# 安全注意事项

为了安全、正确使用本公司的产品并防止人身伤害，必须了解本公司指定的安全注意事项。

因不正确使用本公司产品而引起的事故，按危害程度分为[注意]，[警告]，[危险]等 3 个级别。

[注意]操作不当时，存在发生人身伤害或财产损失的可能性

[敬告]操作不当时，存在发生重大人身伤害或死亡事故的可能性

[危险]紧急、危险状态，如果不躲避很可能发生死亡或重大伤害事故。

The safety issues enumerated here are to prevent damages by directing customers to use the products appropriately. The issues have been classified into “caution”,“warning”,and “danger” in order to indicate the degree and urgency of damages.

**[Caution]** Events in which it is expected that people will become injured or that only materials will be damaged when products are mishandled.

**[Warning]** Events in which people could die or become severely wounded when products are mishandled.

**[Danger]** Urgent events in which people could die or incur severe wounds.

## 使用气动产品时注意[Warnings when using pneumatic products]

样本上的产品设计成只能在压缩空气系统环境下使用、所以禁止在规格范围之外的压力和温度下使用、有可能造成空压设备的运行不良。

Because the products registered on the catalogue were designed to be used with pressurized air systems, do not use the products off the specified or temperature levels. It could be the reason of destruction or malfunctioning.

配管之前通过鼓风(Flushing)或洗净、除净管内的碎片、切削油等杂质。含有很多水分的压缩空气有可能造成空压设备的运行不良。

Remove debris wihtin the pipe by air blowing(flushing)or washing before piping. Pressurized air that contains abundance of moisture could cause damages to air pressurized machines.

请使用空气干燥器、Drain Catch 消除水分之后使用。

Use after removing moisture with an air dryer or drain catch.

压缩空气含有化学药品、有机溶剂等成份的合成油、盐分、腐蚀性气体等时、有可能造成破坏或运

行不良、所以请不要使用。

When compressed air contains synthetic oil, salt, and corrosive gas, use clean air to prevent destruction or malfunctioning.

请不要在有可能受到震动或冲击的场所使用。

Do not use the product in places where the product could be subject to vibration or impactx

请不要拆解或改造机体。但为了维修需要拆解时、关闭电源、且必须断开供应压力并排出压缩空气之后、在大气开放状态下进行检查工作。

Do not disassemble or modify the main body. However, if it becomes necessary to disassemble the product to fix it, turn off the power, intercept the pressure and exhaust the pressurized air.

产品的寿命［Product life］

国家标准规格上指出、一般气缸的寿命在使用 300km 时、不应有活塞及其他部件的破损。计算敲击为 150mm 的气缸往返运动时、应保障约 100 万回动作、Gripper 类因产品夹持受偏心荷重。作业环境也位于一般气缸的前臂、漏出很多切削油、切屑片、研磨石粉末等、所以寿命减缩到一般气缸的 1/4。

本公司保障在一般环境下 100 万回或使用期限 1 年中首先达到条件的产品的寿命。而且对超过此范围的产品、也保障其产品寿命。而且对超过此范围的产品也适用计算部件替换和劳工费的售后服务的无限责任服务。

只是超过 1 年或停产的产品的售后服务费可能提高、所以建议以同一规格产品替代。

There is a regulation in a foreign country that stipulates that a cylinder should be able to withstand damages to its pistons after working distance 300km. When the movement of the cylinder with the stroke of 150mm is calculated, movement of about 1 million is guaranteed.

Air finger products are subject to load caused by the gripping of the product.

Also, the product is located at the hem of general cylinders, thereby being exposed to oil, chips, and polishing stone powders.

As a result, the life is reduced to 1/4 that of a general cylinder.

Our warranty period our products is 1 million operations or 1 year, whichever comnes first. For products that exceed the above criteria, we provide product services by charging for only parts and services. However, the service cost could increase for those products that have been around for more than 1 years or for those products that are no longer being produced.

In such cases, we recommend that you replace your product with a product of identical specifications.

