



几秒矫平各种金属板材

Leveling all kinds of sheet metal in seconds

21Years
专业矫平



广东玛哈特智能科技有限公司
江西玛哈特智能科技有限公司
电话: +86 13669773453
邮箱: mht@gddys.com
网址: <http://www.leveling-mht.com>
全国统一服务热线: 400-0898-858

Guangdong Mahatma Intelligent Technology Co., LTD
Jiangxi Mahatma Intelligent Technology Co., LTD
Tel: +86 13669773453
E-mail: mht@gddys.com
Web: <http://www.leveling-mht.com>
National Hot-line: 400-0898-858

全球用户更信赖的金属矫平品牌
MAHATMA Brand Trusted By Global Customers



关于我们 ABOUT US

广东玛哈特智能科技有限公司——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。

Guangdong MAHATMA Intelligent Technology Co., Ltd. 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 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.



荣誉证书

Certificate of honor



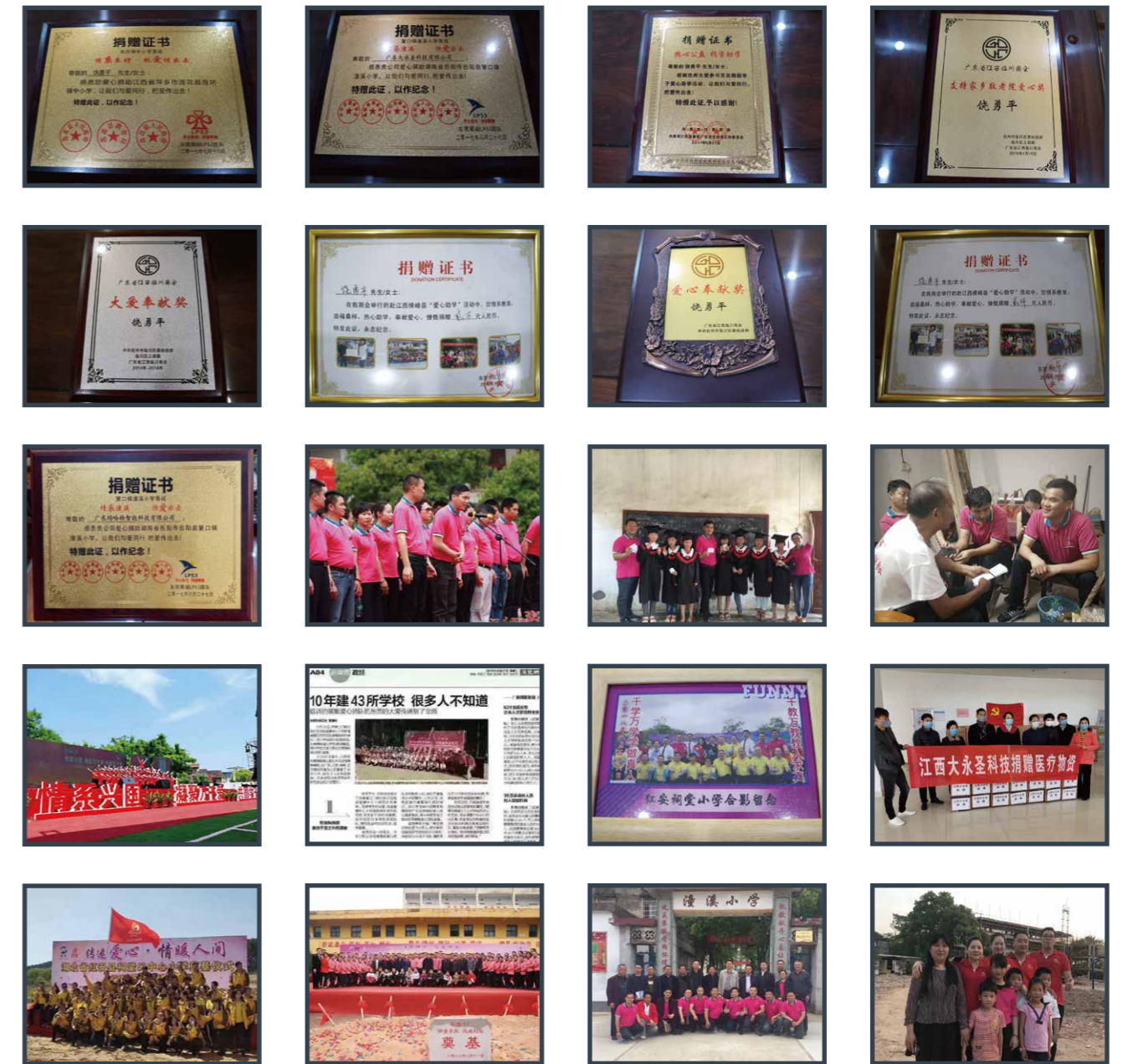
· 玛哈特始终坚持“以技术创新求发展”的经营思想，不断应用最新科技成果，努力提高企业科技实力和技术优势，获得“高新技术企业”称号、通过了ISO9001质量管理体系、CE认证。公司先后被评为“信用培育单位”“中国行业引领品牌”“重合同守信用单位”“中国著名品牌”等称号。并获得上百项实用新型专利以及多项发明专利证书。并顺利通过广东省专精特新企业审核被评为“专精特新企业”。



