



## 大理石（花岗岩）机械构件

MARBLE (GRANITE) MECHANICAL COMPONENTS

## 大理石（花岗岩）平板 量具

MARBLE (GRANITE) SLAB MEASURING TOOLS

## 精益求精 力争完美

Never Stop Searching for the Best, Strive for Perfection

## 苏州华正工业科技有限公司

Suzhou Huazheng Industrial Technology Co., Ltd



### 苏州华正工业科技有限公司

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德国CRK Werkzeugmaschinen GmbH是一家融入了德国先进技术，专业从事高精密机械传动部件的研发，生产和销售的高新技术企业。公司产品广泛应用于精密机床，半导体设备，电子设备，医疗器械，机器人，检测设备以及工业自动化等领域。公司以“CRK”为品牌标识，寓意为Create（创造）、Renovate（革新）、Know-how（技术）。CRK致力于加大研发力量的投入，在德国建立了研发中心，聘请了高技术水平、经验丰富的工程师，持续专注于技术和产品的创新。CRK为了更好的服务于中国市场，特设立位于苏州太湖国家旅游度假区的苏州华正工业科技有限公司为生产基地



品质是生命，服务是宗旨。  
Quality is life and service is purpose

一份长远的事业就像修万里长城，需要我们的勇气和智慧，也需要容纳人才。我们拥有坚定的信念。我们愿意为世界的和平与人类的幸福做出贡献。如今，公司已经拥有完整的加工、销售、售后网络，为您提供优质、快捷、专业的服务。

Developing a long-term career is like building the Great Wall, both require courage and wisdom as well as talent. We have strong belief and are willing to make contributions to the peace of the world and the happiness of mankind. Nowadays, the company already formed a complete processing, sales and after-sales network to provide you with quality, fast and professional services.





## 奖项简介

### INTRODUCTION TO AWARDS

华正是一家以“国际化、信息化、现代化、品牌化”为导向的公司，有丰富的经验。我们努力工作作为我们的优质服务提供了强有力的保证。

CRK dedicates itself to becoming more “international, informative, modern and branded”. Our rich experience and great efforts will make quality service available and assured.



全国质量认证体系是由全国各省市质量监督部门通过质量满意度综合评价，为改进质量管理，增强市场竞争力和提升经营绩效提供指导，而颁发的一个奖项。

目前全国已有相当一部份省市开展了质量信得过单位推荐宣传工作，已经推荐了几百家质量合格、稳定的企业。

The national quality trustworthy unit is an award overall assessed through quality-satisfaction by the quality supervision departments around provinces and cities in order to provide guidance for the enterprises to improve their quality management, enhance their market competitiveness and improve their business performance. Currently, quite a few provinces and cities in China have carried out the recommendation and publicity work of quality trust-worthy units, and hundreds of qualified and stable enterprises have been recommended.

苏州华正工业科技有限公司是一家高新技术企业，从事花岗石精密量具及机械构件，大理石异型构件，雕刻机床身，大理石龙门式直线电机模组等销售和服务集于一体的规范化企业，公司地处美丽的苏州吴中区。

Suzhou Huazheng Industrial Technology CO., Ltd. is a high-tech and standardized business engaged in the integrated sales and service of granite precision measuring tools and mechanical components, marble special-shaped components, engraving machine lathe beds and marble gantry liner motor modules. The company is located in the magnificent Wuzhong District, Suzhou.

## 花岗岩的外形

### THE SHAPE OF THE GRANITE

公司配有先进设备及电子检测仪器，实现了计算机数据处理，并拥有一批高素质的敬业管理人才和技术员工。本公司主要生产：花岗石平板、角尺、方尺、平尺、方箱、V型块、平行规、工作台、导规以及精密仪器设备的机械构件如：三坐标、二次元、三次元、高光机、精雕机等设备的花岗石底座、立柱、横梁、床身等。精密花岗石配套附件也就是我们常说的构件，并可完成工作台上的钻孔、开槽、镶嵌金属件等异型加工。在产品生产、检测过程中严格执行国家新标准平板计量检定规程，并可为国内外客户提供按不同国家标准生产的花岗石量具及花岗石机械构件产品以及主机的组装调试。

Yousita is outfitted with advanced equipment and electronic measuring instruments which has realized computer data processing, and it has a number of high-quality and dedicated managing talents and technicians. Our company mainly produces: granite slabs, angle rulers, square gauges, levelling rulers, square boxes, V-blocks, parallels, worktables, guide gauges and mechanical components of precision instruments and equipment such as: granite bases, columns, beams and lathe beds of equipment including coordinate measuring machines, quadratic-element machines, cubic-element machines, specular machines and fine engraving machines. The precision granite accessories, which are commonly referred to as components, can complete drilling, slotting, inlay of metal components and other special-shaped processing on the worktable. During the process of production and testing, we strictly implement new national standards of slab metrology verification rules and enable domestic and foreign customers to be offered granite measuring tools and granite mechanical components as well as assembly and debugging of the main frame according to different national standards.



本公司完善的企业管理机制，可靠的质量保证体系和先进的技术设备，使我们的产品在国际、国内市场享有极高的信誉，优质的企业管理，优质的产品质量，优质的员工素质，优质的售后服务”是我们公司的质量方针。诚心欢迎国内外客户前来参观指导，共同合作，创造辉煌。

The sound enterprise management mechanism, reliable system of quality assurance and advanced technology and equipment enable our products to enjoy a high reputation in both domestic and foreign markets. Our quality policy is “Quality enterprise management, products, staff and after-sales service”. We sincerely welcome domestic and foreign customers to visit and guide us, and cooperate with us to make achievements.



## 花岗石分类

### Granite Classification

专业、稳定、高效作为公司经营理念，始终坚持“重视质量，客户至上”的原则，以客户满意为宗旨，公司自创立以来积极开拓创新，以质量求生存，以服务赢得用户，以管理求效益，愿以各界朋友精诚合作，共同发展。

Under the business philosophy of professionalism, stability and efficiency, Yousita always adheres to the principle of 'Giving priority to quality and customer first' with the purpose of customer satisfaction. Since its establishment, Yousita has always carried out proactive innovation, strived for survival by quality, won customers by service and sought benefits by management. There is genuine willing for us to cooperate sincerely with partners from different fields for common development.

01 花岗石平板 (granite slab)

03 花岗石直角尺 (granite angle ruler)

05 花岗石 V 型块 (granite V-block)

07 花岗石等高块 (granite contour block)

09 花岗石表座 (granite measuring table)

11 T 型槽花岗石 (T-slot granite)

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08 花岗石平行规 (granite parallel)

10 花岗石角板 (granite angle plate)

12 花岗石精密结构件 (granite precision structural components)



## 原石与矿山

### Primary ore and mine

花岗岩主要由火山材料形成，如岩浆，地表下的液体岩浆冷却、凝固，矿物质气体和液体渗入岩石而形成新的结晶和各种颜色。花岗岩需要几千万年甚至上亿年才能形成，属于天然形成的矿物质材料。花岗岩由石英或者长石等矿物组成。

Granite is mainly made of volcanic materials, such as magma, and new crystals and colors are formed after the liquid magma below the surface cools and solidifies, and mineral gases and liquids seep into the rock. It takes tens of millions of years or even hundreds of millions of years for granite to come into being as a naturally formed mineral material. Granite is composed of minerals such as quartz or feldspar.

花岗石是有辐射的，有的花岗石还辐射很高，但是目前装修用的花岗石的辐射都是在国家规定的安全范围之内，对身体没什么影响的，非常轻微，有些辐射较高的花岗石国家只允许用于室外装饰，用于室内装修的都是经过安全部门检测的，所以尽可能放心使用。

Granite is radioactive, and some of them are of high radiation. However, at present, the radiation of granite used for decoration is within the safe range prescribed by the state and is very slight, which has little effect on our physical health. Some granites with high radiation are only allowed for outdoor decoration by the national regulations. All granites used for indoor decoration are tested by safety department, so it is safe to put them to use. Erchangqi granite contour block

花岗石一般来说是颜色越深辐射越大，但也不能因为深就说他肯定有很大的放射污染，花岗石分为人造花岗石和天然花岗石，人造花岗石不存在辐射问题，天然的花岗石有辐射。一般来说，花岗石的放射性比活度低微，不足为虑。花岗石的放射性比活度：红色》浅红色》灰白色》白色》黑色。进口的石材的放射性比活度，对国产石材要更高。国家环保认证可以用于室内的，也就是 A 类石材，氡浓度小于 70 贝克 / 立方米，而且购买时，一定要选择正规厂家生产的产品。

Generally speaking, the darker the granite is, the greater the radiation it contains. But we can't say that it must contain a lot of radiation pollution because of its dark color. Granite is divided into artificial and natural granite. There are no radioactive problems in artificial granite, while there is radiation in natural granite. In general, the specific activity of granite is low and should not be a matter of concern. The specific activity of granite: red » light red » grey white » white » black. The specific activity of imported stones is higher than that of domestic ones. For the stones which are certified by the national environmental protection to be used indoor, that is, Type A stones, the concentration of the atmosphere shall be less than 70 baker per cubic meter, and it is necessary to buy from qualified manufacturers.



花岗岩的特点主要是精度稳定、维护方便。这是因为：线胀系数小，受温度影响小，耐酸、耐碱、耐腐蚀、抗磁；不会生锈，不必涂油，不易粘微尘，维护，保养方便简单，使用寿命长。花岗岩经长期天然时效，内应力完全消失，材质稳定，不会变形；花岗岩组织结构稠密、表面光滑耐磨、粗糙度数值小；不会受潮生锈，使用、维护方便。

Granite is mainly characterized by stable precision and convenient maintenance because of small linear expansion coefficient, little influence of temperature, acid resistance, alkali resistance, corrosion resistance and diamagnetism; no rusting, no need to be oiled, not easy to stick dust, convenient and simple maintenance and long service life. After long-term natural aging, the internal stress of rocks may disappear entirely, and the material is stable with no deformation. The rock has a dense structure, a smooth and wear-resistant surface, and a small roughness value; it will not be affected by moisture and rust, and is easy to use and maintain.