对没有通知的型号更改[About unannounced specification changes ］

随着产品持续改善、功能提高、从内部和外形可能变化。对手册上刊载的所有尺寸图是对顾客的承诺、

本公司将尽最大的努力、但为了提高性能、难免发生做些更改。消除过去产品以改善产品替换时、
在 100%可以互换的范围内没有特别通知可能更改尺寸、对此不另外通知。为了改善品质的材质更改、
后处理的颜色更改、一些传感器的规格更改等、也可以不另外通知。只是因焊接用标签位置、
外围形象或行程变化等使用上的问题时、将通知产品名称的更改或事先或订货时另行通知。
对此请各位顾客谅解。

Because products and their functions improve continuously. changes to the interior and exterior could take place. We do our best to keep the specifications listed on the catalogue in order to keep our promise with product is eliminated and replaced by an improved product, the changes could take place without prior notice in the case that 100% compatibility is assured. In such a case, no prior notification takes place. Material changes, color changes, and specification changes of some sensors could change without prior notification. However, when problems with product usage are foreseen due to the changes in the location of the mounting tap and in the shape as well as administrative changes, changes of products' names take place or notifications are made when ordered.

使用气爪时的安全注意事项[Caution when using Gripper types]

使用传感器时的安全注意事项[Caution when using the sensor ]

1)需要使用磁传感器的顺序控制环境下、本公司除了生产销售不得已的小型产品外、还生产销售 RS 安装传感器)型产品、而且基本上大部分产品内置磁性环。

1) Under the environment in which the sequence control is required due to the use of the magnetic sensor, we produce and sell RS type products except for small products. Also, most products have built-in magnets.

2)完成品出厂时、先检测自行传感器是否运作后发货、但在现场使用产品时、有可能传感器的检出为不良。
这可能有很多因素、但其中的原因之一是通过贯通机体的焊接用螺丝钉及产品安装、可能转移磁力、当发生问题时、请使用不锈钢材质的螺丝钉或把焊接板的材质以铝质等替换。

2) When fully assembled products are shipped, it is checked whether the sensor operates property.
However, when products are used onsite defective sensors could be discovered. There could be many different factors, but one of the causes could be the transmission of magnetic force through the mounting bolt that goes through the body and through the plate attached to the product. When a problem occurs, use bolts made of stainless materials and change the material of the mounting plate with aluminum.

3)一些小型产品内置强磁场磁铁、材质特性上、在高温(约 50 度以上]磁力急剧减小、所以在高温使用时、需要特别注意。

3) For some small products, iron magnets have been built-in. Due to the material's characteristics, the magnetic power decreases drastically under high temperatures (greater than 50degrees]. Therefore, caution is required

when using a product under high temperature.

4) 小型产品的传感器可能向机体底面突出。一般通过实际检测、在全部产品尺寸图纸上标记突出与否、但因磁力不均匀、传感器的感应状态等突出与否及突出长度可能变化、所以选择小型产品时、在产品焊接板确保避免传感器干涉的空间。

4) For small products, there is a possibility that the sensor could protrude under the body. Generally, the extrusion is indicated on every product, but changes in the extrusion length could change due to the extrusion is indicated on every product, but changes in the extrusion length could change due to the state of the induction of the sensor. Therefore, when selecting a small product, be sure to obtain sufficient.

轴中心度的注意事项(Caution about the center of the axis)

在工件不动的状态下、夹持工件时要注意轴中心。

不使用固定器时、可能发生停止 Jaw 的运作或者 Jaw、活塞的破损。

When gripping an object while the object has been fixed, be careful about the center of the axis.

When supporting equipments are not used, either the jaw could stop operating or damages to the plunger could occur.

气爪夹持力的注意事项(Caution about the gripping power of the gripper)

1) 气爪夹持力大体可分一般式和分解式等两种。

1) The gripping power of the gripper could be broadly classified into general and disassembly types.

