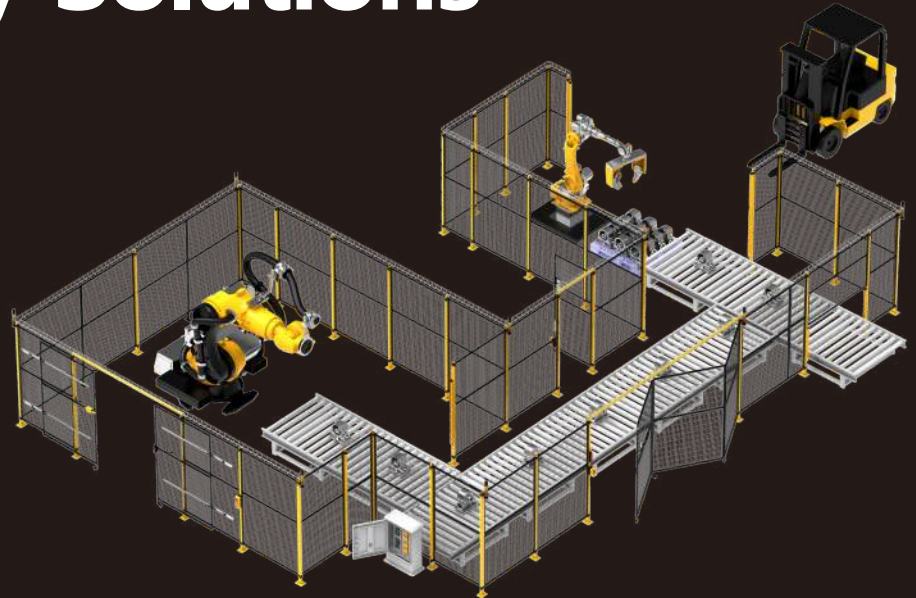




# Industrial Safety Solutions



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# 01

## ABOUT US

Ningbo Vichnet Technology Co., Ltd was established in 2006. Vichnet is a national high-tech enterprise committed to the development, manufacturing and sales of intelligent safety protection systems. We provide customers with comprehensive solutions such as physical isolation, interlocking protection, permission management, security warning, cable management, and elastic collision prevention. We have obtained ISO9001, ISO14001, ISO45001, CE, UL, CUL, E90 certifications. We have also participated in the formulation of a number of national and group standards for warehouse logistics, food machinery and communication engineering. Our client base is from more than 100 countries and regions. Our intelligent fence protection systems and cable management systems are widely used by famous enterprises at home and abroad, such as BMW, Siemens, China State Shipbuilding Corporation(CSSC), CRRC, China Railway, Huawei, Tencent, Alibaba, etc.

# 02

## SAFETY STANDARDS

### **Partitioning Solutions Selection Guide**

Based on ISO Standards

# Machinery Safety Standards for Vich Design

## **EN ISO 12100 Safety of machinery — General principles for design - Risk assessment and risk reduction.**

- Identify scope and boundaries of machinery.
- Identify potential risks through hazardous state and event analysis.
- Evaluate risk severity and probability to determine levels.
- Implement risk control measures (design modifications, safety devices).
- Verify effectiveness of risk reduction measures.

## **EN ISO 14119:2013 Safety of machinery — Interlocking devices associated with guards—Principles for design and selection.**

- Identify areas needing interlock protection based on machinery operation and hazards.
- Select interlocking devices based on operation frequency, safety levels, and conditions.

## **EN ISO 13849-1:2006/Cor 1:2009 Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design.**

- List required safety functions and performance levels.
- Select safety-related components and design system for safety state maintenance or achievement on failure.
- Conduct system verification and validation to ensure compliance with design requirements.

## **EN ISO 13857:2008 Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs.**

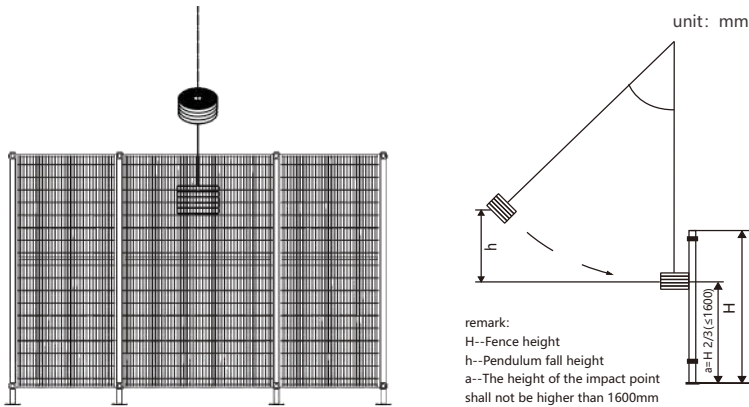
- Calculate safety distances to prevent limb access to hazardous areas.
- Choose fence height and mesh size to block body part access to hazards.

