



几秒矫平各种金属板材

Leveling all kinds of sheet metal in seconds

21 Years

专业 矫平



【玛哈特】集团

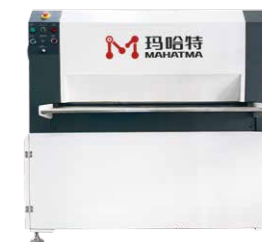
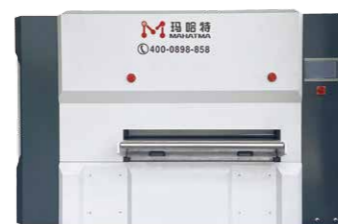
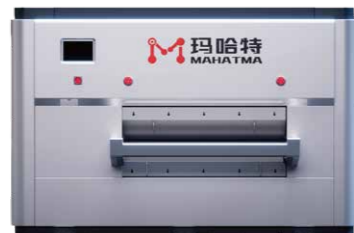
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全球销量领先的金属矫平机品牌
The world's leading metal leveling machine brand

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东莞总部
Dongguan headquarters

关于我们
ABOUT US

【玛哈特】—致力于研发、生产、销售高精度矫平机以及配套周边设备的高新技术企业。引进德国、瑞士精密矫平/矫直设备技术，并和多家高校、研究所开展产、学、研合作，不断进行技术创新和生产改进，并结合众多金属精密零部件制造企业需求，采用创新的设计思路，先进的制造工艺，研发生产：高端数控高精度矫平机、伺服数控高精度矫平机、伺服液压高精度矫平机、普通数控精密矫平机、四重精密矫平机、二重精密矫平机、自动上下料机械手、机器人、激光矫平检测仪、高精度开卷矫平冲压剪切线以及激光切割等全自动生产线。玛哈特集21年行业经验之大成，矫平精度已达到国际最先进水平，多项技术属行业首创！为客户消除材料内应力、恢复及提高零件平面度，为后道的折弯、焊接等工序实现低成本、高效率、高品质的全自动化矫平设备，给广大企业带来了强劲福音。为航空航天、光伏行业、环保行业、重工制造、金属新材料、机加工自动化、激光切割、电力电气、机厢机柜、汽摩配件、交通运输、钣金加工、建筑行业、医疗技术行业、纺织机械、金属加工、精密治夹具、天花幕墙、5G通讯、线路板、建材、电子零件、锯片基体等各大行业的知名企业提供解决方案。

MAHATMA is a high-tech enterprise dedicated to the research and development, production, and sales of high-precision leveling machines and supporting peripheral equipment. Introducing precision leveling/straightening equipment technology from Germany and Switzerland, and collaborating with multiple universities and research institutes to continuously innovate and improve technology and production. Combining with the needs of many metal precision component manufacturing enterprises, adopting innovative design ideas and advanced manufacturing processes, we develop and produce high-end CNC high-precision leveling machines, servo CNC high-precision leveling machines, servo hydraulic high-precision leveling machines, Full automatic production lines include ordinary CNC precision leveling machines, four layers precision leveling machines, two layers precision leveling machines, automatic loading and unloading robots, robots, laser leveling detectors, high-precision uncoiling leveling stamping and cutting lines, and laser cutting. MAHATMA has accumulated 21 years of industry experience, and its leveling accuracy has reached the most advanced international level, with multiple technologies being the first in the industry! To eliminate internal stress in materials, restore and



江西生产基地
Jiangxi production base

improve the flatness of parts for customers, and to achieve low-cost, high-efficiency, and high-quality fully automated leveling equipment for subsequent bending, welding, and other processes, bringing strong benefits to enterprises. For aerospace, photovoltaic industry, environmental protection industry, heavy industry manufacturing, metal new materials, machining automation, laser cutting, power electrical, cabin cabinets, automotive parts, transportation, sheet metal processing, construction industry, medical technology industry, textile machinery, metal processing, precision fixture, ceiling curtain wall, 5G communication, circuit board, building materials, electronic parts Famous ente.



东莞分公司
Dongguan Branch

昆山分公司
Kunshan Branch

重庆分公司
Chongqing Branch

青岛分公司
Qingdao Branch

长春分公司
Changchun Branch

企业文化
CORPORATE CULTURE

企业愿景：

国际矫平行业领先品牌

企业使命：

专业替代进口 打造民族品牌

企业精神：

渴望 信念 意志 行动

企业宗旨：

重合同、守信誉、顾客至上

服务宗旨：

从客户出发、为客户着想、对客户负责、让客户满意

Corporate vision:

Leading brand in the international leveling industry

Our Mission:

Professional substitution of imports, creating a national brand

Enterprise spirit:

Desire, Faith, Will, Action

Company purpose:

Attention to contract, stick to credibility, customer first

Service purposes:

Focusing on needs of customer, thinking about the customer, being responsible for the customer, and satisfying the customer



处事原则：

- 1.永远不要生气(空相)
- 2.绝对尊重对方(修养)
- 3.交换立场(换位思考,利他)
- 4.秒秒观自在(我是一切的根源)

Principles of handling life:

- 1) Never get angry (Space)
2. Respect each other (self-cultivation)
3. Switch sides (empathy, altruism)
4. I am the root of everything.

荣誉证书

Certificate of honor



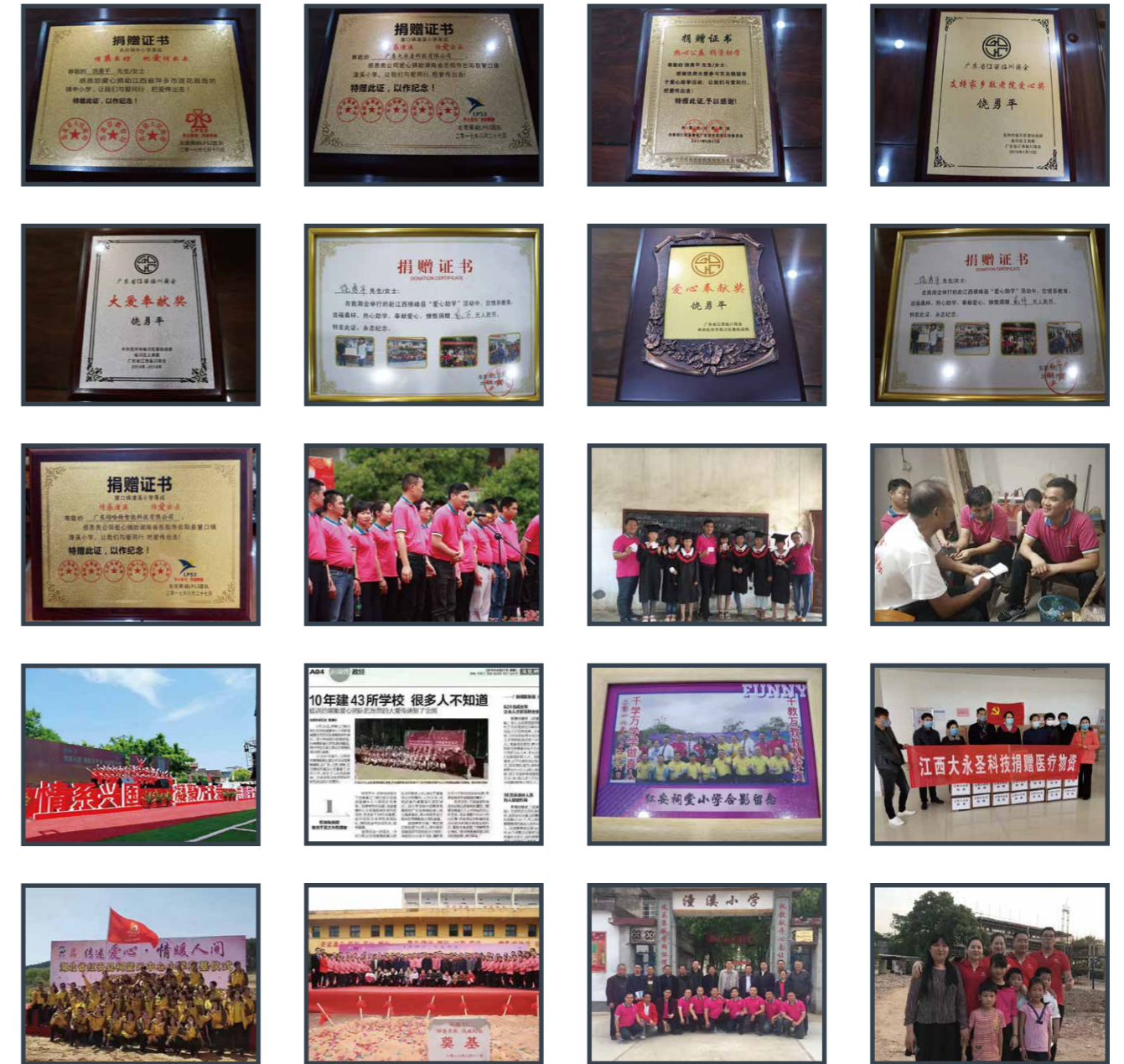
·玛哈特始终坚持“以技术创新求发展”的经营思想,不断应用最新科技成果,努力提高企业科技实力和技术优势,获得“高新技术企业”称号、通过了ISO9001质量管理体系、CE认证。公司先后被评为“信用培育单位”“中国行业引领品牌”“重合同守信用单位”“中国著名品牌”等称号。并获得上百项实用新型专利以及多项发明专利证书。并顺利通过广东省专精特新企业审核被评为“专精特新企业”。



MAHATMA has always adhered to the business philosophy of "Seeking Development Through Technological Innovation", constantly applying the latest scientific and technological achievements, striving to improve the company's technological strength and technological advantages, and has won the title of "High-tech Enterprise". It has passed the ISO9001 quality management system and CE certification. The company has been rated as "Credit Cultivation Unit", "China's Industry Leading Brand", "Contract-honoring and Promise-keeping Unit", "China Famous Brand" and other titles. And obtained hundreds of utility model patents and a number of invention patent certificates. And successfully passed the audit of specialized and special new enterprises in Guangdong Province and was rated as "Specialized And Special New Enterprises".

公益活动&证书

Public welfare activities&certificates



玛哈特集团董事长——饶勇平热衷于慈善公益事宜,曾经十年间与展能团队建43所学校,让那些留守儿童得以学习。在此期间董事长奉献于各种公益事件,弘扬慈善文化,倡导奉献爱心。我们相信“没有一个冬天不可逾越,没有一个春天不会来临”,每一束光芒汇聚起来,就是灿烂而又力量的春天。

Rao Yongping, the chairman of Mahatma Group, is keen on charity and public welfare. He has built 43 schools with Zhanneng team in ten years to enable those left-behind children to learn. During this period, the chairman was keen on various public welfare events, promoting the culture of charity and advocating the dedication of love. We believe that "no winter is insurmountable, and no spring will not come". Every ray of light gathered together is a brilliant and powerful spring.

高端数控高精密矫平机设备功能

CNC high-precision leveling machine equipment functions

该机控制系统具有存储、调用、编辑工艺及设备参数功能并具有误操作识别预警功能。使用时，在操作台上，中英文触摸屏可以根据板厚、板宽等参数或数据库已有参数设定进、出口压下量，实现工作辊出、入间隙等的电动调整，并可手工调整和修正。为了解决客户需求，我们还添加了系统的**远程服务**功能。

本机采用西门子PLC控制器，并由西门子变频器控制运转速度，机器所有动作均由操作台集中控制，触摸式人机界面显示屏，操作面板简单易懂，在机台进出口四个显眼位置安装紧急开关，以确保操作安全！并配有数显显示位移量，操作非常简便、迅速。只需**几秒钟**，即可矫平通常需长时间手工整平的高精度复杂的五金件。

Compared with other leveling methods, the control system of this machine has the functions of storing, calling, editing process and equipment parameters as well as the function of misoperation identification and early warning. When in use, on the operating table, the touch screen in Chinese and English can set the input and outlet pressure according to the plate thickness, plate width and other parameters or the existing parameters in the database, so as to realize the electric adjustment of the work roll out and entry gap, and manual adjustment and correction. In order to solve the customer needs, we also added the remote service function of the system.

The machine adopts Siemens PLC controller, and the running speed is controlled by Siemens frequency converter. All the movements of the machine are centrally controlled by the operating console. The operation panel is simple and easy to understand. And equipped with digital display displacement, the operation is very simple and fast. It takes only a few seconds to level sophisticated hardware pieces that usually take a long time to finish by hand.

✓ 标准配置: Micro Innovation公司的触摸式屏幕	✓ standard configuration: Micro Innovation company's touch screen
✓ 可以存储200个零件材料信息(根据客户要求, 存储容量还可以扩大)	✓ can store 200 parts material information (according to customer's requirement, can enlarge the storage capacity)
✓ 简洁的、一目了然的操作界面	✓ concise, clear user interface
✓ 专业的计算程序, 快速的矫平间隙设置	✓ professional application, fast levelling gap setting
✓ 数据显示至0.01mm范围	✓ according to 0.01 mm
✓ 可选配置: 远程服务	✓ optional configuration: remote service

- ★ 辊轮可全自动抽出(方便清洁辊轮)
- ★ 自动计算数量(可连接各种MRP、ERP系统控制、实现自动设置及监控设备的开机时间、有效工作时间及加工零件数量的自动计数功能)
- ★ 全支撑(整个辊轮撑满支撑, 结构力强)
- ★ 自动监控功能(方便随时监控设备及生产情况, 方便维修及维护)
- ★ 宽支撑轴(提高了矫平辊的运行刚性, 更大范围减少压痕)
- ★ 远程操控功能(针对偏远地区客户, 我们的工程师可随时帮助客户解决不会调机、设备故障等问题)
- ★ 光电保护(避免人员或者工件误入设备引起不必要的安全隐患)
- ★ 宝马漆(使用高端宝马烤漆, 整机稳重、高端、奢华)
- ★ 自动平面度检测(自动扫描精度检测) (选配)
- ★ 整线无人化全自动调节 (选配)

- ★ The rollers can be pulled out automatically (easy to clean the rollers)
- ★ Automatic calculation of quantity (can be connected to various MRP, ERP system control, realize automatic setting and monitoring equipment start-up time, effective working time and overtime automatic counting function of the number of parts)
- ★ Full support (the entire roller is fully supported, with strong structural strength)
- ★ Automatic monitoring function (convenient to monitor equipment and production conditions at any time, convenient for repair and maintenance)
- ★ Wide support shaft (improves the running rigidity of the leveling roller, and reduces indentation in a wider range)
- ★ Remote control function (for customers in remote areas, our engineers can help customers solve problems such as machine failure and equipment failure at any time)
- ★ Photoelectric protection (to avoid unnecessary safety hazards caused by personnel or workpieces entering the equipment by mistake)
- ★ BMW paint (using high-end BMW paint, the whole machine is stable, high-end and luxurious)
- ★ Automatic flatness detection (automatic scanning accuracy detection) (optional)
- ★ The whole line is unmanned and fully automatic adjustment (optional)



