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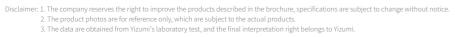




DM1000-DM3000 重型冷室压铸机 **HEAVY DUTY SERIES** COLD CHAMBER DIE CASTING MACHINE



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YIZUMI伊之密

公司简介

广东伊之密精密机械股份有限公司是以"模压成型"为主题的机械装备制造商。始创于2002年,总部位于中国著名的工业之都——顺德(国家级高新技术产业区),占地面积达80,000平方米。旗下分别以高精度注射成型机、高精度铝镁合金压铸机、高性能橡胶机为主导产品。

成立至今,伊之密凭借雄厚的资金与规模实力支持,结合业界最优秀的研发、设计、制造、服务、营销团队, 秉持"让中国装备技术与世界同步,并为全球客户创造 更佳的投资回报及客户体验"的企业宗旨,致力成为一 家经营好、管理好、文化好,让员工引以为傲,为社会 仰慕及尊敬的企业。

伊之密拥有省级企业技术中心和博士后科研工作站, 目前已成为中国最具竞争力和发展潜力的大型装备综合 服务商、中国最具规模的装备制造企业之一、国家级高 新技术企业及国家级火炬计划项目实施企业单位。

CORPORATE PROFILE

Guangdong Yizumi Precision Machinery Co.,Ltd. is a large-scale machine manufacturer focus on "press molding". Established in 2002, situated at Shunde National Hi-tech Industrial Zone, the company covers up an area of 80,000 square meters and has constructed 3 divisions (Injection Molding Machine Division, Die Casting Machine Division & Rubber Injection Machine Division), which are respectively engage in production of high precision plastic injection molding machine, high performance die casting machine for aluminum and magnesium alloy and high quality rubber injection machine

With solid financial base and elites in R&D, manufacturing service and sales team since its establishment, Yizumi has dedicated itself in becoming an honorable corporation with healthy development, outstanding management, and superior culture. "Walking alongside the world, creating better investment return and excellent customer experience for global clients" is the ultimate mission and goal for all Yizumi people.

Holding Provincial Enterprise R & D Center and National Postdoctoral R & D Center, Yizumi, a National Hi-Tech Corporation and Implementation Corporation of National Torch Project, has grown up into one of the most competitive and sizable heavy duty machine manufacturers and comprehensive service provider.



CONTENTS 目录

	室压铸机介绍Duty Series Cold Chamber Die Casting Machine	01			
E射 njection		03			
が模 lie Close		04			
空制 Control		05			
引边设备(选配装置)cessories And Peripheries (options)					
に时控制 teal Time (Control	09			
R时控制技术与产品品质改善echnology And Product Quality Improvement					
5术参数表(DM1000-DM4500)echnical Data Sheet(DM1000-DM4500)					
莫板图(DN laten Layo	M1000-DM4500) out (DM1000-DM4500)	15			

重型系列冷室压铸机 DM1000-DM3000

Heavy Duty Series Cold Chamber Die Casting Machine DM1000-DM3000



高性能的重型压铸机

HIGH PERFORMANCE LARGE TONNAGE DIE-CASTING MACHINE

伊之密DM重型压铸机系列产品,以其按世界级水准设计 及制造的高质量的压射、锁模和控制系统,奠定了在行业中技 术遥遥领先的优势地位。

重型压铸机是含压铸机高性能主机及各类自动化、辅助设备等集成的自动化的成套设备,对机器之性能可靠性、稳定性等要求很高。伊之密研发技术团队拥有丰富的重型冷室压铸机成套设备的研发制造的可靠经验,引进欧美最先进的高档重型压铸机设计及制造技术,为您制造高品质、高可靠性的重型压铸机,并提供专业与优质的服务。

Based on world-class designed and manufactured the high performance injection, clamping and control system ,YIZUMI heavy duty series cold chamber die casting machine had stayed ahead in the industrial area.

Heavy duty series die casting machine is the integrated device including of basic die casting machine and all kinds of accessories, it has the strict demanding of machine reliability, stability and etc. YIZUMI R&D team have sufficient experiences for designing and manufacturing the complete die casting equipment, adapting the European advanced designing and manufacturing technology, we can provide you the best performance and high reliability die casting machine, besides this, we can provide you the professional and quality service.



