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FOUR OVERALL SOLUTIONS FROM AOTTO

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OVERALL SOLUTIONS FOR HOT PROCESSING AUTOMATION

★ 安全防护系统解决方案

OVERALL SOLUTIONS FOR SAFETY GUARDING SYSTEM

★ 智能抓取标准产品

ROBOTIC GRIPPING STANDARD PRODUCTS

济南奥图科技有限责任公司 Jinan Aotto Technologies Co., Ltd.

地址 Addr.：济南市长清区济南创新谷加速器建大合新产业基地
Jianda Hexin Industrial Base, Jinan Innovation Valley Accelerator,
Changqing District, Jinan City

电话 Tel：0531- 87201565

邮箱 E-mail：Marketing@aotto.cn

官网 Web：www.aottotech.com

Aosaff

安全防护围栏

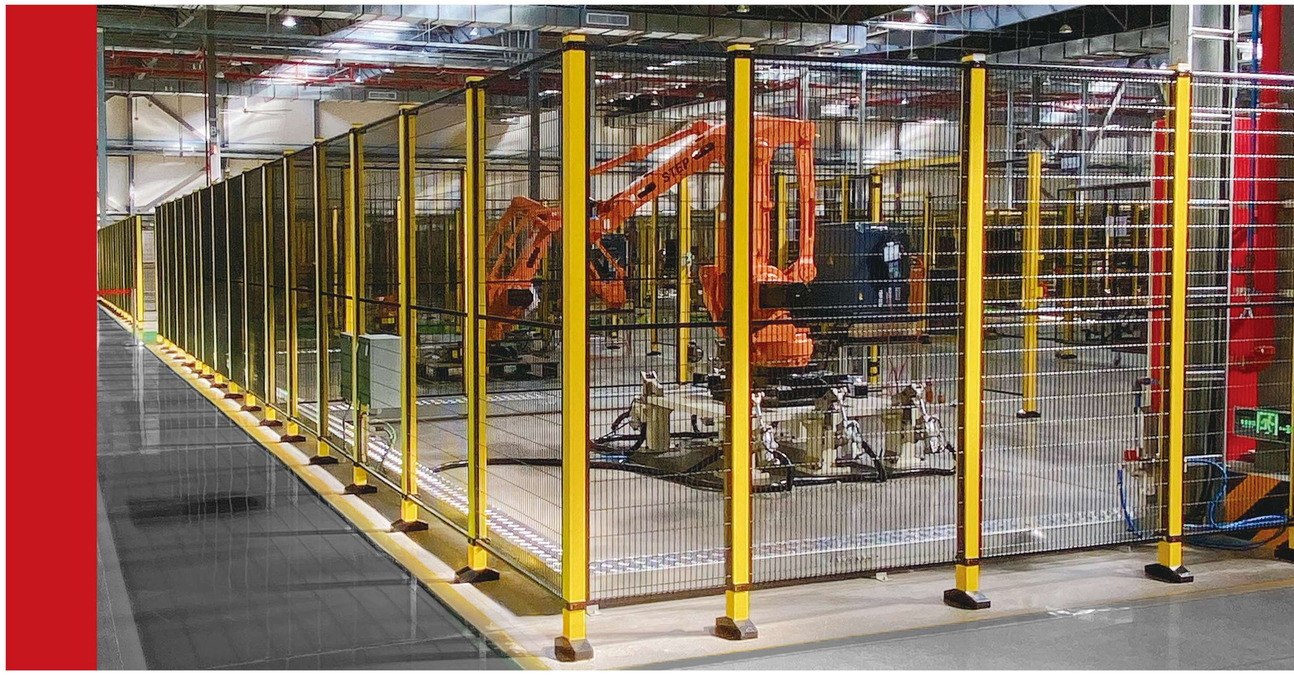
SAFETY GUARDING FENCE

Ver. 2026-07

Aosaff

安全防护系统
解决方案

OVERALL SOLUTIONS FOR SAFETY GUARDING SYSTEM



济南奥图科技有限责任公司

Jinan Aotto Technologies Co., Ltd.

Since 2000

Aotto

Aotto

专注于为冲压行业提供全面优质的自动化集成服务。

Focusing on providing comprehensive and high - quality automation integration services for the stamping industry .

Aosaff

提供安全防护整体解决方案。

Providing safety guarding turnkey solutions.

Awiz

提供冲压生产智慧工厂一体化解决方案。

Providing an integrated solution for stamping production intelligent factory.

Aovita

提供智能抓取标准产品。

Regarding "being professional, fine and exquisite", and making efforts in creating the first brand in tooling industry.

Atrey

专业提供高端激光切割装备及服务。

Providing advanced cutting devices and services.

Aosaff 安全防护围栏专注于机器人及自动化生产线安全防护围栏的设计与制造，并以“致力创新、精工制作”作为产品定位及发展目标，为客户提供各类自动化安全防护整体解决方案和优质服务。

Aosaff safety fence focus on designing and manufacturing of robot and automatic production line safety guarding fence, regards "devoting to innovation and fine workmanship manufacture" as product orientation and development target, and provides complete solutions and outstanding service of automatic safety guarding to the customers.

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Aosaff 安全防护辅助选型系统

SAFETY GUARDING ASSISTED SELECTION SYSTEM

针对围栏设计开发，实现“专软专用”， 减少设计人员重复性劳动，实现了需求--设计--生产的一体化、高效化。此安全防护辅助选型系统已获申软件著作版权。

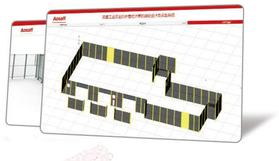
Aiming at the design and development of the fence,realizing "special software for special purpose", and reducing the repetitive labor of the designer.This system realizes integration and high efficiency, and has been granted with software copyright.

高效的围栏排列及优化算法，降低客户成本

Efficient fence arrangement and optimization algorithm, reduce customer costs.

快速表达需求，节约设计时间，根据方案自动生成围栏明细，快速下单

Express requirements quickly,save design time. Generate the fence details and quick order according to the scheme.



自动一键生成 2D/3D 图纸，减少设计人员重复性劳动，快速高效

The system can automatically generate the corresponding 2D or 3D model,reduce the repetitive work of designers,the whole process is quick efficiently.

用标准围栏为客户打造专属方案

Create an exclusive plan for customers with our standard fences.

钢制围网及立柱防护

STEEL FENCE AND COLUMN PROTECTION

产品优势 Product advantages

◆ 性价比高 Cost-effective

特点：
1. 钢制围网价格为铝型材围网价格的 50% 左右。
2. 表面喷塑处理，绿色时尚。

Features:
1. The price of steel fence is about 50% of that of aluminum.
2. Surface spray treatment, green and fashion.

◆ 交货期短 Short delivery time

特点：
全自动化生产工艺，产品标准化、模块化，交货周期短。

Features:
Fully automated production process, product standardization, modularization, short delivery cycle.

◆ 安全性好 Good security

特点：
1. 钢制围网焊接强度高，抗打击力度是型材围网的 3 倍。
2. 重载型链接，牢固可靠。

Features:
1. High welding strength/ the impact resistance is 3 times of that of aluminum.
2. Heavy load type link, firm and reliable.