智能操作系统

全新风格, 强大的动态性能和稳定性, 提升软件操作流畅度; 集成快速智能矫平模式;

MHTP系列高精度矫平机

自主知识产权, 多项专利技术, 超高效率矫平, 智能控制;

全机床自润滑系统

高智能、高集成、免维护, 一键设置油压低报警, 无油停机, 避免润滑不及时造成机床磨损;

远程云控制系统

可实现远程监控设备运行状态, 故障查询、故障判断等, 实时对设备进行云监控;

自主研制齿轮箱

齿轮万向节传动, 加速度和速度更快, 具有较好的刚性和耐冲击力;

中空结构机床

机床主体无受热区域, 永久使用无热变形, 机床主体稳定可靠, 使矫平精度长期稳定。

Intelligent operating system

New style of intelligent operating system, powerful dynamic performance and stability, improve software operation fluency; integrated fast intelligent leveling mode;

MHTP series high-precision leveling machine

Independent intellectual property rights, a number of patented technologies, ultra-high-efficiency leveling, intelligent control;

Self-lubricating system for all machine tools

High intelligence, high integration, maintenance-free, one-button setting for low oil pressure alarm, no oil shutdown, avoiding machine wear caused by untimely lubrication;

Remote cloud control system

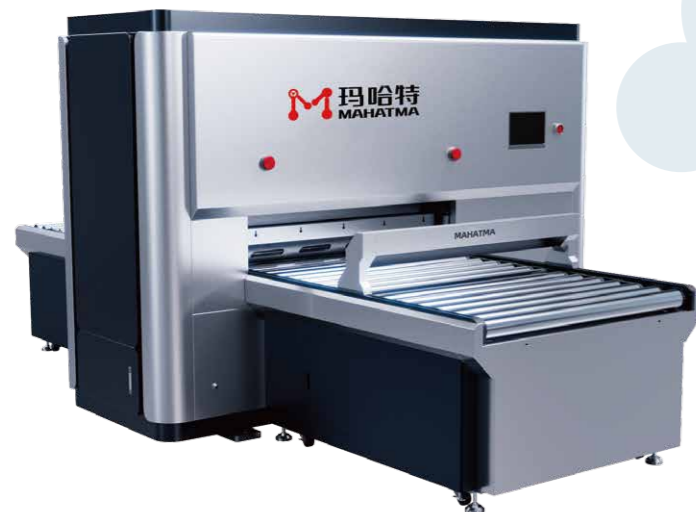
It can realize remote monitoring of equipment operating status, fault query, fault judgment, etc., and real-time cloud monitoring of equipment; self-developed gearbox gear universal joint transmission, faster acceleration and speed, and better rigidity and impact resistance;

Independently developed gearbox

Gear universal joint transmission, faster acceleration and speed, better rigidity and impact resistance;

Hollow structure machine tool

The main body of the machine tool has no heating area, and there is no thermal deformation in permanent use. The main body of the machine tool is stable and reliable, so that the leveling accuracy is stable for a long time.



带自动检测示意图

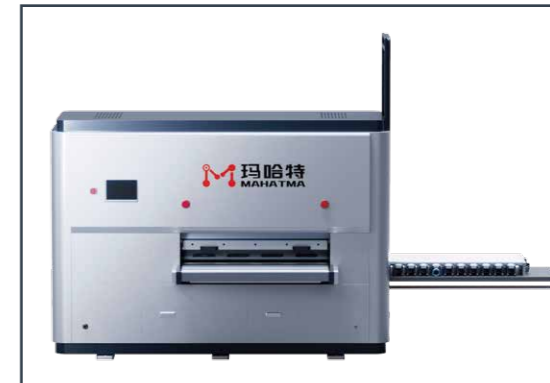
Schematic diagram of photoelectric protection device

可以用于检测金属产品平面度, 测量过程不需要停顿, 测量速度快; 自动检测, 大大提高测量效率, 实现机械化快速测量平整度, 操作简单便利、高度精确。测量应用: 快速检测金属板材的平面度。

Can be used to detect the flatness of metal products, the measurement process does not need to stop, the measurement speed is fast; Automatic detection, greatly improve the efficiency of measurement, mechanization and rapid measurement of flatness, simple and convenient operation, highly accurate. Measurement application: rapid detection of the flatness of metal sheet.

辊轮自动抽出清洁装置

Roller automatic extraction cleaning device



玛哈特专利技术, 国内独一无二, 整体式矫平辊盒打开保养

Mahatma patent technology, unique in China, the whole leveling roller box open maintenance

针对于钣金零件表面质量要求高的厂家, 如果金属毛刺与碎屑不及时清理干净, 会对产品表面造成压坑、压伤与划伤的情况!

高级版清洁换辊装置

* 整组矫平辊可以单独整体式的由电机驱动自动开出机床, 近距离全面地观察矫平辊和支承辊的状态, 操作更方便快速 (拆卸和安装辊子的时间只需几分钟)。

* 相对于较粗较重的矫平辊, 拆卸时需要更多的时间, 工作效率大幅降低, 无法及时完成产能要求。自动抽出清洁装置操作便捷的优势更明显, 大幅度提高操作效率的同时也提高了产品表面质量。

* The whole set of upper and lower leveling rollers can be independently integrated and driven by the motor to automatically open the machine tool, close and comprehensive observation of the state of the leveling roll and support roll, more convenient and fast operation (the time of disassembling and installing the roller is only a few minutes).

* Compared with the thicker and heavier leveling roller, it takes more time to disassemble, and the working efficiency is greatly reduced, so the production capacity requirements cannot be completed in time. Compared with the automatic extraction cleaning device, the advantages of convenient operation are more obvious, greatly improving the operating efficiency.

* Help to improve the product surface quality of the advanced version of cleaning roller change device, for sheet metal parts surface quality requirements of high, if the metal burr and debris are not clean in time, it will cause pits, crushing and scratches on the surface of the product!

H 高端零配件数控高精矫平机

High-end CNC spare parts high precision leveler



设备参数

Equipment Parameters

机型 Model	MHTP10系列	MHTP15系列	MHTP20系列
额定宽度 Rated width	100-300mm	100-600mm	200-1600mm
辊径 Roll diameter	10	15	20
额定厚度 Rated thickness	0.03-0.6mm	0.08-1.0mm	0.3-1.2mm
最大厚度 Maximum thickness	1.0mm	2.0mm	3.0mm
辊数 Number of rolls	31	31	31
最短工件 Shortest part	20	30	40
矫平速度 Leveling speed	0-10m/min	0-10m/min	0-10m/min
电压 Voltage	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机械手、机器人2、自动进出料流水线3、在线厚度检测4、四/六重式辊及辊轴数量5、翘曲平面度自动检测仪 1, automatic loading and unloading manipulator, robot 2, automatic feeding and unloading assembly line 3, online thickness detection 4, 4/6 double roll and roll number 5, warping flatness automatic detector		
	更大、特殊尺寸、更快速度可按需求订制 Larger, special size, faster speed can be customized according to demand		



整平前后对比图
Comparison chart before and after leveling

H 高端薄板数控高精度矫平机

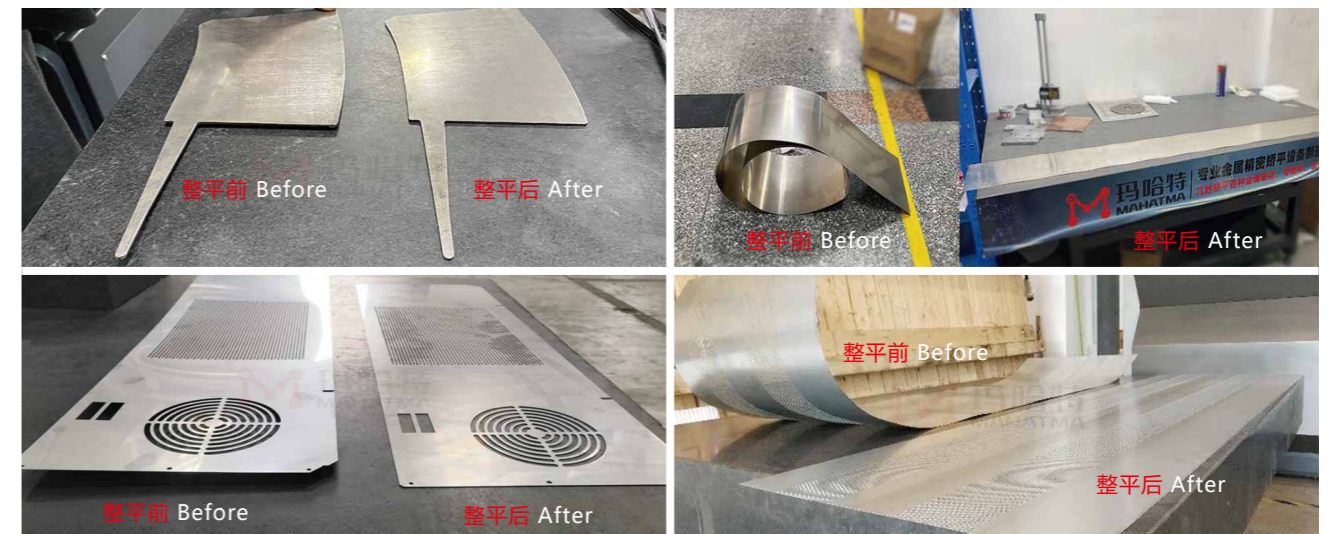
High-end CNC sheet metal high precision leveler



设备参数

Equipment Parameters

机型 Model	MHTP30系列	MHTP40系列	MHTP50系列
额定宽度 Rated width	400-3000mm	400-3000mm	400-3000mm
辊径 Roll diameter	30	40	50
额定厚度 Rated thickness	0.5-2.0mm	0.6-3.0mm	0.8-4.0mm
最大厚度 Maximum thickness	4.0mm	6.0mm	8.0mm
辊数 Number of rolls	23	23	21
最短工件 Shortest part	60	70	90
矫平速度 Leveling speed	0-10m/min	0-10m/min	0-10m/min
电压 Voltage	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机械手、机器人2、自动进出料流水线3、在线厚度检测4、四/六重式辊及辊轴数量5、翘曲平面度自动检测仪 1, automatic loading and unloading manipulator, robot 2, automatic feeding and unloading assembly line 3, online thickness detection 4, 4/6 double roll and roll number 5, warping flatness automatic detector		
	更大、特殊尺寸、更快速度可按需求订制 Larger, special size, faster speed can be customized according to demand		



整平前后对比图
Comparison chart before and after leveling

H 高端中厚板数控高精密切平机

High-end CNC high precision leveler for medium and thick plate



设备参数

Equipment Parameters

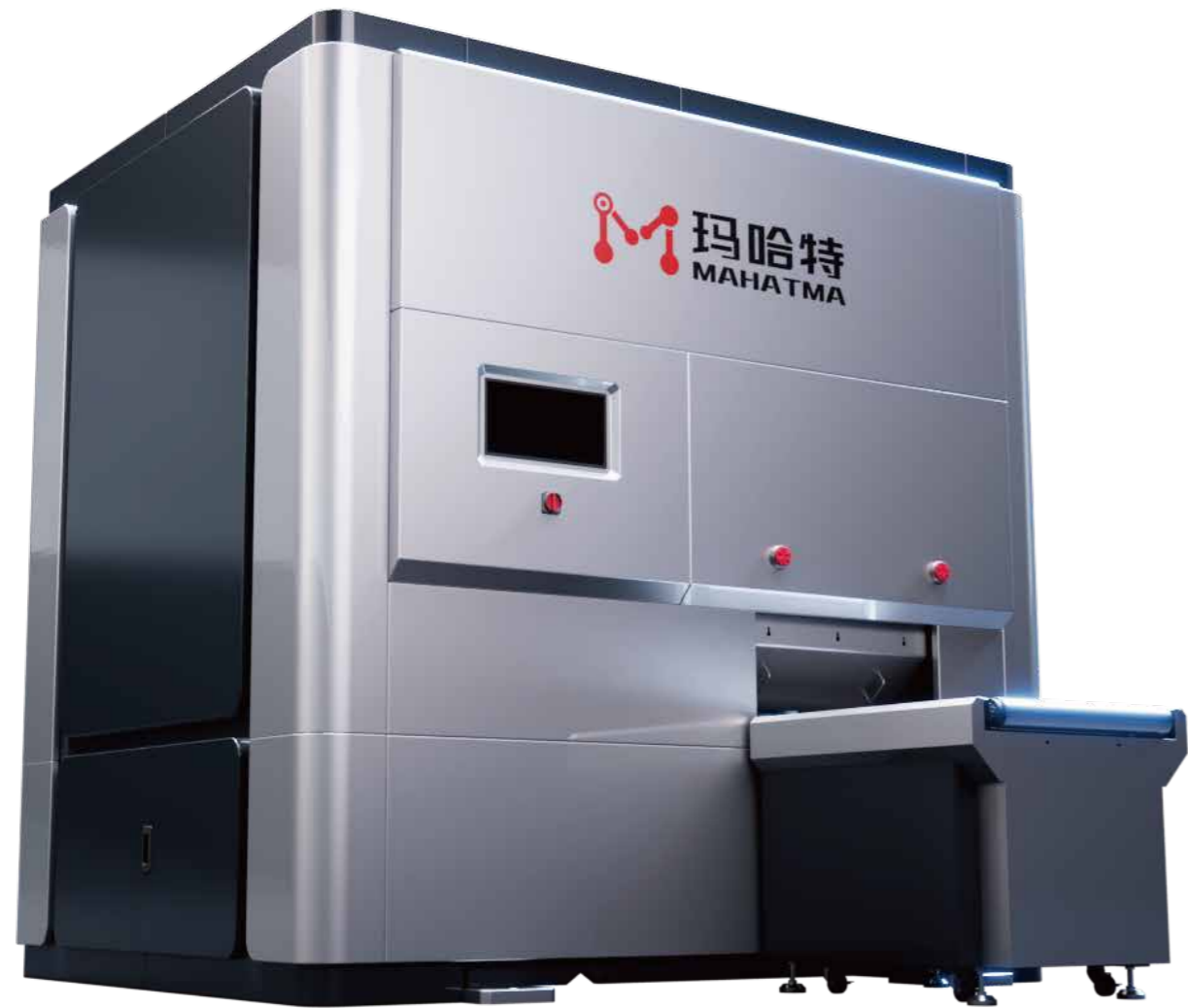
机型 Model	MHTP60系列	MHTP80系列
额定宽度 Rated width	400-3000mm	400-3000mm
辊径 Roll diameter	60	80
额定厚度 Rated thickness	1.0-6.0mm	2.0-8.0mm
最大厚度 Maximum thickness	12.0mm	16.0mm
辊数 Number of rolls	21	19
最短工件 Shortest part	100	130
矫平速度 Leveling speed	0-10m/min	0-10m/min
电压 Voltage	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机械手、机器人2、自动进出料流水线3、在线厚度检测4、四/六重式辊及辊轴数量5、翘曲平面度自动检测仪 1, automatic loading and unloading manipulator, robot 2, automatic feeding and unloading assembly line 3, online thickness detection 4, 4/6 double roll and roll number 5, warping flatness automatic detector	
	更大、特殊尺寸、更快速度可按需求订制 Larger, special size, faster speed can be customized according to demand	