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

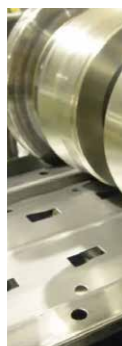


玛哈特集团董事长——饶勇平热衷于慈善公益事宜，曾经十年间与展能团队建43所学校，让那些留守儿童得以学习。在此期间董事长奉献于各种公益事件，弘扬慈善文化，倡导奉献爱心。我们相信“没有一个冬天不可逾越，没有一个春天不会来临”，每一束光芒汇聚起来，就是灿烂而又力量的春天。

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.

★ 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，经过高精度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.



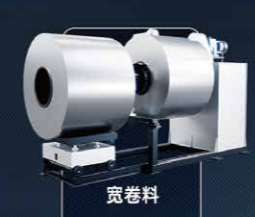
去毛刺生产线

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。

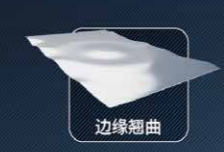
Deburring production line

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 —



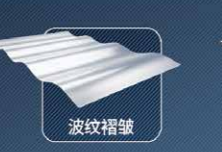
宽卷料



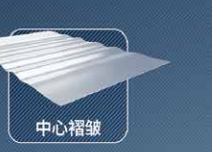
边缘翘曲



单边翘曲

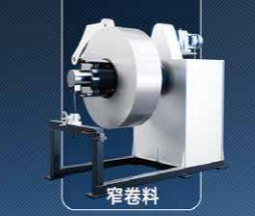


波纹褶皱

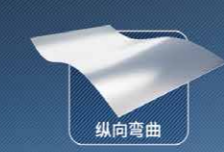


中心褶皱

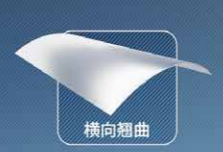
· 卷材最常见的平整度缺陷问题是纵向卷曲和横向翘曲。通常，卷材的不良问题是由材料制造时的辗轧加工或接下来的切割加工造成的。纵向卷曲是卷绕时塑性变形造成的。横向翘曲是由于在整个卷材宽度（残余应力）范围内被辗轧材料冷却不均匀或者纵向分切造成的。



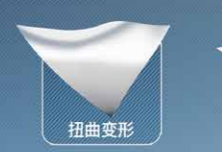
窄卷料



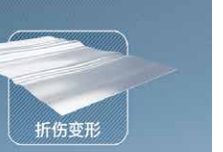
纵向卷曲



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替弯曲。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,交替弯曲程度逐步减弱。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?