## **GB/T 42627-2023 Safety of machinery — Perimeter fence guarding system — Safety requirements. (Vich hosted and participated.)**

- Determine protection requirements based on operational environment.
- Select materials and structure for safety and durability.
- Design layout to enclose hazardous areas and allow necessary access.

# 1、 Impact Resistance Selection

- Partitioning solutions reduce risks by preventing unauthorized access and shielding from ejected or striking objects.
- Fences must be structurally strong, with impact resistance that meets or surpasses expected impacts.
- These barriers should retain their impact resistance throughout their lifespan.
- For machinery with undetermined impact energies, fences need a minimum of 1600J impact resistance.

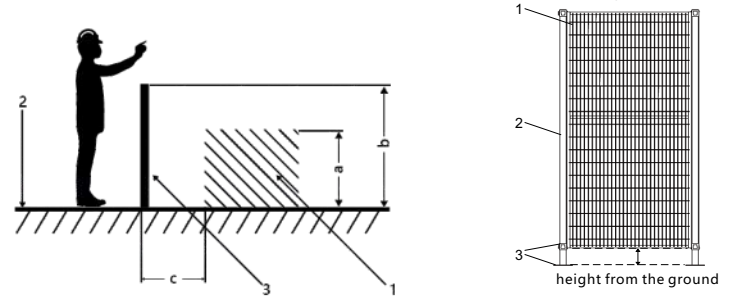


# 2、 Panel Material Selection

- Select fencing panel materials that are rigid, durable, and stable.
- For visibility into the protected area, avoid using brightly colored perforated materials like metal wire mesh, as colors like yellow can disrupt observation.
- Acrylic or steel panels can be used in areas with the risk of flying debris.

# 3、 Fence Height Selection

- Consult EN ISO 13857 for guidelines on safety distances to restrict access to hazardous zones, focusing on fence height, mesh size, and distance.
- The interplay between these elements affects the required safety distance. Refer to Table 1.
- Utilize the standard's detailed charts and tables to compute essential dimensions, considering the hazard's height, protective structure's height, and its nearness to the hazard.



**Horizontal distance of danger zone**

- |                               |   |
|-------------------------------|---|
| 1-Danger zone (nearest point) | a-Height of danger zone                           |
| 2-Datum level                 | b-Protective structure height                     |
| 3-Protective Structure        | c-Protective structure close to one side distance |

\* Additional Measures for Low Fences: For fences under 1400mm, implement extra safety features.

\* The gap between the fence's bottom and the ground should not exceed 180mm to block under-fence access to hazardous areas, unless justified by risk assessment outcomes.

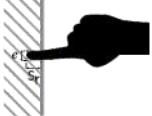

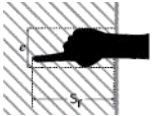

## Crossing a safe distance touched by a protective structure -- High Risk

unit: mm

Height of danger Zone-a	Protective structure height b								
	1000	1200	1400	1600	1800	2000	2200	2400	2500
	Protective structure close to one side distance c								
2700	0	0	0	0	0	0	0	0	0
2600	900	800	700	600	600	500	400	300	100
2400	1100	1000	900	800	700	600	400	300	100
2200	1300	1200	1000	900	800	600	400	300	0
2000	1400	1300	1100	900	800	600	400	0	0
1800	1500	1400	1100	900	800	600	0	0	0
1600	1500	1400	1100	900	800	500	0	0	0
1400	1500	1400	1100	900	800	0	0	0	0
1200	1500	1400	1100	900	700	0	0	0	0
1000	1500	1400	1000	800	0	0	0	0	0
800	1500	1300	900	600	0	0	0	0	0
600	1400	1300	800	0	0	0	0	0	0
400	1400	1200	400	0	0	0	0	0	0
200	1200	900	0	0	0	0	0	0	0
0	1100	500	0	0	0	0	0	0	0

## 4. Opening Size and Safety Distance Selection

- EN ISO 13857 defines the correlation between the size of openings and the required safety distance (sr) for individuals aged 14 and older. Refer to Table 2.
- This relationship allows for the determination of suitable opening sizes based on required safety distances, applicable to determining mesh sizes for fences, or conversely, establishing safety distances based on the size of the openings.