整平前后对比图
Comparison chart before and after leveling

H 高端厚板数控高精密矫平机

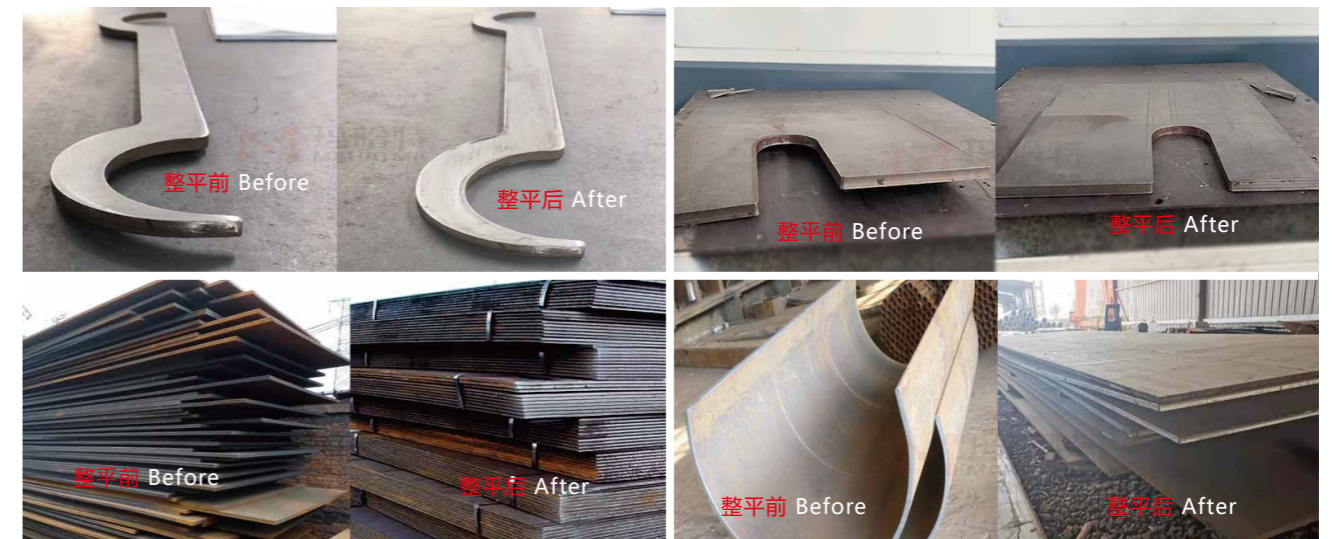
High-end CNC high precision leveler for thick plate



设备参数

Equipment Parameters

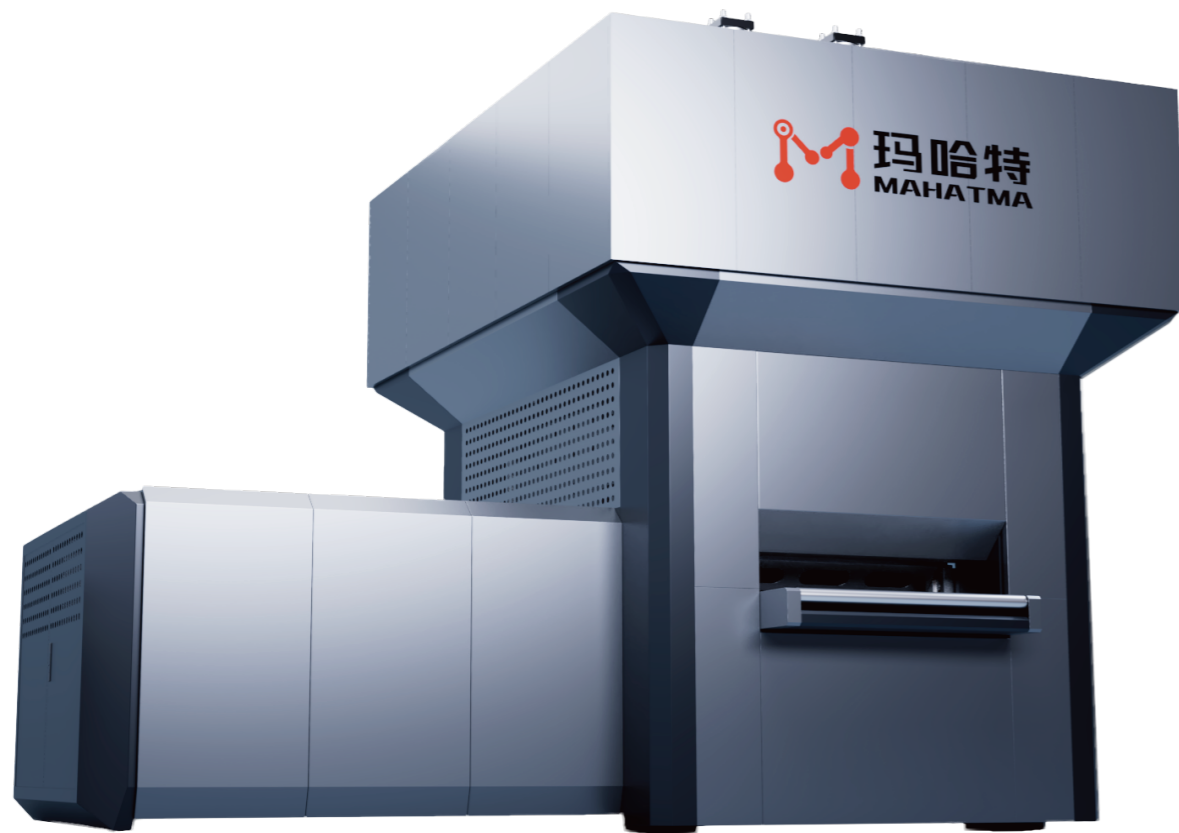
机型 Model	MHTP100系列	MHTP120系列	MHTP150系列
额定宽度 Rated width	400-3000mm	400-3000mm	600-3000mm
辊径 Roll diameter	100	120	150
额定厚度 Rated thickness	3.0-12.0mm	4.0-16.0mm	6.0-25.0mm
最大厚度 Maximum thickness	20.0mm	25.0mm	30.0mm
辊数 Number of rolls	19	19	15/19
最短工件 Shortest part	160	190	240
矫平速度 Leveling speed	0-10m/min	0-10m/min	0-10m/min
电压 Voltage	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机械手、机器人2、自动进出料流水线3、在线厚度检测4、四/六重式辊及辊轴数量5、翘曲平面度自动检测仪 1, automatic loading and unloading manipulator, robot 2, automatic feeding and unloading assembly line 3, online thickness detection 4, 4/6 double roll and roll number 5, warping flatness automatic detector		
	更大、特殊尺寸、更快速度可按需求订制 Larger, special size, faster speed can be customized according to demand		



整平前后对比图
Comparison chart before and after leveling

H 高端超厚板数控高精密矫平机

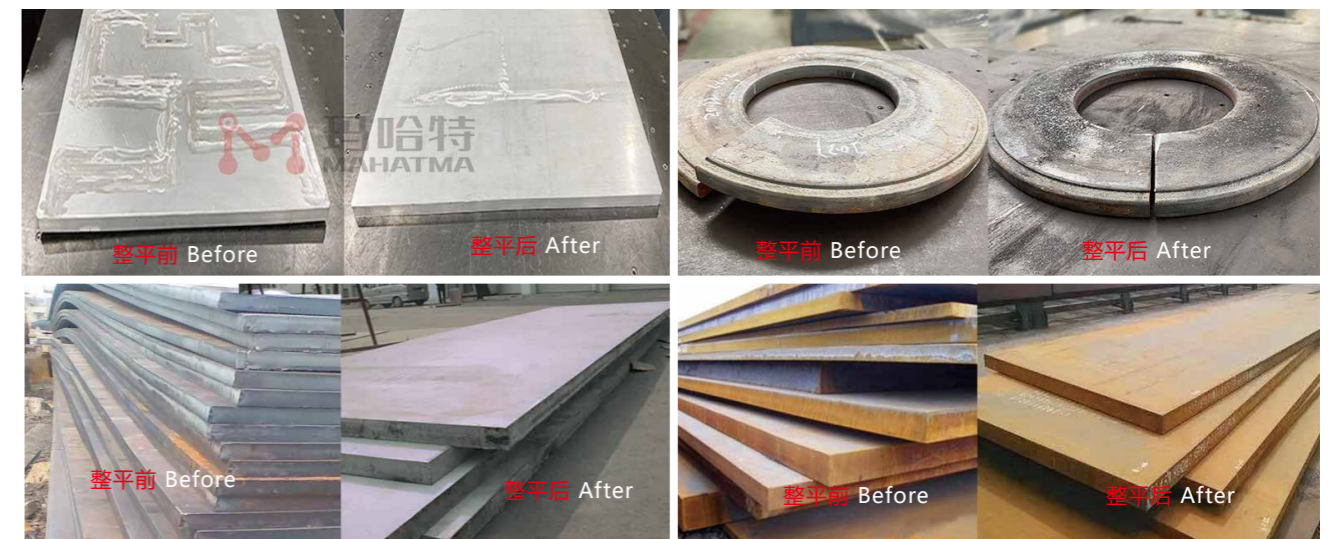
High-end CNC super thick plate high precision leveler



设备参数

Equipment Parameters

机型 Model	MHTP200系列	MHTP250系列	MHTP300系列
额定宽度 Rated width	800-3000mm	1000-3500mm	1000-4000mm
辊径 Roll diameter	200	250	300
额定厚度 Rated thickness	8.0-30.0mm	10.0-40.0mm	12.0-50.0mm
最大厚度 Maximum thickness	40.0mm	48.0mm	60.0mm
辊数 Number of rolls	15/19	15/19	15/19
最短工件 Shortest part	310	390	480
矫平速度 Leveling speed	0-10m/min	0-10m/min	0-10m/min
电压 Voltage	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机械手、机器人2、自动进出料流水线3、在线厚度检测4、四/六重式辊及辊轴数量5、翘曲平面度自动检测仪 1, automatic loading and unloading manipulator, robot 2, automatic feeding and unloading assembly line 3, online thickness detection 4, 4/6 double roll and roll number 5, warping flatness automatic detector		
	更大、特殊尺寸、更快速度可按需求订制 Larger, special size, faster speed can be customized according to demand		



整平前后对比图
Comparison chart before and after leveling

伺服液压高精度矫平机概括

Servo hydraulic high precision leveler

玛哈特液压高精度矫平机使用德国进口液压系统和数控运算系统，强大的液压压力使上下矫正辊之间的间隙（机械式死限位）始终保持不变，将机器工作时的整体变形程度减少到最低，确保大批量零件矫正效果始终如一。平行多辊，液压锁紧，密集支撑等技术，满足平面零件高精度的矫平要求。

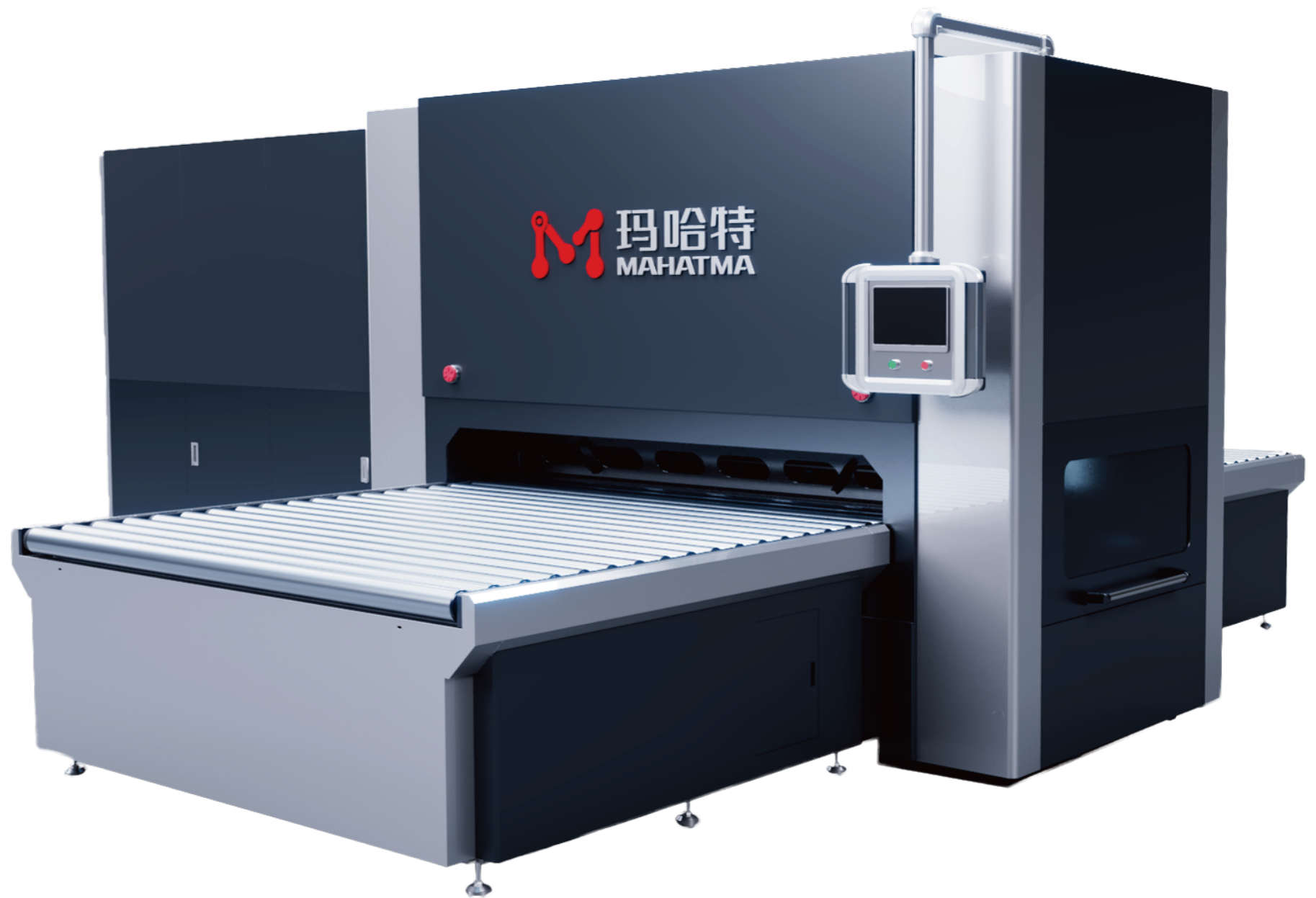
主机结构采用的上下二块大梁，四角布置四根立柱拉杆的液压机主机结构！电子调速上下辊同步，超负荷自动停机功能！二梁四柱式左侧传动，设备右侧空间敞开，方便换辊及清洁，通过上梁的四个液压立柱拉杆锁紧上下矫平辊组之间的进口和出口辊隙，无论有没有板料零件通过机器，都保持进口和出口辊隙始终不变。

整机设计紧凑，占地面积小，一般不用做基础挖地坑。加工精度高，机器运转的时候非常安静，矫平范围覆盖广，矫平精度也远超机械行业标准，可以媲美进口矫平设备！成本低且反应快！可以在矫平机上直接快速和精确地采集和监控部件的平整度，精度可达微米。

MAHATMA Servo Hydraulic Precision Leveling Machine using German imported hydraulic system and numerical control calculation system, powerful hydraulic pressure makes the gap between the upper and lower correction roller (mechanical dead limit) always remain unchanged, the overall deformation of the machine working to a minimum, to ensure that a large number of parts correction effect is consistent. Parallel multi-roll, hydraulic locking, intensive support and other technologies, to meet the high precision flat parts leveling requirements.

