TORINCASTING

PRECISION CASTING MANUFACTURER

苏州市通润机械铸造有限公司
SUZHOU TORIN MACHINERY CASTING CO., LTD.
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SPECIAL LIGHTWEIGHTING ALUMINUM AND MAGNESIUM ALLOY

特种轻量化铝镁新材料

SUZHOU TORIN MACHINERY CASTING CO., LTD.
苏州市通润机械铸造有限公司

www.torincasting.com

绿色铸造企业
Green Casting Enterprise

TORINCASTING

PRECISION CASTING MANUFACTURER

ABOUT TORIN CASTING
走进通润铸造

30

企业2009年成立，专业技术人员拥有30年铸造经验

Built in 2009 with 30 years of experience in casting machinery

133,200

占地面积133200平方米的现代化生产基地

It covers an area of 133200m² with a modern production base

400,000,000

总投资达4亿元

Total investment of 400 million CNY

400

拥有人员400人，其中管理层人员35人，品质管理人员28人，技术人员30人，车间人员307人

A total of 400 people, including management staff of 35 people, quality management personnel of 28 people, technical staff of 307 people

4+

先后通过了ISO9001、ISO14001、OHSAS18001、VDA6.3等国际认证，TS16949体系将在2018年7月获得

Certified with ISO9001, ISO14001, OHSAS18001, VDA6.3 and other international certifications; TS16949 system will be obtained in July 2018.

9+

产品涵盖电梯部件、工程机械、农用机械、太阳能、液压传动、风电、机器人、轨道交通、真空泵等多个领域

Torin covers many product areas, like elevators, construction, agricultural machinery, solar, hydraulic parts, wind power, robots, railways, vacuum, etc.

TORIN CASTING LIGHTWEIGHTING PROJECT
通润铸造轻量化项目

Special Lightweighting Aluminum and Magnesium Alloy
特种轻量化铝镁新材料

上海交大常熟汽车轻量化技术研究院
Changshu Automobile Lightweight Technology Research Institute of Shanghai Jiaotong University (SJTU)

+

上海交大轻合金国家工程研究中心
Light Alloy National Engineering Research Center of SJTU

委托运营
Entrusted operations

技术依托
Technology backstop

苏州慧驰轻合金精密成型科技有限公司
Suzhou Hyspeed Light Alloy Processing Technology Co., Ltd.

协议合作
Agreement cooperation

苏州市通润机械铸造有限公司
Suzhou Torin Machinery Casting Co., Ltd.

TORINCASTING	TORINCASTING	TORINCASTING	TORINCASTING
First-stage plant of lightweight 轻量化一期厂房	Annual output 年产	Investment 投资	Equipment investment 设备投资
13000m^2	3000T	5800million 万元	3500million 万元

低压&重力铸造设备采用日本TECHNO技术，具备节能、环保的温控系统及炉压实时伺服补偿系统，配备自动浇注机。
熔解设备采用日本广筑技术，具备节能、环保的温控系统，高精度的定量系统和最少的金属烧损率。

Japanese TECHNO technology was used for the low pressure (LP) and gravity casting equipment, with energy-saving, environmentally-friendly temperature control system and furnace pressure real-time servo compensation system and equipped with auto pour machine.
Japanese HOLIMESY technology was used for the melting equipment, with energy-saving and environment-friendly temperature control system, high-precision quantitative system and minimum metal burning rate.