The safe distance reached through a regular opening -- Personnel aged 14 years and above					
Body parts	Graphic	OPEN	safe distance.Sr		
			Groove type	Quadrate	Round shape
Fingertips		$e \leq 4$	$\geq 2$	$\geq 2$	$\geq 2$
		$4 < e \leq 6$	$\geq 10$	$\geq 5$	$\geq 5$
Point to the knuckle		$6 < e \leq 8$	$\geq 20$	$\geq 15$	$\geq 5$
		$8 < e \leq 10$	$\geq 80$	$\geq 25$	$\geq 20$
Hands		$10 < e \leq 12$	$\geq 100$	$\geq 80$	$\geq 80$
		$12 < e \leq 20$	$\geq 120$	$\geq 120$	$\geq 120$
		$20 < e \leq 30$	$\geq 850$	$\geq 120$	$\geq 120$
ARM to shoulder joint		$30 < e \leq 40$	$\geq 850$	$\geq 200$	$\geq 120$
		$40 < e \leq 120$	$\geq 850$	$\geq 850$	$\geq 850$

\* The term "opening size" (e) describes the dimension across square openings, the diameter for circular openings, or the minimum width for slot-shaped openings.

## 5. Interlocking Devices Selection

- EN ISO 14119:2013 outlines design and selection principles for interlocking devices associated with protective measures, such as safety gates in partitioning solutions.
- Selection of interlocking devices should be guided by risk assessment results and specific application needs.
- Common types of interlocking devices include:
  - Coded tongue-and-groove/Non-coded/Coded non-contact

## 6. Safety Control Systems Selection

- EN ISO 13849 offers guidelines for designing safety control systems in partitioning solutions for risk reduction.
- Determine the required Performance Level (PL) for safety control systems based on risk assessment outcomes.
- Design a control system that achieves the specified PL for executing safety functions.