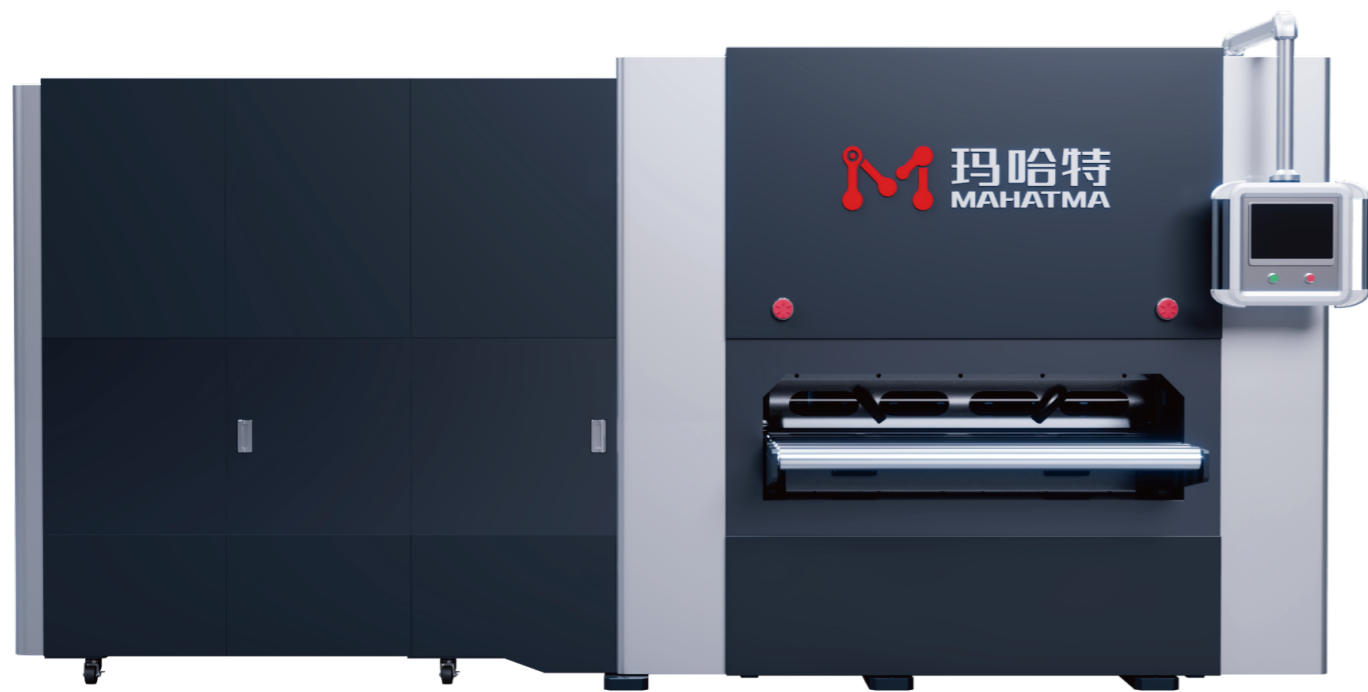
The main engine structure adopts the upper and lower two girders, four columns are arranged at the four corners of the hydraulic press main engine structure! Electronic speed control up and down roller synchronization, overload automatic stop function! Two beam and four column type left drive, the right side of the equipment is open space, convenient roll change and cleaning, through the upper beam of the four hydraulic column pull rod lock between the upper and lower leveling roller sets of the inlet and outlet roll gap, no matter whether there are sheet parts through the machine, keep the inlet and outlet roll gap is always unchanged.

The whole machine design is compact, covers an area of small, generally do not need to do foundation excavation pit. Machining accuracy is high, the machine is very quiet when running, the leveling range covers a wide range, the leveling accuracy is far beyond the machinery industry standard, can be comparable to imported leveling equipment! Low cost and quick response! The flatness of components can be acquired and monitored directly on the leveler quickly and accurately, with accuracy up to microns.



S 伺服液压薄板高精密切平机

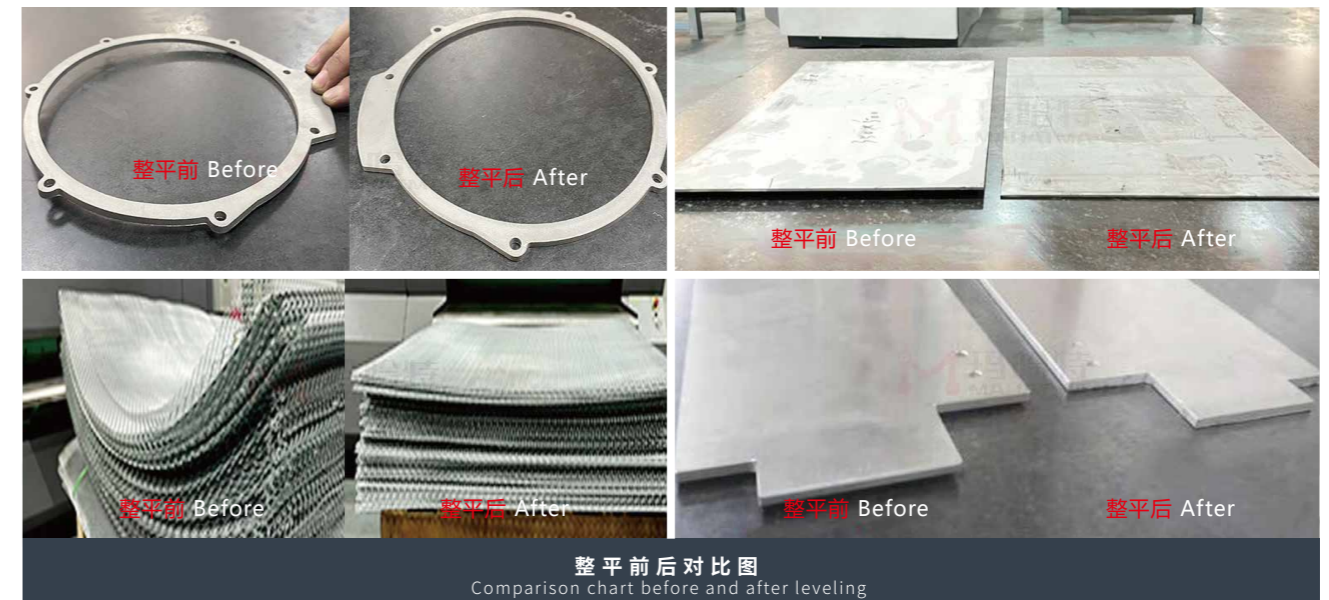
ervo hydraulic sheet high precision leveler



设备参数

Equipment Parameters

机型 Model	MHTY15系列	MHTY30系列	MHTY40系列	MHTY50系列
额定宽度 Rated width	100-1000mm	400-3000mm	400-3000mm	400-3000mm
辊径 Roll diameter	15	30	40	50
额定厚度 Rated thickness	0.08-1.0mm	0.5-3.0mm	0.6-4.0mm	0.8-5.0mm
最大厚度 Maximum thickness	3.0mm	8.0mm	10.0mm	15.0mm
辊数 Number of rolls	31	23	23	23
最短工件 Shortest part	30	60	70	90
矫平速度 Leveling speed	0-10m/min	0-10m/min	0-10m/min	0-10m/min
电压 Voltage	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机械手、机器人2、自动进出料流水线3、在线厚度检测4、四/六重式辊及辊轴数量5、翘曲平面度自动检测仪 1, automatic loading and unloading manipulator, robot 2, automatic feeding and unloading assembly line 3, online thickness detection 4, 4/6 double roll and roll number 5, warping flatness automatic detector			
	更大、特殊尺寸、更快速度可按需求订制 Larger, special size, faster speed can be customized according to demand			



整平前后对比图
Comparison chart before and after leveling

S 伺服液压中厚板高精度矫平机

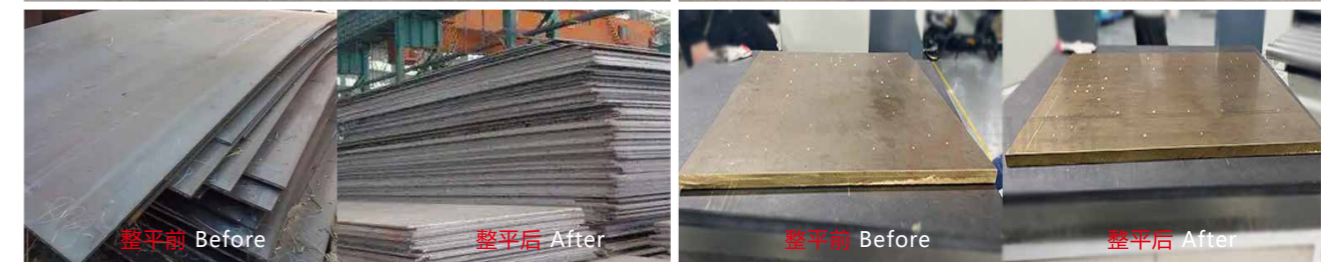
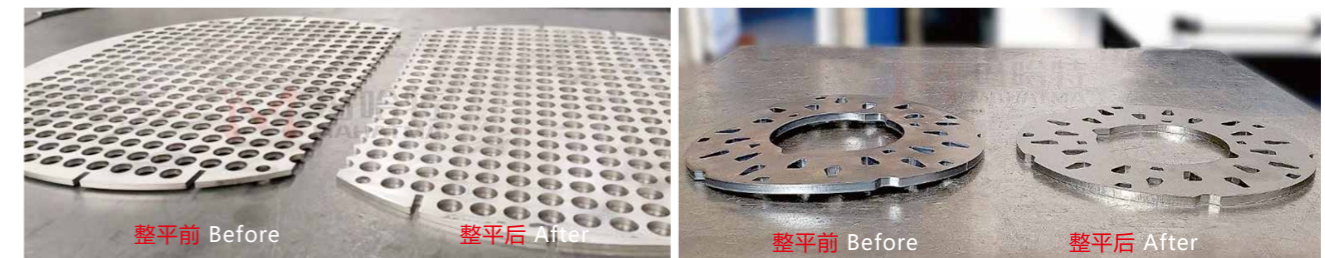
ervo hydraulic high precision leveling machine for medium thick plate



设备参数

Equipment Parameters

机型 Model	MHTY60系列	MHTY80系列	MHTY100系列	MHTY120系列
额定宽度 Rated width	400-3000mm	400-3000mm	400-3000mm	400-3000mm
辊径 Roll diameter	60	80	100	120
额定厚度 Rated thickness	1.0-8.0mm	2.0-10.0mm	3.0-12.0mm	4.0-20.0mm
最大厚度 Maximum thickness	18.0mm	22.0mm	25.0mm	30.0mm
辊数 Number of rolls	21	15/19	15/19	15/19
最短工件 Shortest part	100	130	160	190
矫平速度 Leveling speed	0-10m/min	0-10m/min	0-10m/min	0-10m/min
电压 Voltage	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机械手、机器人2、自动进出料流水线3、在线厚度检测4、四/六重式辊及辊轴数量5、翘曲平面度自动检测仪 1, automatic loading and unloading manipulator, robot 2, automatic feeding and unloading assembly line 3, online thickness detection 4, 4/6 double roll and roll number 5, warping flatness automatic detector			
	更大、特殊尺寸、更快速度可按需求订制 Larger, special size, faster speed can be customized according to demand			



整平前后对比图
Comparison chart before and after leveling

S 伺服液压厚板高精度矫平机

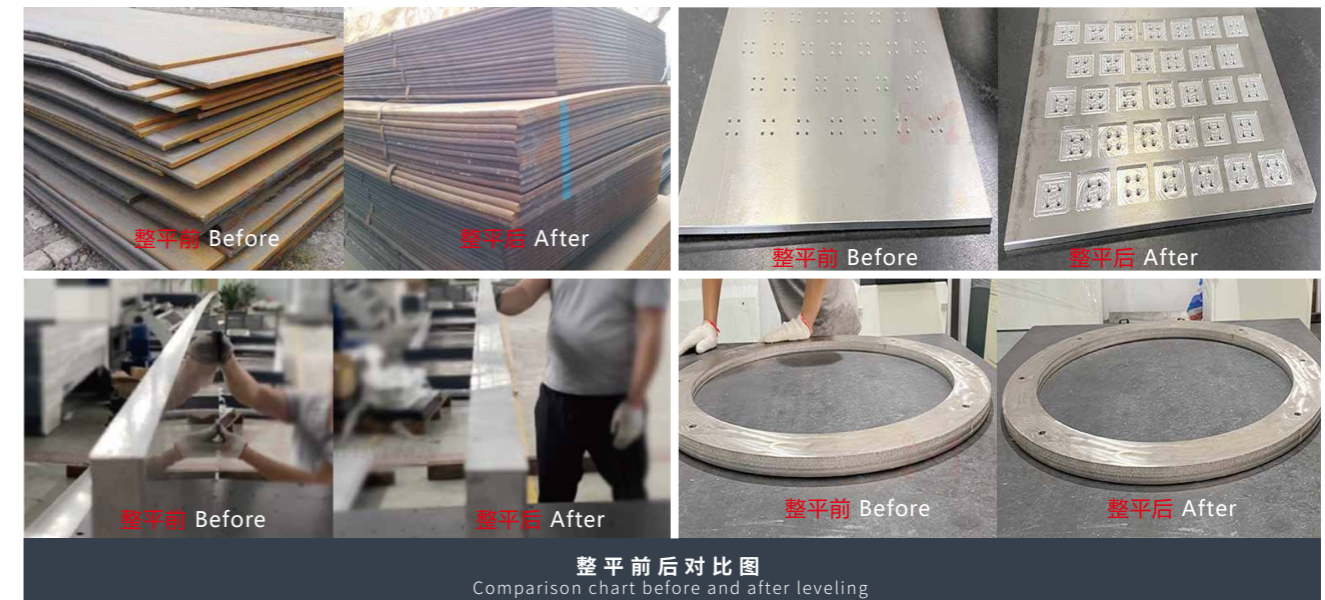
ervo hydraulic heavy plate high precision leveler