日本TECHNO低压铸造机 Japan TECHNO LP casting machine

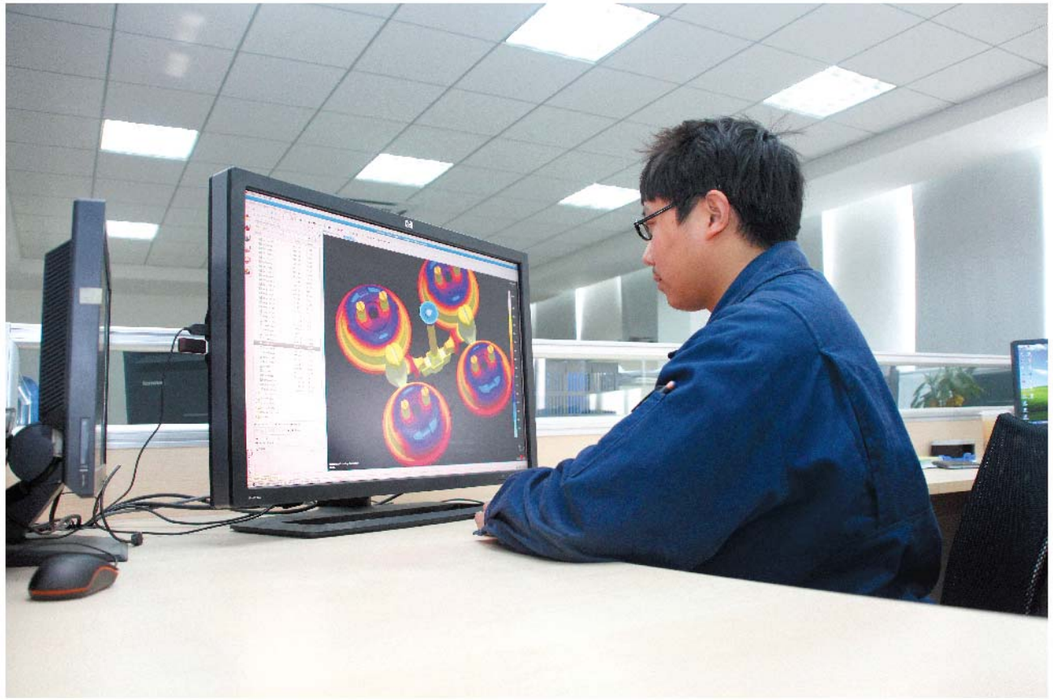
ADVANCED EQUIPMENT
先进装备

通润推崇技术领先，以科技创造未来。目前，企业拥有一整套具有国际先进水平的生产设备和检测设备，精良的工艺以及完善的质量管理体系，并聚集了具有专业技术和领先水平的队伍，充分利用新技术、新工艺、新材料保证产品的稳定性和可靠性。产品质量取源于制造设备先进，精品意识源于不断的创新。

日本TECHNO重力反转铸造机
Japan TECHNO gravity reversal casting machine

日本广筑集中熔炼炉
Japanese HOLIMESY concentrated smelting furnace
300kg/h 熔化量 Melting volume

TORIN respects technology leadership and use technology to create the future. Currently the company has a set of international advanced production & testing equipment, precise process, qualified management system and gathered a professional & high-level team group, we use new technologies, new processes, new materials to guarantee the products' stability and reliability. Product quality extracted from the advanced manufacturing equipment, precise products extracted from the constant innovation.



TECHNICAL DEVELOPMENT
技术与开发

我们成立了工程技术材料研发中心，为产品开发与技术创新投入更多，符合独立研发所需配备的CAD、CAE能力，引进世界先进的德国MAGMA铸造模拟分析软件，降低设计缺陷，提高铸件品质，对产品的加工铸造方法、技术和过程等进行的改进和革新，使通润成为业内集研发、生产全套解决方案的供应商。

The technical construction material center was built to invest more in product development and technological innovation, and meet the CAD and CAE capabilities required for independent R & D. We introduce the world advanced MAGMA simulation analysis software to reduce design defects, and improve the casting quality to do the improvements and innovations on the casting's manufacturing and machining methods.

We can offer low volume prototypes and design for manufacturing service.