伊之密重型压铸机按欧洲标准设计制造

伊之密重型压铸机按欧洲标准设计制造,采用德国西门子控制系统,功能强大、运行稳定,国内领先的嵌入式第三代实时控制技术,使压射系统的性能达到世界级水准。伊之密DM 重型压铸机系列产品广泛适用于制造各类高质量要求的压铸零部件,如:发动机缸体、气缸盖、曲轴箱、油底壳、变速箱、变速箱端盖、仪表板、电动扶手梯级/踏板、工业/射灯外壳、通讯器件等。

目前,伊之密DM重型压铸机系列产品已经在一汽集团、 东风汽车集团、长城汽车、重庆渝江、大江美利信、江淮动力、 宗申集团等知名企业中获得良好应用。

产品特点:

- 最大空压射速度≥8m/s, 增压建压时间≤20ms;
- 标准设计,性能卓越,配备了独立的活塞式快速及增压储能器;
- 采用液压齿轮调模机构,操作简易,调节高拉力强度的导柱 准确:
- 采用高刚性设计的模板及机铰;
- 机铰配备自动中央润滑系统,可独立调节润滑周期及油量, 提高机械寿命及运行可靠性;
- 精心设计的压射控制系统,压射参数调节范围宽,适应性强;
- 配备导柱自动抽出功能,满足大型压铸模具安装需要;
- 液压方面采用高性能、省电高低压双联泵控制系统,节省能量及提高生产效益;
- 独特的快速锁模系统,使生产效率更高。

YIZUMI HEAVY DUTY SERIES DIE CASTING MACHINE DESIGNED AND MANUFACTURED BY EUROPEAN STANDARDS

Adopting the Siemens control PLC from Germany and powerful, stable running, the third generation embedded real time close loop control technology, YIZUMI die casting machine had showed the world-class injection performance. This type of die casting machine can be used for all kinds of high quality demanding casting parts, such as engine cylinder body, cylinder head, crankcase, crankcase oil tray, gear-box, gearbox cover, instrument panel, escalator, industrial LED cover, Communication Component and etc.

Now on, YIZUMI die casting machine had been sold to the first automobile group, the second automobile group, Great Wall Automobile, Chongqing yujiang group, Chongqing dajiang millison, JAC power, and zongshen group and showed the best performance.

FEATURES:

- Maximum air injection speed ≥8m/s, intensification pressure building time ≤ 20ms
- Adopt inadequate piston type accumulator for both fast injection and intensification
- Die height system adopt the hydraulic driven motor
- Central electric lubrication system can flexible adjust the lubrication time, cycles and lubrication oil volume and prolong the mechanism service life
- Well-designed injection control system to realize the wide range adjustment
- Equipped with the automatic tie bar extraction function to install the large size mold
- Electricity-saving, high and low pressure dual pump system to reduce the energy consumption and improve the production rate
- Special designed DDC (differential die close)technology to improve the production rate

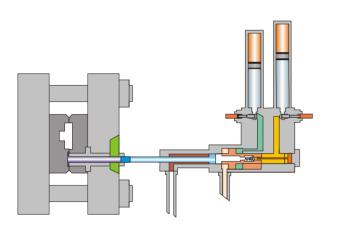
抵射INJECTION 锁模DIE CLOSE

接近终生无故障的高可靠性压射系统

FULLY FUNCTIONING DIE CASTING CONTROL SYSTEM

产品特点:

- 快压射及增压采用高精密电比例阀,方便调节,屏幕设定, 稳定性高,易存贮数据;
- 非接触式压射行程检测,可靠性高,位移精确度达0.1mm, 快速起始位置精准稳定;
- 快速增压储能系统独立设定压力,相互影响小,储能速度快捷高效;
- 最大空压射速度 > 8m/s,增压建压时间 < 20m/s,能满足不同模具的生产需求。



FEATURES:

- Adopt the high precise proportional valve for both fast injection and intensification control, friendly UI, easy setting and saving
- Non-contact injection stroke control, displacement precise up to 0.1mm to precisely get the fast injection starting point
- Independent setting for both fast injection and intensification, less interference and quick response
- Maximum air injection speed ≥8m/s and intensification pressure building time ≤15ms suitable for all kinds of mold demanding
- 低速段:可进行精确控制,避免空气卷入引起藏气问题;
- 高速段:可迅速达至高速,有效控制填充时间及铸件成型效果;
- 增压段:可按工艺随意改变增压速度,对铸件加强密度而不引致变形。
- Slow speed phase: can be controlled precisely to avoid air trap, reduce porosity problem;
- High speed phase: can easily reach desired high speed to achieve filling and forming and forming of the casting;
- Intensification phase: can be adjusted according to the process required, increase the density of the casting and do not cause distortion.



超强耐磨高效的锁模单元 POWERFUL AND DURABLE DIE CLAMPING SYSTEM

产品特点:

- 加强型锁模系统;
- 模板应用大型进口CNC加工中心一次性加工,保证尺寸及位置精度;
- 高刚性及高强度铸造模板;
- 高拉力合金钢导柱,外层电镀耐磨硬铬;
- 机械式曲肘自动润滑,提高耐磨性;
- 调模机构自动黄油润滑,保证调模顺畅可靠;
- 独立可调的开模背压系统;
- 液压式抽大杠结构。

FEATURES:

- Enhanced clamping system
- One-time imported CNC center machining for platen to keep the dimension and accuracy
- High rigidity and high strength platen
- High strength alloy steel and hard chrome plating tie
 hars.
- Automatic lubricating toggle mechanism to improve the wear resistance
- Automatic grease lubricating system for die height system to ensure the smooth and stable die height adjustment
- Independent adjustable die open back pressure system
- Hydraulic tie bar extraction system

新型的整体模板

高刚性

- 优质球墨铸铁模板,良好的刚性与耐磨性;
- 采用先进的有限元软件优化设计,应力分布合理,合模精度高。

高精度

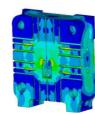
- 模板加工,一次定位,全面加工,保证高精度要求;
- ●曲轴等连接部件,组套加工,最优化保证配合精度;
- ●科学的液氮安装工艺,保证配合精度,延长寿命。

高强度

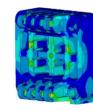
●按照高速机要求设计的高刚性开锁模机构,耐冲击、寿命长。

高效率

◆特快锁模技术,快速锁模,快速储能,有效缩短生产周期。 较传统压铸机效率大幅提高,实现班产量提高15%以上;



位移分析 Displacement Analysis



应力分析 Stress Analysis

NEW DEIGNED INTEGRATED PLATEN

High rigidity

- High quality spherical graphite cast iron, good rigidity and abrasion resistance
- Optimized by advanced finite element analysis software to ensure reasonable stress distribution and precise die clamping

Precision

- One-time location for platen machining to keep the precision requirement
- Toggle unit adopts the machining combination to ensure the assemble precision
- Scientific liquid nitrogen processing to ensure the match precision

High strength

 The die clamping system had been designed by high speed machine equipment to realize shockproof and prolong service life

High efficiency

 DDC technology to realize the differential die close, fasting accumulating and increase the production rate 15%

功能完善的压铸控制系统

DIE-CASTING CONTROL SYSTEM WITH POWERFUL FUNCTION

主机控制特点:

- 全电调比例阀控制压射系统,精准可靠,压射速度和压力多级 控制,独立的快速和增压储能器,适用于多种模具的压射要求;
- 采用性能优良品质可靠的西门子PLC和10′彩色大屏幕,配置先进的嵌入式压射曲线显示装置,齐全的操作功能,丰富的参数监控制作画面,流畅的数据通讯,大容量的模具参数和曲线存贮,使操作方便快捷;
- ◆控制系统配置完善的电液安全操作功能,具备电气互锁、电液互锁等多重安全措施,确保人身和设备的安全;
- 控制系统精心配置,采用国内外优质安全的配件,可靠耐用, 完善的自诊断功能,使操作和维护得心应手;
- 灵活完整的多配置选择项,适用于不同模具对压铸控制的动作需求,实现和程序标准化配置,提高了维护可靠性。