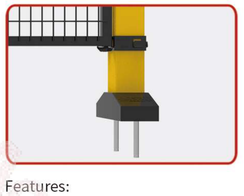
◆ 快速安装，施工周期短 Quick installation and short construction period

① 快速安装 Quick installation

特点：
1. 采用快插结构，效率较传统结构提高 200%。
2. 高低调整方便，可做到所有围网平齐一致。
3. 立柱四周均可连接围网，安装方便灵活。

Features:
1. Increase the efficiency by 200%.
2. The height is easy to adjust, and all the fences can be flush.
3. Mesh can be connected all around the column, making installation convenient and flexible.

② 地脚+膨胀螺栓 Anchor & expansion bolt

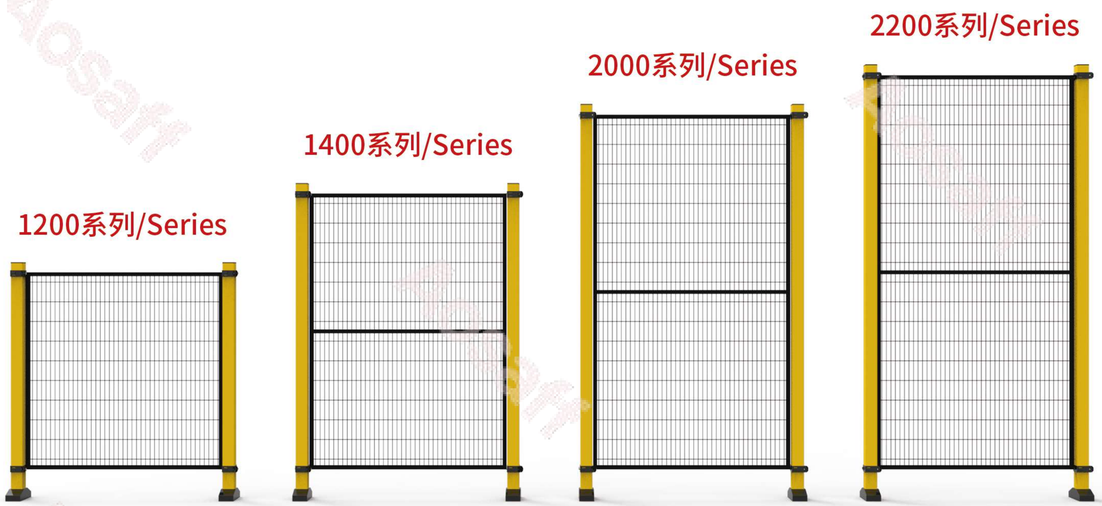


特点：
1. 满足整体围栏刚性的情况下，减少不必要安装孔，安装效率高。
2. 采用膨胀螺栓，固定更牢固，不易松动。

Features:
1. In the case of satisfying the rigidity of the overall fence, unnecessary installation holes are reduced, and the installation efficiency is high.
2. Using expansion bolts, the fixing is firmer and not easy to loosen.

60*60系列 安全围栏

60*60 STEEL FENCE



适用于汽车、物流、建材、造纸、家电、注塑、新能源等行业的产线防护，符合GB、CE及ISO标准，表面喷塑处理，安全与美观兼具。

Suitable for production line protection in automotive,logistics,building materials,paper making,home appliances,injection molding,new energy and other industries,in line with GB,CE and ISO standards.The surface of the product is sprayed with plastic,providing both safety and aesthetics.

20系列标准围网 20 series standard panel

宽度 (mm) Width(mm)	高度 (mm) Height(mm)	重量(Kg) Kilogram(Kg)	高度 (mm) Height(mm)	重量(Kg) Kilogram(Kg)	高度 (mm) Height(mm)	重量(Kg) Kilogram(Kg)	高度 (mm) Height(mm)	重量(Kg) Kilogram(Kg)
500	1000	3.47	1200	4.02	1800	6.04	2000	6.59
600		3.89		4.49		6.70		7.30
700		4.37		5.02		7.46		8.12
800		4.79		5.49		8.12		8.84
900		5.22		5.97		8.79		9.55
1000		5.69		6.50		9.54		10.37
1100		6.12		6.97		10.21		11.08
1200		6.84		7.44		10.88		11.80

60系列标准立柱 60 series standard column

高度 (mm) Height(mm)	重量(Kg) Kilogram(Kg)
1200	4.03
1400	4.58
2000	6.23
2200	6.77

技术参数 Technical parameter

单位:毫米 Unit: mm

围网高度 Panel Height	2000/1800/1400/1000
围网宽度 Panel Width	1200/1100/1000/900/800/700/600/500
网　　格 Grid	20*100
网片丝径 Wire Diameter	3
网框方管 Panel Square Tube	20*20*1.2
立柱方管 Column Square Tube	60*60*1.5
立柱高度 Column Height	2200/2000/1400/1200

配件

ACCESSORIES

1 卡环

分为上/下卡环，使围网固定于立柱，可自由调整围网高度位置，单个卡环可安装四片不同方向的围网。

Snap ring: It is divided into upper/lower snap rings, so that the fence can be fixed on the column, and the height of the fence can be adjusted freely. A single clip can install four pieces of fence in different directions.

2 专用铰链（门用）

专利产品，通过其铰链结构实现开门效果，安装更方便，强度更高。

Special hinge (for door): The patented product realizes the door opening effect through its hinge structure, which is more convenient to install and has higher strength.

3 60*60立柱堵头

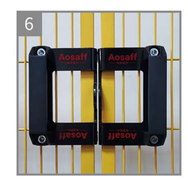
用于立柱顶端，起到防尘及保护作用。

60*60 Column plug: Used for the top of the column to play the role of dustproof and protection.

4 防尘盖

用于立柱底端，起到防尘及保护作用。

Dust cover: Used at the bottom of the column to play a role in dust prevention and protection.



5 单开门把手组件

用于单开门的开启及限位功能。

Single door handle assembly: Used for opening and limit function of single door.

6 双开门把手组件

用于双开门的开启及挂锁安装功能。

Double door handle assembly: Used for double door opening and padlock installation.

7 裁切U型槽组件

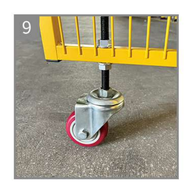
用于现场围网宽/高度裁切改造。

U-groove assembly: Used for splicing and fixing of mesh.

8 立柱加高件

用于60系列立柱的加高固定。

Column heightening parts: Used for heightening and fixing of 60 series columns.



9 脚轮

用于安全门围网的支撑。

Casters: Used for the support of the security gate fence.

10 三节滑轨组件

用于悬浮门导向及支撑。

Three-section slide rail assembly: Used for guiding and supporting the suspension door.

40*60系列 安全围栏

40*60 STEEL FENCE

适用于汽车、物流、建材、造纸、家电、注塑、新能源等行业的产线防护，符合GB、CE及ISO标准，表面喷塑处理，安全与美观兼具。

Suitable for production line protection in automotive,logistics,building materials,paper making,home appliances,injection molding,new energy and other industries,in line with GB,CE and ISO standards.The surface of the product is sprayed with plastic,providing both safety and aesthetics.