# 画册目录

## Catalogue of enterprise albums

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## 大理石异型构件

### MARBLE SPECIAL-SHAPED COMPONENTS

大理石机械构件采用优质石料经机械加工和手工精磨制成。质地均匀，稳定性好，强度大，硬度高，能在重负荷及一般温底下保持高精度，并且具有不生锈，耐酸碱，耐磨性，黑色光泽、结构精密，不磁化、不变型等优点。

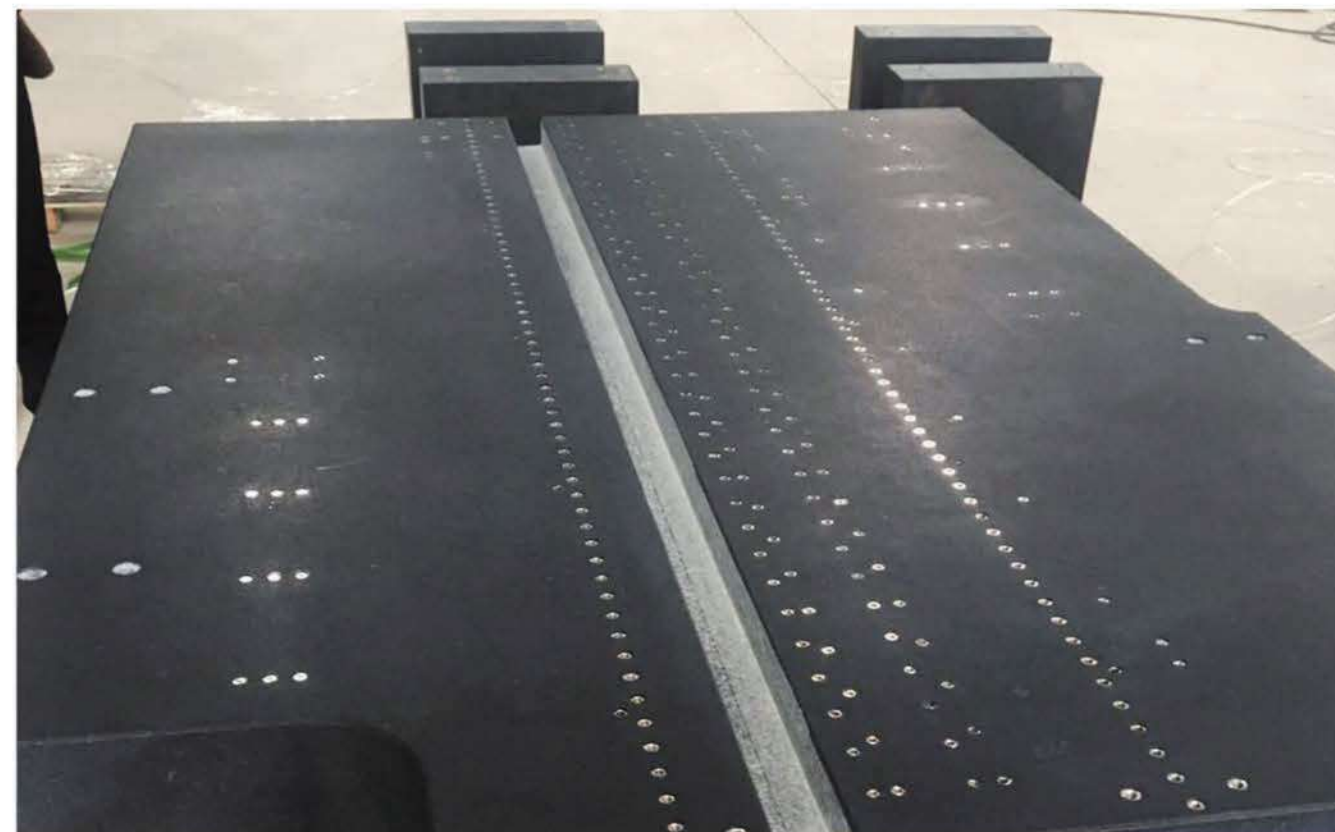
The marble mechanical components are made of high-quality stones by machining and manual grinding. Their advantages include even texture, terrific stability, great strength, high hardness, remaining high precision under heavy load and normal temperature, non-rusting, acid and alkali resistance, wear resistance, black sheen, accurate structure, non-magnetization and non-deformation.



## 优点 (Advantages)

- 1、精度高，稳定性好，不易变形。在常温下能保证测量精度。
- 2、不生锈，耐酸碱，无需特殊保养，耐磨性好使用寿命长。
- 3、工作表面的划痕，碰伤、不影响测量精度。
- 4、测量中的能干顺滑动，无滞涩感。
- 5、大理石构件的特点抗磨蚀，耐高温，维护。物理性稳定，组织缜密，受撞击晶粒脱落，表面不起毛边，不影响其平面精度花岗石精密测量平板。岩石经长期天然时效，组织结构均匀，线胀系数极小，内应力完全消失，不变形。大理石构件的工作表面在使用中保养维护简便，材质稳定，能够保证长期不变形，线膨胀系数小，机械精度高，防锈、防磁、绝缘。不变形，硬度高，耐磨性强。

1. High precision, terrific stability and not easy to deform. The measurement precision can be guaranteed at normal temperature.
2. Non-rusting, acid and alkali resistance, no need for special maintenance, high wear resistance and long service life.
3. Scratches and bruises on the surface do not affect the measurement precision.
4. Smoothness and no stagnation in the measurement.
5. The marble components are characterized by abrasion resistance, high temperature resistance, portable maintenance, physical stability and meticulous organization, and after the grains are impacted and detached, there is no burr on the surface, which will not affect the plane precision granite precision measuring slab. After long-term natural aging, the internal stress of rock disappear entirely with even structure, minimal linear expansion coefficient, and no deformation. The working surface of marble components is easy to maintain while using, and the material is stable, which can guarantee long-term non-deformation with small linear expansion coefficient, high mechanical precision, rust prevention, anti-magnetism, insulation, no deformation, high hardness and strong wear resistance.



## 发展趋势 (Development trend)

精密加工和微细加工技术是机械制造业的重要发展方向，它们已经成为衡量一个国家高科技水平的重要标志。各项尖端技术及国防工业的发展都离不开精密加工和微细加工技术。

The precision processing and micro-processing technology are fundamental trend of mechanical manufacturing, and have become an important indicator of a nation's high-tech level. The precision processing and micro-processing technology are essential to the development of all kinds of high-end technology and national defense industry.



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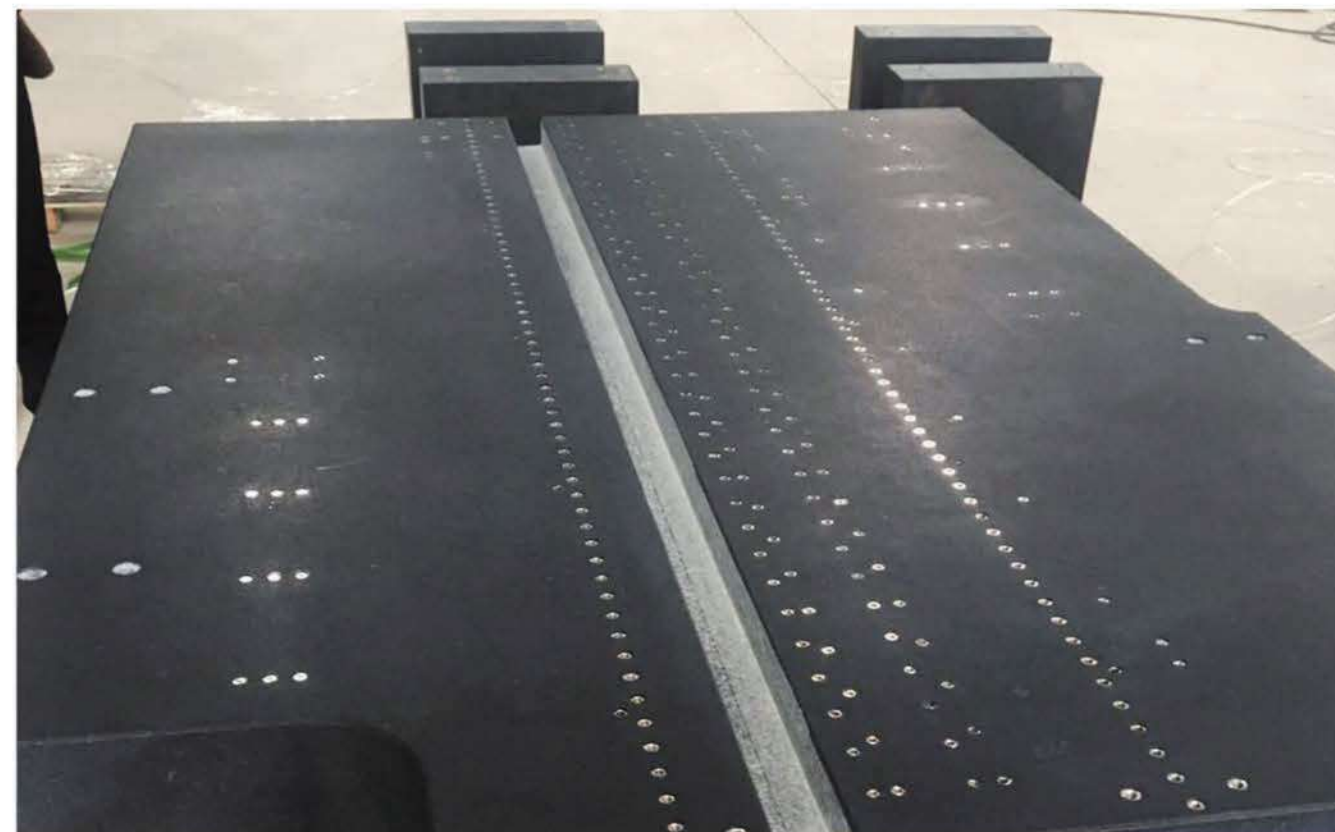
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3. Scratches and bruises on the surface do not affect the measurement precision.
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5. The marble components are characterized by abrasion resistance, high temperature resistance, portable maintenance, physical stability and meticulous organization, and after the grains are impacted and detached, there is no burr on the surface, which will not affect the plane precision granite precision measuring slab. After long-term natural aging, the internal stress of rock disappear entirely with even structure, minimal linear expansion coefficient, and no deformation. The working surface of marble components is easy to maintain while using, and the material is stable, which can guarantee long-term non-deformation with small linear expansion coefficient, high mechanical precision, rust prevention, anti-magnetism, insulation, no deformation, high hardness and strong wear resistance.



## 发展趋势 (Development trend)

精密加工和微细加工技术是机械制造业的重要发展方向，它们已经成为衡量一个国家高科技水平的重要标志。各项尖端技术及国防工业的发展都离不开精密加工和微细加工技术。

The precision processing and micro-processing technology are fundamental trend of mechanical manufacturing, and have become an important indicator of a nation's high-tech level. The precision processing and micro-processing technology are essential to the development of all kinds of high-end technology and national defense industry.



## 大理石异型构件

### MARBLE SPECIAL-SHAPED COMPONENTS

大理石精密机械构件，大理石构件车身，大理石仪器构件，自动化设备大理石构件，大理石非标平台，大理石打孔，按图纸加工精密大理石构件，大理石龙门架，百度推荐优质大理石构件厂家。

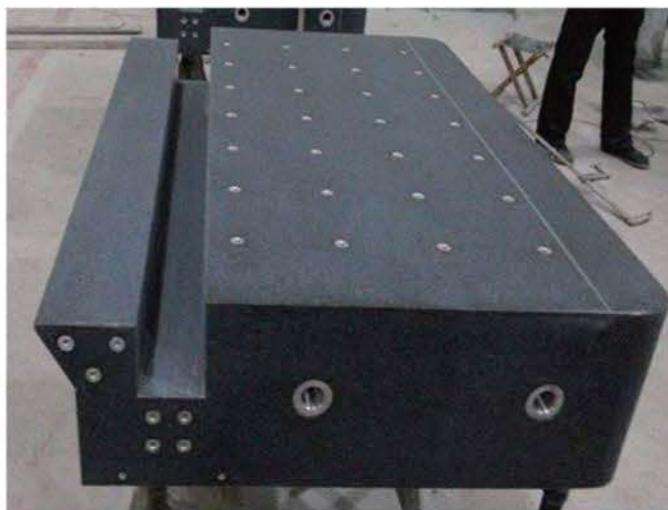
Marble precision mechanical components, marble component bodies, marble instrument components, automation equipment marble components, marble non-standard platforms, marble punches, process precision marble components according to drawings, marble gantry frames, a high-quality marble component manufacturer recommended by Baidu.