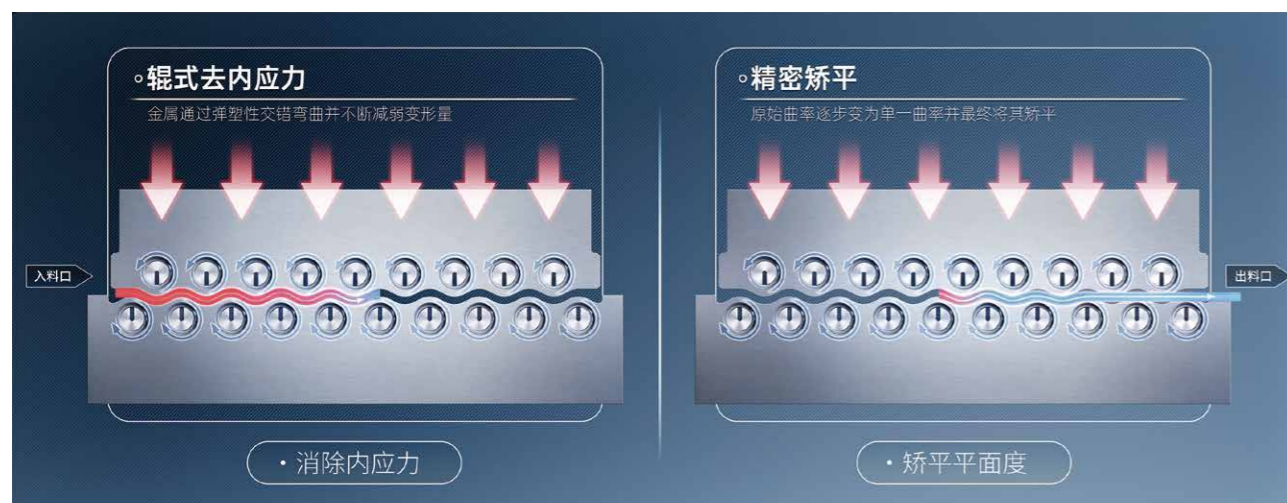
Compared with other methods, roller leveling is a simple and fast machining method to obtain high precision flat parts, plates or strips. For example, in the past, leveling could only be done by experienced workers. For roller leveling, anyone can quickly and conveniently grasp the processing method.

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."

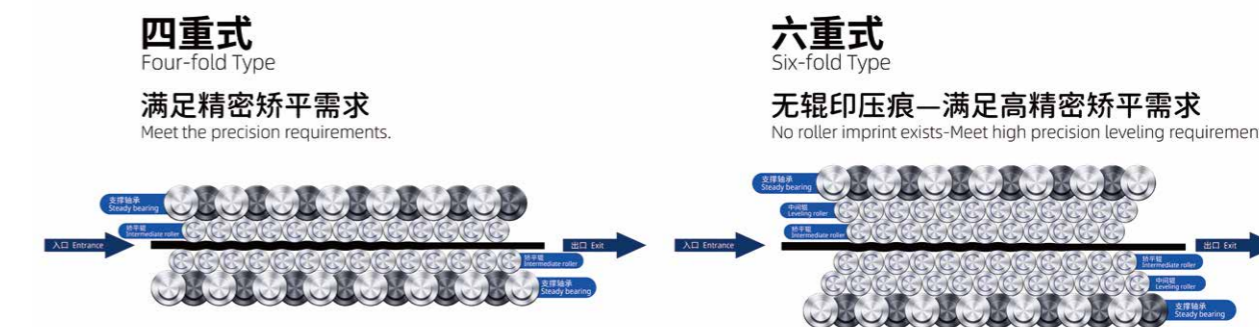


结构介绍

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,交替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

高端数控高精密矫平机设备功能

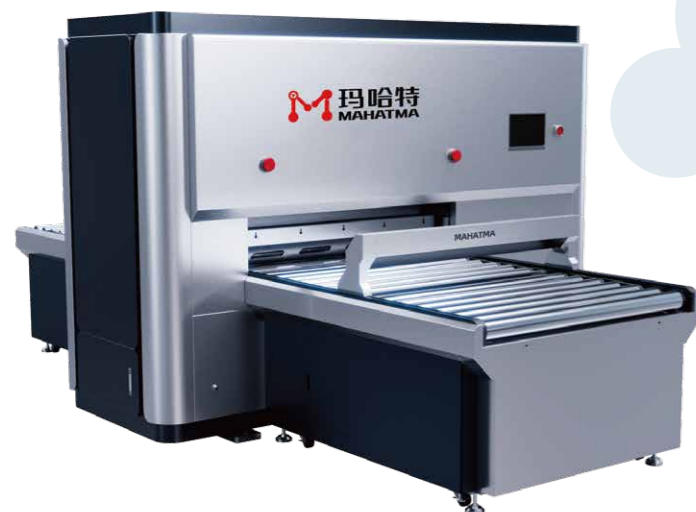
CNC high-precision leveling machine equipment functions

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.



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)



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

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系列高精密矫平机

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.