设备参数

Equipment Parameters

机型 Model	MHTY150系列	MHTY200系列	MHTY250系列	MHTY300系列
额定宽度 Rated width	400-3000mm	800-3500mm	1000-3500mm	1000-4000mm
辊径 Roll diameter	150	200	250	300
额定厚度 Rated thickness	6.0-30.0mm	8.0-40.0mm	10.0-50.0mm	12.0-60.0mm
最大厚度 Maximum thickness	36.0mm	48.0mm	60.0mm	80.0mm
辊数 Number of rolls	15/19	15/19	15/19	15/19
最短工件 Shortest part	240	310	390	480
矫平速度 Leveling speed	0-10m/min	0-10m/min	0-10m/min	0-10m/min
电压 Voltage	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机械手、机器人2、自动进出料流水线3、在线厚度检测4、四/六重式辊及辊轴数量5、翘曲平面度自动检测仪 1, automatic loading and unloading manipulator, robot 2, automatic feeding and unloading assembly line 3, online thickness detection 4, 4/6 double roll and roll number 5, warping flatness automatic detector			
	更大、特殊尺寸、更快速度可按需求订制 Larger, special size, faster speed can be customized according to demand			



CNC

普通数控精密矫平机概括

CNC high precision leveler summary



数控矫平机在工业上已广泛应用,具有技术先进、矫平精度高、工艺范围广、自动化程度高、高强度下工作可靠稳定等等特点,在轧辊整平过程中,金属板材经过一系列的交替折弯,通过电机和PLC控制对每根整平滚筒的下压量的精确控制,消除内应力,从根本上解决了因板材各部位应力不一样而产生的整平效果不理想情况,从而实现了高精度的整平。

Numerical control leveling machine has been widely used in industry, with advanced technology, high leveling precision, a wide range of processes, a high degree of automation, reliable and stable work under high strength and so on. In the process of roll leveling, the metal plate through a series of alternating bending, through the motor and PLC control of each leveling drum pressure accurate control, eliminate the internal stress, Fundamentally solve the stress of each part of the plate not the same as the leveling effect is not ideal, so as to achieve high precision leveling.

C 零配件数控精密矫平机

NC spare parts precision leveler



设备参数

Equipment Parameters

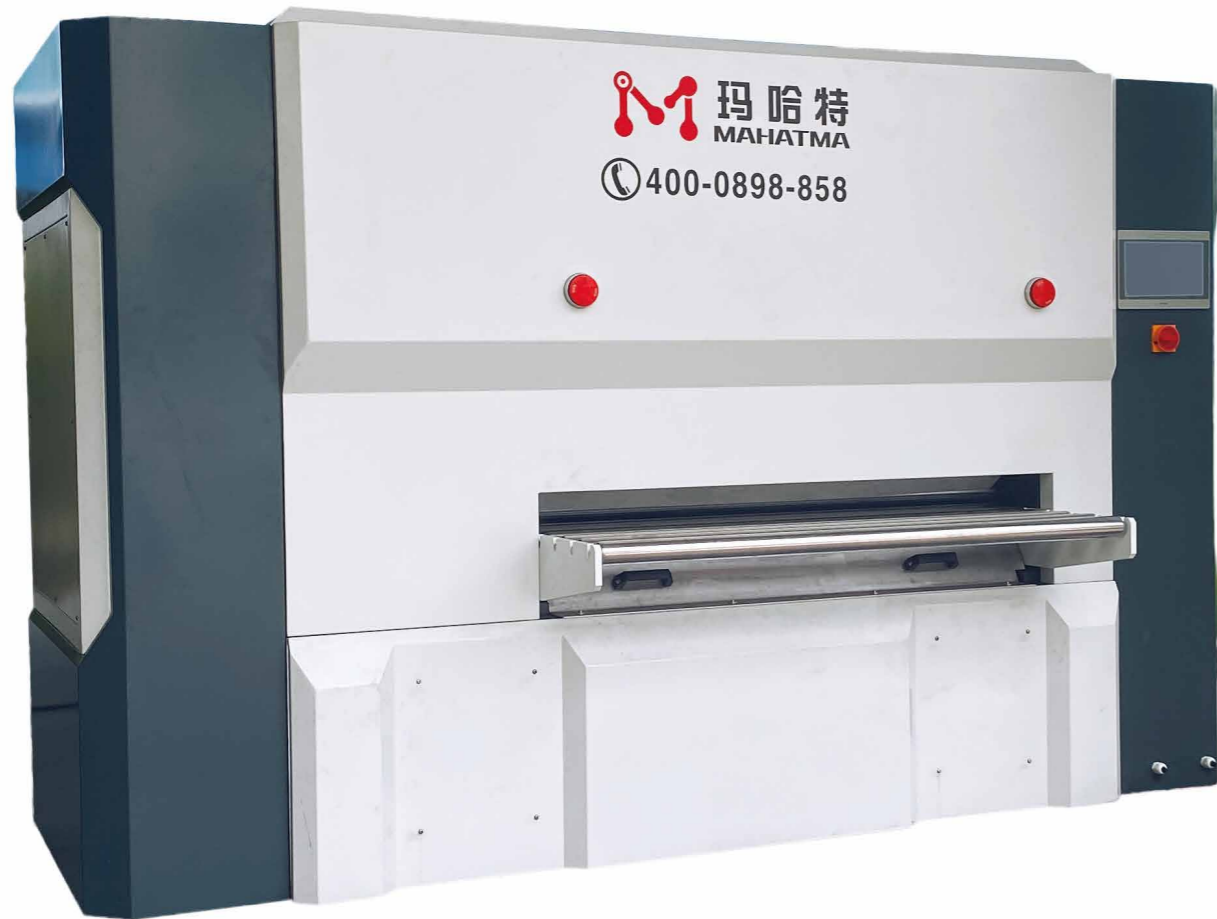
机型 Model	MHT10系列	MHT15系列	MHT20系列
额定宽度 Rated width	100-300mm	100-600mm	200-1600mm
辊径 Roll diameter	10	15	20
额定厚度 Rated thickness	0.03-0.6mm	0.08-1.0mm	0.3-1.2mm
最大厚度 Maximum thickness	1.0mm	2.0mm	3.0mm
辊数 Number of rolls	25	25	23
最短工件 Shortest part	20	30	40
矫平速度 Leveling speed	0-10m/min	0-10m/min	0-10m/min
电压 Voltage	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机械手、机器人2、自动进出料流水线3、在线厚度检测4、四/六重式辊及辊轴数量5、翘曲平面度自动检测仪 1, automatic loading and unloading manipulator, robot 2, automatic feeding and unloading assembly line 3, online thickness detection 4, 4/6 double roll and roll number 5, warping flatness automatic detector		
	更大、特殊尺寸、更快速度可按需求订制 Larger, special size, faster speed can be customized according to demand		



整平前后对比图
Comparison chart before and after leveling

C 薄板数控精密矫平机

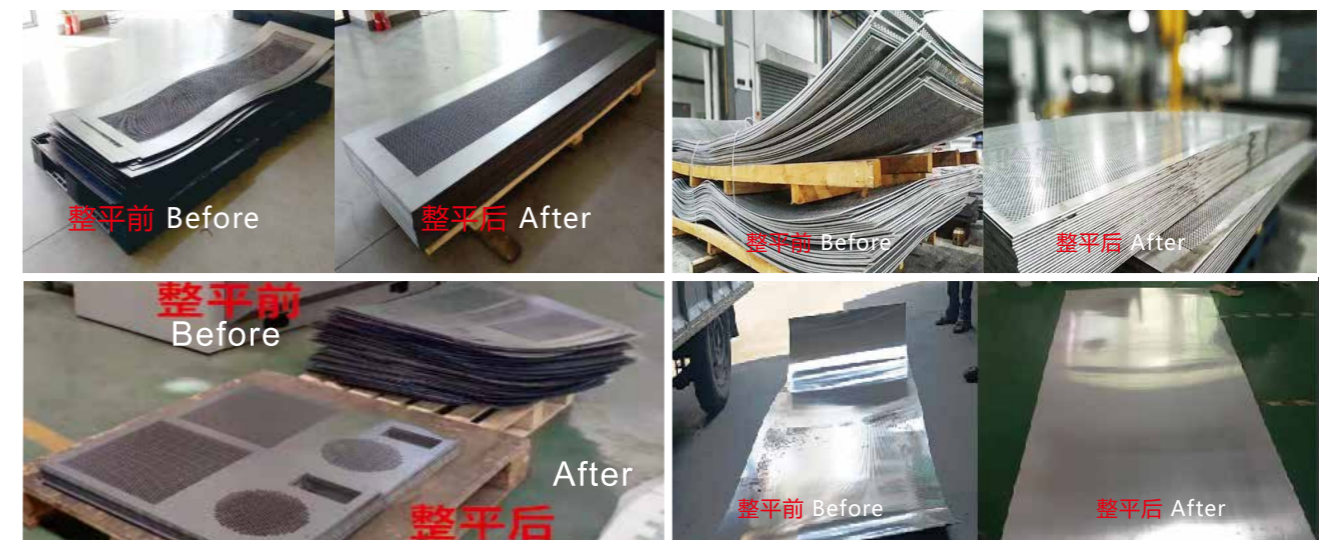
NC sheet precision leveler



设备参数

Equipment Parameters

机型 Model	MHT30系列	MHT40系列	MHT50系列
额定宽度 Rated width	400-3000mm	400-3000mm	400-3000mm
辊径 Roll diameter	30	40	50
额定厚度 Rated thickness	0.5-2.0mm	0.6-3.0mm	0.8-4.0mm
最大厚度 Maximum thickness	4.0mm	6.0mm	8.0mm
辊数 Number of rolls	23	21	19
最短工件 Shortest part	60	70	90
矫平速度 Leveling speed	0-10m/min	0-10m/min	0-10m/min
电压 Voltage	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机械手、机器人2、自动进出料流水线3、在线厚度检测4、四/六重式辊及辊轴数量5、翘曲平面度自动检测仪 1, automatic loading and unloading manipulator, robot 2, automatic feeding and unloading assembly line 3, online thickness detection 4, 4/6 double roll and roll number 5, warping flatness automatic detector		
更大、特殊尺寸、更快速度可按需求订制 Larger, special size, faster speed can be customized according to demand			



整平前后对比图
Comparison chart before and after leveling

C 中厚板数控精密矫平机

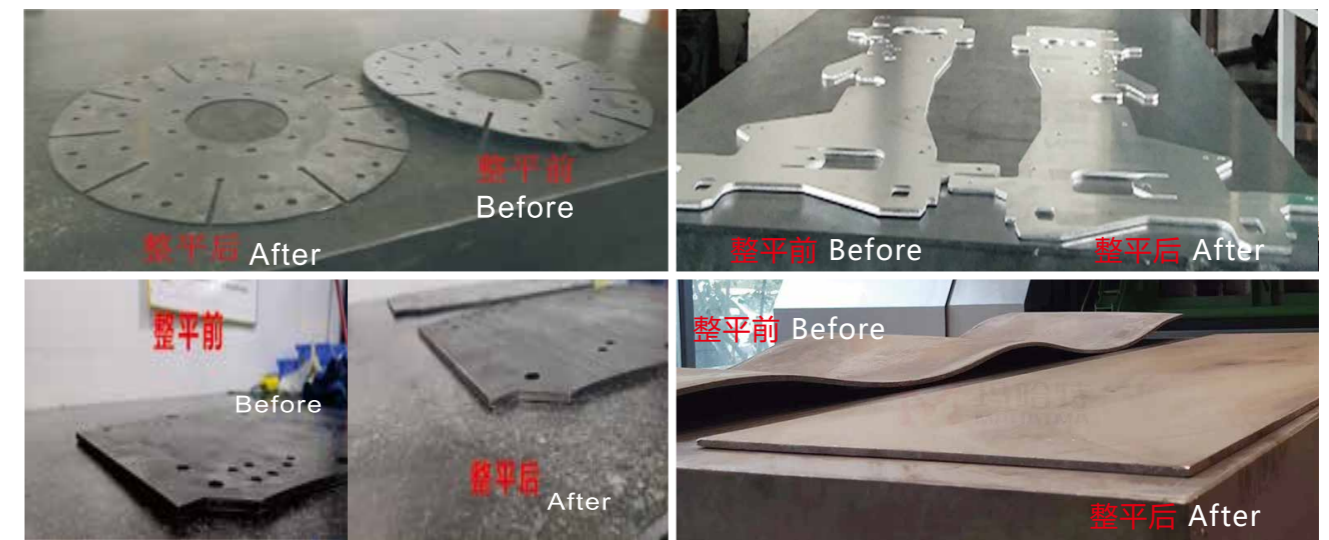
NC precision leveling machine for medium and thick plate