## 优点 ( Advantage )

大理石构件适用于现场的工作环境，并高度恒久长期保有产品本身精度的特性，更能确定工作环境中加工与检测的精度与工作产品品质。特别是用于高精度的测量方面。大理石构件一般用于测量仪器的工作台，大理石构件床身，大理石构件具有精度高，不变形，强度大，硬度高等优点，可根据客户不同需求加工定做。

Marble components are suitable for on-site work, and may maintain the characteristics of product precision for a long time, which can determine the precision of processing and testing in the working environment and the quality of working products, especially for ultra-high precision measurement. The marble components are generally used for measuring instrument worktable and marble component lathe bed, and the marble components have the advantages of high precision, no deformation, high strength and high hardness, which can be customized according to different needs of customers.



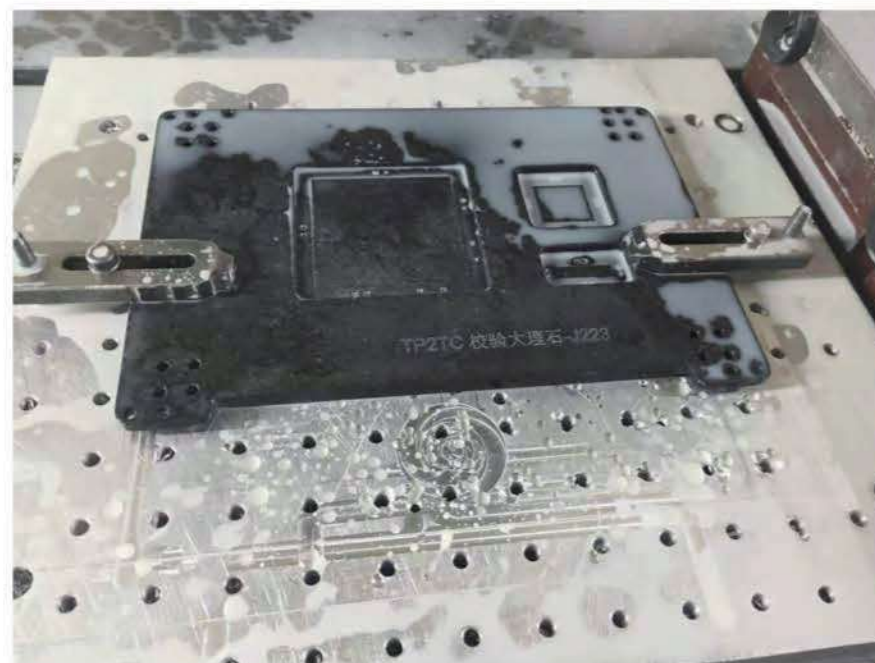
## 发展趋势(Development trend)

花岗石机械构件可以加工T型槽、打孔、V型槽、燕尾槽、给槽或孔镶嵌金属套，产品经常出口美国、日本、德国等，中国江、浙、沪和广东省需求量比较大，一般根据客户提供的图纸定做。

Granite mechanical components can process T-slots, punches, V-slots, dovetail slots, feeding slots, or hole inlaid metal coverings, and the products are often exported to the US, Japan and Germany with a high demand in Jiangsu, Zhejiang, Shanghai and Guangdong Province, and are often customized according to the drawings provided by the customers.



## 图片展示 ( Picture display )





## 大理石异型构件

### MARBLE SPECIAL-SHAPED COMPONENTS

大理石精密机械构件, 大理石构件车身, 大理石仪器构件, 自动化设备大理石构件, 大理石非标平台, 大理石打孔, 按图纸加工精密大理石构件, 大理石龙门架, 百度推荐优质大理石构件厂家。

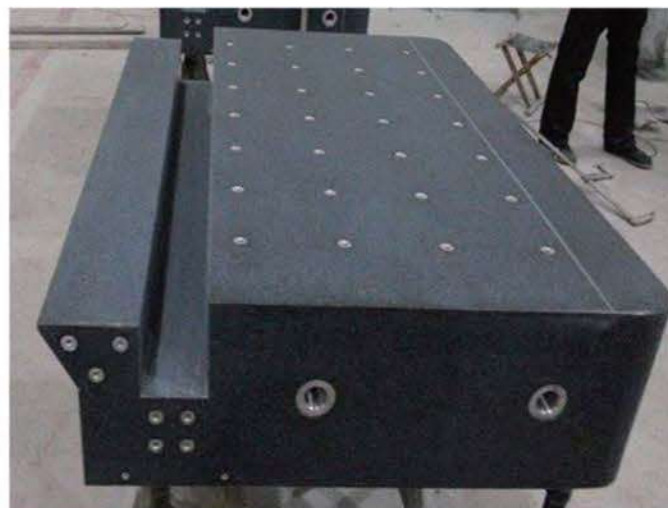
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## 优点 ( Advantage )

大理石构件适用于现场的工作环境, 并高度恒久长期保有产品本身精度的特性, 更能确定工作环境中加工与检测的精度与工作产品品质。特别是用于高精度的测量方面。大理石构件一般用于测量仪器的工作台, 大理石构件床身, 大理石构件具有精度高, 不变形, 强度大, 硬度高等优点, 可根据客户不同需求加工定做。

Marble components are suitable for on-site work, and may maintain the characteristics of product precision for a long time, which can determine the precision of processing and testing in the working environment and the quality of working products, especially for ultra-high precision measurement. The marble components are generally used for measuring instrument worktable and marble component lathe bed, and the marble components have the advantages of high precision, no deformation, high strength and high hardness, which can be customized according to different needs of customers.



## 发展趋势(Development trend)

花岗石机械构件可以加工T型槽、打孔、V型槽、燕尾槽、给槽或孔镶嵌金属套, 产品经常出口美国、日本、德国等, 中国江、浙、沪和广东省需求量比较大, 一般根据客户提供的图纸定做。

Granite mechanical components can process T-slots, punches, V-slots, dovetail slots, feeding slots, or hole inlaid metal coverings, and the products are often exported to the US, Japan and Germany with a high demand in Jiangsu, Zhejiang, Shanghai and Guangdong Province, and are often customized according to the drawings provided by the customers.



## 图片展示 ( Picture display )







## 雕刻机床身 ENGRAVING MACHINE LATHE BED

雕刻机床身有床身，运动部件，传导装置和运动源这几部分组成。现就展开对雕刻机床身做出详细介绍。

The engraving machine lathe bed consists of lathe beds, moving components, conducting devices and moving sources. The detailed introductions to the engraving machine lathe bed will be presented.



雕刻机床身大体可以分为焊接型和铸铁型两种。雕刻机床身精度要求高。焊接型床身灵活多变，工艺较为简单价格适中。雕刻机床身缺点是去除应力工艺较为繁琐。雕刻机床身有个别厂家在不去除应力的情况下就直接使用，造成了床身变形加工精度降低。铸铁床身，一次铸造成型，不宜变形。雕刻机床身因为铸造工艺的繁琐及铸造行业的特有性质决定了其价格昂贵。性价比太差是铸铁床身的不可协调的瓶颈问题

The engraving machine lathe bed can be divided into two types including welding type and cast iron type. There is a high requirement on the precision of the engraving machine lathe bed. Welding lathe beds are flexible and variable with a relatively simple process and moderate price. The disadvantage of the engraving machine lathe bed is that the stress removal process is relatively complicated. Some manufacturers directly use the engraving machine lathe bed without removing stress, resulting in the deformation of lathe bed and reduction of processing precision. The cast iron lathe beds are molded in one time and not easily deformed. However, the engraving machine lathe bed is expensive because of the complicated foundry process and the unique characteristics of the foundry industry. The poor performance-price ratio is the uncoordinated bottleneck problem of cast iron lathe bed.

我们本着薄利多销，广拓市场的方针，以实惠的价格和诚挚的服务为各行业提供优质的产品。“客户至上、诚信为本、优质服务、积极进取”是我们的经营标致，“品质、高效创新、持续改善、勇于开拓”是我们的发展理念。展望未来，我们坚守信念，精益求精，不断拓展，真诚期望与各界人士达成双赢的合作关系，一起携手共创美好明天！

We provide high-quality products for all industries in line with the policy of small profits but quick turnover and expanding the market with affordable prices and sincere services. "Customer first, integrity, high-quality services and being proactive" is our business mark, and "High-quality, efficient innovation, continuous improvement, and pioneering spirit" is our development philosophy. Looking into the future, we adhere to our beliefs, strive for excellence, keep expanding, and sincerely look forward to a win-win cooperation with people from all walks of life to create a better tomorrow.

## 大理石龙门式直线电机模组 MARBLE GANTRY LINEAR MOTOR MODULE



- 1、装配精度比传统型材模组高，可以调校导轨的安装面的平面度达到两个微米，线性（直线度）可达到一个微米
- 2、装配的精度比传统型材模组高，直线电机的重复精度可以达到正负一个微米标准的3D模型图，节省画图时间，可借助相应的3D图直接套用
- 3、维护方便，寿命周期可长达5年

1. The assembly precision is higher than that of the traditional module. The flatness of the mounting surface of the guide can be adjusted to two microns, and the linearity (straightness) can be adjusted to one micron
2. The assembly precision is higher than that of the traditional module. The repetition precision of linear motor can make a 3d model diagram with the standard of plus or minus one micron, which can save the drawing time by directly applying corresponding 3d diagram.
3. Easy to maintain with a life cycle of up to 5 years



龙门双驱是指龙门轴由两个电机驱动，龙门每一侧均有一个电机。这将提供一个更加平衡的驱动力和最小化龙门单驱存在的问题。这种配置可以选择使用一个编码器和一台伺服驱动器，也可以选择2个编码器和一台双驱伺服驱动器。单编码器是两个电机一直接收相同的反馈信号和相同的位置误差。相较龙门单驱，两侧会明显降低逆转误差。双编码器是每条轴独立接收反馈信号和位置偏差，可使用双驱驱动完成更高性能。

Gantry double drive means that the gantry shaft is driven by two motors with one on each side of the gantry. This will provide a more balanced drive and minimize the problems of the gantry single drive. This configuration may adopt either an encoder and a servo driver or 2 encoders and a dual-driven servo driver. The single encoder means two motors always receive the same feedback signals and the same position errors. Compared with gantry single drive, the reversal errors can be significantly reduced on both sides. Double encoder means that each shaft receives feedback signal and position deviation independently and higher performance may be achieved with dual-driven drives.