# 03

## SOLUTIONS

### Total Solutions for Safety Protection

Partitioning Solutions

Access Management Solutions

Cable Management Solutions

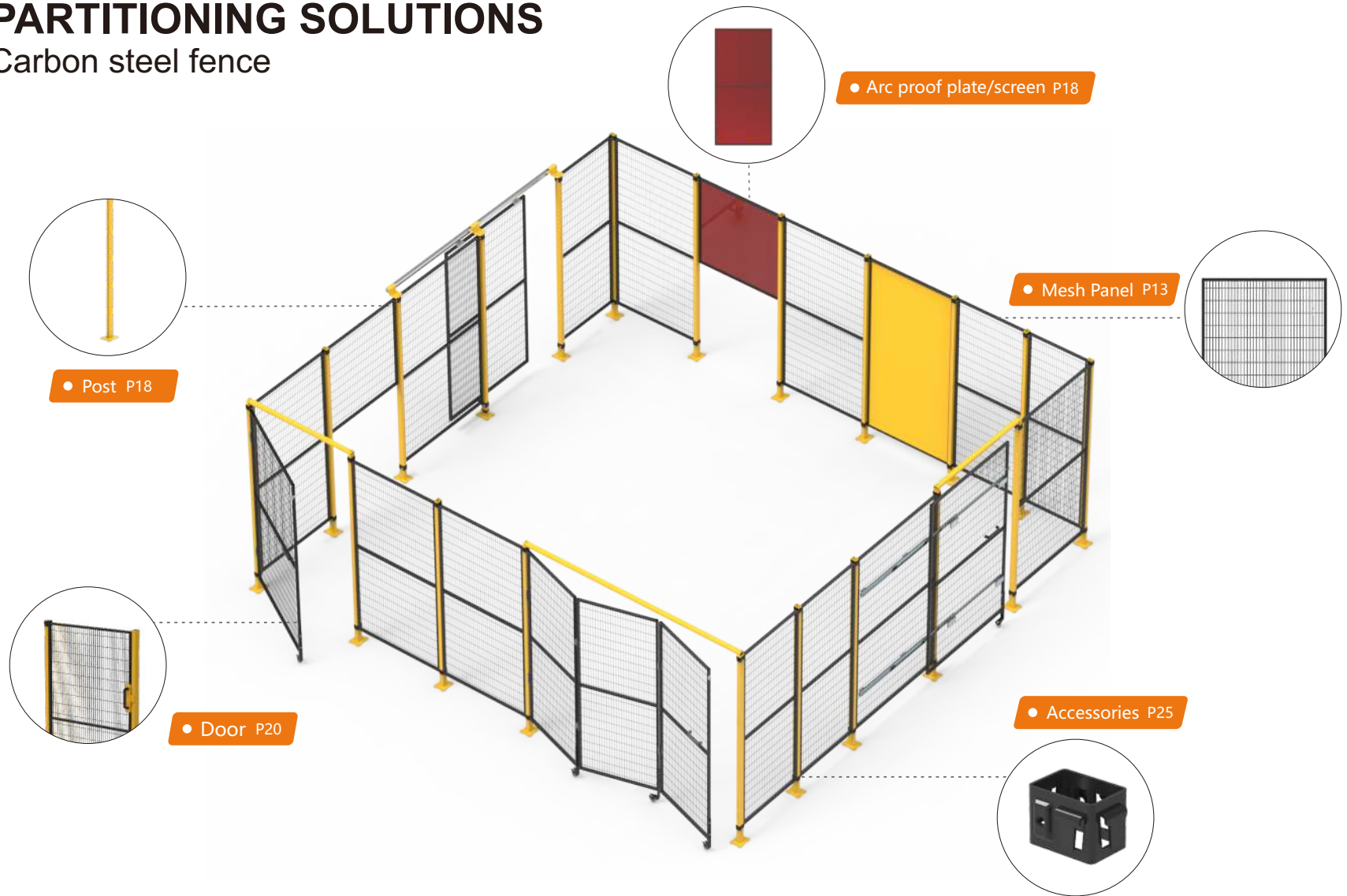
Interlocking Protective Solutions

Safety Advance Warning Solutions

Impact Protection Solutions

# PARTITIONING SOLUTIONS

Carbon steel fence



## PRODUCT ADVANTAGES



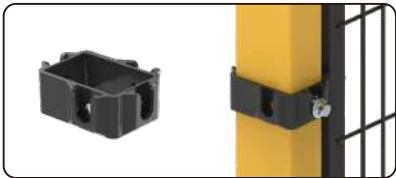
Zero tolerance for quality flaws



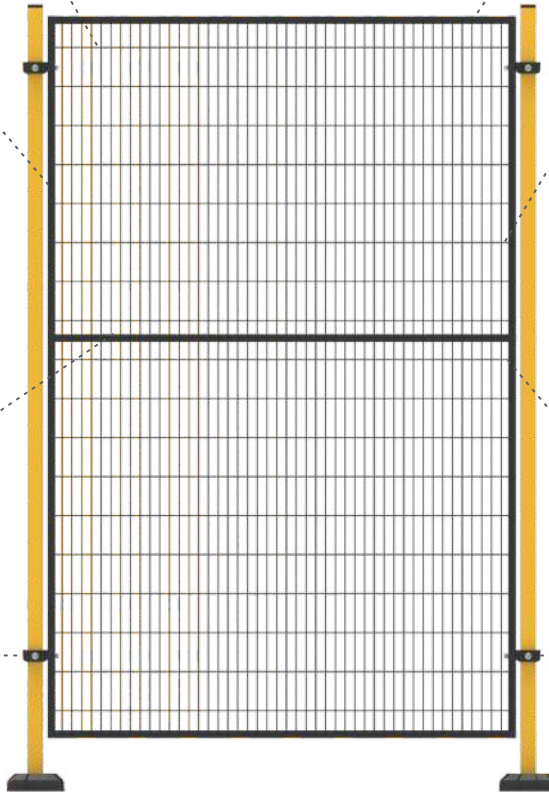
1.5mm thick mesh panel frame



V-groove made on one side of the square tube, so that the metal wire can be welded on two points to improve weld joint strength.



Compatible with 20mm and 30mm square pipes. Easy installation and removal; sturdy and reliable.