设备参数

Equipment Parameters

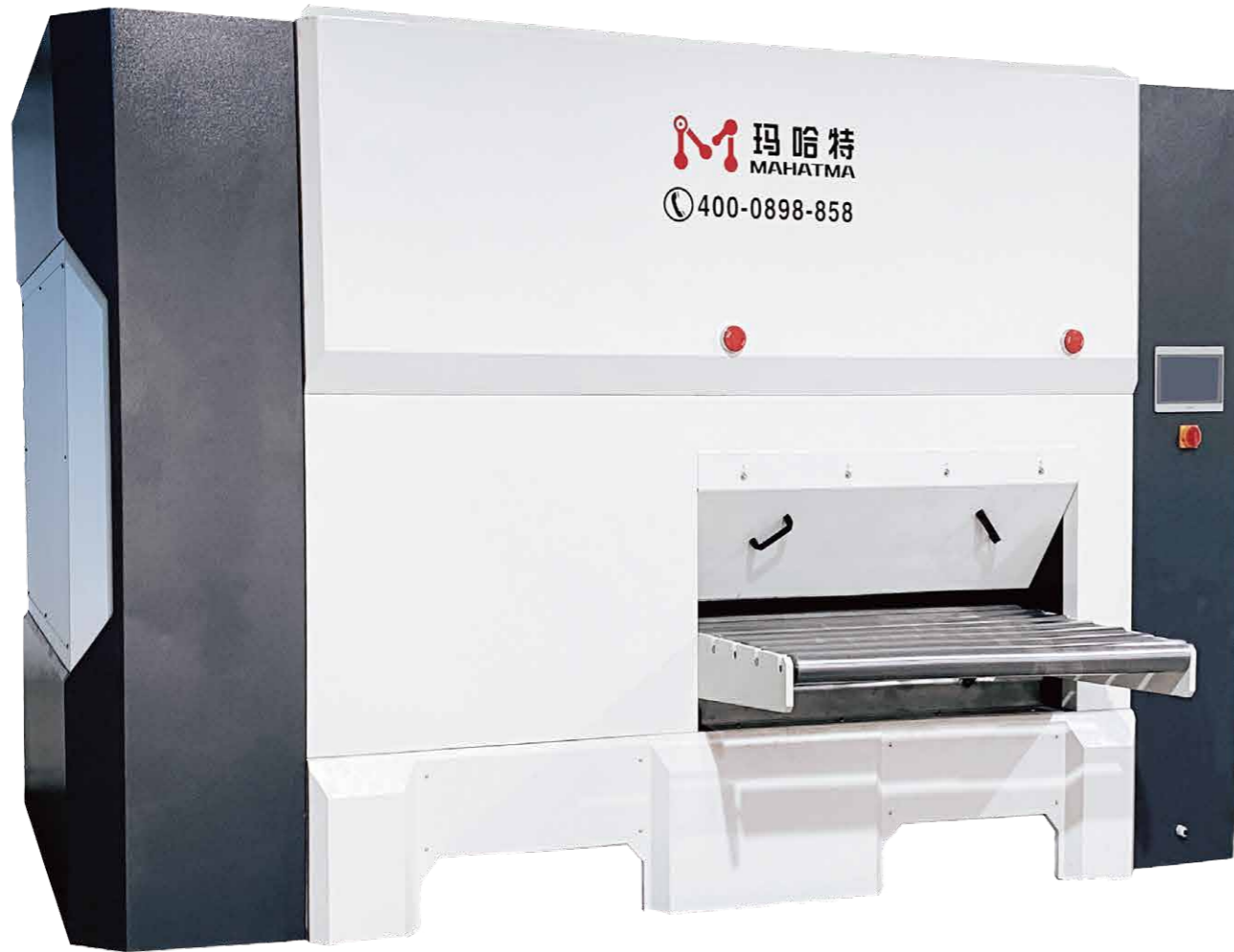
机型 Model	MHT60系列	MHT80系列
额定宽度 Rated width	400-2100mm	400-2600mm
辊径 Roll diameter	60	80
额定厚度 Rated thickness	1.0-6.0mm	2.0-8.0mm
最大厚度 Maximum thickness	12.0mm	16.0mm
辊数 Number of rolls	19	19
最短工件 Shortest part	100	130
矫平速度 Leveling speed	0-10m/min	0-10m/min
电压 Voltage	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机械手、机器人2、自动进出料流水线3、在线厚度检测4、四/六重式辊及辊轴数量5、翘曲平面度自动检测仪 1, automatic loading and unloading manipulator, robot 2, automatic feeding and unloading assembly line 3, online thickness detection 4, 4/6 double roll and roll number 5, warping flatness automatic detector	
	更大、特殊尺寸、更快速度可按需求订制 Larger, special size, faster speed can be customized according to demand	



整平前后对比图
Comparison chart before and after leveling

C 厚板数控精密矫平机

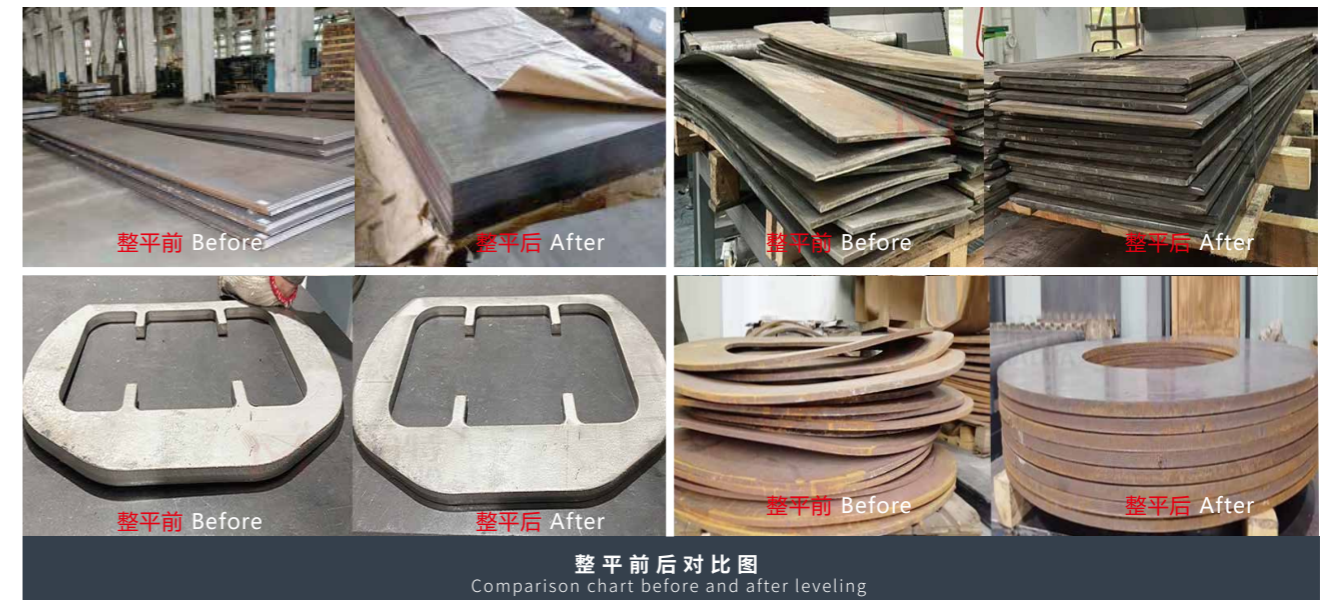
NC precision leveler for thick plate



设备参数

Equipment Parameters

机型 Model	MHT100系列	MHT120系列	MHT150系列
额定宽度 Rated width	400-3000mm	400-3000mm	600-3000mm
辊径 Roll diameter	100	120	150
额定厚度 Rated thickness	3.0-12.0mm	4.0-16.0mm	6.0-25.0mm
最大厚度 Maximum thickness	20.0mm	25.0mm	30.0mm
辊数 Number of rolls	19	19	15/19
最短工件 Shortest part	160	190	240
矫平速度 Leveling speed	0-10m/min	0-10m/min	0-10m/min
电压 Voltage	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机械手、机器人2、自动进出料流水线3、在线厚度检测4、四/六重式辊及辊轴数量5、翘曲平面度自动检测仪 1, automatic loading and unloading manipulator, robot 2, automatic feeding and unloading assembly line 3, online thickness detection 4, 4/6 double roll and roll number 5, warping flatness automatic detector		
	更大、特殊尺寸、更快速度可按需求订制 Larger, special size, faster speed can be customized according to demand		



整平前后对比图
Comparison chart before and after leveling

C 超厚板数控精密矫平机

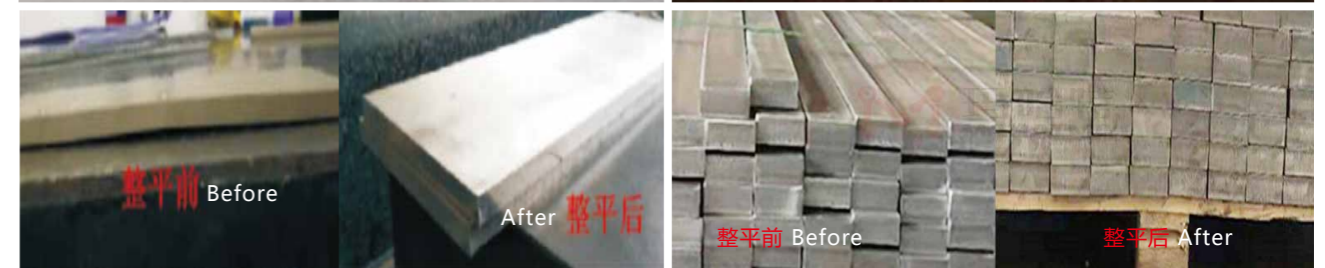
NC precision leveler for Super thick plate



设备参数

Equipment Parameters

机型 Model	MHT200系列	MHT250系列	MHT300系列
额定宽度 Rated width	800-3000mm	1000-3500mm	1000-4000mm
辊径 Roll diameter	200	250	300
额定厚度 Rated thickness	8.0-30.0mm	10.0-40.0mm	12.0-50.0mm
最大厚度 Maximum thickness	40.0mm	48.0mm	60.0mm
辊数 Number of rolls	15/19	15/19	15/19
最短工件 Shortest part	310	390	480
矫平速度 Leveling speed	0-10m/min	0-10m/min	0-10m/min
电压 Voltage	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机械手、机器人2、自动进出料流水线3、在线厚度检测4、四/六重式辊及辊轴数量5、翘曲平面度自动检测仪 1, automatic loading and unloading manipulator, robot 2, automatic feeding and unloading assembly line 3, online thickness detection 4, 4/6 double roll and roll number 5, warping flatness automatic detector		
	更大、特殊尺寸、更快速度可按需求订制 Larger, special size, faster speed can be customized according to demand		



整平前后对比图
Comparison chart before and after leveling

四重精密矫平机概括

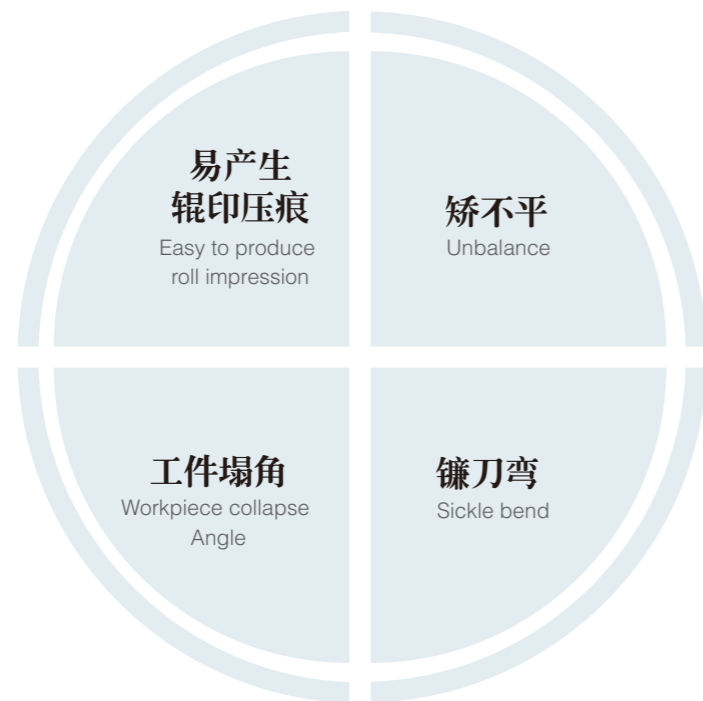
Quadruple type high precision leveler summary

四重式精密整平机是通过整平机多组滚筒滚压式矫平，从而达到平整效果。四重式高精度整平机采用上、下排矫平工作辊与支撑轴承(轮)之间加装支撑辊，构成上下各二重，总共四重的组辊结构；矫平辊受力分布均匀，结构刚性好，工作辊挠曲变形小，矫平精度高，行程谐波衰减性矫直，从根本上解决普通矫平常见的矫不平、易产生辊印压痕、工件塌角、镰刀弯等问题，提高板材的矫正精度，适用范围广。

Four-fold precision levelling machine is through the levelling machine multiple groups of roller roller type leveling, so as to achieve the leveling effect. Quadruple high precision leveling machine is used A supporting roll is installed between the lower leveling work roll and the supporting bearing (wheel) to form a roll structure with two upper and lower weights and a total of four weights; Flattening roll force distribution, good structural rigidity, work roll deflection deformation is small, high accuracy, stroke harmonic attenuation straightening, from the fundamental solution of ordinary leveling common leveling, easy to produce roller impression, workpiece Angle collapse, sickle bending and other problems, improve the accuracy of plate correction, a wide range of application.