高端系列数控高精密矫平机
High-end CNC Precision Leveling Machine



设备参数

Equipment Parameters

机型 Model	MHTP10-300系列
额定宽度 Rated width	100-4000mm
辊径 Roll diameter	10-300
厚度 Thickness	0.03-80.0mm
辊数 Number of rolls	15/19/21/23/25/31
矫平速度 Leveling speed	0-10m/min
电压 Voltage	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

伺服液压高精度矫平机概括

Servo Hydraulic Precision Leveling Machine

玛哈特伺服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 伺服液压系列高精度矫平机

Servo Hydraulic Precision Leveling Machine



设备参数

Equipment Parameters

机型 Model	MHTY15-300系列
额定宽度 Rated width	100-4000mm
辊径 Roll diameter	15-300
厚度 Thickness	0.08-80.0mm
辊数 Number of rolls	15/19/21/23/25/31
矫平速度 Leveling speed	0-10m/min
电压 Voltage	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 Precision Leveling Machine
普通数控精密矫平机概括



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.

普通系列数控精密矫平机
NC Precision Leveling Machine



设备参数

Equipment Parameters

机型 Model	MHT10-300系列
额定宽度 Rated width	100-4000mm
辊径 Roll diameter	10-300
厚度 Thickness	0.03-80.0mm
辊数 Number of rolls	15/19/21/23/25/31
矫平速度 Leveling speed	0-10m/min
电压 Voltage	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机抓手、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

四重精密矫平机概括

Four Layers Type precision leveling machine

四重精密矫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。四重精密矫平机采用上、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 Layers precision leveling machine achieves the leveling effect by rolling and pressing multiple sets of rollers of the leveling machine. Four Layers precision leveling machine adopts support rollers between the upper and lower rows of leveling work rolls and the support bearings (wheels) to form a double-layered upper and lower row, and a total of four-fold roller group structure; the force distribution of the leveling rollers is even, Good structural rigidity, small deflection and deformation of work rolls, high leveling precision, stroke harmonic attenuation straightening, fundamentally solve common leveling unevenness, easy to produce roll marks, workpiece slump, camber, etc. Problems, improve the correction accuracy of the plate, and have a wide range of applications.



四重系列精密矫平机

Four Layers precision leveling machine



设备参数

Equipment Parameters

机型 Model	SHS10-80系列
额定宽度 Rated width	100-2100mm
辊径 Roll diameter	10-80
厚度 Thickness	0.03-20.0mm
辊数 Number of rolls	13/15/19
矫平速度 Leveling speed	0-12m/min
电压 Voltage	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

Ordinary leveling machine(Two Layers leveling machine)

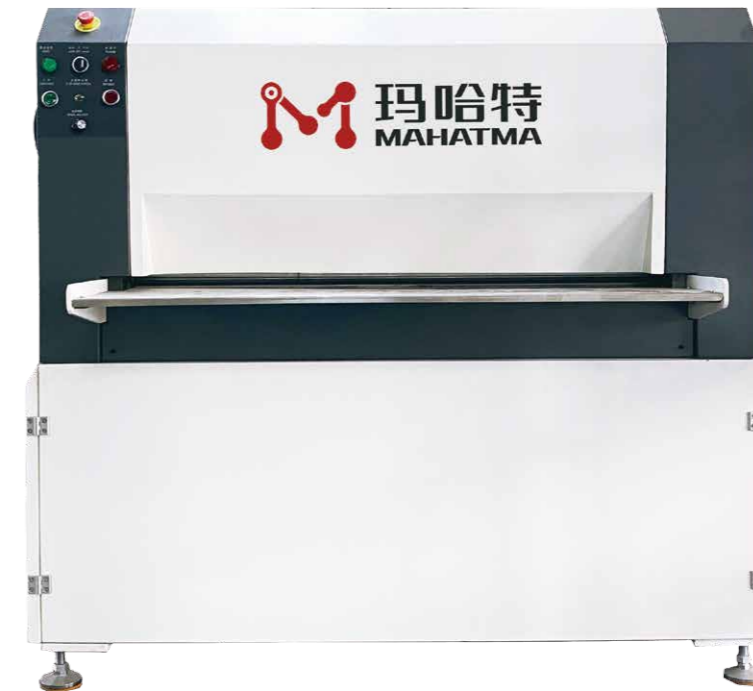
二重精密矫平机加装变频调速,可自由调整工作速度,缓冲启动及停止,材料不易抖动变形。精密矫平调整方式为四点细牙螺杆手动调整和蜗轮蜗杆上下滚筒调节,可配合精密数显百分表数值进行调整,简单轻便。矫平机进出料两端安装有不锈钢辅助托板,方便手工进行生产。相对于人工敲打或其它方式,精密矫平机大大节约人力资源,提高生产效率及产品质量!可配合冲床、油压机、剪板机、上下料机械手、自动进出料平台等设备进行片料或卷自动整平,实现自动化连续生产。