大理石模组可应用于电子与半导体设备、UV喷绘行业、UV印染行业、UV印刷行业、精密数控机床、高端医疗器械、手机检测行业、玻璃检测行业等领域。适用于要求高精度等行业龙门直线模组平台

The marble modules can be applied in fields including electronic and semiconductor equipment, UV spray painting industry, UV printing and dyeing industry, UV printing industry, precision CNC machine tools, high-end medical devices, mobile phone testing industry and glass testing industry, and are suitable for gantry linear module platform in industries requiring high precision.



花岗岩的特点主要是精度稳定、维护方便。这是因为：线胀系数小，受温度影响小，耐酸、耐碱、耐腐蚀、抗磁；不会生锈，不必涂油，不易粘微尘，维护，保养方便简单，使用寿命长。花岗岩经长期天然时效，内应力完全消失，材质稳定，不会变形；花岗岩组织结构稠密、表面光滑耐磨、粗糙度数值小；不会受潮生锈，使用、维护方便。

Granite is mainly characterized by stable precision and convenient maintenance because of small linear expansion coefficient, little influence of temperature, acid resistance, alkali resistance, corrosion resistance and diamagnetism; no rusting, no need to be oiled, not easy to stick dust, convenient and simple maintenance and long service life. After long-term natural aging, the internal stress of rocks may disappear entirely, and the material is stable with no deformation. The rock has a dense structure, a smooth and wear-resistant surface, and a small roughness value; it will not be affected by moisture and rust, and is easy to use and maintain.



## 花岗岩产品

### GRANITE PRODUCTS

花岗岩产品主要缺点是不能承受过大的撞击、敲打，湿度高会变形，吸湿性为1%。

花岗岩从切割定型粗研磨到进恒温室细研磨，前后要求精度高，温度适宜，精度要求高于铸铁量具，适用于精度要求高的生产项目工作面受碰撞或划伤后只会产生凹坑，不产生凸纹、毛刺，对测量精度无影响。

精密加工和微细加工技术是机械制造业的重要发展方向，它们已经成为衡量一个国家高科技水平的重要标志。各项高端技术及国防工业的发展都离不开精密加工和微细加工技术。

The main disadvantages of granite products are that they cannot withstand excessive impact and knocking, they will be deformed because of high humidity, and their hygroscopicity is 1%.

From cutting, setting and rough grinding to fine grinding of granite in constant temperature chamber, high precision and suitable temperature are required.

The precision requirement of granite is higher than that of cast iron measuring tools. It is suitable for production projects with high precision requirement. After collision or scratch on the working surface, only pits will be produced, not convex lines and burrs, which have no effects on its measurement precision.

The precision processing and micro-processing technology are fundamental trend of mechanical manufacturing, and have become an important indicator of a nation's high-tech level. The precision processing and micro-processing technology are essential to the development of all kinds of high-end technology and national defense industry.



## 花岗岩精密

### PRECISION OF GRANITE

当代精密工程、微细工程和纳米技术是现代制造技术的支柱。另外很多新技术机电产品包括微机电产品都需要提高精度、减少尺度以促进整个机械制造业技术水平的提高，使机械产品的质量、性能和可靠性得到大幅度的提高。精密花岗岩的应用领域非常广如电子机械加工，磨具，自动化设备等所有需要检验产品的实验室以及一些要求精度比较高的设备上。

Contemporary precision engineering, micro-engineering and nanotechnology are the pillars of modern manufacturing technology. In addition, for many new technological mechatronics products including micro-mechatronics products, the precision needs to be improved and the dimension needs to be reduced to promote the improvement of the technical level of the entire mechanical manufacturing industry, so that the quality, performance and reliability of mechanical products will be greatly promoted as well.

Precision granite is used in a wide range of fields, such as all laboratories that need to test products including electromechanical processing, abrasive tools, and automation equipment as well as some equipment requiring high precision.

## 花岗岩精密

### GRANITE PRECISION

花岗岩精密 Precision of granite

比重：2970-3070kg/m<sup>3</sup>,

抗压强度：245-254N/mm

气线膨胀系数：4.61 X 10<sup>-6</sup>/°C

吸水率：<0.13%,

肖氏硬度：Hs70以上

弹性模量：1.27-1.47x10<sup>5</sup>N/mm

Specific gravity: 2,970-3,070 kg/m<sup>3</sup>,

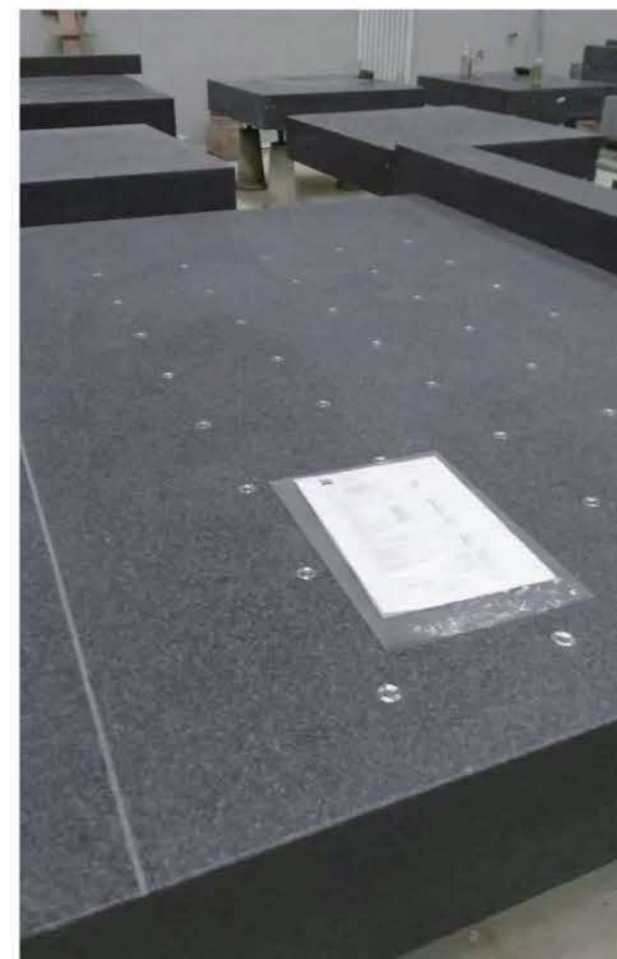
Compressive strength: 245-254N/mm

Linear expansion coefficient: 4.61x10<sup>-6</sup>/°C

Water absorption: < 0.13%,

Shore hardness: over Hs70

Modulus of elasticity: 1.27-1.47x10<sup>5</sup>N/mm







## 精密花岗岩的加工

### PROCESS OF PRECISION GRANITE

当代精密工程、微细工程和纳米技术是现代制造技术的支柱。另外很多新技术机电产品包括微机电产品都需要提高精度、减少尺度以促进整个机械制造业技术水平的提高，使机械产品的质量、性能和可靠性得到大幅度的提高。精密花岗岩的应用领域非常广如电子机械加工，磨具，自动化设备等所有需要检验产品的实验室以及一些要求精度比较高的设备上。

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## 精密花岗岩的加工

### PROCESS OF PRECISION GRANITE

现阶段精密花岗岩的加工过程：选择合适的材料尺寸进行切割分料，把切割好的放到刨床上创面，面创完了进行人工粗磨，在移到恒温车间进行精磨，精修，最终按照标准检验合格。涉及到非标加工的可能会检验完成后要到钻床上打孔，开槽等异形加工要求。然后再到恒温车间进行镶件，品质检验到完成加工。其中很多过程是比较复杂的。

The process of precision granite in the current phase: select the appropriate material for cutting and splitting, put the cut material on the planer for planning, conduct manual rough grinding after planning, then move it to the constant temperature workshop for fine grinding and fine repair, and finally pass the test in accordance with the standard. Granite involving non-standard processing may require special-shaped processing including punches and slots after the inspection is completed, and the processing is finished after transferring it into the constant temperature workshop for inserts and quality inspection. Many of these processes are rather complex.



## 我们的选材 OUR MATERIAL SELECTION

苏州华正公司所选材料均为黑色花岗岩材料

- \* 花岗岩属于天然石材。选择合适的材料很重要，根据需求选择合适的尺寸，没有裂纹；花色均匀的花岗岩。
- \* 把水浇在花岗岩的面上，观察水的渗透性，看清花岗岩的纹理
- \* 突然的骤冷骤热会导致花岗岩出现裂纹



The materials selected by crk are black granites” .

Granite is a kind of natural stone. It is of great importance to choose the suitable material, and select granite with proper size, even color and no cracks in accordance with the needs.

Pour water on the surface of the granite to observe the permeability of water and the texture of the granite, and sudden cooling and heat will lead to cracks in the granite



- \* 定位好花岗岩毛料，用大型龙门锯进行花岗岩的粗切，保证花岗岩合理的外形尺寸。
- \* 精密切割保证所需花岗岩外形尺寸。
- \* 用循环水来降低锯片切割时的温度，边切边浇水。
- \* 剩余的花岗岩材料与废料回收。
- \* 锯片前端是合金材料。

\*Position the unprocessed granite and conduct rough cut of the granite with a large gantry saw to ensure a reasonable shape and dimension of granite.

\*Precision cutting ensures the required shape and dimension of granite.

\*Circulating water to reduce the saw blades' temperature while cutting."

\*Recycle remaining granite materials and wastes."

\*The front end of the saw blade is made of alloys.

## 花岗岩的外形 THE SHAPE OF GRANITE

\*精密分切好的花岗岩在刨床上进行粗刨后转入精刨，去掉相对多余的厚度尺寸。

\*花岗岩板外形尺寸控制在1-2mm。

\*用循环水来降低刨头工作时的温度，边刨边浇水。

\*根据刨头的磨损情况定期更换磨头。

\*定期检验维修保养设备。

\*The precisely cut granite is transferred to fine planning after rough planning on the planer, removing the extra thickness and dimension.

\*The dimension of the granite slab is controlled within 1-2 mm.

\*Reduce the temperature of the planer head with circulating water while working.

\*Change the grinding head regularly according to the wear condition of the planer head.

\*Inspect and maintain the equipment regularly.



## 花岗岩的磨面

### THE GRINDING SURFACE OF THE GRANITE

\*将刨好的花岗岩在磨床上进行粗磨之后到精磨。

\*花岗岩板精磨尺寸到0.3-0.1mm。

\*用循环水来降低磨头工作时的温度，边磨边浇水。

\*根据磨头的磨损情况定期更换磨头。

\*定期检验维修保养设备。

\*The precisely planed granite is transferred to fine planning after rough planning on the planer

\*The dimension of the granite slab is fine ground to 0.3-0.1 mm.

\*Reduce the temperature of the grinding head with circulating water while working.

\*Change the grinding head regularly according to the wear condition of the grinding head.

\*Inspect and maintain the equipment regularly



## 人工研磨精度面

### ARTIFICIAL GRINDING PRECISION SURFACE

\*支撑架上，调整水平。

\*根据花岗岩的外形尺寸选择合适的模具（花岗岩板）。

\*用金刚砂子和适当的水进行研磨面，沙子从粗沙直换到细沙子。

\*将花岗岩板为0.3-0.1mm的板，研磨到客户所需的精度级别。

\*次研磨过程在恒定的温湿度

\*Adjust the level on the supporting frame:

\*Choose the appropriate pattern die (granite slab) according to the shape and dimension of granite.