■一般式可以以推力运作计标记水效率来标记

推力=活塞单面积乘空气压力的值、运作系数=活塞移送距离/Jaw 一个的运作距离、

效率=约 0.8、需要运作系数及常数、变数时、请与本公司联系、我们将尽快以书面形式发送给客户。

-The general type could be indicated as thrust x operational thrust x efficiency

Thrust = value derived by multiplying the cross section of the piston by air pressure and operational coefficient = the transportational distance of the piston / operational distance of a jaw, and the efficiency=0.8. For the constant including the operational coefficient and variables inquire us. We plan to document our data and distribute them in the nearest future.

▪分解式是各种作用力的结构解释、摩擦系数、润滑系数、齿轮效率等综合引入分析的理论式、一般用户适用比较复杂、而且因为各种常数、变数值、计算值可能有变动。

The disassembly method is the method of analysis that incorporates the structural interpretation of various complicated for a general user to use and changes to the value could occur due to various coefficients and

variable values.

2)为了核对平行开闭方式气爪的运作状态、大部分以大气中开放状态下用手运作 JAW 来判断性能。

可是根据 1)项、活塞运作距离大、Jaw 的运作距离相对小的情况下、尽管因空压发生的推力大、普遍品质优秀、但用手运作时状态不良。这是因为将 JAW 稍微运作来移动活塞很多、所以 Gripper 的结构上将活塞的动作方向作为媒体特性上转换其方向不合理、特别是楔方式产品没有适当的判断方法。

2） In order to check the operational state of the gipper of the parallel open and close method. the machine is usually opened and the jaw is operated manually. However. according to 1)above. when the operational distance of the piston is great and the when operated manually. That's because the piston has to be moved a lot by operating the jaw just a little. Therefore, due to the operational distance of the jaw is relatively small, the thrust generated by air pressure is great and the quality is relatively defective structure of the gripper, it's not correct to change the aperational direction of the piston by using a medium, especially for wedge.

3)角度开闭型 Gripper、因为从产品中心到铰接点(Jaw 旋转中心点)距离短、一般比活塞直径夹持力显著降低、所以请参考产品手册。

3） For angular open and close type gripper products, the distance between the center of the product and hinge point (the rotational center of the jaw) is short, the gripping power is substantially lower compared to the diameter of the piston.Therefore, refer to the specifications of the catalogue.

4)产品夹持力低下、缩短寿命的最大要素是从 Gripper 机体到作用点的距离。随着作用点的增加、发生弯曲力矩、Jaw 的滑动部摸擦力急增、发生 JAW 的破损、滑动部的磨损、机体的膨胀现象等。

请广大用户最大限度地缩短作用点的距离。

4） The factor that decreases the product's gripping power and its durability the most is the distance between the gripper body and the operational point. As the operational distance increases, a bending momentum occurs, increasing the friction on the sliding of the jaw drastically, resulting in the damages to the jaw, wear and tear of the sliding, and expansion of the body. Therefore, set the operational distance as short as possible.

5)一般随着物体的重量差异不与、Gripper 的寿命和推力成正比。

比如夹持像乒乓球一样的轻量物和夹持同样大小的钢球时、Jaw 上的反作用力相同、产品的寿命差也极其微小可以忽略。尽管以微小重量物为对象、但要注意 4]项表示的作用点的距离等。

5） Generally, the durability and thrust of the gripper isn`t proportional according to the differences in the weights of the objects.For example, when light objects such as a ping pong ball or an iron ball of identical volume are gripped, the force that acts on the jaw is identical and the differences in the effects on the durability of the jaware minuscule. Even when very light.

对 N/O[Normal Open).N/C[Normal Close]的制作(Production of Normally Open and Normally Close )

单动产品(内置弹簧)在大气压下维持正常打开(Normally Open)、正常关闭[Normally Close)等状态。单动产品的主要用途如下:

Red brass products with built-in springs that maintain the normally open and normally close states under the atmospheric pressure. The major uses for red brass products are as follows:

1)没有空压的状态保持时维持基准状态，主要用于防工件坠落和防移途中的冲突

1） To prevent the drooping of objects and collision while moving by maintaining the standard state when air is interceped.