MAIN MACHINE CONTROL FEATURES

- Proportional valve control for injection system, precise and stable. Four stages control for injection pressure and speed .independent accumulators for fast injection and intensification and suitable for all kinds of mold requirement
- Adopt the high quality Siemens control PLC, 10' colorful display screen and advanced embedded PPS function with easy operation, parameters monitoring screen, fluent data communication, large capacity mold parameters and curves function to make sure everything is simple
- Full safety control with electric interlocks, electrichydraulic interlocks to keep human being and device safety
- Best configuration with quality parts to realize the selfdiagnostics and make the operation and maintenance easy
- Flexible standard multi-configuration to satisfy all kinds of mold requirement improve the maintenance reliability

重型圧铸机控制系统特点 CONTROL SYSTEM FEATURES

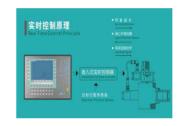
专用压铸机控制系统(标准配置)
Special die casting control system (standard configuration)

升级的控制系统(选配)

UPDATED CONTROL SYSTEM (OPTIONS)

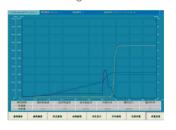
先进控制系统 Advanced Control System

- 速度与位置自动化设置,具有智能化生产概念;
- 详细的压射曲线显示;
- 详细的参数监控功能、APC功能,准确了解压射状态;
- 生产管理,有助提高效率及节约管理成本。
- Intelligent automatic setting of injection speed and position
- Detailed injection curve display
- Detailed parameters monitoring and APC function to precisely understand the injection status
- Production management to increase the production rate and reduce the cost



专业控制系统 Professional Control System

- 根据反馈, 直接监测压铸机动作, 实现最佳压射设定;
- 内置强大的Cast pulse 压射曲线监测;
- 实时监察工艺参数,控制压铸质量;
- 庞大的生产、工艺数据存储功能,便于产品质量追溯。
- According to the feedback, system will monitor the die casting machine to realize the optimized setting
- Build-in power cast pulse injection curve software
- Real time monitoring the die casting processing and control the die casting quality
- Large capacity storage for product and processing data for Product tracing



辅助的软件系统(选配)

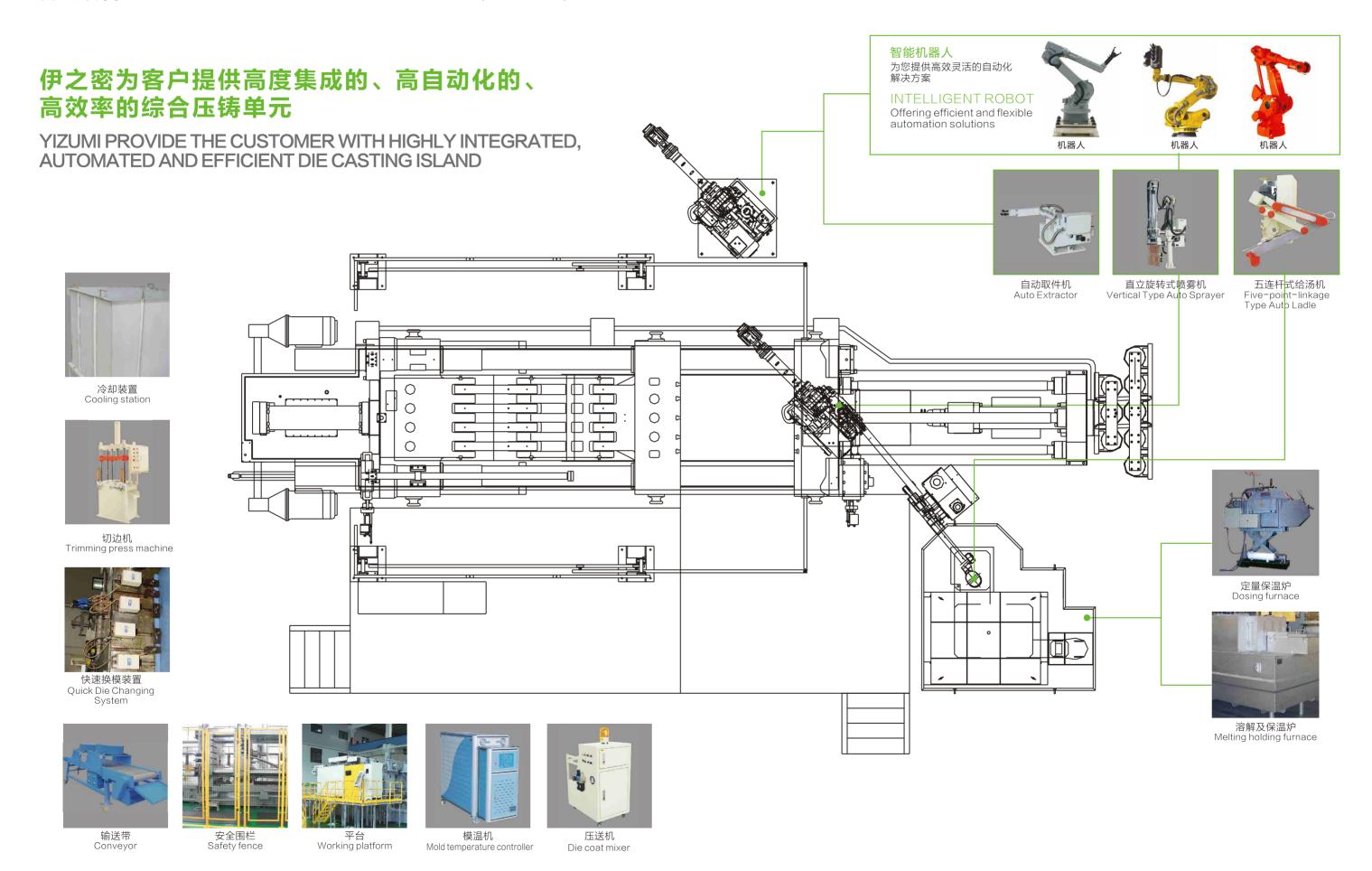
AIDED SOFTWARE SYSTEM (OPTION)