\*Grind the surface with silicon carbide and appropriate amount of water, and change the rough sand to the fine sand.

\*Grind the granite slabs of 0.3-0.1 mm to those of the precision required by customers.

\*The regrinding process is conducted at constant temperature and humidity.





## 花岗岩的分切

### SLITTING OF THE GRANITE

- \* 研磨好的花岗岩板放到数控打孔机床上，按所需图纸打孔或开槽。
- \* 清理花岗岩孔或槽里的碎石。
- \* 用循环水来降低钻头工作时的温度，边钻边浇水。
- \* 根据钻头的磨损情况定期更换钻头。
- \* 定期检验维修保养设备。
- \* Put the grinded granite slab on the CNC punching machine and punch or slot in accordance with the required drawings.
- \* Clean up the crushed stones in granite holes or slots.
- \* Reduce the drilling bit's temperature with circulating water while drilling.
- \* Change the drilling bit regularly according to its wear and tear.
- \* Inspect and maintain the equipment regularly.

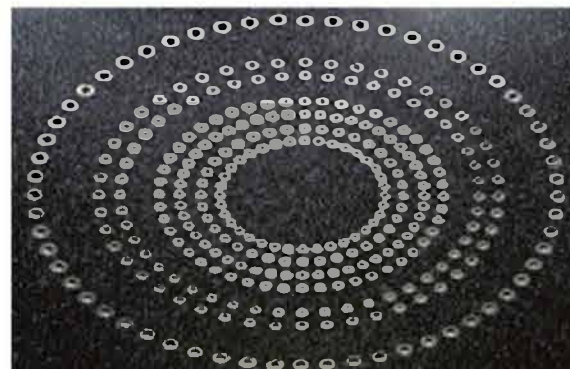


## 花岗岩的镶件

### INSERTS OF GRANITE

- \* 将清理干净的花岗岩板平稳放置。
- \* 调制好花岗岩专用胶水，均匀的涂到金属件的周围，放置到打好孔的花岗岩板里。金属件低于花岗岩板面。
- \* 夏天胶水凝固时间10-12小时以上，冬天胶水凝固时间20—24小时以上。
- \* 及时擦干残留多余的胶水。

- \* Place the clean granite slab steadily.
- \* Concoct the specialized glue for granite, evenly apply it around the metal components, and place it in the well-punched granite slab. The metal components shall be lower than the granite slab.
- \* The time of solidifying the glue is over 10-12 hours in summer and over 20-24 hours in winter.
- \* Dry the remaining glue in time.



## 花岗岩精修

### REFINEMENT OF GRANITE

- \* 将处理好的花岗岩板静止放到恒温恒湿环境中5小时以上。
- \* 用精细的金刚砂进行精细研磨与检测，间隔测量时间为2小时以上，直到达到所需精度为止。
- \* 重复以上精磨与检测，观察时间为2-3天。
- \* 实际研磨精度高于所需精度要求。
- \* 出具精度检测数据报告。
- \* Put the processed granite slab in a static way in the constant temperature and humidity over 5 hours.
- \* The fine silicon carbide are used for carefully grinding and testing with measuring intervals of more than 2 hours until the required precision is available.
- \* Repeat the above-mentioned process of grinding and testing with the time for observation of 2-3 days.
- \* The actual grinding precision shall be higher than the required precision.
- \* Issue the data report for the precision test.



## 花岗岩的组装、检测

### ASSEMBLING AND TESTING OF GRANITE



- \* 华正公司可以按照您的设计来生产花岗岩产品（例如半导体仪器，加工机器；非标自动化设备的主要结构组件）也可以帮您进行组装调试安装。
- \* 研磨好的花岗岩产品就是一个个标准的零件，按照图纸总装成一个整体。
- \* 通过对花岗岩产品的直线度，平行度，垂直度的检测来达到整体的安装精度。
- \* 花岗岩产品的检测与组装需在一个恒定温度22-/+1 (°)，湿度58-/+2%中进行。
- \* 华正公司具有高精密的检测仪器和专用的技术团队。
- \* 华正公司提供精准的售前与售后服务。
- \* 华正公司所使用的检测仪器或工具都按照中国国家标准进行过CNAS计量校准，并附有合格的计岱校准检验证书。

- \* CRK can produce granite products in accordance with your design (e.g. the semi-conductor devices, processing machines, and the main structural components of non-standard automation equipment) and also can help you assemble, debug and install.
- \* The grinded granite products are a number of standard parts which are assembled as a whole in accordance with the drawings.
- \* The overall setting precision could be realized by testing the straightness, parallelism and perpendicularity of the granite products.
- \* The testing and assembling of granite products must be carried out at a constant temperature of 22-/+1°C and humidity of 58-/+2%.
- \* CRK has high-precision testing instruments and an exclusive technical team.
- \* CRK provides targeted pre-sales and after-sales services.
- \* The CNAS measurement and calibration of the testing instruments or tools adopted by CRK has been conducted in accordance with the Chinese standards, and the qualified measurement and calibration inspection certificate is attached.





## 特殊要求

如果标准大理石平板无法满足您的应用需求，我们还可以为您提供定制服务。根据您的实际需求，我们可为您定制平板的尺寸和厚度。我们还可以在您的平板中加入孔、埋头孔、螺纹或实心不锈钢嵌件以及T型槽等。

## SPECIAL REQUIREMENT

In case the standard marble slabs cannot meet your application requirements, you may contact us for customized services.

According to your actual needs, we can customize the dimension and thickness of the slabs for you. We can also add holes, counter-sunk holes, screw threads or solid stainless steel inserts and T-slots to the slabs.

## 精密花岗石平台

ULTRA-HIGH PRECISION GRANITE PLATE

## P100 A系列

P100 A SERIES

## 描述

- 采用上等的细颗粒天然花岗岩材料，可确保性能和尺寸的稳定性。
- 黑色的大理石平板能产生微弱的反光，因而降低了工人在使用平板时眼睛的疲劳度。
- 花岗岩平台的性能在很多方面优于铸铁平台：硬度是铸铁平台的两倍；非磁性；尺寸受温度影响小。



## DESCRIPTION

- Selected fine-grained natural granite materials ensure the stability of the performance and dimension.
- The black marble slab produces a weak reflection which may relieve eye fatigue for workers.
- The performance of granite platform is superior to that of cast iron platform in many aspects: twice the hardness of the cast iron platform; non-magnetic; the dimension is less affected by temperature.

- 结构致密，材质均匀，无扭曲变形，不会影响工件。
- 无磁性；不导电；100%防腐。
- 由于花岗岩平台的晶体结构精细，无粘贴性，不会产生毛刺或者表面凸起现象，因此可保证长期使用也可保证很高的平面度。
- 不会损坏工件或者仪器，测量设备或者仪器在工作面上容易移动。需要在一个稳定的温度环境中使用。由于上表面和后表面的温度差产生的平面度误差，所以应该避免在阳光直射下使用。此外，不要放置在空调附近，由于花岗岩有一定的吸收率导致平面度变化。

## 功能

- 用于测量领域，对零件的布置，测量，划线和研磨。



- Compact structure, even material, no distortion and deformation, and will not affect the workpiece.
- No magnetism; no conduction; 100% anti-corrosion.
- On account of the fine crystal structure, no stickiness and no burrs or surface bulges of the granite, the long-term use and high flatness can be ensured.
- It will not damage the workpiece or instrument, and the measuring equipment or instrument can easily move on the working surface.
- It needs an environment with stable temperature. Due to the flatness error between the upper surface and the rear surface caused by the temperature difference, the use in direct sunlight should be avoided. In addition, do not place it near air conditioners because the granite has a certain absorption rate, which will result in change in its flatness.

## FUNCTION

- Used in the field of measurement, the placement of precision parts; measurement; marking and grinding.

货号	尺寸规格(mm)	等级	平面度(um)	重量(kg)	极限强度(N)	配套支架货号 (选配)
P100A-3300	300X300X100	0	3.0	27	3800	CT101B-3030 CT101C-3030
P100A-330		1	6.0			
P100A-331		2	12			
P100A-4300	400X300X100	0	3.0	36	4600	CT101B-4030 CT101C-4030
P100A-430		1	6.0			
P100A-431		2	12			
P100A-4500	450X300X100	0	3.0	41	4900	CT101B-4530 CT101C-4530
P100A-450		1	6.0			
P100A-451		2	12			
P100A-4400	400X400X100	0	3.5	48	5100	CT101B-4040 CT101C-4040
P100A-440		1	6.5			
P100A-441		2	13			
P100A-5400	500X400X100	0	3.5	60	5400	CT101A-4538 CT101B-5040 CT101C-5040
P100A-540		1	6.5			
P100A-541		2	13.5			
P100A-5500	500X500X100	0	3.5	75	6700	CT101A-4538 CT101B-5050 CT101C-5050
P100A-550		1	6.5			
P100A-551		2	14			
P100A-6400	600X400X100	0	3.5	72	5900	CT101A-4538 CT101B-6040 CT101C-6040
P100A-640		1	7.0			
P100A-641		2	14			
P100A-64500	600X450X100	0	3.5	81	7850	CT101A-4538 CT101B-6045 CT101C-6045
P100A-6450		1	7.0			
P100A-6451		2	14			
P100A-6500	600X500X100	0	3.5	90	9600	CT101A-4538 CT101B-6050 CT101C-6050
P100A-650		1	7.0			
P100A-651		2	14			
P100A-6600	600X600X100	0	3.5	108	17600	CT101A-5050 CT101B-6060 CT101C-6060
P100A-660		1	7.0			
P100A-661		2	14			
P100A-8500	800X500X130	0	4.0	160	17000	CT101A-6845 CT101B-8050 CT101C-8050
P100A-850		1	8.0			
P100A-851		2	16			
P100A-8600	800X600X130	0	4.5	190	17400	CT101A-6845 CT101B-8060 CT101C-8060
P100A-860		1	9.0			
P100A-861		2	18			
P100A-9600	900X600X130	0	4.5	210	17800	CT101A-6845 CT101B-9060 CT101C-9060
P100A-960		1	9.0			
P100A-961		2	18			
P100A-16300	1000X630X150	0	4.5	290	18200	CT101A-7560 CT101B-1063 CT101C-1063
P100A-1630		1	9.0			
P100A-1631		2	18			
P100A-17500	1000X750X150	0	4.5	340	18600	CT101A-7560 CT101B-1075 CT101C-1075
P100A-1750		1	9.0			
P100A-1751		2	18			