Ordinary leveling machine is equipped with frequency conversion speed regulation, which can freely adjust the working speed, start and stop with cushioning, and the material is not easy to shake and deform. The Ordinary leveling machine adjustment method is manual adjustment of four-point fine tooth screw and adjustment of upper and lower rollers of worm gear, which can be adjusted with the value of precision digital display dial indicator, which is simple and convenient. There are stainless steel auxiliary pallets installed at both ends of the feed and discharge of the leveler, which is convenient for manual production. Compared with manual beating or other methods, precision leveling. The machine greatly saves human resources, improves production efficiency and product quality! It can cooperate with equipment such as punch press, hydraulic press, shearing machine, loading and unloading manipulator, automatic feeding and unloading platform to automatically level the sheet or roll, and realize automatic continuous production.



二重系列精密矫平机

Ordinary leveling machine(Two Layers leveling machine)



设备参数

Equipment Parameters

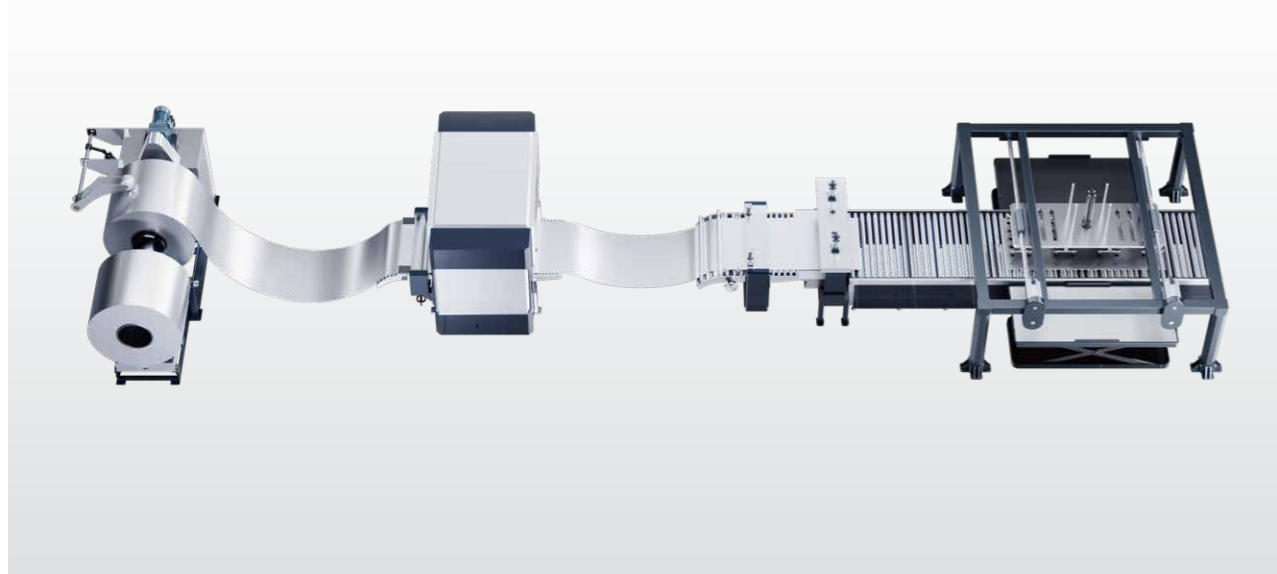
机型 Model	STS42-200系列
额定宽度 Rated width	200-3000mm
辊径 Roll diameter	42-200
厚度 Thickness	0.4-20.0mm
辊数 Number of rolls	13/15/19
矫平速度 Leveling speed	0-12m/min
电压 Voltage	AC三相380VAC 3-phase 380V
选配 Optional	1、自动上下料机械手、机器人2、自动进出料流水线3、在线厚度检测4、四/六重式辊及辊轴数量5、翘曲平面度自动检测仪 1, automatic loading and unloading manipulator, 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