20系列标准围网 20 series standard panel

宽度 (mm) Width(mm)	高度 (mm) Height(mm)	重量 (Kg) Kilogram(Kg)	高度 (mm) Height(mm)	重量 (Kg) Kilogram(Kg)	高度 (mm) Height(mm)	重量 (Kg) Kilogram(Kg)	高度 (mm) Height(mm)	重量 (Kg) Kilogram(Kg)
500	1050	3.45	1250	4.15	1850	6.95	2050	7.85
600		4.14		4.98		8.34		9.42
700		4.83		5.81		9.73		10.99
800		5.52		6.64		11.12		12.56
1000		6.9		8.3		13.9		15.7
1200		8.28		9.96		16.65		18.84

40*60系列标准立柱 40*60 series standard column

高度 (mm) Height(mm)	重量 (Kg) Kilogram(Kg)
1200	3.1
1400	3.55
2000	4.9
2200	5.35

技术参数 Technical parameter

单位:毫米 Unit: mm

围网高度 Panel Height	2000/1800/1400/1000
围网宽度 Panel Width	1200/1100/1000/900/800/700/600/500
网　　格 Grid	20*100
网片丝径 Wire Diameter	3
网框方管 Panel Square Tube	20*20*1.2
立柱方管 Column Square Tube	40*60*1.5
立柱高度 Column Height	2200/2000/1400/1200

配件

ACCESSORIES

1 40*60卡环

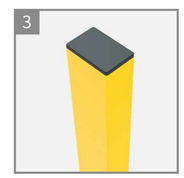
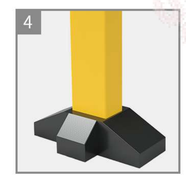
卡环不分上下，使围网固定于立柱，可自由调整围网高度位置，单个卡环可安装四片不同方向的围网。

40*60 Snap ring: It is divided into upper/lower snap rings, so that the fence can be fixed on the column, and the height of the fence can be adjusted freely. A single clip can install four pieces of fence in different directions.

2 40*60专用铰链（门用）

专利产品，通过其铰链结构实现开门效果，安装更方便，强度更高。

40*60 Special hinge (for door): The patented product realizes the door opening effect through its hinge structure, which is more convenient to install and has higher strength.

3 40*60立柱堵头

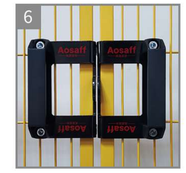
用于立柱顶端，起到防尘及保护作用。

40*60 Column plug: Used for the top of the column to play the role of dustproof and protection.

4 40*60防尘盖

用于立柱底端，起到防尘及保护作用。

40*60 Dust cover: Used at the bottom of the column to play a role in dust prevention and protection.



5 单开门把手组件

用于单开门的开启及限位功能。

Single door handle assembly: Used for opening and limit function of single door.

6 双开门把手组件

用于双开门的开启及挂锁安装功能。

Double door handle assembly: Used for double door opening and padlock installation.

7 裁切U型槽组件

用于现场围网宽/高度裁切改造。

U-groove assembly: Used for splicing and fixing of mesh.

8 40*60立柱加高件

用于40*60系列立柱的加高固定。

40*60 Column heightening parts: Used for heightening and fixing of 60 series columns.

9 脚轮

用于安全门围网的支撑。

Casters: Used for the support of the security gate fence.

10 三节滑轨组件

用于悬浮门导向及支撑。

Three-section slide rail assembly: Used for guiding and supporting the suspension door.

60*60系列 铰链门 单开/双开

60*60 HINGED DOOR（SINGLE/DOUBLE OPEN)

产品特点：模块化设计，安装便捷。
单开门标准配置：把手组件(单开)一套、脚轮一套。
双开门标准配置：把手组件(双开)两套、脚轮两套。
可选配置：地脚插销、高配机械锁、安全锁+机械插销(详见P16)。

Product features : Modular design, easy installation.
Standard configuration of single-door : 1 set of handle assembly (single open), 1 set of casters.
Standard configuration of double-door : 2 sets of handle components (double open), 2 sets of casters.
Optional configuration : ground pin, high-end mechanical lock, safety lock + mechanical pin (see P16 for details).

标准单开铰链门 Standard single hinged door

门开口宽度（mm）Opening width (mm)	门整体宽度（mm）Overall width (mm)	立柱高度（mm）Column height (mm)			
800	950	1200	1400	2000	2200
1000	1150				
1200	1350				
1500	1650				

标准双开铰链门 Standard double hinged door

门开口宽度（mm）Opening width (mm)	门整体宽度（mm）Overall width (mm)	立柱高度（mm）Column height (mm)			
1600	1760	1200	1400	2000	2200
2000	2160				
2400	2560				
3000	3160				

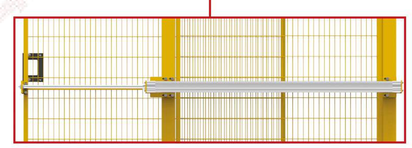
※ 可按客户需求提供定制化服务，1200/1400高度不配备门梁。
Customized services can be provided according to customer needs, 1200/1400 series without door beam.

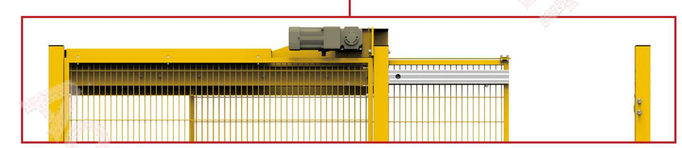
60*60系列 悬浮门 单开/双开

60*60 SUSPENSION DOOR（SINGLE/DOUBLE OPEN)

气动悬浮门
Pneumatic suspension door

电动悬浮门
Electric suspension door





产品特点：大开口不限高，模块化预装，安装便捷。
单开门标准配置：把手组件(双开)一套、三节滑轨模块两套、脚轮一套。
双开门标准配置：把手组件(双开)两套、三节滑轨模块四套、脚轮两套。
可选配置：地脚插销、安全锁+机械插销(详见P16)。

Product features : large opening, unlimited height, modular pre-installation, convenient installation.
Standard configuration of single-door : 1 set of handle assembly (double open), 2 sets of three-section slide rail modules, 1 set of casters.
Standard configuration of double-door : 2 sets of handle assemblies (double open), 4 sets of three-section slide rail modules, 2 sets of casters.
Optional configuration : ground pin, safety lock + mechanical pin (see P16 for details).

标准悬浮门 单开/双开 Standard suspension door Single/Double

单开门开口宽度（mm）Single-door opening width (mm)	单开门整体宽度（mm）Single-door overall width (mm)	双开门开口宽度（mm）Double-door opening width (mm)	双开门整体宽度（mm）Double-door overall width (mm)	立柱高度（mm）Column height (mm)			
800	1840	1600	3530	1200	1400	2000	2200
1000	2240	2000	4330				
1200	2640	2400	5130				
1500	3240	3000	6330				

※ 可按客户需求定制气动悬浮门、电动悬浮门、三级悬浮门等。
Pneumatic suspension doors, electric suspension doors, three-level suspension doors, etc. can be customized according to customer needs.

60*60系列 滑动门 单开/双开

60*60 SLIDING DOOR （SINGLE/DOUBLE OPEN）

产品特点：大开口，模块化设计，安装便捷。
单开门标准配置：把手组件（双开）一套、上滑轨一组、导轮支架一套、缓冲块组件两套。
对开门标准配置：把手组件（双开）两套、上滑轨两组、导轮支架两套、缓冲块两套。
可选配置：地脚插销、安全锁 + 机械插销（详见 P16）。

Product features : large opening, modular design, easy installation.
Standard configuration of single-door : one set of handle assembly (double open), one set of upper slide rail, one set of guide wheel bracket, and two sets of buffer block assembly.
The standard configuration of double-door : two sets of handle components (double opening), two sets of upper slide rails, two sets of guide wheel brackets, and two sets of buffer block components.
Optional configuration : ground pin, safety lock + mechanical pin (see P16 for details).