货号	尺寸规格(mm)	等级	平面度(um)	重量(kg)	极限强度(N)	配套支架货号(选配)
P100A-18000	1000X800X150	0	4.5	360	19400	CT101A-7560
P100A-1800		1	9.0			CT101B-1080
P100A-1801		2	18			CT101C-1080
P100A-11000	1000X1000X150	0	5.0	450	28400	CT101A-7575
P100A-1100		1	10			CT101B-1010
P100A-1101		2	20			CT101C-1010
P100A-12800	1200X800X150	0	5.0	440	27800	CT101A-9575
P100A-1280		1	10			CT101B-1280
P100A-1281		2	20			CT101C-1280
P100A-12900	1200X900X150	0	5.0	490	28900	CT101A-9575
P100A-1290		1	10			CT101B-1290
P100A-1291		2	20			CT101C-1290
P100A-12100	1200X1000X150	0	5.0	540	29600	CT101A-9575
P100A-1210		1	10.5			CT101B-1210
P100A-1211		2	21			CT101C-1210
P100A-15100	1500X1000X200	0	5.7	900	31400	CT101A-1275
P100A-1510		1	11.3			CT101B-1510
P100A-1511		2	22.6			CT101C-1510
P100A-15200	1500X1200X200	0	6.0	1100	33600	CT101A-1275
P100A-1520		1	12			CT101B-1512
P100A-1521		2	24			CT101C-1512
P100A-21000	2000X1000X200	0	6.5	1200	34300	CT101A-1580
P100A-2100		1	13			CT101B-2010
P100A-2101		2	26			CT101C-2010
P100A-21200	2000X1200X200	0	6.5	1500	54600	CT101A-1580
P100A-2120		1	13.5			CT101B-2012
P100A-2121		2	26			CT101C-2012
P100A-21500	2000X1500X300	0	7.0	2700	78400	CT101A-1510
P100A-2150		1	14			CT101B-2015
P100A-2151		2	28			CT101C-2015
P100A-25000	2500X1500X300	0	7.0	3400	89600	CT101A-2010
P100A-2500		1	14			CT101B-2515
P100A-2501		2	28			CT101C-2515
P100A-30100	3000X1000X300	0	7.0	2700	78400	CT101A-2275
P100A-3010		1	14			CT101B-3010
P100A-3011		2	28			CT101C-3010
P100A-31500	3000X1500X300	0	7.0	4100	107600	CT101A-2510
P100A-3150		1	14			CT101B-3015
P100A-3151		2	28			CT101C-3015
P100A-32000	3000X2000X300	0	8.0	5400	146700	CT101A-2515
P100A-3200		1	18			CT101B-3020
P100A-3201		2	36			CT101C-3020
P100A-42000	4000X2000X400	0	11	9600	322740	CT101A-3515
P100A-4200		1	22			CT101B-4020
P100A-4201		2	40			CT101C-4020

\* 可根据您的需求定制花岗岩平板尺寸。

\* 花岗岩平尺尺寸2000X1500及以上尺寸我们强烈建议使用CT101D系列岩石型平板支架。

\* 如需更多花岗岩平板尺寸信息请与我们联系。

\*The dimension of the granite slab can be customized in accordance with your needs.

We strongly suggest the use of CT101D series rocky slab brackets if the dimension of the granite's levelling ruler is 2,000X1,500 and above.

\*For more information on the dimension of granite slabs, please kindly contact us.

## 超高精度花岗石平板 Ultra-high Precision Granite Slab

### 描述

· 精选上等的细颗粒天然花岗岩材料，

可确保性能和尺寸的稳定性。

· 超高精密花岗岩平板超过中国国家

JLL 7-2003G 标准，美国联邦GGGP-463C

标准；

德国国家DIN876/875 标准以及日本国家JISB7510 标准精度。

· 花岗石表面粗糙度比较值达到RA=0.8 微米以内。

· 超高精密花岗石平板精度确定需到优思塔公司来验证，

您也可以提供一个恒定的温湿度环境的场所完成检验。

### 功能

· 用于精密测量、科研，计量领域。对精密零件的布置，提供高精度的标准基准面。



### 规格参数表

Specification parameter table

#### DESCRIPTION

Selected fine-grained natural granite materials ensure the stability of the performance and dimension.

Ultra-high precision granite slab exceeds China's JLL7-2003G standard and the US federal GGGP-463C standard

Standard:

The German DIN876/875 standard and Japanese JISB7510 standard precision.

The comparison value of the granite surface roughness is within RA=0.8 microns.

The precision determination of the ultra-high precision granite slabs needs to be verified by Yousita, and the test can be implemented in a place with constant temperature and humidity environment.

#### FUNCTION

Used in the precision measurement, scientific research, and the measurement field. Arrange precision components, and provide high-precision and specific fundamentals.

货号	尺寸规格(mm)	等级标准	平面度(um)	重量(kg)	极限强度(N)	配套支架货号(选配)
P100B-64AA	600X400X130	AA	1.5	94	5900	CT101A-4538
P100B-64A		A	2.0			CT101B-6040 CT101C-6040
P100B-66AA	600X600X150	AA	1.5	165	15600	CT101A-5050
P100B-66A		A	2.5			CT101B-6060 CT101C-6060
P100B-85AA	800X500X150	AA	2.5	158	17200	CT101A-6845
P100B-85A		A	4.0			CT101B-8050 CT101C-8050
P100B-96AA	900X600X150	AA	2.5	245	17800	CT101A-6845
P100B-96A		A	4.0			CT101B-9060 CT101C-9060
P100B-175AA	1000X750X200	AA	3.0	450	18600	CT101A-7560
P100B-175A		A	5.0			CT101B-1075 CT101C-1075
P100B-110AA	1000X1000X200	AA	3.5	600	28400	CT101A-7575
P100B-110A		A	5.0			CT101B-1010 CT101C-1010
P100B-120AA	1200X1000X200	AA	3.5	720	29600	CT101A-9575
P100B-120A		A	6.0			CT101B-1210 CT101C-1210
P100B-150AA	1500X1000X250	AA	3.5	1125	31400	CT101A-1275
P100B-150A		A	6.5			CT101B-1510 CT101C-1510
P100B-210AA	2000X1000X250	AA	4.0	1500	34300	CT101A-1580
P100B-210A		A	7.0			CT101B-2010 CT101C-2010
P100B-215AA	2000X1500X300	AA	4.5	2700	78400	CT101A-1510
P100B-215A		A	8.0			CT101B-2015 CT101C-2015



货号	尺寸规格(mm)	等级标准	平面度(um)	重量(kg)	极限强度(N)	配套支架货号(选配)
P100B-315AA	3000X1500X350	AA	6.0	4725	107600	CT101A-2510 CT101B-3015 CT101C-3015
P100B-315A		A	1 0			
P100B-320AA	3000X2000X400	AA	8.0	7200	146700	CT101D(7PCS)
P100B-320A		A	1 5			
P100B-325AA	3000x2500x450	AA	1 0	10125	187500	CT101D(7PCS)
P100B-325A		A	1 8			
P100B-420AA	4000x2000x450	AA	1 2	10800	322740	CT101D(9PCS)
P100B-420A		A	2 0			
P100B-425AA	4000x2500x500	AA	1 5	15000	422540	CT101D(9PCS)
P100B-425A		A	2 8			

- \* 标准花岗岩平板的倒角为R角， 也可为您提供圆弧型倒角花岗岩平板。
- \* 可根据您的需求定制花岗岩平板尺寸。
- \* 花岗石平尺尺寸 2000x1500 及以上尺寸我们强烈建议使用CT101D 系列岩石型平板架。
- \* 华正公司可以为您提供上门维修与再次研磨服务。
- \* 如需更多花岗石平板尺寸信息请与我们联系。
- \*The chamfer of standard granite slab is R angle, and arc chamfered granite slab can also be provided.
- \*The dimension of granite slab can be customized according to your needs.
- \*We strongly suggest the use of CT101D series rocky slab brackets if the dimension of the granite’ s levelling ruler is 2,000X1,500 and above.
- \*CRK is capable of providing door-to-door maintenance and regrinding services for you.
- \*For more information on the dimension of granite slabs, please kindly contact us.

- 描述
- . 选用特级上等的细颗粒天然黑色花岗岩材料。
  - . 结构致密，材质均匀，无扭曲变形。
  - . 超精密的微米级打磨加上平面上的天然孔隙。
- 功能
- . 这些便利的小型精密平板非常适用于整个生产现场的检查和校验。
  - . 它们特别适用于设计工作，以及为测量小型工件提供简单和方便的参考基准。



DESCRIPTION

- . The selection of specially fine-grained natural black granite materials.
- . Compact structure, even material and no distortion.
- . Ultra-precision millimeter-scale polish and the natural porosity in the plane.

FUNCTION

- .These portable small-sized precision slabs are very suitable for inspection and verification of the whole production site.
- .They are especially appropriate for design and offer simple and convenient reference benchmarks for measuring small work-pieces.

规格参数表  
Specification parameter table

货号	规格（mm）	平面度（um）	平行度（um）	重量（kg）
P200-30	300X200X50	2	3	9
P200-45	450X300X60	2	3	24
P200-60	600X400X60	2.5	3.5	36

- \* 可根据您的需求定制适合的平行平板。
- \* 如需更多花岗石平行平板尺寸信息请与我们联系。
- \*Fitting parallel slabs can be customized according to your needs.
- \*For more information on the dimension of granite parallel slabs, please kindly contact us.



- 技术信息
- 平面精度
- 花岗石平板共分为三个精度等级：
- 00级 - 实验室级
- 是指在恒温的测址室和计垃部门中满足精密操作所需要的等级。
- 0级 - 检验级
- 是指在质量控制过程中般性工作所需要的等级。
- 1级 - 现场级
- 是指在生产车间进行产品检验所需要的等级。
- \* 可以根据您的实际需要选择合适的花岗岩产品级别。
  - \* 华正公司还可以提供更高精度的花岗岩产品。



Technical Information Plate Precision

The precision of granite slab is divided into three levels:

Level 00-Laboratory level

It refers to the level required for precise operation in constant temperature addressing rooms and loading departments

Level O-Inspection level

It refers to the level required for general work in the quality control process

Level 1-Field level

It refers to the level required for product inspection in the workshop.

- \*The appropriate level of granite products may be selected according to your actual needs.
- \*CRK can also provide the granite products with higher precision.



货号	产品类型	重量 (g)	产地
CT-618	膏状	900	美国

使用方法  
用无尘纸或布沾适量的清洁膏均匀的擦拭在花岗岩产品表面，来回擦拭，直到花岗岩产品的 表面光滑。  
花岗岩产品表面有轻微划痕，应增加无尘纸或布擦拭力度。如果花岗岩产品面上的划痕已经很深，花岗岩清洁膏是无法修复，请联系优思塔公司的技术人员上门维修也可以把您的花岗岩产品寄送到我们公司来进行维修。

Use  
Wipe the surface of granite products evenly with air-laid papers or cloth stained with appropriate amount of cleansing cream, and repeat the process several times until the surface of granite products is smooth.  
If there are slight scratches on the surface of granite products, the strength should be increased. If the scratches on the surface of the granite products are very deep, it is unrepairable with the cleansing cream. Please contact the technicians of Yousita for on-site repair or send your granite products to our company for repair.