2)补偿开闭时的推力的不足

2） To supplement insufficient thrust when opening or closing.

3)不使用一个空气端口只用弹簧力、节约空气消费和螺线管阀的运作电流低、利用弹簧实现快速响应运作的基本用途等区分。

定义为压缩弹簧反作用力=弹簧常数变位(压缩长度)。此时、弹簧常数在线直径等同一条件下与长度成反比。

①反作用力“0”的自由长度➡②要求的最小反作用力➡③要求的最大反作用力➡④允许变形长度➡⑤紧贴长度区分时低、②~③或者②~④适用于产品，此时产品长度将伸长[③或④-现有剩余空间]低、的长度。

所以预订 Normally Open, Normally Close 时低、注意产品的长度增加。

特别是必须维持一定反作用力时、要求随着变位反作用力变化不多的弹簧常数小(长度相对长)的规格、

所以请特别留意产品长度将更加增加。

3） To save on air and electricity for operating the solenoid, and to realize fast response with the spring by using only the spring without using an air port.

Restitution of the compressed spring =Spring coefficient x Displacement (Compression length) Here, the spring coefficient is reduced inversely with the length under the identical condition.

When classifications are made by the ① Length of the repulsive force0→ ② Required minimum repulsive force → ③ Required maximum repulsive force →④Allowed change in length→⑤ and Contact length, only ② to ③ or ②to ④ are applied to products. Here, the length of the product is stretched by the length of the [③ or ④ - existing spare space].

Therefore, when ordering normally open and normally close products, be careful of the fact that the product's length increases. Especially, when the maintenance of a constant repulsive force is required, take note that the product's length could increase further because specifications with low spring coefficients (relatively long length) are required in order to ensure that changes in the repulsive force according to displacement are reduced.

在易发生异物混入环境中使用时( When using the product in places where impure materials could infiltrate)

1)禁止使用交叉滚柱式产品。粉尘等进入滚筒时妨碍滚筒的旋转运动、在滚筒固定时将两侧的导轨向两侧松弛，产

生间隙进而引起操作不良、产品将不能使用。

1) Refrain from using cross roller type products.When dusts and other impure materials infiltrate the roller, the rotation of the roller is obstructed. When they stick to the roller, the quides on both sides are stretched to the lateral directions, causing defects and making it impossible to use the product.

2) 在适用于研磨工程等研磨粉尘混入场所使用时、尽可能避免 Jaw 在铝机体直接摩擦方式的产品。不得已的情况下、需要另外咨询。研磨石粉尘进入与 JAW 的摩擦面、起磨损剂的作用、急剧减缩产品的使用寿命。

2) When the product is applied to polishing processes, resulting in the infiltration of polishing dusts, refrain from using products whose aluminum bodies become subject to friction by the jaw, if possible. If such products have to be used, consult us before use. Polishing stone dusts infiltrate into the side of the jaw that's subject to friction, acting as the body's abrasive material to decrease the life of the product drastically.

3) 大部分异物是通过现有加工的间隙「特别是接近传感器的检测用支架的部位)、渗入的。

因此需要密封不必要的空间时。与本公司联系。

3) in most cases, foreign materials infiltrate inside products through existing niches (especially the spot on which the close sensor dock is placed]. Request us to close up unnecessary space.

4) 可以选配安装往外吹气装置。

4) Add the air blowing (flushing) mechanism that supplies compressed air into the product periodically and exhausts the air to prevent the infiltration of impure materials.