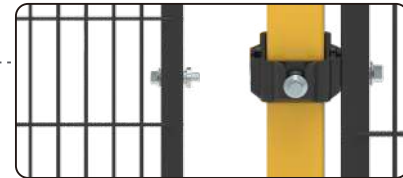
Robot welding, allows for robust, uniform welding on non-contact surface.



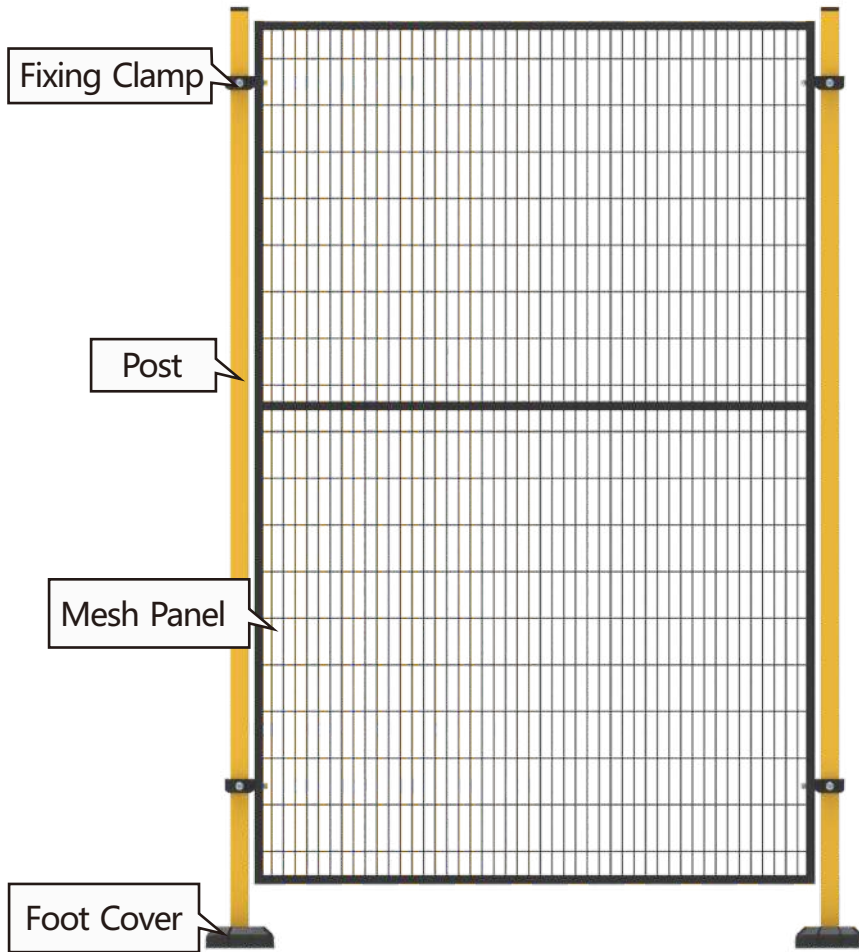
Metal wires are welded flat onto the frame without burr to prevent scratches and injuries.



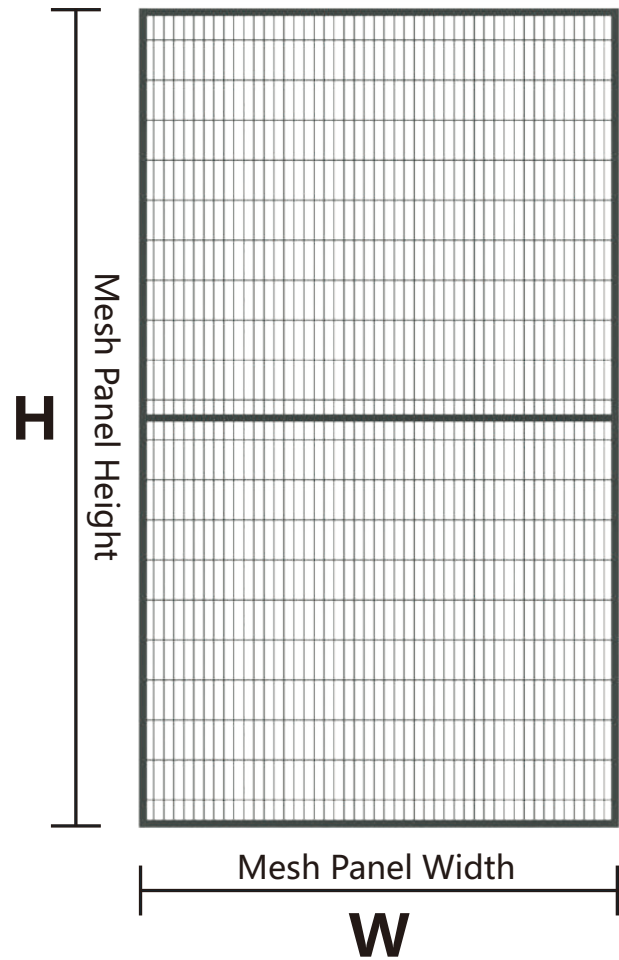
Uniform powder coating has been tested by SGS. Powder coating is in accordance with the RoHS Directive.