从根本上解决此类问题
To solve such problems fundamentally



四重薄板精密矫平机

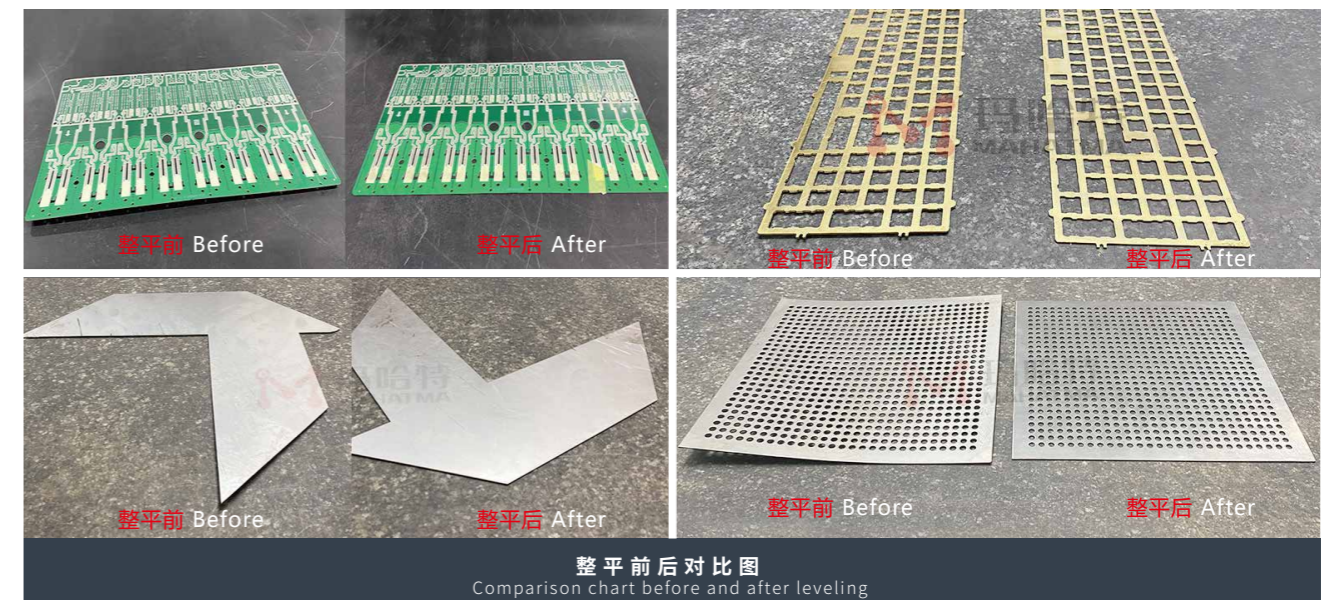
Four-fold sheet high precision leveler summary



设备参数

Equipment Parameters

机型 Model	SHS10系列	SHS15系列	SHS20系列	MHT32系列
额定宽度 Rated width	100-200mm	200-400mm	400-800mm	400-1300mm
辊径 Roll diameter	10	15	20	32
额定厚度 Rated thickness	0.03-0.5mm	0.08-1.0mm	0.2-1.5mm	0.5-2.0mm
最大厚度 Maximum thickness	1.0mm	1.5mm	2.0mm	3.0mm
辊数 Number of rolls	19	19	19	19
最短工件 Shortest part	20	30	30	60
矫平速度 Leveling speed	0-12m/min	0-12m/min	0-12m/min	0-12m/min
电压 Voltage	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机械手、机器人2、自动进出料流水线3、在线厚度检测4、四/六重式辊及辊轴数量5、翘曲平面度自动检测仪 1, automatic loading and unloading manipulator, robot 2, automatic feeding and unloading assembly line 3, online thickness detection 4, 4/6 double roll and roll number 5, warping flatness automatic detector			
	更大、特殊尺寸、更快速度可按需求订制 Larger, special size, faster speed can be customized according to demand			



整平前后对比图
Comparison chart before and after leveling

四重中厚板精密矫平机

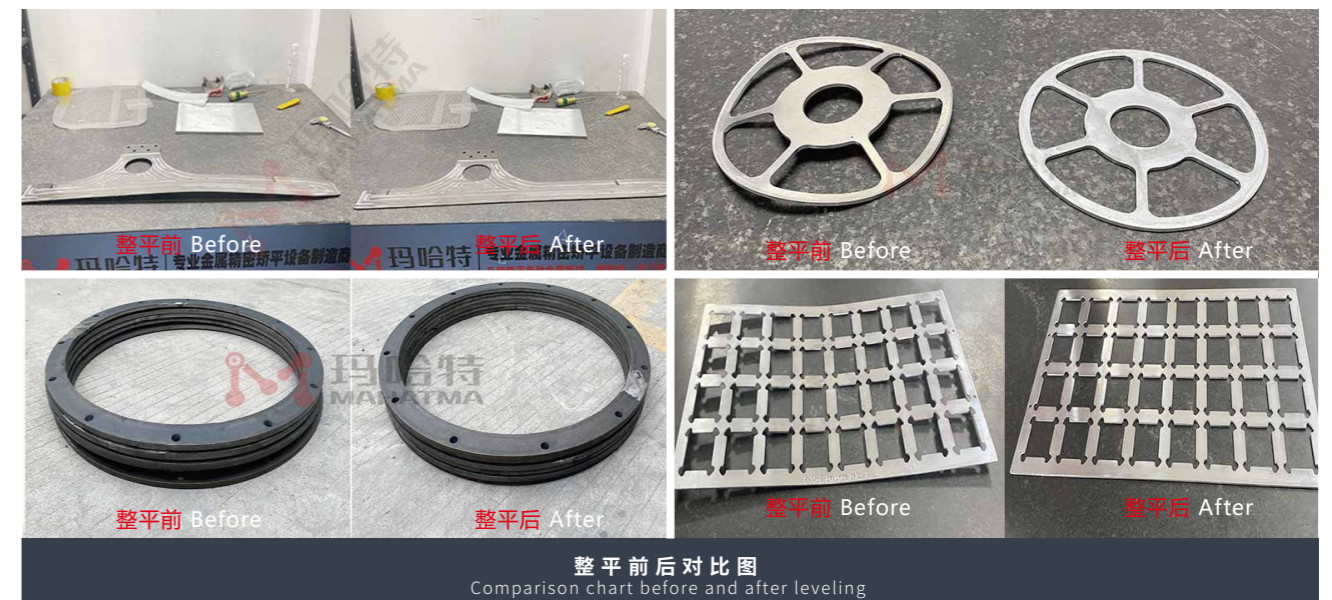
Four-fold medium and thick plate high precision leveler summary



设备参数

Equipment Parameters

机型 Model	SHS42系列	SHS50系列	SHS60系列	SHS80系列
额定宽度 Rated width	400-1300mm	400-1600mm	400-1600mm	400-2100mm
辊径 Roll diameter	42	50	60	80
额定厚度 Rated thickness	0.4-3.0mm	0.8-3.5mm	1.0-6.0mm	2.0-8.0mm
最大厚度 Maximum thickness	5.0mm	6.0mm	10.0mm	14.0mm
辊数 Number of rolls	19	15	15	15
最短工件 Shortest part	70	90	100	130
矫平速度 Leveling speed	0-12m/min	0-12m/min	0-12m/min	0-12m/min
电压 Voltage	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机械手、机器人2、自动进出料流水线3、在线厚度检测4、四/六重式辊及辊轴数量5、翘曲平面度自动检测仪 1, automatic loading and unloading manipulator, robot 2, automatic feeding and unloading assembly line 3, online thickness detection 4, 4/6 double roll and roll number 5, warping flatness automatic detector			
	更大、特殊尺寸、更快速度可按需求订制 Larger, special size, faster speed can be customized according to demand			



二重精密矫平机概括

General precision leveler

二重精密矫平机加装变频调速,可自由调整工作速度,缓冲启动及停止,材料不易抖动变形。精密矫平调整方式为四点细牙螺杆手动调整和蜗轮蜗杆上下滚筒调节,可配合精密数显百分表数值进行调整,简单轻便。矫平机进出料两端安装有不锈钢辅助托板,方便手工进行生产。相对于人工敲打或其它方式,精密矫平机大大节约人力资源,提高生产效率及产品质量!可配合冲床、油压机、剪板机、上下料机械手、自动进出料平台等设备进行片料或卷自动整平,实现自动化连续生产。

Precision leveler equipped with frequency control, can freely adjust the working speed, buffer start and stop, material is not easy to shake deformation, surface is not easy to damage. Precision leveling adjustment mode is four point fine tooth screw manual adjustment and worm gear worm up and down roller adjustment, can be adjusted with precision digital dial indicator value, simple and portable. Stainless steel auxiliary support plates are installed at both ends of the leveler, which is convenient for manual production. Compared with artificial beating or other ways, precision leveling machine greatly save human resources, improve production efficiency and product quality! It can cooperate with punch, hydraulic press, plate shearing machine, loading and unloading manipulator, automatic feeding and unloading platform and other equipment for automatic leveling of sheet material or roll to realize automatic continuous production. Suitable for all kinds of aluminum plate, stainless plate, copper plate, iron plate, circuit board, aluminum substrate and other metal materials.



针对整平精度不高的,预算不充足的,满足一般需求的客户
For the leveling precision is not high, the budget is not sufficient, to meet the general needs of customers

D二重薄板精密矫平机

Double sheet precision leveler



设备参数

Equipment Parameters

机型 Model	STS42系列	STS70系列	STS90系列
额定宽度 Rated width	200-600mm	200-1600mm	400-1600mm
辊径 Roll diameter	42	70	90
额定厚度 Rated thickness	0.4-3.0mm	0.8-6.0mm	3.0-8.0mm
最大厚度 Maximum thickness	6.0mm	10.0mm	14.0mm
辊数 Number of rolls	19	13	13
最短工件 Shortest part	70	120	150
矫平速度 Leveling speed	0-12m/min	0-12m/min	0-12m/min
电压 Voltage	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机械手、机器人2、自动进出料流水线3、在线厚度检测4、四/六重式辊及辊轴数量5、翘曲平面度自动检测仪 1, automatic loading and unloading manipulator, robot 2, automatic feeding and unloading assembly line 3, online thickness detection 4, 4/6 double roll and roll number 5, warping flatness automatic detector		
	更大、特殊尺寸、更快速度可按需求订制 Larger, special size, faster speed can be customized according to demand		



D二重厚板精密矫平机

ouble thick plate precision leveler



设备参数

Equipment Parameters

机型 Model	STS120系列	STS150系列	STS200系列
额定宽度 Rated width	400-2600mm	450-3000mm	800-3000mm
辊径 Roll diameter	120	120	200
额定厚度 Rated thickness	4.0-12.0mm	6.0-18.0mm	8.0-25.0mm
最大厚度 Maximum thickness	19.0mm	25.0mm	30.0mm
辊数 Number of rolls	13	13	13
最短工件 Shortest part	190	240	310
矫平速度 Leveling speed	0-12m/min	0-12m/min	0-12m/min
电压 Voltage	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机械手、机器人2、自动进出料流水线3、在线厚度检测4、四/六重式辊及辊轴数量5、翘曲平面度自动检测仪 1, automatic loading and unloading manipulator, robot 2, automatic feeding and unloading assembly line 3, online thickness detection 4, 4/6 double roll and roll number 5, warping flatness automatic detector		
	更大、特殊尺寸、更快速度可按需求订制 Larger, special size, faster speed can be customized according to demand		



整平前后对比图
Comparison chart before and after leveling

·售前服务

· Pre-sale service

根据客户需求，从客户角度出发为客户提供矫平机准确的技术参数信息，为客户量身定制产品，回答客户提出的所有问题；从技术可行性角度出发，协助客户做好工程规划和系统需求分析，使得我们的产品能够最大限度的满足用户需要。同时提供免费打样，以及我们所拥有的样品整平基地以便客户实地考察、现场参观。从而使客户更直接地作出准确的经营决策，开拓新的市场。

According to customer needs, from the customer's point to provide customers with accurate technical parameters of the leveler, customize products for customers, answer all the questions raised by customers; From the technical feasibility point, to assist customers to do a good job in engineering planning and system requirements analysis, so that our products can maximize to meet the needs of users. At the same time to provide free proofing, and we have the sample leveling base for customers to visit the site. So that customers more directly to make accurate business decisions, open up new markets.



从客户出发



为客户着想



对客户负责



让客户满意

·现场培训

· On-the-job training

在双方签订买卖合同后,根据客户的具体要求,我公司免费为用户进行调试及调试后的现场培训。最终让客户负责矫平机设备的相关技术人员,完全掌握了我公司矫平机设备技术特点、操作程序、保养常识后,我们的培训人员才能撤离。具体内容如下:

After the signing of the sales contract, according to the specific requirements of the customer, our company will provide consumers with free debugging and on-site training after debugging. Finally let the customer responsible for the leveler equipment related technical personnel, fully master the technical characteristics of our company leveler equipment, operating procedures, maintenance of common sense, our trainer can be evacuated. The details are as follows:



矫平机
原理及解释



矫平机
设备系统组件



矫平机
的操作



矫平机
的保养



常见故障
的解决方案

·售后服务

· After-sales service

- 1、对销售合同中要求进行用户现场安装调试的,在规定的时间内,组织人员对产品进行安装调试及对用户操作人员进行培训。
- 2、根据合同及技术协议的要求,对保修期内,因产品的制造、装配及材料等质量问题造成各类故障或零件损坏,无偿为用户维修或更换相应零配件。
- 3、定期组织人员对重点销售区域和重点客户进行走访,了解产品的使用情况,征求用户对产品在设计,装配,工艺等方面的意见。
- 4、保证向客户提供产品是原厂全新产品;并针对产品,保修期为一年;在保修期内,如供方产品在正常使用的情况下出现非人为因素之机械故障、自然损坏等情形,由我司负责免费维修或更换;如客户因人为保修失当和不可抗力因素所造成的故障需酌收成本费用;质保期内,设备如有故障,我司接到客户通知后,先进行电话沟通解决,若电话沟通解决不了,则48小时内派人到现场排除故障。

1. Organize the personnel to install and debug the products and train the user operators within the specified time as required by the sales contract.
2. According to the requirements of the contract and technical agreement, we will repair or replace the corresponding spare parts for users free of charge for all kinds of faults or parts damage caused by the quality problems such as product manufacturing, assembly and materials during the warranty period.
3. Regularly organize personnel to visit key sales areas and key customers, understand the use of products, and solicit users' opinions on product design, assembly, process, etc.
4. Ensure that the products provided to customers are brand-new products of the original factory; And for products, the warranty period is one year; During the warranty period, if the supplier's products have non-human mechanical failure and natural damage under normal use, our company shall be responsible for free maintenance or replacement; If the customer's fault is caused by improper human warranty and force majeure, the cost shall be charged; During the warranty period, if there is a fault in the equipment, our company will first communicate by telephone after receiving the customer's notice. If the problem cannot be solved by telephone communication, we will send someone to the site to eliminate the fault within 48 hours.



为什么要矫平?

Why should it be straightened?

★ 板材、钣金件内应力和平整度的缺陷

Defects in internal stresses and flatness of plates and sheet metal parts



切割件
Cutting part



薄板
Cutting part

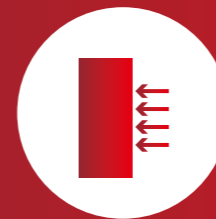


无论尺寸和材料如何, 板材在切割成一定尺寸后都需要矫平。这是因为无张力板材是在焊接、弯曲或组装等下游制造过程中实现绝对最佳质量的先决条件。使用辊式矫平机进行精确矫平可生产出平整且基本上无应力的板材。

Precision leveling machine processing precision is very high, can ensure stable, high quality leveling effect. Great value added: save time, minimize reject rate and rework rate! Thus, it creates the best conditions for improving the productivity and high quality of the downstream process.

造成板材内应力和平整度缺陷的原因

Causes of internal stress and flatness defects in plates



材料制造的残余应力



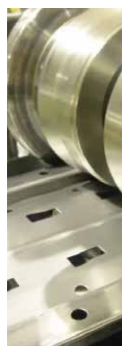
机械切割或热切割



温度变化

★ 未经校平的卷材在加工时会出现的问题

Problems may occur when processing unlevelled coils



滚压成型

在进行滚压成型时将采用滚轮通过一系列加工工序改变钢板卷材的形状。原材料的应力和平整度的缺陷使卷材的精准成形难以实现。由于加工速度很快，因此，卷材的平整度缺陷将会给滚压成型流水线的加工安全性带来严重的负面影响。

Roll forming

During rolling molding, a roller is used to change the shape of the steel sheet coil through a series of processes. The defects of stress and flatness of raw materials make it difficult to realize accurate forming of coil. Due to the fast processing speed, the roughness defect of the roll will bring serious negative impact on the processing safety of the rolling molding line.