精密花岗岩平板使用说明

INSTRUCTIONS FOR THE PRECISION GRANITE SLABS

感谢您购买了本公司生产的精密花岗岩平板。  
· 本使用说明书记述了花岗岩平板的使用注意事项，为了充分发挥平板的性能有效的使用平板，请仔细阅读本使用说明书。  
· 阅读以后务请存放在平板附近，以便随时参阅。  
· 由于使用不当引起的任何损失，本公司恕不负责。

Thank you for choosing the precision granite slabs produced by our company.  
.This instruction manual describes what you need to pay attention to in the use of the granite slabs. Please read it carefully in order to effectively bring the performance of the slabs into full play.  
.Please keep this manual near the slabs for further reference at any time.  
.We are not liable for any loss caused by improper use.

【安全注意事项】[Safety precautions]

- 请注意不要将测定物或工具掉落到花岗岩平板的使用面上（平板上表面）。
- 不需要放置的东西请不要放置在平板使用面上。
- 请不要放置超过平板强度极限的负荷，也不要施加过大的冲击力，否则有可能因平板破损而造成伤害。
- 使用面上放置的物品和平板如果温差太大，平板内部产生的引力可能引起破损。请不要放置和平板温度超过 3o•c 的物品。
- 操作人员的制服，特别是工作鞋的注意事项。
  1. 严谨穿拖鞋，请穿着安全工作鞋。
  2. 为防止测定物的边缘引起的擦伤，请穿长袖工作服。
- Please be careful not to drop measuring objects or tools on the surface of the granite slab (upper surface of the slab).
- Do not place anything unnecessary on the surface of the slab.
- Do not place loads exceeding the limitation of the slab strength, nor exert excessive impact, otherwise harm may be caused by the damage of the slab.
- If the difference in temperature between the object placed on the surface and the slab is too large, the gravitation inside the slab may cause damage. Please do not place anything with a temperature difference of more than 30 °C with the slab.
- Attention to operator's uniforms, especially work shoes.
  1. Slippers are strictly forbidden. Please wear work shoes for your safety.
  2. Please wear long-sleeve overalls to prevent abrasion caused by the edge of the measuring objects.

【使用注意事项】[Precautions for use]

- 放置和移动物品之前，擦拭干净使用面上的污垢，污垢的混杂会划伤表面以及加快磨损。
- 测定物和工具请小心轻放在使用面上。
- Before placing and moving objects, please wipe off the dirt on the working surface. The mixture of the dirt will scratch the surface and accelerate the wear and tear.
- Measuring objects and tools should be carefully placed on the working surface.

- 请充分有效地利用使用面，不要总局限在一处使用，否则会引起局部磨损。
- 请不要使用榔头等敲击平板，以免造成表面剥离或开裂。
- 使用面沾附水或者油时，应及时擦去，否则影响精度。
- 在测定时要考虑到因测定物放置位置引起平板弯曲而导致的平面度变化。
- 为维持使用面的平面度，平板应放置在接近推荐环境的较安定的环境内。
- 请务必经常保养。( 使用环境 ) 温度；o-4o•c ( 推荐环境 ) ... 温度：22•c -/ +2•c 湿度：58%
- 本公司所保证的平面度值是在推荐的环境下的数值。
- ( 温度环境 ) ... 设置环境的温度变化应尽可能小，避免放置在阳光直射及靠近空调的场所，请务必避免因使用面和底面的温差而产生的倾斜误差。
- ( 湿度环境 ) ... 平板吸收水分容易膨胀。因空气中的水分多少而变形，所以建议在推荐环境下使用。
- 【保养】
  - 平板不使用时应遮上防尘罩。
  - 使用后用酒精或者专用的花岗岩清洁膏进行清洁。
  - 平板使用过程中会产生磨损，根据使用频率，应定期检查平面度，了解磨损程度。发生超出使用极限的磨损时应作维修。
  - 校正或者维修请与我司联系。建议维修期限（至购买使用起一年）
  - Please make full and effective use of the entire working surface, and avoid using the same part repeatedly to prevent partial wear and tear.
  - Please do not hit the slab with bangles to avoid delamination or cracking.
  - Water or oil on the working surface should be wiped in time, otherwise the precision will be affected.
  - The change in flatness due to the bending of the slab caused by the position of the measuring object should be considered in the measurement.
  - In order to maintain the flatness of the working surface, the slab should be placed in a relatively recommended, stable environment.
  - Be sure to maintain it regularly. (The working environment) temperature; 0-4 °C (The recommended environment)...Temperature: 22 °C-/ +2 °C Humidity: 58%.
  - The flatness value guaranteed by Yousita is the value in the recommended environment.
  - (The temperature environment)...Temperature changes in the setting environment should be as less as possible, and please avoid direct sunlight and places using air conditioners. It is essential to avoid the inclination error caused by the temperature difference between the working surface and the bottom.
  - (The humidity environment) ...The slab tends to expand after absorbing water and deform due to the amount of water in the air, therefore, please employ it in the recommended environment.
- [Maintenance]
  - Cover the slab with dust cover when it is not in use.
  - Clean the slab with ethyl alcohol or the specialized granite cleansing cream after use.
  - Wear may be caused by use. Please check its flatness regularly and understand the degree of wear according to the frequency of use. Maintenance should be carried out in case of wear and tear beyond the service limit.
  - Please contact us for correction or maintenance. Recommended maintenance period (one year from purchase and use)

花岗岩方尺  
GRANITE SQUARE RULER



F654 A 系列基本型 4/5/6 面花岗岩方尺

- 描述
- 由黑色花岗岩制成，其成分为细颗粒，因此不会出现毛刺和突起。
  - 结构致密，材质均匀，无扭曲变形，不会影响工件。
  - 无磁性；不导电；100% 防腐。
  - 由于花岗岩的晶体结构精细，无粘贴性，不会产生毛刺或者表面凸起现象，因此可保证长期使用也可保证很高的平面度。
- 功能
- 是具有垂直平行的框式组合，适用于高精度机械和仪器检验及机床之间不垂直度的检查。是用来检查各种机床内部件之间不垂直度的重要工具。花岗岩精密方尺是比较通用的用于精确检测 CNC 机床和坐标测量设备上 X-Y-Z 轴精度的工具。

F654 A Series Basic Type 4/5/6 Granite Square Ruler  
DESCRIPTION  
Made of black granite, and composed of fine grains, so there are no burrs and protrusions. Compact structure, even material, no distortion and deformation, and will not affect the workpiece.  
No magnetism; no conduction; 100% anti-corrosion.  
On account of the fine crystal structure, no stickiness and no burrs or surface bulges of the granite, the long-term use and high flatness can be ensured.  
FUNCTION  
It is a frame combination with verticality and parallelism, suitable for high-precision machines and instrumental inspection and the examination of non-perpendicularity between machine tools. It is an important tool for inspecting non-perpendicularity of internal components of various machine tools.  
The granite precision square ruler is a universal tool for detecting the X-Y-Z axis precision of CNC machine tools and the coordinate measuring equipment.



规格参数表  
Specification parameter table

等级	等级	规格尺寸 (mm)	相邻两侧 面垂直度 (mm)	测量面 直线度 (mm)	相对测量 面平行度 (mm)	相对两大 面平行度 (mm)	相对两大 面平面度 (mm)	重量 (kg)
F654-16-40A	00	160X160X50	0.0020	0.0015	0.0020	-/-	-/-	3.6
F654-16-41A	0		0.0040	0.0030	0.0040	-/-	-/-	
F654-16-50A	00		0.0020	0.0015	0.0020	-/-	0.0015/-	
F654-16-51A	0		0.0040	0.0030	0.0040	-/-	0.0030/-	
F654-16-60A	00		0.0020	0.0015	0.0020	0.0020	0.0015	
F654-16-61A	0		0.0040	0.0030	0.0040	0.0040	0.0030	
F654-20-40A	00	200X200X50	0.0020	0.0015	0.0020	-/-	-/-	6.0
F654-20-41A	0		0.0040	0.0030	0.0040	-/-	-/-	
F654-20-50A	00		0.0020	0.0015	0.0020	-/-	0.0015/-	
F654-20-51A	0		0.0040	0.0030	0.0040	-/-	0.0030/-	
F654-20-60A	00		0.0020	0.0015	0.0020	0.0020	0.0015	
F654-20-61A	0		0.0040	0.0030	0.0040	0.0040	0.0030	
F654-25-40A	00	250X250X50	0.0025	0.0020	0.0025	-/-	-/-	9.3
F654-25-41A	0		0.0050	0.0040	0.0050	-/-	-/-	
F654-25-50A	00		0.0025	0.0020	0.0025	-/-	0.0015/-	
F654-25-51A	0		0.0050	0.0040	0.0050	-/-	0.0030/-	
F654-25-60A	00		0.0025	0.0020	0.0025	0.0025	0.0015	
F654-25-61A	0		0.0050	0.0040	0.0050	0.0050	0.0030	
F654-30-40A	00	300X300X50	0.0030	0.0020	0.0030	-/-	-/-	13.5
F654-30-41A	0		0.0060	0.0040	0.0060	-/-	-/-	
F654-30-50A	00		0.0030	0.0020	0.0030	-/-	0.0020/-	
F654-30-51A	0		0.0060	0.0040	0.0060	-/-	0.0040/-	
F654-30-60A	00		0.0030	0.0020	0.0030	0.0030	0.0020	
F654-30-61A	0		0.0060	0.0040	0.0060	0.0060	0.0040	

\* 可根据您的需求定制适合的花岗石方尺。  
\* 如需更多花岗石方尺尺寸信息请与我们联系。  
\* 花岗石产品比较重，在使用或搬运过程中请您务必选择正确的、安全的吊装工具。  
\*Granite square rulers can be customized according to your needs.  
\*For more information on the dimension of granite square rulers, please kindly contact us.  
\*Granite products are relatively heavy, please use the right and safe lifting tools in the process of using or handling.