No need for positioning holes; height is freely adjustable. High impact resistance.



**Overall Front View Of Safety Fence**



**Mesh Panel**

# PRODUCT MODEL

## FIRM TYPE SERIES SPECIFICATIONS

### SPECIFICATIONS

unit: mm

Model	Mesh Panel Height(H)	Mesh Panel Width(w)	Mesh Aperture	Diameter	Product Color
KKGD-HxW-20x100x3.0-BLK	$200 \leq H \leq 3000$	$100 \leq W \leq 1500$	20x100	3.0/4.0	black / yellow
KKGD-HxW-50x50x3.0-BLK	$200 \leq H \leq 3000$	$100 \leq W \leq 1400$	50x50	3.0/4.0	black / yellow

# MESH PANEL

## PRODUCT: MESH PANEL

**MESH APERTURE:** 20x100mm

**FRAME SIZE:** 20mmx30mmx1.5mm/1.2mm  
20mmx20mmx1.5mm/1.2mm

**WIRE DIAMETER:** 3.0mm/4.0mm

**GROUND CLEARANCE:** 140mm

**SURFACE TREATMENT:** Powder coating

**PRODUCT COLOR:** Yellow(RAL1023), Black(RAL9005)

### HIGH SAFETY:

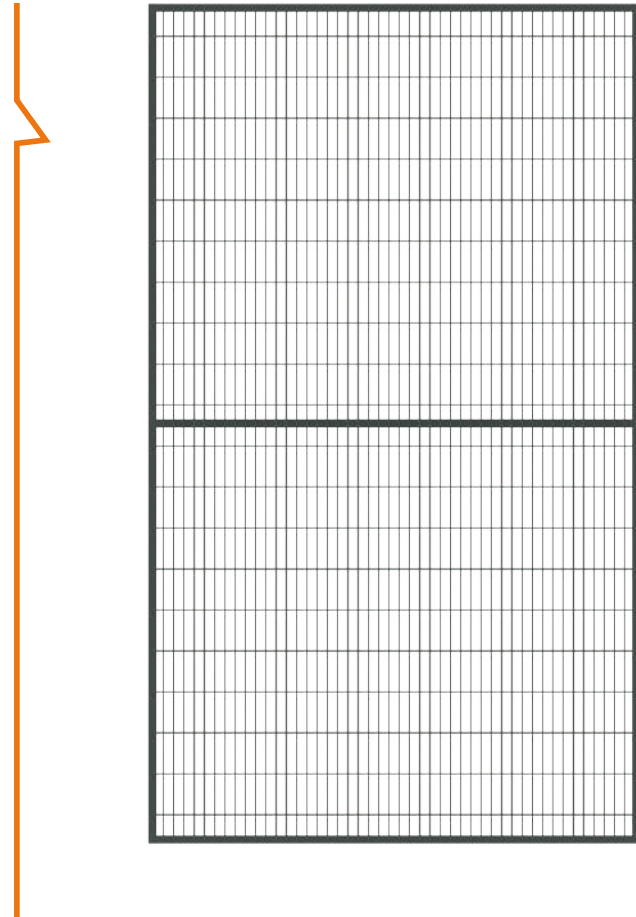
1. Impact protection design in line with European standards.
2. Horizontal wire welded on the inside and the vertical wire on the outside, to prevent climbing from outside.
3. Metal wires are welded flat onto the frame without sharp edges to prevent scratches and injuries.