MAGMA
Committed to Casting Excellence

斯派克光谱仪 SPECTRO spectrometer

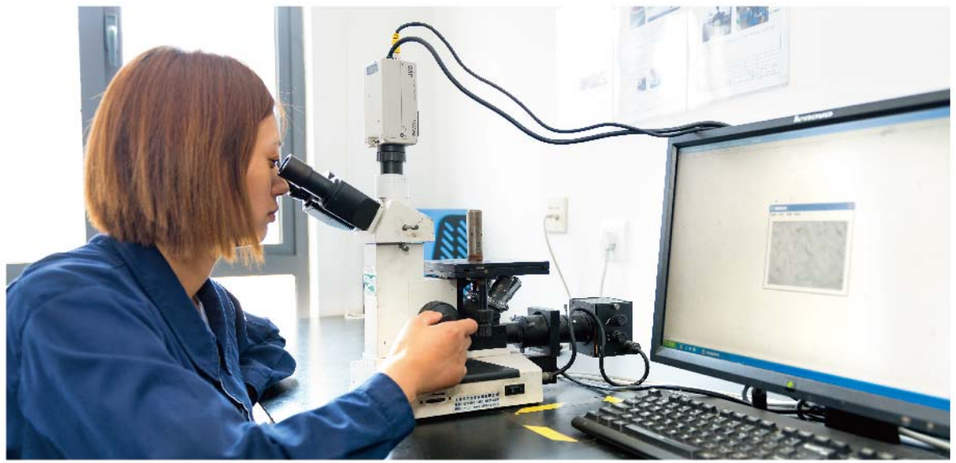
QUALITY ASSURANCE
品质保障

对质量严格要求，对品质严加控制，对品牌积极建设，是通润铸造的质量原则。目前公司拥有行业领先的实验室装备和高精尖检测设备。

The quality principle of TORIN is summed as strict quality requirement, vigorous quality control and active brand building. At present, the company owns industry-leading laboratory facility and sophisticated testing equipment.

海克斯康便携式测量仪
Hexagon Portable Measuring Equipment

万能试验机
Universal Tester



金相分析仪 Metallographic Analysis

TORIN CASTING LIGHTWEIGHTING PRODUCTS

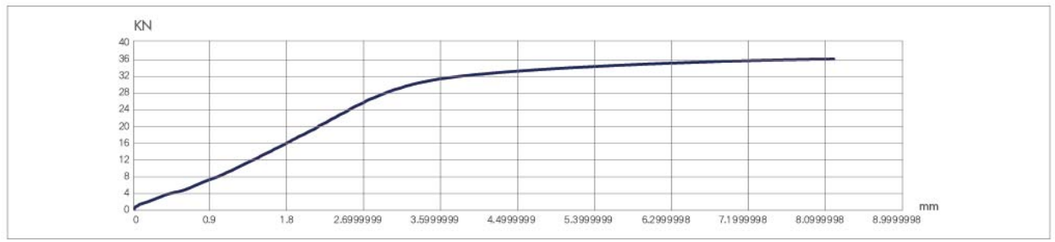
通润铸造轻量化产品

名称 Name	工艺 Process	单重(kg) Piece weight	年需求量(件) Annual demand	产能(件/22h) Capacity	领域 Application
延长杆 Extension rod 	低压 Low pressure	8.8	20000	160	工业机器人 Industrial robot
关节臂 Joint arm 	重力倾转 Gravity tilting	24	5000	50	工业机器人 Industrial robot
大臂 Big arm 	低压 Low pressure	37	8000	50	工业机器人 Industrial robot
壳体 Shell body 	低压 Low pressure	30	5000	50	真空泵 Pump
壳体 Shell body 	低压 Low pressure	22	5000	50	真空泵 Pump

机械性能 MECHANISCHE WERTE/MECHANICAL VALUE

炉号 Change Cast No.	标准 Norm Standard	材料 Werkstoff Quality	供货状态 Lieferzustand Condition of Delivery	屈服强度 Streckgrenze Yield Stress (N/mm²) σ 0.2 Min. > 210	抗拉强度 Zugfestigkeit Tensile Strenght (N/mm2) σ b Min. > 290	延伸率 Bruchdehnung Elongation (%) Min. > 4	硬度 Harte Hardness (Hb) Min. > 90	标号 Kennezeich Nung Mark
20175001	DIN EN 1706	EN AC 42100	T6	255	313	7	95	50 17

力—位移曲线 Force-displacement curve



机械性能指标全部超过EN1706标准，特别是延伸率远超德国标准。
All the figures are exceeded the standard EN1706 especially the elongation over the German standard.

ONE-STOP SERVICE

一站式服务

TECHNICAL COOPERATION

技术合作

通润铸造在技术上与上海交通大学合作。上海交通大学轻合金精密成型国家工程研究中心，在轻金属材料精密成型和先进加工技术领域开展了系统的研究及工程化工作，承担国家和地方科研项目70项，承担企业合作和国际合作项目28项。工程中心不仅具有雄厚的科研实力，在高新技术成果产业化方面成果突出，研究成果在汽车高端压铸件、国防轻量化部件、超高压电站装备等领域获得了广泛的应用。

TORIN casting shares technical cooperation with SJTU. Light Alloy Net Forming National Engineering Research Center-LAF-NERC of SJTU has carried out systematic researches and engineering work in the field of light metal materials precision formation and advanced processing technology. It has undertaken 70 national and local scientific research projects, as well as 28 enterprise and international cooperation projects. With its solid scientific researches strength, the NERC has outstanding performance in the industrialization of high-tech achievements, where its research outcomes have been widely applied in the automobile high-end castings, the lightweight components for national defence, the facilities for ultra-high voltage power station and etc.

