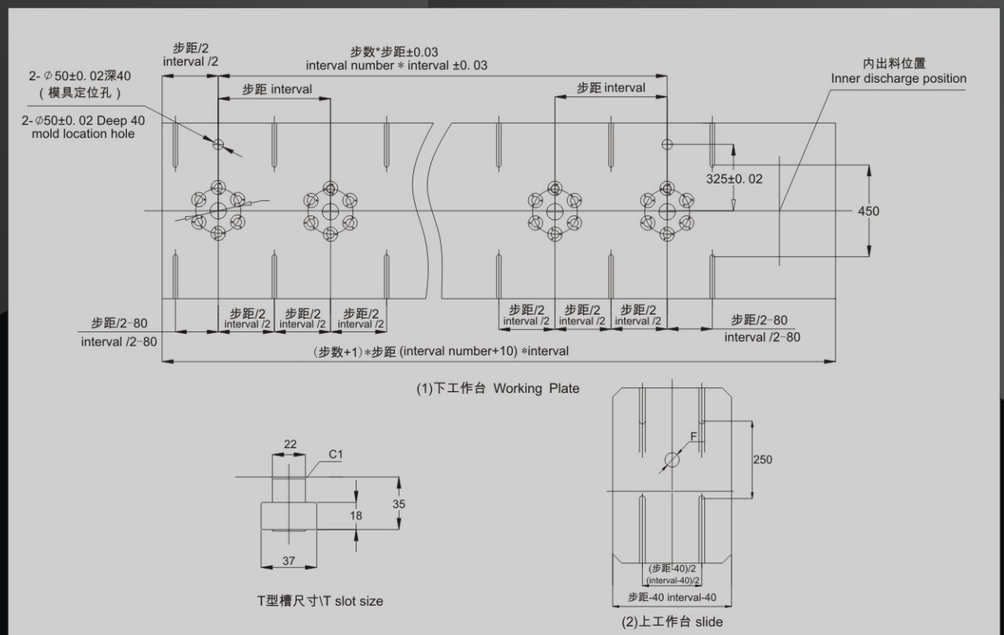
脱料装置技術參數
Stripping device parameters

项目 Item	单位 Unit	HLBG-A1	HLBG-A2	HLBG-A3	HLBG-A5	HLBG-A7	HLBG-A10	HLBG-A15	HLBG-A20	HLBG-A30
吨位 Tonnage	T	1	2	3	5	7	10	15	20	30
行程 stroke	mm	110	110	110	110	110	110	110	110	110
脱料杆直径 K Stripping rob diameter K	mm	∅25	∅25	∅25	∅30	∅30	∅40	∅40	∅60	∅60
脱料杆中心螺纹 M Stripping rob centre thread M	mm	M8	M8	M10	M12	M14	M16	M20	M24	M24
上工作垫板中心孔直径 F Center hole diameter F of slide	mm	∅28	∅28	∅28	∅32	∅32	∅42	∅42	∅62	∅62

标准配置, 实际配置可以客户要求定做
standard configuration, the actual configuration can be customized to customer requirements



工作台板
Working Plate



液压机配置
hydraulic press configuration

配 置	Configuration	标准 standard
电动循环润滑给油装置	Electric circulation lubrication oil feeder	○
手持控制器	Handheld controller	○
机械手	Robot (manipulator)	○
空气源接头(电源插座)	Air source connector (Power socket)	○
使用说明书	Manual	○
维修工具及工具箱	Maintenance tools and tools box	○
地脚螺栓	Anchor screw	○
模具量存储功能	Mold storage capabilities	○
模具校位装置	Mold revise device	○
机床照明装置	Machine lighting device	○
安全护罩	Safe cover	○
检修爬梯	Maintenance ladder	○
强制冷却系统	Forced cooling system	○
伺服驱动电机油泵组	Servo drive motor oil pump group	○

配 置	Configuration	选配 Optional Configuration
快速换模装置	Mold fast change device	○
"互联网+"技术售后	“Internet + ” technical after-sales	○
模具识别功能	Mold recognition capabilities	○
上料机	Feeding machine	○
误送检测装置	Miscarriage detector device	○
连续模具	Continuous mold	○
产品出料传送装置	Product discharging transfer	○
胚料加油装置	Raw material filling device	○
胚料校正装置	Raw material revise device	○
废料收集传送装置	Raw materials collect and transport device	○

配置表 Configuration list

项目 Item	配置 Configuration	基本款 Basic	选配 Selection
配件（Parts）			
电动润滑给油装置 Electric cycle LUB device		O	
空气源及喷风接头 Air Sources &Breeze Joint			O
冷却水源 Cooler water			O
电源插座 Power outlet			O
照明灯 Lighting Devices		O	
滑块中缸 Slider center cylinder			O
液压垫 Cushion			O
电液伺服 Electro-hydraulic servo			O
油液冷却 Cooler	水冷 Water cooler	O	
	强制 Forced cooler		O
安全防护 Safety Device	前防护门 Front safety door		O
	光栅保护 Grating protection		O
自动化装置 Automation device			O
快换模装置 Fast speed change mold device	举模器 Mold lifter		O
	举模臂 Mold lifter arm		O
	夹模器 Mold clamp		O
	模具定位杆 Die positioner		O
移动操纵台 Movable Operation Device	脚踏 Pedal		O
	双手 Both hands		O
	手持调模器 Hand-held modulator	O	
移模工作台 Mold movable Device	前移 Front moving		O
	后移 Rear Moving		O
材料抹油装置 Material oiling device	沾油 Stained with oil		O
	滚油 Rolling oil		O

项目 Item	配置 Configuration	基本款 Basic	选配 Selection
功能 Function			
模温装置 Mold TEMP device			O
模具识别装置 Mold recognition function			O
油加温装置 Oil heating device			O
能耗检测装置 Energy consumption detection device			O
扫描枪接口 Scanning interface			O
物联接口 Web interface			O
三色灯运转指示灯 Three-color operating indicator light		O	
系统软件 System software			
自定义编程操作系统 Custom programming operating system			O
设备点检系统 Machine inspection system			O
设备诊断系统 Machine diagnostic system			O
智能服务平台系统 Intelligent service system			O
生产信息化管理系统 Production information management system			O
液压垫分段比例调压系统 Cushion subsection proportional control system		O	
模具储存量系统 Mold storage system		O	
附 件 Attachment			
地脚垫板 Anchor plate		O	
防震脚 Shockproof pads			O
顶杆 Ejector rod			O
维修工具 Maintenance tools		O	
使用说明书 Use Manual		O	
合格证明书 Certification		O	