生产管理系统 PRODUCTION MANAGEMENT SYSTEM

- 连线生产数据监控;
- 连线压射过程参数查询;
- 连线产品统计;
- 连线模具管理;
- 组网监控生产过程。
- Online for monitoring production data
- Online for inquiry of injection processing
- Online for product accounting
- Online for mold management
- Networking for monitoring the injection process

远程监控系统 REMOTE MONITORING SYSTEM

- 技术人员可远程连接异地客户现场生产机台;
- 远程实现机台程序监控,修改与在线诊断;
- 可在网络上为客户解决疑难问题和程序问题。
- Our technical engineer can remote monitor the die casting machine
- Remote monitoring and modifying the machine program and online diagnosis
- Help the customer solve about all kinds problems via remote control



嵌入式实时反馈电一液集成控制系统

EMBEDDED REAL TIME FEEDBACK ELECTRIC-HYDRAULIC INTEGRATED CONTROL SYSTEM

伊之密是国内将实时控制技术应用于压铸机上的企业之一, 伊之密研制的嵌入式实时反馈电一液集成控制系统已经处于国 内先进水平,并全面在市场上推出取得了优异的成绩。集成控 制系统完全实现了对压铸过程的精准控制,提供完美的多段压 射速度控制曲线,加上在低速具备匀加速、在填充完结的刹车 等功能,提供给用户强劲的压射控制能力,适用于制造结构复 杂的高质量压铸件。 Yizumi is one of the companies which use the real time control technology on the die casting machine. The embedded real time feedback electric-hydraulic integrated control system stays ahead in the die casting industrial area and makes the achievements on the market. integrated control system realize the full control on the injection process, and provide the perfect multi-phase control curves, constant acceleration on slow speed phase and brake on injection end functions and provide the customer powerful injection control ability and suitable for complex structure and quality casting parts.