标准滑动门 双开/单开 Standard suspension door Single/Double

单开门开口宽度（mm） Single-door opening width (mm)	单开门整体宽度（mm） Single-door overall width (mm)	双开门开口宽度（mm） Double-door opening width (mm)	双开门整体宽度（mm） Double-door overall width (mm)	立柱高度（mm） Column height (mm)	
700	1850	1400	3530	2000	2200
800	2050	1600	3930		
900	2250	1800	4330		
1000	2450	2000	4730		
1200	2850	2400	5530		
1400	3250	2800	6330		
1500	3450	3000	6730		

※ 可按客户需求定制双轨滑动门、地轨式滑动门等。
Double rail sliding doors, floor rail sliding doors, etc. can be customized according to customer needs.

平移门 Sliding door

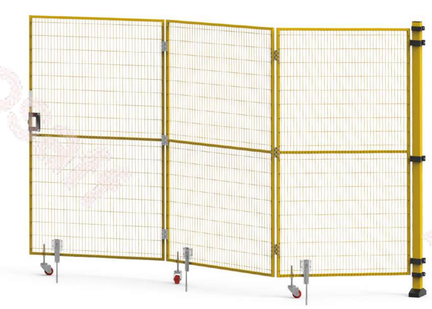
产品特点：超宽开口、结构稳固、按需定制。
双开门标准配置：把手组件(双开)两套、脚轮两套。
可选配置：地脚插销、安全锁+机械插销(详见P16)。

Product features : super wide opening, stable structure, customized on demand.
Standard configuration of double doors : two sets of handle components (double doors) and two sets of casters.
Optional configuration : ground pin, safety lock + mechanical pin (see P16 for details).

标准对开平移门 Standard double sliding door

门开口宽度（mm） Opening width (mm)	门整体宽度（mm） Overall width (mm)	立柱高度（mm） Column height (mm)	
4000	11000	2000	2200
5000	13000		
6000	15000		

折叠门 单开/双开 Folding door Single/Double



产品特点：大开口、经济实惠、按需定制。
单开门标准配置：把手组件（单开）一套、地脚插销、脚轮（套数根据开口变化）。
双开门标准配置：把手组件（双开）两套、地脚插销、脚轮（套数根据开口变化）。
可选配置：安全锁 + 机械插销（详见 P16）。

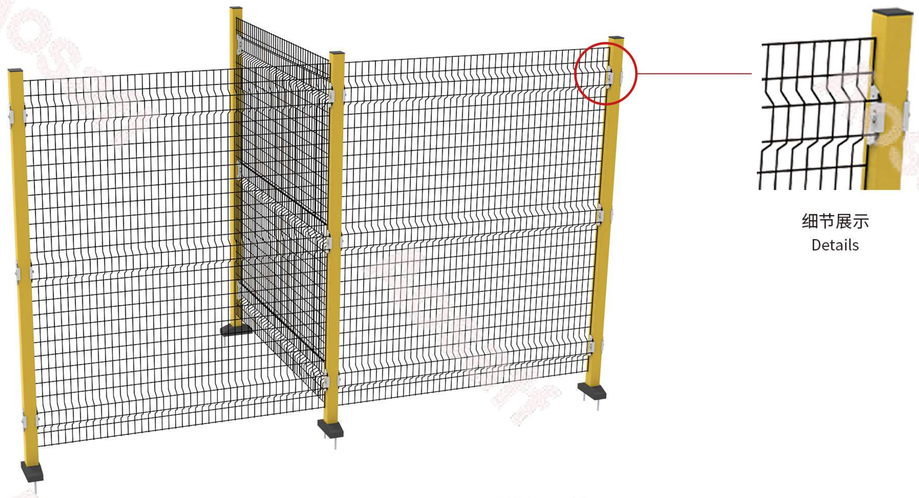
Product features: large opening, economical, customized on demand.
Standard configuration of single door: one set of handle assembly (single open), ground pin, caster (the number of sets varies according to the opening).
Standard configuration of double doors: two sets of handle components (double doors), anchor pins, casters (the number of sets varies according to the opening).
Optional configuration: safety lock + mechanical latch (see P16 for details).

标准折叠门 单开/双开 Standard folding door Single/Double

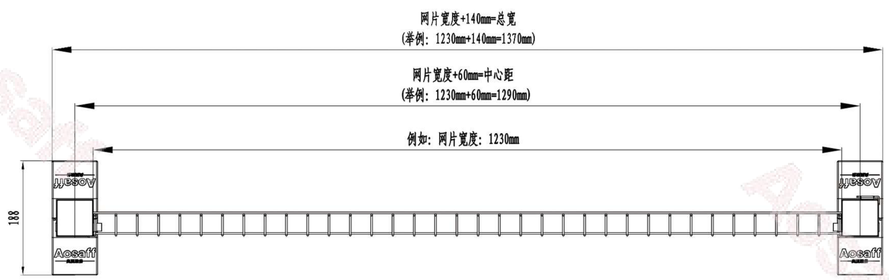
单开门开口宽度（mm） Single-door opening width (mm)	单开门整体宽度（mm） Single-door overall width (mm)	双开门开口宽度（mm） Double-door opening width (mm)	双开门整体宽度（mm） Double-door overall width (mm)	立柱高度（mm） Column height (mm)			
3000	3175	6000	6205	1200	1400	2000	2200

无边框围栏系列

FRAMELESS PANELS



细节展示
Details



2000mm系列防护网栅技术参数 Specifications (2000 mm Series)

单位:毫米 Unit: mm

立柱规格 Post	网片规格(宽*高) Mesh Panel (W × H)		丝径Φ Wires	网格(中心距)(宽*高) Grid (W × H)	离地间隙 Ground Clearance
60*60*2000	1230*1860	1510*1860	3	35*70	100-140可调

*注：规格尺寸可定制

裁切围栏特点

- 几字形折边网片，强度相比V字形网片更好
- 立柱、网片及安装附件均采用喷塑工艺，更美观
- 规格统一，安装方便，安装效率高
- 交货期短，性价比高
- 适用场景：仓储物流、车间隔离等应用场景

Features

Trapezoidal bent mesh panels deliver superior strength compared to V-shaped panels.

Powder-coated posts, mesh panels, and fittings for enhanced aesthetics.

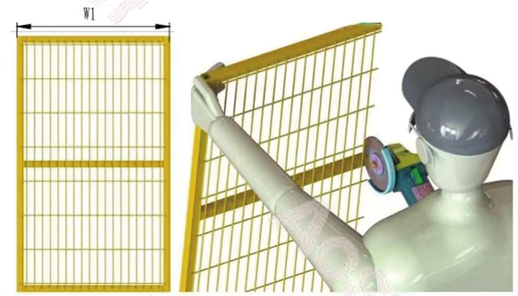
Uniform specifications enable easy and efficient installation.

Short lead times and high cost-effectiveness.

Ideal for warehousing, logistics, workshop partitions, and similar applications.