5) 附加安装刮刀密封等来防止杂质混入气缸内、此时产品的外形尺寸可能增加。

5) Scraper seals and other equipment should be added in order to prevent the infiltration of foreign materials inside the cylinder. At same time, the external dimensions of the product may increase

使用滑动气缸时的一般注意事项(Caution when using Slide cylinders )

键槽使用时的注意事项( Caution when using the key way )

大部分滑动汽缸机体使用挤压及压印材料生产产品。此时图纸上表示的键槽尺寸(包括公差)制造

工程上不能满足、留下加工余地通过挤压及压印工程。除了主要部位以外、有些可能利用比图纸

上表示的键槽尺寸小的压印状态的尺寸完成。用图纸上表示的键槽时、请与我公司联系。

Most of slide cylinder bodies are produced whth extruding and impression materials because the measurements (including the common difference) indicated on the blueprint cannot be satisfied in the manufacturing process. As a result, extruding and impression processes are undergone. Some parts excluding main parts could be completed in the impression state that's less than the measurement indicated on the blueprint. When you wish to use the key way indicated in the blueprint. notify us when ordering.

行程的最大、最小值及中间行程使用

(Use of the maximum values of the stroke and the median administration )

■表示滑动汽缸规格的最小行程是生产产品的基本值、1㎜以下也可以

The minimum administration indicated on the specifications of the slide cylinder is the minimum value for the production of products, and the value below 1mm is possible.

中间行程要求小数点以下单位(比如:31.2]时、选择上位行程(比如:32)、微小量请用基本安装的塞子来调节。

For the median administration, when the unit that`s below the decimal point is demanded(eg:31.2]. select an upper administration(eg:32)and adjust minuscule amounts by using the basic stopper.

使用旋转气缸时的一般注意事项(Caution when using Rotary cylinders)

旋转气缸的许用载荷 (Allowable load of the rotary cylinder)

本公司手册里旋转气缸的允许推力、径向负荷显示较低。一般旋转气缸由惯性时间的冲击量决定产品的寿命、性能，此惯性时间与重量距离 2 成正比、所以比重量更受自中心点距离的影响。请最大限度地缩短自中心点的距离。

很多用户考虑重量来选择产品的情况比较多、所以预测一般使用时的物体隔离距离把负荷表示得低。

我们今后将为您提供允许惯性时间及计算程序。

In our catalogue, the allowed trust of the rotary cylinder and radial load are set low. Generally, the rotary cylinder's life and function are determined by the amount of impact caused by the inertial momentum This inertial momentum is proportional to the weight x distance , and is affected more by the distance from the center than by weight. Set the distance from the center at the minimum. Many users select products with the weight in mind. Therefore, the allowable weight was recorded low by prediciting the distance to the object for general use.

旋转气缸的最佳使用方法 (0ptimal use of the rotary cylinder )

将工件布置在尽可能离旋转气缸的旋转中心最近的位置。

Locate the object to the place closest to the center of rotation of the rotary cylinder

转接板、支架等装载物的重量、请尽量轻量化.

The weight of the load such as the adapter plate and the bracket should be as light as possible.

受偏心载荷时(特别是垂直使用的重力方向)、安装平衡锤来平衡两侧重量。此时偏心荷重侧因装

载及卸装等负荷有变动时、按装接近最大、最小负荷的中间值的平衡锤

When subject to lopsided load （ especially in the direction of perpendicular gravity). attach a balancing weight(FMF) to balance the weight on both sides. When there is a change in the load due to loading and unloading, attach a balancing weight that's close to the median value of the maximum and minimum load|layered structure for adding or subtracting) for test prrposes so that yor may use the product under the optimal condition.

请在现场提供空气、停止状态[特别是重直的重力方向)下比较油隔。外形美丽不能比性能优先考虑。

For rotary cylinders with a double power structure ( in which thrusts occur simultaneously on both cylinders ) such as the SDRJ and SSU, we encounter customer's opinions that the exteriors of our products are inferior to those of other companies that are simpler. That`s due to the difference in structure. Our products are based on the

stoppage structure in which the turn table is stopped. As a result, the stoppage power is equal to the rotational[2x). In contrast, the products that stop pistons inside have stoppage power that is reduced by half relative to the rotational power (2x).We will provide answers to questions when tou ask for structures and principles Compare our products with other products onsite while air has been supplied and the products are not operating lespecially in the perpendicular direction). Sleekness of the exterior cannot take precedence over function.