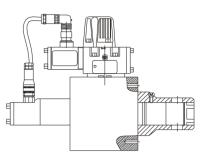
实时控制原理 REAL TIME CONTROL PRINCIPLE



嵌入式实时控制器 Embedded real time controller



压射行程传感器 Injection position senso



伺服控制系统接收信号指令后,开始对伺服阀进行控制并 根据压射过程中的反馈信息,实时调整,同时根据压射位置传 感器的数据进行处理存贮,实现伺服压射的全过程,控制周期 ≤1ms。 Once the servo control system receives the signal, it starts to control the servo valve, and real time self-adjusts according to the feedback from the injection process, at the same time, it process and saves all data up to the information from the injection sensor to realize the full real time control. Control cycle time less than 1ms

伺服射出机构

- 进口节流回路/出口节流回路(电液集成控制系统);
- 射出速度闭环实时控制;
- 无冲击启动单元;
- 快压射和增压液压回路独立运行;
- 射出过程分10段灵活自由设定;
- 非接触式压射行程检测;
- 独立的伺服控制油路,满足液压油清洁度,提高伺服阀使用寿命。

Servo injection structure

- Meter-in circuit/meter-out circuit
- Injection speed real time close loop control
- Shock-free starting unit
- Independent running circuit for fast injection and intensification
- More than 10 stages flexible control setting
- Non-contacting injection process detection
- Independent servo control circuit to keep the hydraulic oil clean and prolong the service life

嵌入控制系统

- 实时闭环反馈和标准设定自由切换;
- 电脑带电插拔, 控制模块式结构, 可靠性高;
- 在线品质管控及生产数据统计;
- 模具参数和曲线数据的大容量存贮;
- 西门子S7-300的PLC及10'触控显示屏控制系统;
- 提高了液压回路的加速度和减速控制功能,实现了短时填充和未端刹车增压的高性能功效;
- 强大的曲线操作和显示功能;
- 特征值数据实时显示,给操作人员以清晰可视的压射过程, 为优化工艺参数带来了方便;
- 曲线显示组合,满足优化工艺和维护需求。

Embedded control system

- Real time close loop feedback and flexible switch standard setting
- Control system plug and play function, module control to improve the stability
- IOQC (intelligent online quality control) system and Production data statistics
- Large capacity storage for mold parameters and injection curves
- Siemens s7-300 PLC touch control and 10' colorful display screen
- Improve the control functions of acceleration and deceleration of the hydraulic circuit and realize the short time filling and high speed and intensification brake
- Powerful injection curves display and operation
 Pool time characteristic values display the clear
- Real time characteristic values display the clear injection process for the operator and have convenience for processing optimization
- Curve combination display function to satisfy the processing optimization and maintenance

实时控制技术与产品品质改善

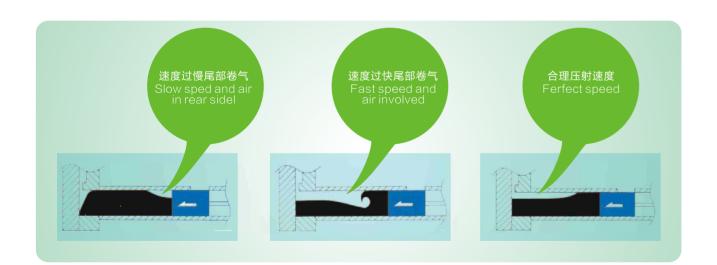
Technology And Product Quality Improvement

伊之密ARC系列应用意义

avoid trapping of air.

ARC SERIES DIE CADTING MACHINE APPLICATION

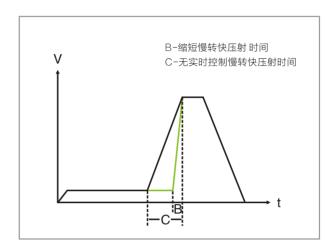
タ加速慢圧射有效防止卷气 ARC系列慢速段分10段自由设定,灵活方便,满足各种复杂产品的工艺要求;压射启动和慢压射段无压力波动,压射冲头平稳移动,有效避免对金属液的冲击,防止气体包卷。 Even low speed acceleration avoid trapping of air ARC machine series, with 5-stage control in slow speed injection, complicated production process can be met. Stable injection start with minimum pressure fluctuation during low speed injection ensures stable movement of the plunger, that effectively reduce impact to the melt and



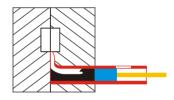
快速响应快速提速实现完美工艺

HIGH RESPONSE FAST ACCELERATION ENSURES PERFECT PROCESS CONTROL

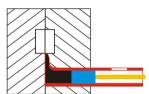
ARC系列B段压射慢速转快速的上升时间被有效缩短,实时控制系统以大流量、高响应的加速性能来满足此要求;最短的提速时间,更加接近理想的工艺要求,既保障了产品的外观质量,又将产品内部的空气含量降到最低。



Thanks for the high response and large flow properties of the real time servo system, the switching time form low to high speed during B phase injection can much be reduced in the ARC series short switching time and fast accelerating makes perfect process control possible that ensures good surface quality and minimize trapping of air and defect of product.