### STRONG WELDING:

1. Weld with intermediate frequency welder.
2. Stiffener design enhances strength.
3. Metal wires are welded flat onto the frame to expand contact area and enhance strength.

### LONG-TERM ANTIRUST:

Our twice acid washing and phosphating finishing technique creates a protective layer before powder coating to enhance rust resistance.

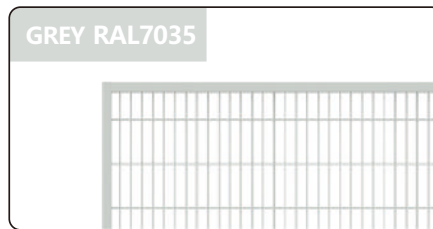
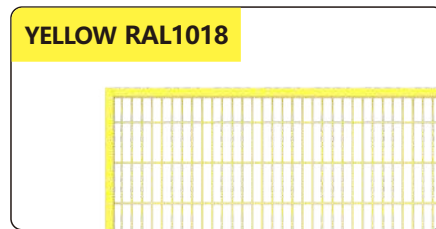
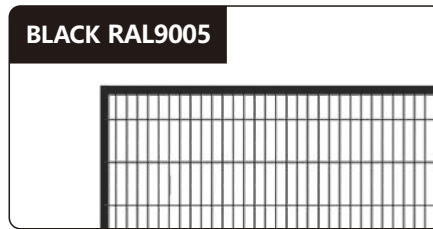
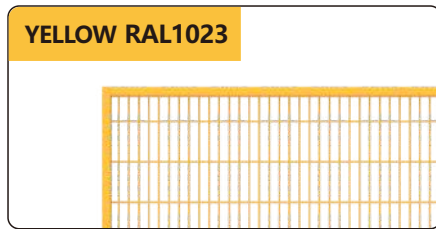


unit: mm

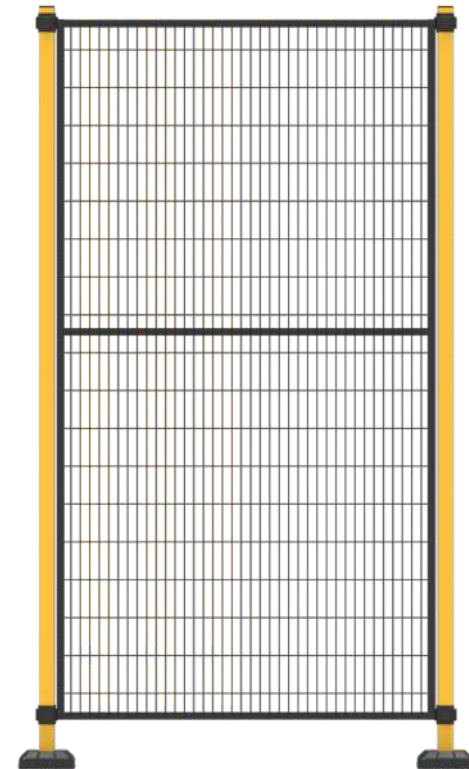
## MESH PANEL REGULAR SPECIFICATIONS

Model	Mesh Panel Height(H)	Mesh Panel Width(W)	Mesh Aperture	Diameter	Product Color
KKGD-1850x200-20x100x3.0-BLK	1850	200	20x100	3	black / yellow
KKGD-1850x300-20x100x3.0-BLK	1850	300	20x100	3	black / yellow
KKGD-1850x400-20x100x3.0-BLK	1850	400	20x100	3	black / yellow
KKGD-1850x800-20x100x3.0-BLK	1850	800	20x100	3	black / yellow
KKGD-1850x900-20x100x3.0-BLK	1850	900	20x100	3	black / yellow
KKGD-1850x1000-20x100x3.0-BLK	1850	1000	20x100	3	black / yellow
KKGD-1850x1200-20x100x3.0-BLK	1850	1200	20x100	3	black / yellow
KKGD-1850x1400-20x100x3.0-BLK	1850	1400	20x100	3	black / yellow