有边框围栏系列

FRAMED PANELS

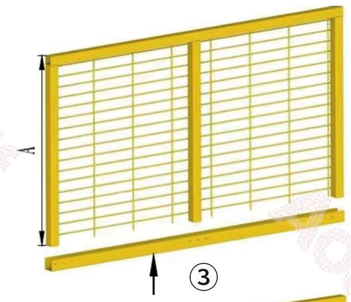


①

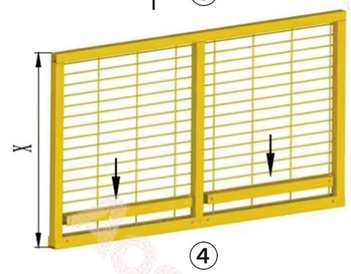
②

打孔凸台方管
Inner cutting profile

裁切U型槽
Outer cutting profile



③



④

裁切说明

1.W1=围网宽度

2.X=需求非标尺寸围网宽度

3.A=裁切后尺寸数：X-5mm

举例：需求非标730MM宽度围网，可使用800MM宽度围网裁切，围网裁切尺寸725MM，使用裁切拼接装置变为730宽度围网。

Cutting profile description

1.W1=Panel width

2.X=Customized Panel Width

3.A=With size after cut：X-5mm

Example: 730mm width of panel could be cut from 800mm width of panel; after cut, The overall width of panel is 725mm, and after added the cutting profile that comes out of 730mm width of panel.

⑤

⑥

⑦

⑧

40×60系列 铰链门

40×60 HINGED DOOR

产品特点：模块化设计，安装便捷。
单开门标准配置：把手组件(单开)一套、脚轮一套。
双开门标准配置：把手组件(双开)两套、脚轮两套。
可选配置：地脚插销、高配机械锁、安全锁+机械插销

Product features : Modular design, easy installation.
Standard configuration of single-door : 1 set of handle assembly (single open), 1 set of casters.
Standard configuration of double-door : 2 sets of handle components (double open), 2 sets of casters.
Optional configuration : ground pin, high-end mechanical lock, safety lock + mechanical pin

40*60系列铰链门 单开/双开　40*60 Hinged Door　Single/Double

单开门开口宽度（mm） Single-door opening width (mm)	单开门整体宽度（mm） Single-door overall width (mm)	双开门开口宽度（mm） Double-door opening width (mm)	双开门整体宽度（mm） Double-door overall width (mm)	立柱高度（mm） Column height (mm)		
700	885	1400	1585	1200	2000	2200
800	985	1600	1785			
1000	1185	2000	2185			
1200	1385	2400	2585			
1500	1685	3000	3185			

40×60系列 滑动门

40×60 SLIDING DOOR

产品特点：大开口，模块化设计，安装便捷。
单开门标准配置：把手组件（双开）一套、上滑轨一组、导轮支架一套、缓冲块组件两套。
对开门标准配置：把手组件（双开）两套、上滑轨两组、导轮支架两套、缓冲块两套。
可选配置：地脚插销、安全锁 + 机械插销。

Product features : large opening, modular design, easy installation.
Standard configuration of single-door : one set of handle assembly (double open), one set of upper slide rail, one set of guide wheel bracket, and two sets of buffer block assembly.
The standard configuration of double-door : two sets of handle components (double opening), two sets of upper slide rails, two sets of guide wheel brackets, and two sets of buffer block components.

40*60系列滑动门 单开/双开　40*60 Sliding Door　Single/Double

单开门开口宽度（mm） Single-door opening width (mm)	单开门整体宽度（mm） Single-door overall width (mm)	双开门开口宽度（mm） Double-door opening width (mm)	双开门整体宽度（mm） Double-door overall width (mm)	立柱高度（mm） Column height (mm)		
700	1730	1400	3300	1200	2000	2200
800	1930	1600	3700			
900	2130	1800	4100			
1000	2330	2000	4500			
1200	2730	2400	5300			
1400	3130	2800	6100			
1500	3330	3000	6500			

40×60系列 悬浮门

40×60 SUSPENSION DOOR

产品特点：大开口不限高，模块化预装，安装便捷。
单开门标准配置：把手组件(双开)一套、三节滑轨模块两套、脚轮一套。
双开门标准配置：把手组件(双开)两套、三节滑轨模块四套、脚轮两套。
可选配置：地脚插销、安全锁+机械插销。

Product features : large opening, unlimited height, modular pre-installation, convenient installation.
Standard configuration of single-door : 1 set of handle assembly (double open), 2 sets of three-section slide rail modules, 1 set of casters.
Standard configuration of double-door : 2 sets of handle assemblies (double open), 4 sets of three-section slide rail modules, 2 sets of casters.
Optional configuration : ground pin, safety lock + mechanical pin.

40*60系列悬浮门 单开/双开　40*60 Suspension door　Single/Double

单开门开口宽度（mm） Single-door opening width (mm)	单开门整体宽度（mm） Single-door overall width (mm)	双开门开口宽度（mm） Double-door opening width (mm)	双开门整体宽度（mm） Double-door overall width (mm)	立柱高度（mm） Column height (mm)		
700	1660	1400	3140	1200	2000	2200
800	1860	1600	3540			
900	2060	1800	3940			
1000	2260	2000	4340			
1200	2660	2400	5140			
1400	3060	2800	5940			
1500	3260	3000	6340			

※ 可按客户需求定制气动悬浮门、电动悬浮门、三级悬浮门等。
Pneumatic suspension doors, electric suspension doors, three-level suspension doors, etc. can be customized according to customer needs.

门锁

LOCK

高配机械锁　High-end mechanical lock

外观高端大气，便于权限管理，广泛应用于仓储类场景。

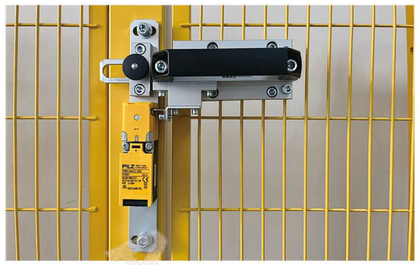
The appearance is high-end and elegant, which is convenient for permission management, and is widely used in storage scenarios.

机械插销　Mechanical latch

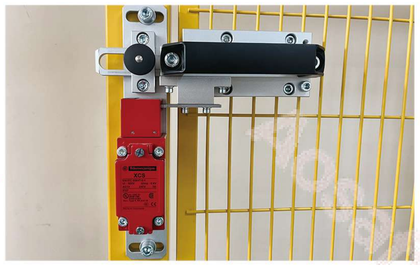
机械插销，旋钮定位，可搭配多款安全锁组合应用。

Mechanical latch, knob positioning, can be used in combination with a variety of safety locks.

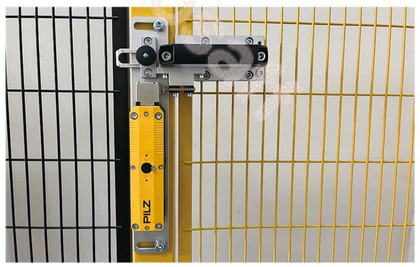
安全锁+机械插销应用案例　Cases



皮尔兹安全锁
Pilz security lock
型号 Model
me4.2/4AS



施耐德安全锁
Schneider safety lock
型号 Model
XCSA702+XCSZ01



皮尔兹安全锁
Pilz security lock
型号 Model
me5s

施耐德安全锁
Schneider safety lock
型号 Model
XCSE7312+XCSZ01

柔性护栏

FLEXIBLE BARRIER

由进口高分子材料制成的柔性护栏在承受撞击时可通过形变吸收能量并在撞击结束时回弹至初始状态，不仅保护您的人员、财产安全，更降低了日常维护费用。

Flexible barriers made of imported polymer materials can absorb energy through deformation during impact and rebound to their original state after impact, protecting the safety of your personnel and property while greatly reducing daily maintenance costs.