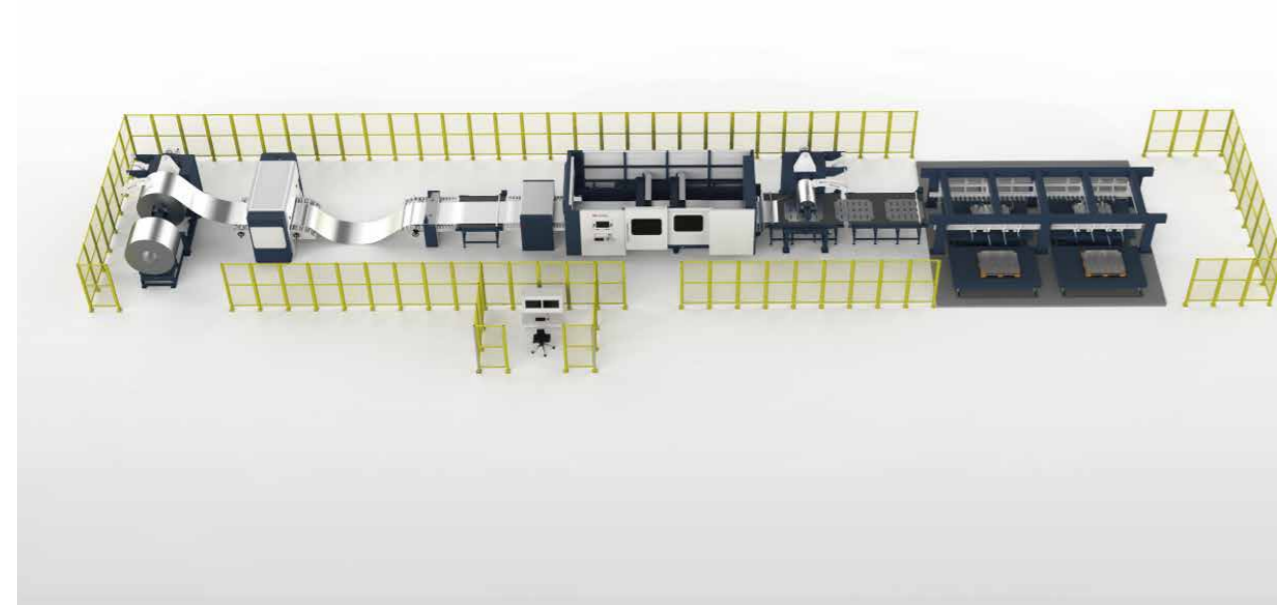
智慧工厂方案

Fully automatic high precision leveling

开卷 → 矫平 → 送料 → 剪切 → 下料 (机器人/机械手)
Uncoiling → Levelling → Feeding → Shearing → Palletizing



开卷 → 矫平 → 送料 → 双头激光切割 → 分拣下料
Uncoiling → Levelling → Feeding → Double-ended laser cutting → Sorting and palletizing



玛哈特-矫平加工中心

Fully automatic high precision leveling

在钣金生产环节中,有一个环节,一直被大家遗忘,或者说不重视,这就是零件的矫平环节。这个环节的不重视,原因有四:一是产品本身平面度要求不高,不需要矫平工序;二在原材料的购买过程中,有些厂家会选择平面度较好的原板,这样在切割过程中,零件变形量较小,在下一道工序中这个变形量可以接受;三是后续如折弯,焊接等工序可以抵消掉部分平面度不良引起的产品精度问题;四是有些厂家采用一些较传统的办法,可以解决部分产品的平面度不良。

但随着现代精密钣金的发展,企业会发现:零件本身平面精度对后续产品的精密度有很大的影响,以前一些方法已经没法解决他们的问题,这就迫切要求他们寻找新的方式解决零件平面度不良这个问题。

最容易实现的方法是购买一台高精平面度的矫平机(整平机、校平机),但是面临的情况是:有些高精平面度的矫平机,价格高昂,从几十万到动辄上百万,非一般规模企业所能承受,又或需要矫平加工的零件的量没有那么大,买台设备比较浪费。

这时,到【玛哈特】就可以帮助您解决以上问题:本着服务于此类客户的愿景,广东玛哈特负责人决定建立矫平代加工中心。该精密矫平加工中心,常年配备8-12台整平加工设备,可校平板材宽度0-4000mm,板材厚度0-80mm内的平板或平面零件,平面度可达0.01mm内。为客户节省人力成本及投资成本,低成本、高效率达到高质量的平面度要求。

In the sheet metal production link, there is a link, has been forgotten, or do not pay attention to, this is the parts of the leveling link. This link does not pay attention to, there are four reasons: first, the flatness of the product itself is not high, do not need leveling process; Two in the purchase process of raw materials, some manufacturers will choose the original plate with good flatness, so that in the process of cutting, the deformation of parts is small, in the next process of this deformation port to accept; Third, subsequent processes such as bending and welding can offset part of the poor flatness caused by product accuracy problems; Fourth, some manufacturers use some more traditional methods, can solve some products of poor flatness.