与交大轻合金合作的新材料-高强度特种镁合金

High strength special magnesium, cooperation project with LAF-NERC of SJTU

编号 Code	HM1 高导热镁合金 High thermal conductivity magnesium	HM2 高强度高韧性镁合金 High strength and ductility magnesium	HM3 超高强耐高温稀土镁合金 Super high strength heat resistance RE magnesium
力学性能 MECHANICAL PROPERTIES			
抗拉强度（Mpa） YTS $R_{PO.2}$	240	320	505
屈服强度（MPa） UTS R_m	140	160	450
延伸率（%） Elongation	5-8	10	10
硬度 HV0.2	65	75	190
物理性能 PHYSICAL PROPERTIES			
密度（g/cm^3） Density	1.77	1.78	1.79
弹性模量（KN/mm^2） Modulus elasticity	40-50	40-50	45-55
线膨胀系数20-200℃（1/K-6） Coefficient of linear thermal expansion	-	-	-
导热系数20-200℃（W/m·K） Thermal conductivity	110-120	90-100	70-80
导电系数【$m/(K \cdot mm^2)$】 Electrical conductivity	16-18	15-16	12-14
固液相区间（℃） Melting and solidication interval	-	-	-
材料收缩率（‰） Shrinkage	6	6	6
应用领域 Application field	电子通讯、光伏、LED灯对散热性能和轻量化有需求的零部件 Electronic communications, photovoltaics, and LED lamps are required for heat dissipation and light weight	汽车、通信、机械装备、对轻量化有需求的结构件 Automobiles, communications, machinery and equipment, structural parts that are in need of lightweight	军工、航空航天、高铁等强度要求较高的受力结构件 Military structures, aerospace, high-speed railways and other mechanical structures with high strength requirements

与交大轻合金合作的新材料-高强度特种铝合金

High strength special aluminum, cooperation project with LAF-NERC of SJTU

编号 Code	HA1 高强高韧热处理铝合金 High strength and ductility aluminum	HA2 高强高韧自强化薄壁耐腐蚀铝合金 High strength and ductility thick wall aluminum	HA3 超高强度高导热热处理铝合金 Super high strength heat treatment aluminum
力学性能 MECHANICAL PROPERTIES			
抗拉强度（Mpa） YTS $R_{PO.2}$	240	350	420
屈服强度（MPa） UTS R_m	140	180	380
延伸率（%） Elongation	5-8	9-12	1-2
硬度 HV0.2	65	85	175
物理性能 PHYSICAL PROPERTIES			
密度（g/cm^3） Density	2.64	2.63	2.73
弹性模量（KN/mm^2） Modulus elasticity	74-83	70-80	68-74
线膨胀系数20-200℃（1/K-6） Coefficient of linear thermal expansion	21	24	24
导热系数20-200℃（W/m·K） Thermal conductivity	139-168	105-130	160-165
导电系数【$m/(K \cdot mm^2)$】 Electrical conductivity	21-26	14-16	22-26
固液相区间（℃） Melting and solidication interval	550-590	580-616	510-630
材料收缩率（‰） Shrinkage	5.5	5.5	5.5
应用领域 Application field	汽车、轨道交通、通信、机械装备、航空航天等对强度要求较高的结构件 High-strength structural parts such as automobiles, rail transit, communications, mechanical equipment, aerospace, etc	汽车、轨道交通、通信、机械装备等对强度和韧性要求较高的大型复杂薄壁受力件 Large-scale complex thin-walled stress members requiring high strength and toughness such as automobiles, rail transit, communications, and mechanical equipment	壁厚的结构件，进行T6热处理后，强度达到420Mpa,实现以铝代钢 Thick-walled structural parts, after T6 heat treatment, the strength of 420Mpa, to achieve aluminum substitute steel