标准护栏 Standard Flexible Barrier

技术参数 Technical parameter 单位:毫米 Unit: mm

护栏长度 Barrier length	600-1800（标准1800，中心距）(standard 1800/ CTC)
护栏高度 Barrier height	300/800/1100
护柱外径 Bollard outer diameter	125
横梁外径 Beam outer diameter	90
防护能力 Capacity	1.5T、5 km/h
产品颜色 Product color	黄色 Yellow

防撞柱 Bollards

技术参数 Technical parameter 单位:毫米 Unit: mm

护栏高度 Barrier height	500/800/1100
护柱外径 Bollard outer diameter	125/160
防护能力 Capacity	1.5T、4km/h ｜ 3T、4.5km/h
产品颜色 Product color	黄色 Yellow

强化护栏 Reinforced Flexible Barriers

技术参数 Technical parameter 单位:毫米 Unit: mm

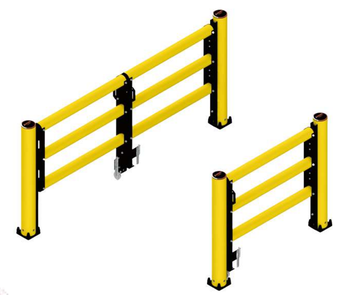
护栏长度 Barrier length	600-1800（标准1800，中心距）(standard 1800/ CTC)
护栏高度 Barrier height	500/800/1200
护柱外径 Bollard outer diameter	125/160
横梁外径 Beam outer diameter	90/160
防护能力 Capacity	3T、6km/h
产品颜色 Product color	黄色 Yellow

地栏 Ground Impact Barriers

技术参数 Technical parameter 单位:毫米 Unit: mm

地栏长度 Barrier length	600-2000（标准2000）(standard 2000)
地栏高度 Barrier height	155/190
地梁外径 Beam outer diameter	125/160
防护能力 Capacity	1.5T、8km/h|4T、6.5km/h
产品颜色 Product color	黄色 Yellow

安全门 Traffic Gate



技术参数 Technical parameter 单位:毫米 Unit: mm

门类型 Type Hinged	铰链门|回弹门 Gate | Self-closing Gate
门开口距 Opening Width	500-1000(单开门) (Single Open) 1000-2000(对开门) (Double Open)
门中心距 Center-to-Center Distance	700-1200(单开门) (Single Open) 1270-2270(对开门) (Double Open)
防护高度 Height	1100
护柱外径 Bollard outer diameter	125
横梁外径 Beam Outer Diameter	90
产品颜色 Product color	黄色 Yellow

项目案例 PROJECT CASE|FLEXIBLE BARRIER

其他类产品

OTHER PRODUCTS

钢柱PC板防护　Steel column PC board protection

采用无色透明PC板，高透光，外表美观大方，是您产品展示、生产线展览的不二之选。

Using colorless and transparent PC board, high light transmission, beautiful appearance, is the best choice for your product display, production line exhibition.

钢柱挡弧帘防护　Steel column arc curtain protection

在原有安全防护基础上增加挡弧帘，可有效防止弧光伤害，多种颜色选择，使您的焊接工作站与众不同；高颜值、强防护，为您的安全事业添砖加瓦。

Adding arc-blocking curtains on the basis of the original safety protection can effectively prevent arc damage, a variety of color options make your welding workstation unique, high-quality, strong protection, and contribute to your safety career.

认证资质

CERTIFICATION QUALIFICATION

CE认证　CE authentication

已通过Intertek专业测试取得欧盟CE认证

Passed Intertek professional test and obtained EU CE certification.

intertek
Total Quality. Assured.

Test Verification of Conformity

Verification Number: 210804079GZU-VOC001

On the basis of the referenced test report(s), sample(s) tested of the below product have been found to comply with the standards harmonised with the directives listed on this verification at the time the tests were carried out. Other standards and Directives may be relevant to the product. This verification is part of the full test report(s) and should be read in conjunction with it «them».

Once compliance with all product relevant CE mark directives are verified, including any relevant e.g. risk assessment and production control, the manufacturer may indicate compliance by signing a Declaration of Conformity themselves and applying the mark to products identical to the tested sample(s).

Applicant Name & Address:	**Jinan Aotto Automation Co., Ltd.** No.355, Huade Road, Jinan Economic Development Zone, Jinan City, Shandong Province, China
Product Description:	**Fence**
Ratings & Principle Characteristics:	See appendix pages
Models/Type References:	**AAW Series (Wire Mesh Fence)** **AAP Series (Polycarbonate Panel Fence)**
Brand Name:	**Aosaff**
Relevant Standards/Directives:	EN ISO 12100: 2010 Safety of machinery — General principles for design - Risk assessment and risk reduction EN ISO 14120:2015 Safety of machinery – Guards – General requirements for the design and construction of fixed and movable guards Machinery Directive 2006/42/EC
Verification Issuing Office Name & Address:	Intertek Testing Services (Shenzhen) Ltd. Guangzhou Branch Room 02, & 101/E201/E301/E401/E501/E601/E701/E801 of Room 01 1-B/F., No. 7-2. Cippin Road, Science City, GETDD, Guangzhou, Guangdong, China
Date of Tests:	10 August, 2021
Test Report Number(s):	190531010GZU-001, 002, 003, 004 R1 dated Aug. 10, 2021.

Signature

Name: Michael Wang
Position: Assistant Technical Manager
Date: 10 August, 2021

Intertek　Page 1 of 3　GFT-OP-11b (02-April-2020)

部分专利证书　Partial patent certificate

生产研发实力强大

Powerful in production and R&D。

证书号第8586758号

实用新型专利证书

实用新型名称：一种可实现任意高度连接的快插式围栏附件

发　明　人：李晓庆;宋永新

专　利　号：ZL 2018 2 1178394.X

专利申请日：2018年07月24日

专 利 权 人：济南奥图科技有限责任公司

地　　址：250000 山东省济南市高新区济南创新谷加速器建大合新产业基地2区3号楼801室

授权公告日：2019年03月15日　　授权公告号：CN 208605029 U

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局长
申长雨

2019年03月15日

第1页(共2页)

其他事项参见背面

ISO质量管理体系认证　ISO quality management system certification

已取得ISO质量管理体系认证证书

ISO quality management system certification has been obtained.