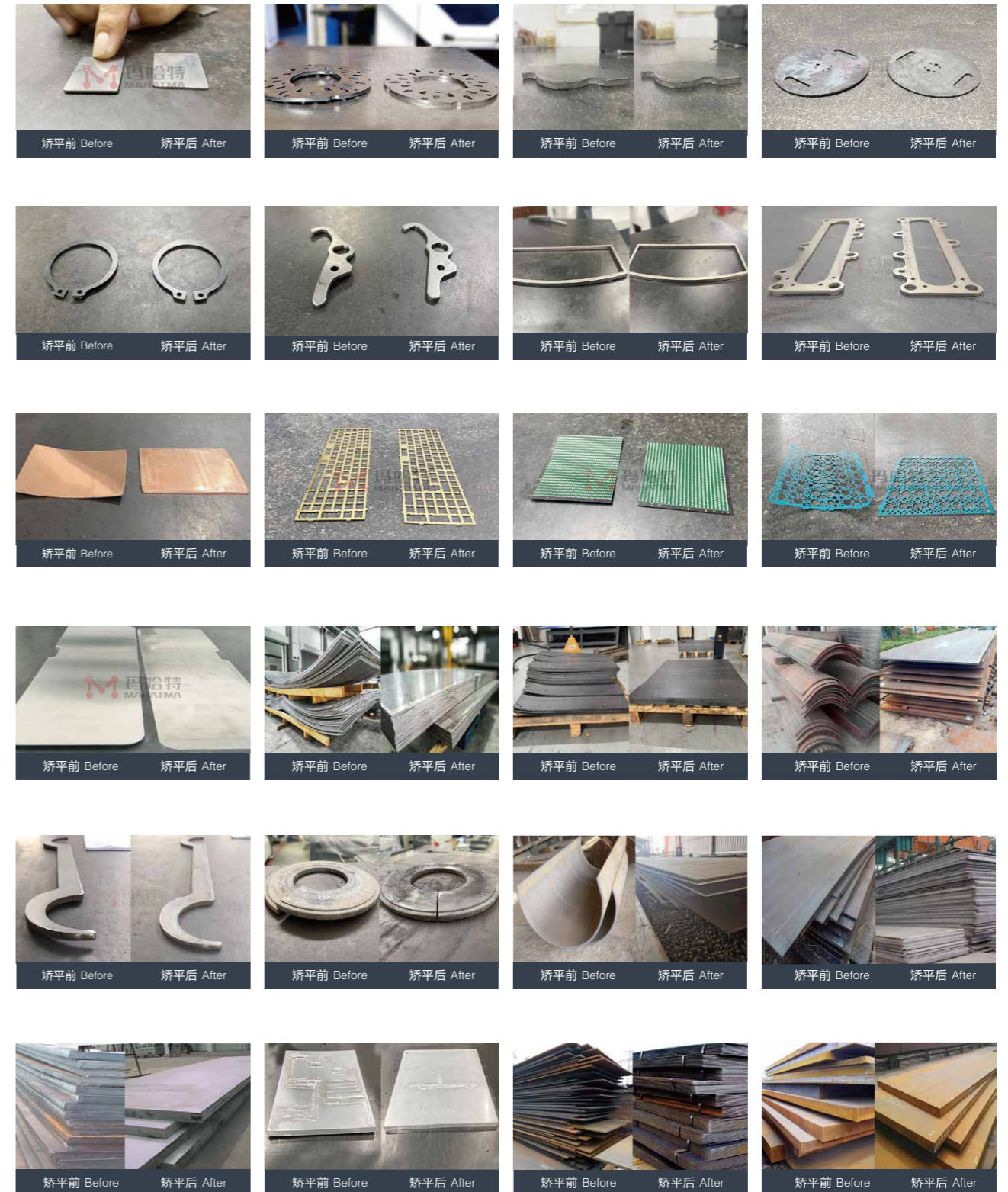
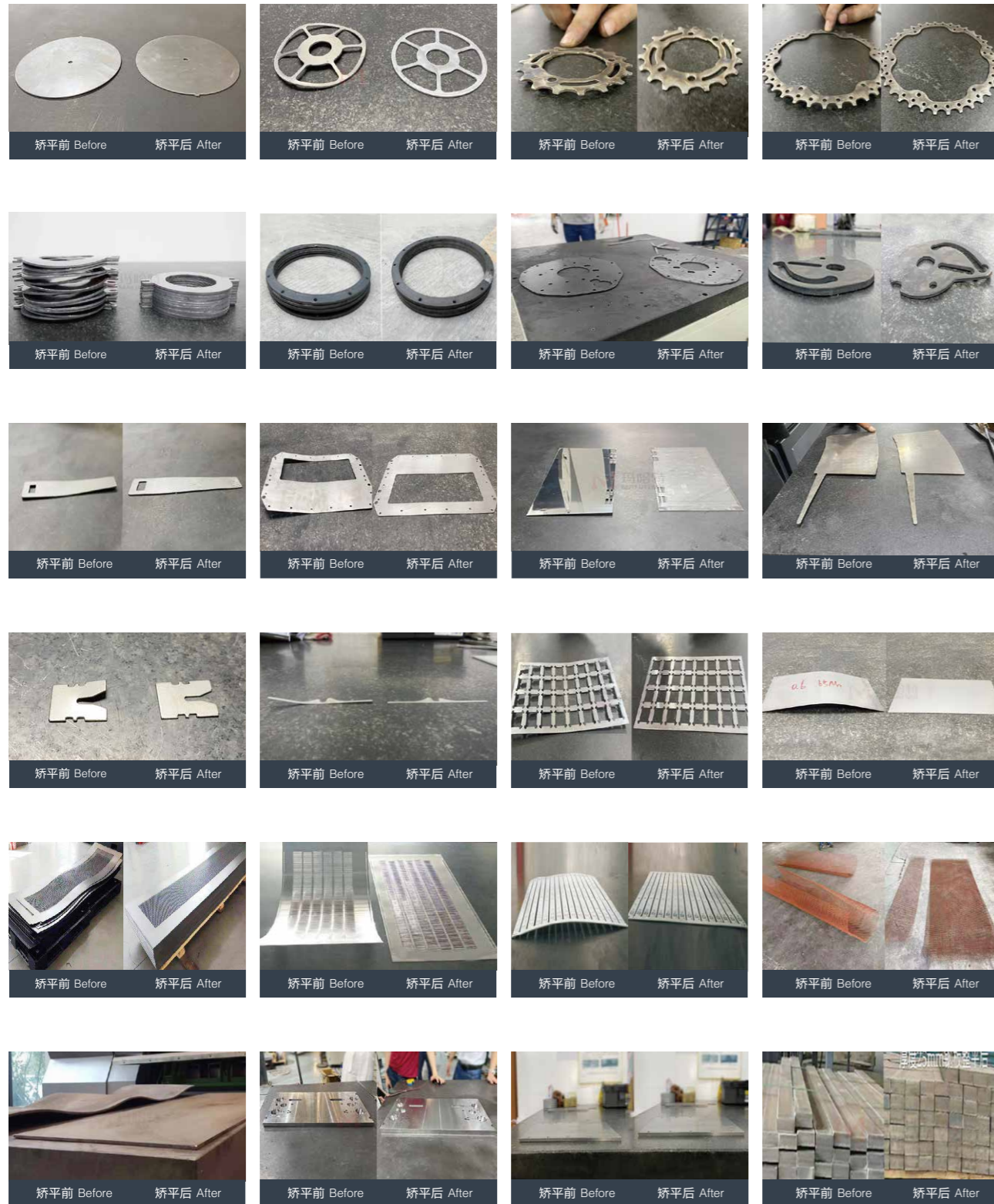
But with the development of modern precision sheet metal, enterprises will find that the plane precision of the parts themselves has a great impact on the precision of subsequent products. Some previous methods have been unable to solve their problems, which urgently requires them to find a new way to solve the problem of poor flatness of parts.

The easiest way to achieve is to buy a high precision flatness leveler (leveling machine, leveling machine), but the situation is: some high precision flatness leveler, the price is high, from hundreds of thousands to millions, not ordinary scale enterprises can bear, or need to levelling the amount of parts processing is not so large, buy a more wasteful equipment.

At this time, to [MAHATMA] can help you solve the above problems: in line with the vision of serving such customers, Guangdong MAHATMA responsible person decided to establish a leveling generation processing center. The precision leveling machining center is equipped with 8-12 sets of leveling equipment all year round, which can adjust the plate width 0-4000mm, plate thickness 0-80mm flat or flat parts, flatness can reach 0.03mm. Save labor cost and investment cost for customers, low cost, high efficiency to meet the requirements of high quality flatness.

整平前后对比图展示

Comparison chart before and after leveling





应用行业

Application industry