配管注意(Piping)

确保将气管安装无误

Grasp the tube and push it in slowly, inserting it securely all the way into the fitting

安装完毕后请轻拉气管，确保不脱落

如气管无法完全安装，则有可能导致漏气或气管脱落

After inserting the tube, pull on it lightly to confirm that it will not come out. If it is not installed securely all the way into the fitting. this can cause problems such as air leakage or the tube pulling out.

气管分离用力按压气动接头的同时均匀按压法兰

Tube detachment | Push in the release bush sufficiently, pushing its flange equally around the circumference.

将气动接头的法兰拉至最底端是将气管拔出。如未将法兰拉至最底端，气管将无法拔出。

Pull out the tube while holding down the release bush so that is does not come out. if the release bush is not pressed down sufficiently. there will be increased bite on the tube and it will become more difficult to pull it out.

拔出的气管如再次使用时请削去最前端后再使用。

如不削去最前端使用时。下次拔出时将很难拔出。

when the removed tube is to be used again, cut off the portion which has been chewed before reusing it. If the chewed portion of the tube is used as is, this can cause trouble such as air leakage or difficulty in removing the tube.

气管外径圆度不均匀时请勿使用

有可能使其无法完全安装导致漏气或气管脱落

Do not use tube which do not meet the outside diameter tolerances.

it may not be possible to connect them, or they may cause other trouble, such as air leakage or the tube pulling out after connection.

关于配管 避免让接头和气管上产生扭曲、拉扯、瞬间负荷、震动、冲击等。可能会导致接头或气管变形、破裂、脱落等。

Piping | Do not apply unnecessary forces, such as twisting, pulling, moment loads, vibration, impact, etc... on fittings or tubing. This will cause damage to fitting and will crush, burst, or release tubing.

连接后请勿在抓住气管的状态下抬起产品。

Piping I Do not lift the product by the piping after the tube is connected. Doing so may result in damage to the One-touch tube fitting.

使用上注意(Warning)

请使用真空过滤器

如果不使用真空过滤器，粉尘及异物等会流入真空发生器，及真空破坏单元内部，引发故障。

Confirm the specifications.

Products represented in this catalog are designed only for use in compressed air systems(including vacuum)

We do not guarantee against any damage if the product is used outside of the specification range

请堵住不使用的气口

如开放不使用气口则会降低气压

When two or more pads are piped to one ejector, if one pad releases its workpiece, the other pads will also release.

如果担心安装孔损伤请使用低垫支架

If you're concerned about damage to the mounting holes, use a low-padding bracket.

气爪选择所依据技术条件及注意事项

Technical conditions and precautions for selection of air claw

影响夹持力因素

Factors affecting clamping force

同一气爪对工件形成的实际夹持力大小主要取决于:气压大小、夹指与工件之间摩擦系数。

The actual clamping force formed by the same air claw on the workpiece mainly depends on the air pressure and the friction coefficient between the clamping finger and the workpiece.

气爪规格选型原则

Principles for selecting air claw specifications

1、 参考气爪夹持参数表，根据供气压力、工件相对气爪夹持高度，查得闭合/张开夹持力理论数值。

1. According to the parameter table of the air claw clamping, the theoretical values of the closing/opening clamping force are obtained based on the gas supply pressure and the relative height of the workpiece to the air claw clamping.

2、按照夹持力相对工件重之比 10-20 倍范围确定选用气爪规格。

2. Determine the size of the air claw according to the ratio of the clamping force to the weight of the workpiece, which is 10-20 times.

3、当工件相对夹指摩擦系数较大时夹持力可 以适当小一些，反之夹持力要大一些。

3. When the relative coefficient of friction between the workpiece and the finger is relatively large, the clamping force can be appropriately reduced, and vice versa, the clamping force should be greater.

## 产品使用气源要求

## Product air source requirements

不能直接使用由空气压缩机排出的空气，其气体中含有水份、残留油份、灰尘杂质等影响因子，过滤器处理后，方能连接气爪。

The air discharged by the air compressor cannot be directly used, as its gas contains factors such as water, residual oil, dust and impurities. Only after being processed by the filter can the air claw be connected.