DNV

管理体系认证证书

证书号码: 102936-2011-AQ-BGC-BcA
首次颁发日期: 2011年08月31日
有效期限: 2023年09月01日 – 2026年08月31日

兹证明

济南奥图自动化股份有限公司

中国山东省济南市经济开发区华能路355号
组织统一信用代码：91370113798886532U
此证书多场所信息见附页

质量管理体系符合:

GB/T 19001-2016/ISO 9001:2015标准

此证书对下列范围有效:

自动化设备的设计、制造、销售、调试及服务。
安全防护围栏的设计、制造、销售及安装服务。
工业自动化生产制造的软件开发及服务

证书初始批准及发日期:
上海，2023年08月18日

证书认可官颁机构:
DNV - Business Assurance
中国上海市浦东新区世纪大道100号环球金融中心
邮编: 200120 电话: +86 21 32798000

IAF

本海明
管理代表

DNV

证书号码: 102936-2011-AQ-BGC-BcA
证书初始批准及发日期: 上海，2023年08月18日

证书附页

济南奥图自动化股份有限公司

经认证地点如下:

场所名称	场所地址	认证范围
济南奥图自动化股份有限公司	中国山东省济南市经济开发区华能路355号 组织统一信用代码:91370113798886532U	自动化设备的设计、制造、销售、调试及服务。 安全防护围栏的设计、制造、销售及安装服务。 工业自动化生产制造的软件开发及服务
济南奥图科技有限责任公司	中国山东省济南市经济开发区华能路355号	自动化设备的设计、制造、销售、调试及服务。 安全防护围栏的设计、制造、销售及安装服务。 工业自动化生产制造的软件开发及服务
济南奥图科技有限责任公司	中国山东省济南市高新区济南创新谷加速器建大合新产业基地2区3号楼801室	注册地址，无经营

产品标准

PRODUCT STANDARDS

GB23821-2022 防止上下肢触及危险区的安全距离

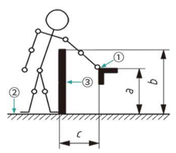
GB23821-2022 Safety of machinery —Safety distances to prevent hazard zones being reached by upper and lower limbs

越过防护结构触及的安全距离——高风险

Reaching over protective structures —— High risk

单位为毫米

Dimension in millimetres



a -- 危险区高度

b -- 防护结构高度

c -- 防护结构近人一侧距危险区的水平距离

① -- 危险区（最近点）

② -- 基准面

③ -- 防护结构

a -- height of hazard zone

b -- height of protective structure

c -- horizontal safety distance to hazard zone

① -- hazard zone (nearest point)

② -- reference plane

③ -- protective structure

危险区高度 a Height of hazard zone a	防护结构高度 b Height of protective structure b									
	1000	1200	1400	1600	1800	2000	2200	2400	2500	2700
	距危险区的水平距离 c Horizontal safety distance to hazard zone c									
2700	0	0	0	0	0	0	0	0	0	0
2600	900	800	700	600	600	500	400	300	100	0
2400	1100	1000	900	800	700	600	400	300	100	0
2200	1300	1200	1000	900	800	600	400	300	0	0
2000	1400	1300	1100	900	800	600	400	0	0	0
1800	1500	1400	1100	900	800	600	0	0	0	0
1600	1500	1400	1100	900	800	500	0	0	0	0
1400	1500	1400	1100	900	800	0	0	0	0	0
1200	1500	1400	1100	900	700	0	0	0	0	0
1000	1500	1400	1000	800	0	0	0	0	0	0
800	1500	1300	900	600	0	0	0	0	0	0
600	1400	1300	800	0	0	0	0	0	0	0
400	1400	1200	400	0	0	0	0	0	0	0
200	1200	900	0	0	0	0	0	0	0	0
0	1100	500	0	0	0	0	0	0	0	0

注：1. 防护结构高度低于1000mm的不包括在内，因其不能有效地限制身体运动。

2. 防护结构高度低于1400mm的，如果没有另外安全措施，不应采用。

Notes : 1. Protective structures less than 1 000 mm in height are not included because they do not sufficiently restrict movement of the body.

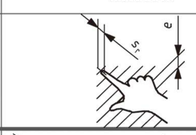
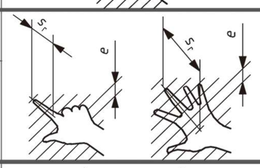
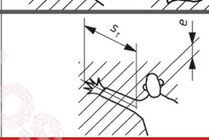
2. Protective structures lower than 1 400 mm should not be used without additional safety measures.

通过规则开口触及的安全距离——14岁及以上人员

Reaching through regular openings — Persons of 14 years of age and above

单位为毫米

Dimension in mm

身体部位 Part of body	图示 Illustration	开口 Opening	安全距离 Sr Safety distance Sr		
			槽形 Slot	方形 Square	圆形 Round
指尖 Fingertip		e ⩽ 4	⩾ 2	⩾ 2	⩾ 2
		4 < e ⩽ 6	⩾ 10	⩾ 5	⩾ 5
指至指关节 Finger up to knuckle joint		6 < e ⩽ 8	⩾ 20	⩾ 15	⩾ 5
		8 < e ⩽ 10	⩾ 80	⩾ 25	⩾ 20
手 Hand		10 < e ⩽ 12	⩾ 100	⩾ 80	⩾ 80
		12 < e ⩽ 20	⩾ 120	⩾ 120	⩾ 120
		20 < e ⩽ 30	⩾ 850 注(Note)	⩾ 120	⩾ 120
臂至肩关节 Arm up to junction with shoulder		30 < e ⩽ 40	⩾ 850	⩾ 200	⩾ 120
		40 < e ⩽ 120	⩾ 850	⩾ 850	⩾ 850

表中的粗实线划分了开口尺寸限制的人体部分。

注：如果槽形开口长度不大于65mm，拇指将受到阻挡，安全距离可减小到200mm。

The bold lines within the table delineate that part of the body restricted by the opening size.

Note : If the length of the slot opening is u 65 mm, the thumb will act as a stop and the safety distance can be reduced to 200 mm.

质量测试

QUALITY TESTING

冲击测试 Impact test

按照ISO14120-2015机械安全标准进行测试，能够承受高能量冲击。

According to ISO 14120-2015 standard, Can withstand 1600J impact force.

色差测试 Color difference test

色差按照标准 GB/T 11186.2-1989、GB/T 11186.3-1989 规定采用仪器法测定，通过分光色差仪进行抽样检测。

The color difference is measured by the instrument method in accordance with the provisions of the standards GB/T 11186.2-1989 and GB/T 11186.3-1989, and the sampling test is carried out by a spectrophotometer.

喷塑层厚度测试 Spray layer thickness test

涂塑层厚度符合 GB/T 26941.1-2011 隔离栅涂塑层厚度标准，通过厚度仪进行抽样检测。

涂塑层按照标准 GB/T9286-2021 规定的方法进行划格实验检测。

Spray layer thickness conform to GB/T 26941.1-2011 standard. The sampling inspection is done by thickness meter.

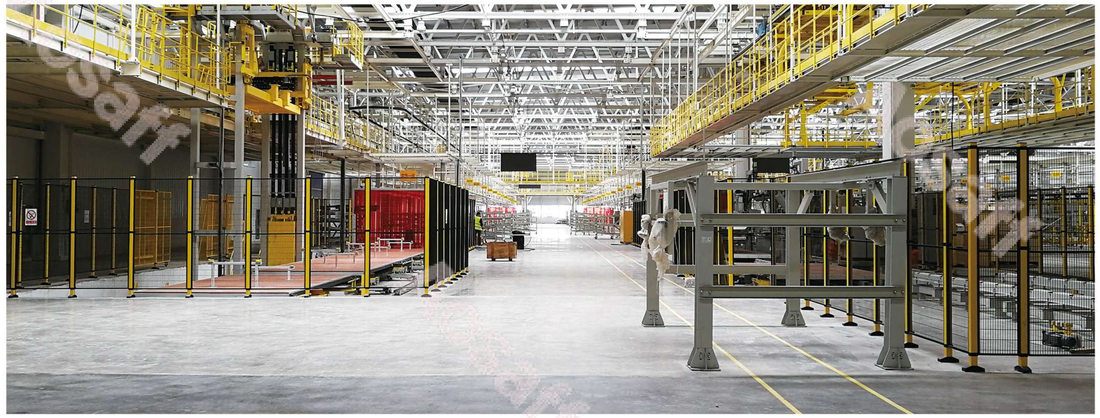
盐雾测试 Salt mist

盐雾检测按照ISO9227进行盐雾试验。

According to ISO09227 standard to do the corrosion resistance test.