冲压

卷材中的平整度缺陷和内应力会使精确的成形加工变得困难。一方面，它可能会造成模具受损，另一方面，它可能导致成品质量下降。并且，原材料的平整度缺陷还可能会造成整个设备停止运转，降低设备的使用效率。

Stamping

The flatness defects and internal stresses in the coil can make accurate forming difficult. On the one hand, it may cause mold damage, on the other hand, it may lead to a decline in the quality of finished products. In addition, the flatness defect of raw materials may also cause the whole equipment to stop running and reduce the use efficiency of the equipment.



剪板

剪切加工会使原材料中的应力得到释放，出现肉眼可见的材料变形情况。卷材的平整度缺陷会使剪切精度得不到保证。原材料的平整度是一个非常重要的质量标准，因为通常还要在后续工序中对剪切下的板料继续进行加工。

Shear plate

Shear processing will release the stress in the raw material, resulting in visible deformation of the material. The flatness defect of the coil will not guarantee the shear precision. The flatness of raw materials is a very important quality standard, because the sheared sheet is usually processed in a subsequent process.



激光生产线

不管是从片料、卷料到成品，高度自动化集成加工线，智慧工厂等，卷材的平整度缺陷会使切割精度得不到保证也更容易导致激光头的损耗，经过高精密矫平后可更快提升效率与精度，即省时间、空间，同时更加的降低原料与配件成本。

Laser cutting line

Whether it is from sheet material, coil material to finished product, highly automated integrated processing line, smart factory, etc., the flatness defect of the coil material will not guarantee the cutting accuracy and is more likely to cause the loss of the laser head. After high-precision leveling It can improve efficiency and precision faster, save time and space, and reduce the cost of raw materials and accessories.



去毛刺生产线

在去毛刺的过程中由于工件的不平整度会导致零件的质量下降，有些部件没法完全去除毛刺或铁渣等，经过矫平后的工件可快速提升去毛刺的效率及质量，降低返工率和报废率。

Deburring production line

In the process of deburring, the unevenness of the workpiece will lead to a decrease in the quality of the part. Some parts cannot completely remove burrs or iron slag. After leveling, the workpiece can quickly improve the efficiency and quality of deburring and reduce the rework rate and rate.


— 金属卷材中的内应力和平整度缺陷 —



宽卷料



边缘翘曲



单边翘曲



波纹褶皱




中心褶皱

· 卷材最常见的平整度缺陷问题是纵向卷曲和横向翘曲。通常，卷材的不良问题是由材料制造时的辗轧加工或接下来的切割加工造成的。纵向卷曲是卷绕时塑性变形造成的。横向翘曲是由于在整个卷材宽度（残余应力）范围内被辗轧材料冷却不均匀或者纵向分切造成的。



窄卷料



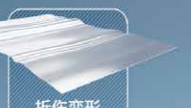
纵向卷曲



横向翘曲



扭曲变形



折伤变形

至始至终可重塑的平整度

Reproducible flatness from beginning to end

精密矫平机加工精度极高，能够保证稳定、优质矫平效果。极大的增值：节省工时，使废品率和返工率降至最低！从而为提高下游工艺的生产率和高质量创造了最佳条件。

Precision leveling machine processing precision is very high, can ensure stable, high quality leveling effect. Great value added: save time, minimize reject rate and rework rate! Thus, it creates the best conditions for improving the productivity and high quality of the downstream process.



折弯

在折弯时会出现角度偏差，这会使返工率和报废率增大。先矫平后折弯这样不仅能保证钣金的面平面度和美观度，而且还能降低返工率和报废率。



原材料/新材料/表面处理(热处理、喷砂等工艺)

- a、新材料经过挤压成型去除内应力后，可适用于各行各业；
- b、原材料经过分割后变形经矫平后再次销售，可做超平板销售；
- c、另外经过表面处理(热处理、喷砂等)的原材料在加工过程当中产生热量再度变形；
- d、废料再次利用：铺路板、建筑板等废旧钢板，可从外面低价回收旧的钢板矫平后再次利用，成本低效率高。



机加工

对于一些像类似自动化行业底板等平面度要求高的工件，可以先经过矫平后再平面磨，这样事半功倍，可以快速提高效率降低成本，例：平面磨一块板4小时，矫平后再磨半小时可以完成。



激光切割/CNC加工

激光切割/CNC加工过程中产生热量导致变形。在进行激光切割时，由于激光在加热过程中会引起工件的温度变化，从而会造成产生热变形的现象。杜绝热变形对工件的加工精度产生不良影响，杜绝造成加工不合格甚至无法使用的情况。



焊接

未经矫平的材料焊接准备工作很是繁琐。如果是采用焊接机器人作业的话，这还会使加工安全性降低，焊接的时间更长，最终造成加工成本的上升并导致温度变化增大。温度变化增大的原因是因为材料中的内应力得到了释放，所以材料发生变形。这会导致出现返工并使生产作业的时间变得更长。而经过矫平后的零件可以加快自动和手动焊接过程，因为矫平的材料焊接间隙更加精密，而且在焊接过程中更加高效保持平整。这减少了所需的前期工作，最终产品的尺寸更加稳定、美观、精密。



可重复的弯曲过程

平整的材料在弯曲部件中提供更恒定的弹性恢复。轧制方向在初始材料中产生的应力通过矫平消除。这样做有两个好处。首先，需要更少的返工，其次，弯曲过程是可重复的，可以实现自动化生产。

返工已成为过去！



装配更精密(机械配件、电子零件)

笔直且尺寸稳定的材料是装配操作的关键方面。经过矫平后的配件可以更快、更精确地进行组装。该产品在光学和技术上也将具有更高的质量。

什么是辊式矫平

Roll to remove internal stress precision leveling

辊式矫平是获得高精度平整零件、板材或带料的一种简单快速的加工方法。比如,在过去,矫平只能靠富有经验的老工人进行。而对于辊式矫平,任何人都能快速方便地掌握加工方法。

采用辊式矫平时,一块板材将先后经过连续多次的交变弯曲。从辊式矫平机的入口至出口,交错排列着各组矫平辊。这样,在两个相对的矫平辊中始终有一个辊为下压辊。从第一个矫平辊至出口处,交变弯曲程度逐步减弱。弯曲过程类似一个逐步减弱的正弦曲线。通过弹塑性交错弯曲和不断减弱的变形量,板材将变得平整,更重要的是消除了应力并最终将其矫平!

矫平后直接进行后续加工,无需再费时费力的返工。所以说辊式矫平就是把材料本身内应力释放达到平面度的一个过程!简称“消除内应力,矫平平面度!”

What are the advantages of roller leveling compared to other processes?

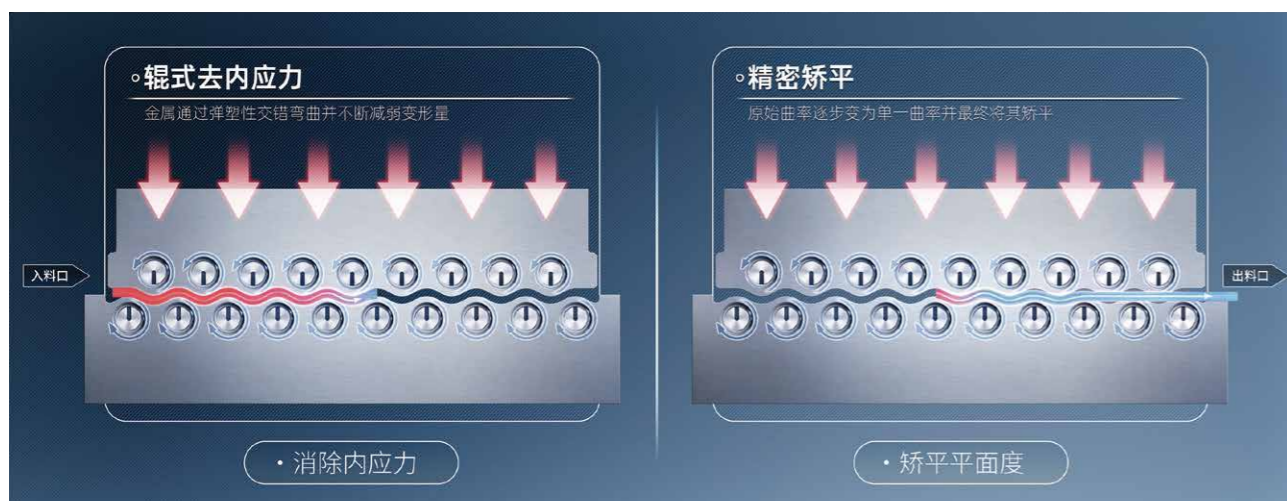
Compared with other methods, roller leveling is a simple and fast machining method to obtain high precision flat parts, plates or strips. For example, in the past, leveling could only be done by experienced workers. For roller leveling, anyone can quickly and conveniently grasp the processing method.

With roller leveling, a sheet will go through a series of alternating bending. From the entrance to the exit of the roller leveler, the leveling rollers are staggered. In this way, one of the two opposite flattening rollers is always the downpress roller. From the first leveling roller to the outlet, the degree of alternating bending gradually decreases. The bending process resembles a weakening sine curve.

Through elastic-plastic staggered bending and the decreasing amount of deformation, the sheet will become flat and more importantly, the stress is eliminated.

“只有致力于创新的人才会真正地发现矫平技术的未来”

"Only those committed to innovation will truly discover the future of leveling technology."

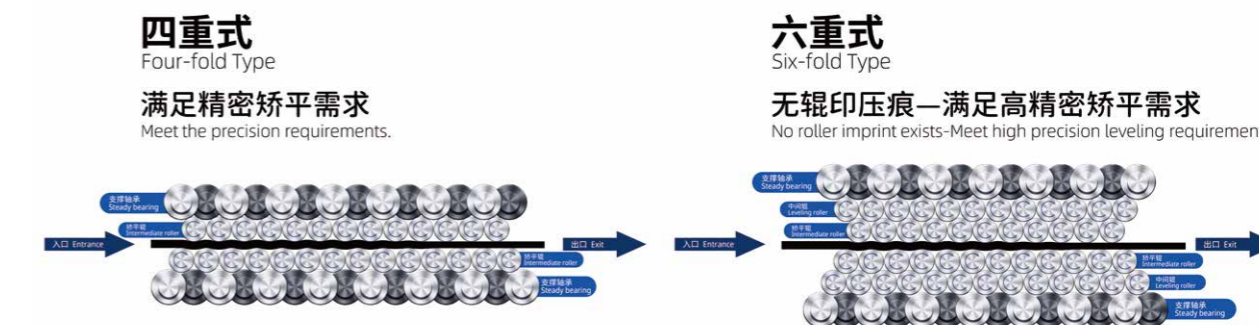


结构介绍

Structure introduction

中间辊加上下支撑保证辊的不可压缩性,完美的降低了上下矫平辊之间的空白空隙,利用材料的“包辛格效应”对板材多次反复弯曲,变弯曲的强度往出口处逐渐减小,随着矫平辊的数量增多,交变弯曲次数也同样增加使多种原始曲率逐步变为单一曲率,并最终将其矫平,达到工艺要求的平整精度。

The intermediate roll and the lower support ensure the incompressibility of the roller, perfect reduction of the blank space between the upper and lower flattening rollers, the use of material "Bauschinger effect" on the plate repeatedly bending, bending strength gradually decreases to the exit, with the number of leveling rollers increase, the number of alternating bending also increases so that a variety of original curvature gradually into a single curvature. And finally the leveling, to achieve the process requirements of the leveling accuracy.



四/六重式辊(原理图)
Four/six-fold rollers (principle diagram)

四重式性能与特点

Performances and features of Four layers type

- 校平辊受力分布均匀
- 结构刚性好, 变形小, 校平精度高
- 校平板表面质量好, 传动平稳, 噪音低
- 适用于碳钢板, 不锈钢板

Uniform force distribution of leveling rollers
Good structure rigidity, small deformation, high leveling accuracy
The surface quality of leveling plate is good, the transmission is stable, and the noise is low
Suitable for carbon steel plate and stainless steel plate

六重式性能与特点

Performances and features of Six Layers type

- 校平辊受力分布均匀、排泄杂物
- 结构刚性好, 变形小, 校平精度高
- 校平板表面质量好, 传动平稳, 噪音低, 无辊压痕
- 单面分三层辊: 支撑轴承, 中间辊, 矫平辊
- 适用于碳钢板, 不锈钢板, 铝板

Uniform force distribution of leveling rollers
Good structure rigidity, small deformation, high leveling accuracy
The surface quality of the leveling plate is good, the transmission is stable, the noise is low, and there is no roller indentation
Single-sided three-layer roller: support bearing, intermediate roller, leveling roller
Suitable for carbon steel plate, stainless steel plate, aluminum plat



应用行业

Application industry



航空航天
Aerospace



建筑行业
Architecture



医疗技术行业
Medical technology industry



风能
Wind energy



储能
Energy storage



锂电行业
Lithium battery industry



交通运输
Traffic and transportation



5G通讯
5G communication



电力电气
Electric power



光伏行业
Photovoltaic industry



环保行业
Environmental protection industry

Green Nature



锯片行业
Saw blade industry



激光切割
Laser cutting



汽摩配件
Automobile and motorcycle parts



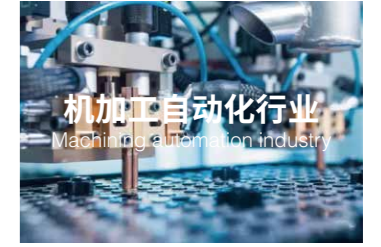
机箱机柜
Chassis cabinet



重工制造
Heavy industry manufacturing



金属新材料行业
Metal New Materials Industry



机加工自动化行业
Machining automation industry



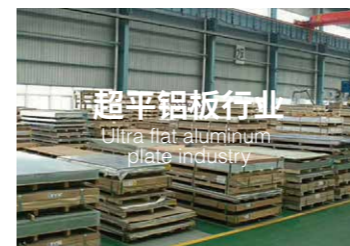
纺织机械
Textile machinery



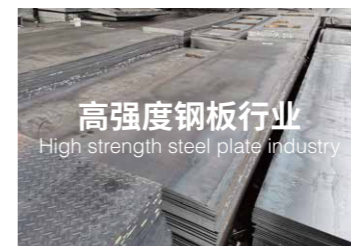
金属加工
Metal working



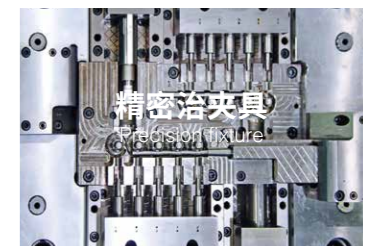
天花幕墙
Ceiling curtain wall



超平铝板行业
Ultra flat aluminum plate industry



高强度钢板行业
High strength steel plate industry



精密治夹具
Precision fixture