水份和灰尘会造成金属零件锈蚀，导致运动部件磨损、卡死，阻塞小孔等问题，在寒冷情况下，水份结冰将引起管路冻结，产品动作失常等故障。

Moisture and dust can cause corrosion of metal parts, leading to wear, jamming, and blockage of small holes in moving parts. In cold conditions, freezing of water can cause pipeline freezing, product malfunction, and other malfunctions.

## 气爪产品应用需注意事项

## Precautions for the application of air claw products

在夹持位置设定在允许范围情况下，应尽量将夹指零件设计为短而轻，假使夹指过长且重，气爪开闭运动时将产生较大惯性力，导致气爪承载能力降低，影响其使用寿命。

When the clamping position is set within the allowable range, the clamping finger parts should be designed as short and light as possible. If the clamping finger is too long and heavy, a large inertia force will be generated during the opening and closing movement of the air claw, resulting in a decrease in the bearing capacity of the air claw and affecting its service life.

请按照产品参数列表中最大允许夹持距离所限定的范围来确定夹持位置尺寸，当超出表中范围时，气爪将会承担过大的力矩载荷，致使工作寿命缩短。

Please determine the clamping position size according to the maximum allowable clamping distance limit in the product parameter list. When it exceeds the range in the table, the air claw will bear excessive torque load, resulting in a shortened working life.

在有着较大冲击力的工作场合中，不适宜使用气爪产品。

In workplaces with high impact, it is not suitable to use air claw products.

## 注意事项

## Precautions

1、 气爪动作部分可能存在人身伤害风险，如有必要，请设计安装防护装置。

1. The pneumatic claw movement may pose a risk of personal injury. If necessary, please design and install protective devices.

2、本样册规定了产品使用条件与范围，在超出使用范围情况下使用，可能会导致产品动作不良、损坏、甚至发生意外;因此设计选型时，若产品超出规定使用范围，请与本公司联系。

2. This sample booklet specifies the conditions and scope of product use. If used beyond the scope of use, it may lead to poor product movement, damage, and even accidents; Therefore, during the design and selection process, if the product exceeds the specified usage range, please contact our company.

3、当所夹持工件质量较大时，仅依靠产品自身所带有的缓冲结构是不足的，建议配置外部
缓冲装置以吸收冲击力;同时需要评估考量机械部分刚度。

3. When the quality of the workpiece being clamped is large, relying solely on the buffering structure of the product itself is insufficient. It is recommended to install an external buffering device to absorb the impact force; At the same time, it is necessary to evaluate and consider the stiffness of the mechanical part.

## 危险提示

## Danger Warning

1、在系统设计时需要考虑停电、断气状态下可能出现的危险，如因停电停气致使气动回路压力降低，造成工件掉落、磕伤、人身伤害等问题，因此需要设计必要的安全回路以及安保装置。

1. In terms of design, it is necessary to ensure that in the event of emergency shutdown, abnormal power outage, gas outage, etc., the safety device is in a stopped working state, and the action of the air claw and other devices will not cause personal injury or equipment damage.

2、设计时要考虑在重新启动情况下气爪的动作不至于造成人身伤害及设备装置损坏等情况发生。

2. When designing, it is necessary to consider that the action of the air claw during restart should not cause personal injury or equipment damage.

3、设计方面要确保当发生紧急停机、异常停电、断气等情况时，安全装置处于停止工作状态，气爪等装置的动作不至于造成人身伤害及设备装置损坏等问题。

3. In terms of design, it is necessary to ensure that in the event of emergency shutdown, abnormal power outage, gas outage, etc., the safety device is in a stopped working state, and the action of the air claw and other devices

will not cause personal injury or equipment damage.

4、设计系统时需考虑紧急停止情况下的气爪开闭状态;以及摆缸的位置情况。

4. When designing the system, it is necessary to consider the opening and closing status of the air claw and the position of the rotary cylinder in case of emergency stop.