项目案例 | 汽车行业安全防护

PROJECT CASE | AUTOMOTIVE INDUSTRY SAFETY PROTECTION

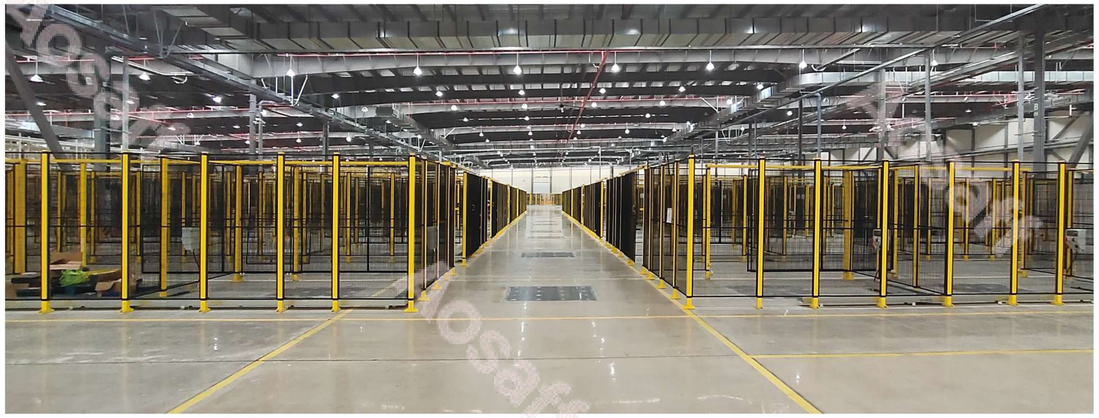


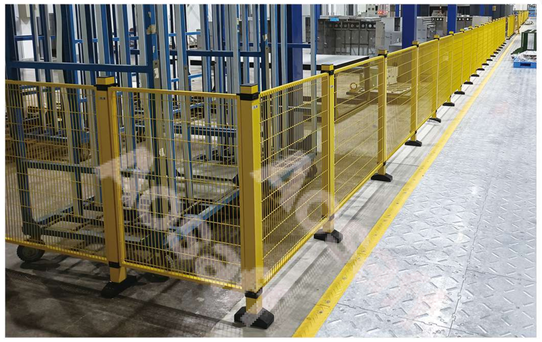
项目案例 | 新能源电池线安全防护

PROJECT CASE | NEW ENERGY BATTERY LINE SAFETY PROTECTION

项目案例 | 仓储物流安全防护

PROJECT CASE | WAREHOUSING AND LOGISTICS SECURITY PROTECTION





项目案例 | 钢柱PC板安全防护

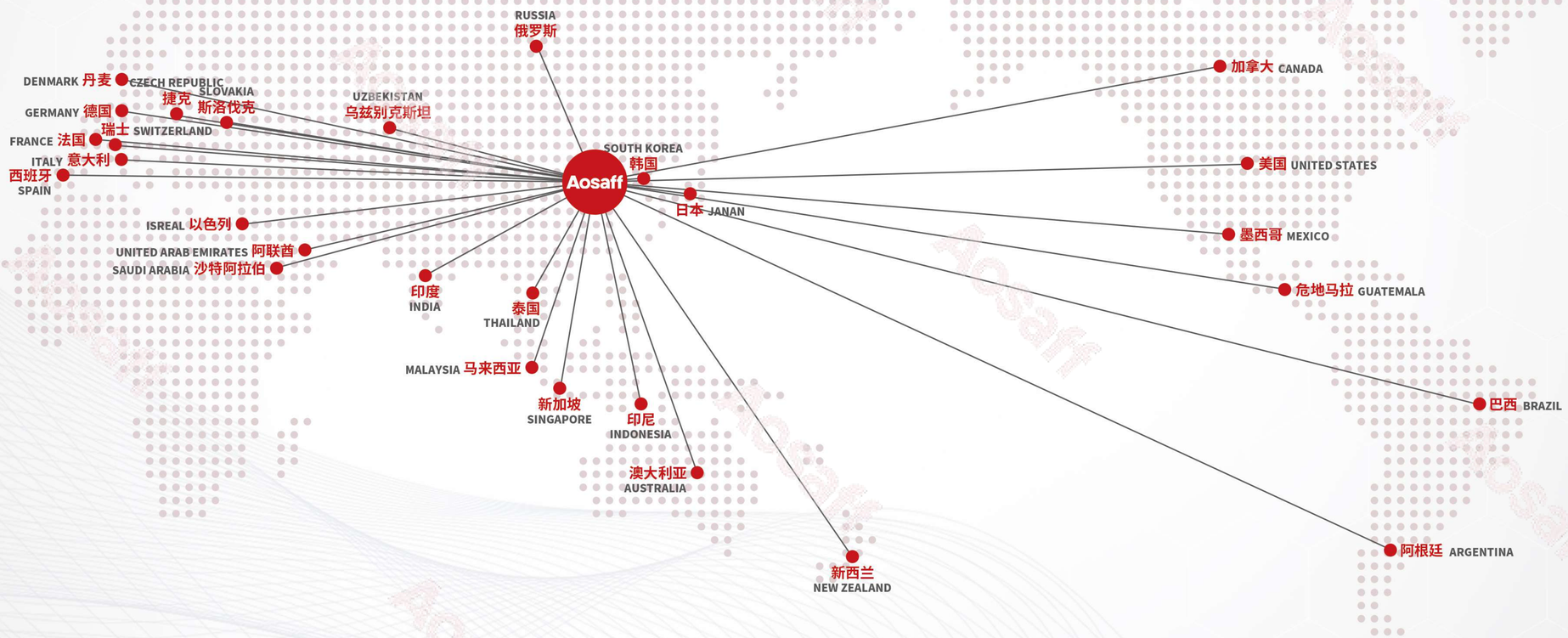
PROJECT CASE | STEEL COLUMN & PC PLATE PROTECTION

项目案例 | 40*60系列围栏安全防护

PROJECT CASE | 40*60 STEEL FENCE

我们和世界

WE & WORLD



Aosaff 安全防护围栏广泛应用于各行各业，更是在新能源、机器人、仓储物流、轻工、汽车等行业的安全防护中脱颖而出，并远销德国、日本、印度、法国、美国、韩国、新加坡等二十多个国家，在世界越来越小的现在，通过高质量的产品和服务，我们与客户也变得越来越亲密。

Aosaff safety fences are widely used in all walks of life, and stand out in the safety protection of new energy, robotics, warehousing and logistics, light industry, automobiles and other industries, and are exported to Germany, Japan, India, France, the United States, South Korea, Singapore In more than 20 countries, the world is getting smaller and smaller, and through high-quality products and services, we have become more and more intimate with our customers.

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