传统压铸机的提速点 Traditional die casting machine accelerating point



实时控制压铸机的提速点 Real time servo control die casting machine accelerating point

高速末端精准减速缔造无飞边压铸技术

HIGH SPEED PRECISION DELELERATION MAKES FLUSH FREE DIE CASTING POSSIBLE

ARC系列实时控制高速刹车功能是伺服阀在工作状态下,仍可以提供多种减速模式;高速压射状态下,实现合理的减速模式的减压、减速,能有效避免产生飞边、减少冲击力,延长模具寿命。

D-不同的减速模式

Thanks for the high speed brake function of the ARC machine series, pressure and soeed of the plunger can be controlled precisely during injection end phase, flush and impact force are much reduced that prolong the service life of the mould.



高速压射容易产生飞边 High speed injection causing flush



末段刹车功能有效减少飞边 Injection end brake function reducing the flush effectively

	项目	ITEMS	单位	DM1000	DM1250	DM1650	DM2000	DM2500	DM3000
锁模系统 WEND BNIAMALO	合型力	Locking Force	kN	10000	12500	16500	20000	25000	30000
	合模行程	Locking Stroke	mm	880	1000	1200	1400	1500	1500
	模具厚度(最小-最大)	Die Height(MinMax.)	mm	450-1100	450-1200	500-1400	600-1600	700-1800	850-2000
	模板尺寸(水平×垂直)	Platen Size(HXV)	mm	1620X1620	1730×1730	2000x2000	2150x2150	2350x2350	2620x2620
	导柱内距	Space Between Tie Bars	mm	1030X1030	1100×1100	1180×1180	1350x1350	1500x1500	1650×1650
	顶出力	Ejector Force	kN	500	550	600	650	750	900
	顶出行程	Ejecting Stroke	mm	200	200	250	300	300	300
压射系统LIND NOITO	压射力	Injection Force	kN	805	1100	1260	1510	1950	1950
	压射行程	Injection Stroke	mm	850	910	970	1050	1100	1180
	锤头直径	Plunger Diameter	mm	90,100,110,120	100-140	110-150	120-160	140-180	140-180
	射料量(铝)	Injection Weight(AI)	kg	10,12.5,15,18	13- 26	17-32	22-39	30-55	33-56
	铸造压力(增压)	Casting Pressure(intensifg.)	MPa	126,102,84,71	140-71	132-71	133-75	125-75	125-75
	铸造面积	Casting Area	cm²	787-1388	885-1735	1200-2220	1400-2630	1950-3250	2360-3920
	最大铸造面积(40MPa)	Max. Casting Area (40MPa)	cm²	2500	3125	4125	5000	6250	7500
	压射位置	Injection Position	mm	-100,-300,	-160,-320	-175,-350	-200,-400	-200,-400	-250,-450
	压射头推出距离	Plunger Penetration	mm	300	350	400	450	450	530
京 OTHERS	压射室法兰直径	Casting Flange Diameter	mm	240	240	260	260	280	280
	压射室法兰凸出定板高度	Casting Flange Protrusion	mm	20	25	25	30	30	30
	系统工作压力	System Working Pressure	MPa	16	16	16	16	16	16
	电机功率	Motor Capacity	kW	45	74	90	110	135	165
	油箱容量	Oil Tank Capacity	L	2060	2350	2730	3490	4590	5630
	外形尺寸(长X宽X高)	Machine Dimensions(LXWXH)	mm	10000x3300x3700	11000x4000x4250	12000x4200x4300	12700x4400x4400	15000x4600x4500	16000x4800x4600

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模板图 PLATEN LAYOUT (DM1000-DM3000)