等级	等级	规格尺寸 (mm)	相邻两侧 面垂直度 (mm)	测量面 直线度 (mm)	相对测量 面平行度 (mm)	相对两大 面平行度 (mm)	相对两大 面平面度 (mm)	重量 (kg)
F654-40-40A	00	400X400X50	0.0040	0.0025	0.0040	-/-	-/-	22
F654-40-41A	0		0.0080	0.0050	0.0080	-/-	-/-	
F654-40-50A	00		0.0040	0.0025	0.0040	-/-	0.0030/-	
F654-40-51A	0		0.0080	0.0050	0.0080	-/-	0.0060/-	
F654-40-60A	00		0.0040	0.0025	0.0040	0.0040	0.0030	
F654-40-61A	0		0.0080	0.0050	0.0080	0.0080	0.0060	
F654-50-40A	00	500X500X60	0.0050	0.0030	0.0050	-/-	-/-	45
F654-50-41A	0		0.0100	0.0060	0.0100	-/-	-/-	
F654-50-50A	00		0.0050	0.0030	0.0050	-/-	0.0035/-	
F654-50-51A	0		0.0100	0.0060	0.0100	-/-	0.0070/-	
F654-50-60A	00		0.0050	0.0030	0.0050	0.0050	0.0035	
F654-50-61A	0		0.0100	0.0060	0.0100	0.0100	0.0070	
F654-60-40A	00	600X600X100	0.0060	0.0030	0.0060	-/-	-/-	108
F654-60-41A	0		0.0120	0.0060	0.0120	-/-	-/-	
F654-60-50A	00		0.0060	0.0030	0.0060	-/-	0.0040/-	
F654-60-51A	0		0.0120	0.0060	0.0120	-/-	0.0080/-	
F654-60-60A	00		0.0060	0.0030	0.0060	0.0060	0.0040	
F654-60-61A	0		0.0120	0.0060	0.0120	0.0120	0.0080	
F654-80-40A	00	800X800X150	0.0070	0.0040	0.0070	-/-	-/-	280
F654-80-41A	0		0.0140	0.0080	0.0140	-/-	-/-	
F654-80-50A	00		0.0070	0.0040	0.0070	-/-	0.0450/-	
F654-80-51A	0		0.0140	0.0080	0.0140	-/-	0.0090/-	
F654-80-60A	00		0.0070	0.0040	0.0070	0.0070	0.0045	
F654-80-61A	0		0.0140	0.0080	0.0140	0.0140	0.0090	
F654-100-40A	00	1000X1000X150	0.0080	0.0060	0.0080	-/-	-/-	450
F654-100-41A	0		0.0160	0.0100	0.0160	-/-	-/-	
F654-100-50A	00		0.0080	0.0060	0.0080	-/-	0.0050/-	
F654-100-51A	0		0.0160	0.0100	0.0160	-/-	0.0100/-	
F654-100-60A	00		0.0080	0.0060	0.0080	0.0080	0.0050	
F654-100-61A	0		0.0160	0.0100	0.0160	0.0160	0.0100	
F654-120-40A	00	1200X1200X200	0.0100	0.0080	0.0100	-/-	-/-	864
F654-120-41A	0		0.0200	0.0160	0.0200	-/-	-/-	
F654-120-50A	00		0.0100	0.0080	0.0100	-/-	0.0060/-	
F654-120-51A	0		0.0200	0.0160	0.0200	-/-	0.0120/-	
F654-120-60A	00		0.0100	0.0080	0.0100	0.0100	0.0060	
F654-120-61A	0		0.0200	0.0160	0.0200	0.0200	0.0120	

\* 可根据您的需求定制适合的花岗石方尺。  
\* 如需更多花岗石方尺尺寸信息请与我们联系。  
\* 花岗石产品比较重，在使用或搬运过程中请您务必选择正确的、安全的吊装工具。  
\*Granite square rulers can be customized according to your needs.  
\*For more information on the dimension of granite square rulers, please kindly contact us.  
\*Granite products are relatively heavy, please use the right and safe lifting tools in the process of using or handling.



## 精密花岗岩平板使用说明

## INSTRUCTIONS FOR THE PRECISION GRANITE SLABS

## F654 B 系列矩形 4/5/6 面花岗岩方尺

## 描述

- 由黑色花岗岩制成，其成分为细颗粒，因此不会出现毛刺和突起。
- 结构致密，材质均匀，无扭曲变形，不会影响工件。
- 由于花岗岩的晶体结构精细，无粘贴性，不会产生毛刺或者表面凸起现象，因此可保证长期使用也可保证很高的平面度。

## 功能

具有垂直平行的框式组合，适用于高精度机械和仪器检验及机床之间不垂直度的检查。是用来检查各种机床内部件之间不垂直度的重要工具。花岗岩精密方尺是比较通用的用于精确检测 CNC 机床和坐标测量设备上 X-Y-Z 轴精度的工具。

## F654 B Series Rectangular 4/5/6 Granite Square Ruler

## DESCRIPTION

- Made of black granite, and composed of fine grains, so there are no burrs and protrusions.
- Compact structure, even material, no distortion and deformation, and will not affect the workpiece.
- On account of the fine crystal structure, no stickiness and no burrs or surface bulges of the granite, the long-term use and high flatness can be ensured.

## FUNCTION

It is a frame combination with verticality and parallelism, suitable for high-precision machines and instrumental inspection and the examination of non-perpendicularity between machine tools. It is an important tool for inspecting non-perpendicularity of internal components of various machine tools.

The granite precision square ruler is a universal tool for detecting the X-Y-Z axis precision of CNC machine tools and the coordinate measuring equipment.



货号	等级	规格尺寸 (mm)	相邻两侧 面垂直度 (mm)	测量面 直线度 (mm)	相对测量 面平行度 (mm)	相对两大 面平行度 (mm)	相对两大 面平面度 (mm)	重量 (kg)
F654-31-40B	00	300X100X50	0.0020	0.0015	0.0020	-/-	-/-	4.5
F654-31-41B	0		0.0040	0.0030	0.0040	-/-	-/-	
F654-31-50B	00		0.0020	0.0015	0.0020	-/-	0.0015/-	
F654-31-51B	0		0.0040	0.0030	0.0040	-/-	0.0030/-	
F654-31-60B	00		0.0020	0.0015	0.0020	0.0020	0.0015	
F654-31-61B	0		0.0040	0.0030	0.0040	0.0040	0.0030	
F654-42-40B	00	400X200X50	0.0025	0.0015	0.0025	-/-	-/-	12
F654-42-41B	0		0.0050	0.0030	0.0050	-/-	-/-	
F654-42-50B	00		0.0025	0.0015	0.0025	-/-	0.0020/-	
F654-42-51B	0		0.0050	0.0030	0.0050	-/-	0.0040/-	
F654-42-60B	00		0.0025	0.0015	0.0025	0.0025	0.0020	
F654-42-61B	0		0.0050	0.0030	0.0050	0.0050	0.0040	
F654-53-40B	00	500X300X60	0.0030	0.0020	0.0030	-/-	-/-	27
F654-53-41B	0		0.0060	0.0040	0.0060	-/-	-/-	
F654-53-50B	00		0.0030	0.0020	0.0030	-/-	0.0030/-	
F654-53-51B	0		0.0060	0.0040	0.0060	-/-	0.0060/-	
F654-53-60B	00		0.0030	0.0020	0.0030	0.0030	0.0030	
F654-53-61B	0		0.0060	0.0040	0.0060	0.0060	0.0060	
F654-84-40B	00	800X400X100	0.0050	0.0030	0.0050	-/-	-/-	96
F654-84-41B	0		0.0100	0.0060	0.0100	-/-	-/-	
F654-84-50B	00		0.0050	0.0030	0.0050	-/-	0.0040/-	
F654-84-51B	0		0.0100	0.0060	0.0100	-/-	0.0080/-	
F654-84-60B	00		0.0050	0.0030	0.0050	0.0050	0.0040	
F654-84-61B	0		0.0100	0.0060	0.0100	0.0100	0.0080	

\* 可根据您的需求定制适合花岗岩方尺。

\* 如需更多花岗岩方尺尺寸信息请与我们联系。

\* 花岗岩产品比较重，在使用或搬运过程中请您务必选择正确的，安全的吊装工具。

\*Granite square rulers can be customized according to your needs.

\*For more information on the dimension of granite square rulers, please kindly contact us.

\*Granite products are relatively heavy, please be sure to choose the right and safe lifting tools in the process of using or handling.

## 花岗岩方尺

## GRANITE SQUARE RULER

## F654 C 系列矩形 4/5/6 面花岗岩方尺

## 描述

- 由黑色花岗岩制成，其成分为细颗粒，因此不会出现毛刺和突起。
- 结构致密，材质均匀，无扭曲变形，不会影响工件。
- 无磁性；不导电；100% 防腐。
- 由于花岗岩的晶体结构精细，无粘贴性，不会产生毛刺或者表面凸起现象，因此可保证长期使用也可保证很高的平面度。

## F654 C Series Rectangular 4/5/6 Granite Square Ruler

## DESCRIPTION

- Made of black granite, and composed of fine grains, so there are no burrs and protrusions.
- Compact structure, even material, no distortion and deformation, and will not affect the workpiece.
- No magnetism; no conduction; 100% anti-corrosion.
- On account of the fine crystal structure, no stickiness and no burrs or surface bulges of the granite, the long-term use and high flatness can be ensured.

## 功能

具有垂直平行的框式组合，适用于高精度机械和仪器检验及机床之间不垂直度的检查。是用来检查各种机床内部件之间不垂直度的重要工具。花岗岩精密方尺是比较通用的用于精确检测 CNC 机床和坐标测量设备上 X-Y-Z 轴精度的工具。

## FUNCTION

It is a frame combination with verticality and parallelism, suitable for high-precision machines and instrumental inspection and the examination of non-perpendicularity between machine tools. It is an important tool for inspecting non-perpendicularity of internal components of various machine tools. The granite precision square ruler is a universal tool for detecting the X-Y-Z axis precision of CNC machine tools and the coordinate measuring equipment.



货号	等级	规格尺寸 (mm)	相邻两侧 面垂直度 (mm)	测量面 直线度 (mm)	相对测量 面平行度 (mm)	相对两大 面平行度 (mm)	相对两大 面平面度 (mm)	重量 (kg)
F654-43-40C	00	400X300X60	0.0025	0.0015	0.0025	-/-	-/-	21
F654-43-41C	0		0.0050	0.0030	0.0050	-/-	-/-	
F654-43-50C	00		0.0025	0.0015	0.0025	-/-	0.0015/-	
F654-43-51C	0		0.0050	0.0030	0.0050	-/-	0.0030/-	
F654-43-60C	00		0.0025	0.0015	0.0025	0.0025	0.0015	
F654-43-61C	0		0.0050	0.0030	0.0050	0.0050	0.0030	
F654-54-40C	00	500X400X60	0.0030	0.0020	0.0030	-/-	-/-	130
F654-54-41C	0		0.0060	0.0040	0.0060	-/-	-/-	
F654-54-50C	00		0.0030	0.0020	0.0030	-/-	0.0020/-	
F654-54-51C	0		0.0060	0.0040	0.0060	-/-	0.0040/-	
F654-54-60C	00		0.0030	0.0020	0.0030	0.0030	0.0020	
F654-54-61C	0		0.0060	0.0040	0.0060	0.0060	0.0040	
F654-65-40C	00	600X500X80	0.0040	0.0030	0.0040	-/-	-/-	54
F654-65-41C	0		0.0080	0.0060	0.0080	-/-	-/-	
F654-65-50C	00		0.0040	0.0030	0.0040	-/-	0.0030/-	
F654-65-51C	0		0.0080	0.0060	0.0080	-/-	0.0060/-	
F654-65-60C	00		0.0040	0.0030	0.0040	0.0040	0.0030	
F654-65-61C	0		0.0080	0.0060	0.0080	0.0080	0.0060	
F654-108-40C	00	1000X800X150	0.0050	0.0040	0.0050	-/-	-/-	270
F654-108-41C	0		0.0100	0.0080	0.0100	-/-	-/-	
F654-108-50C	00		0.0050	0.0040	0.0050	-/-	0.0040/-	
F654-108-51C	0		0.0100	0.0080	0.0100	-/-	0.0080/-	
F654-108-60C	00		0.0050	0.0040	0.0050	0.0050	0.0040	
F654-108-61C	0		0.0100	0.0080	0.0100	0.0100	0.0080	