# COLOR MANAGEMENT



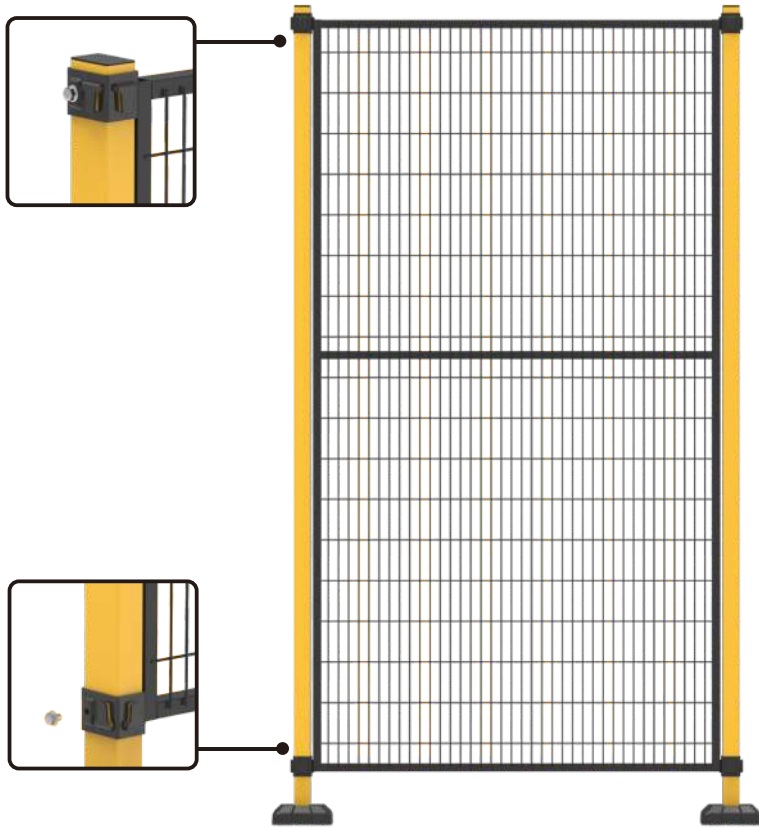
Other colors can be customized



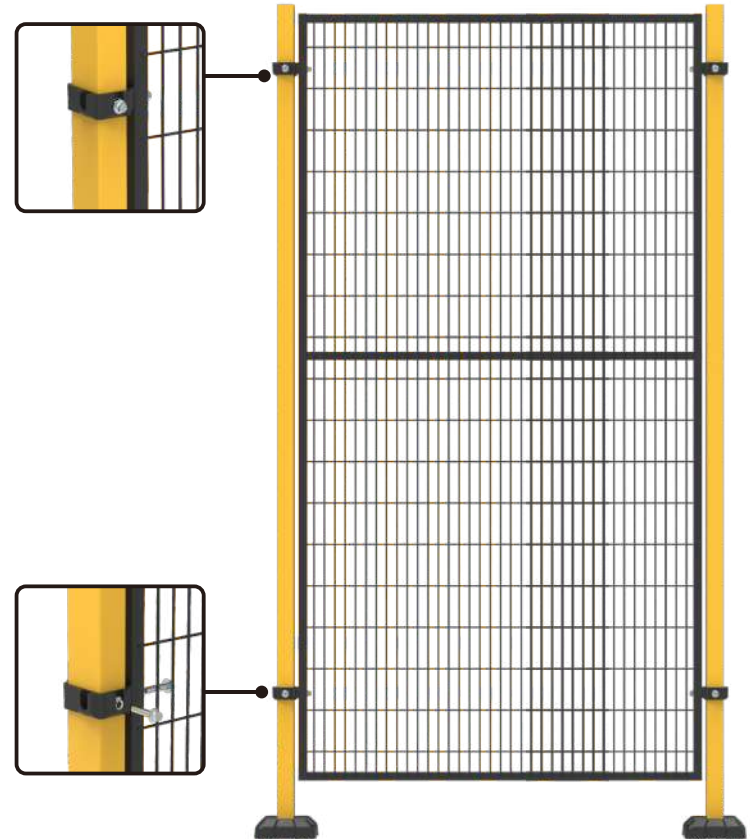
## COLOR MANAGEMENT PRINCIPLES IN THE INDUSTRIAL SCENE

1. For scenes that require good visibility and no interference with effective supervision, such as around robotic arms, black or gray mesh panels will be more suitable choices.
2. For scenes that require safety warning, such as around dangerous furnaces, yellow or red mesh panels will be more suitable choices.
3. Without visibility or warning requirements, you can choose colors according to aesthetic preferences.

# INSTALLATION METHODS

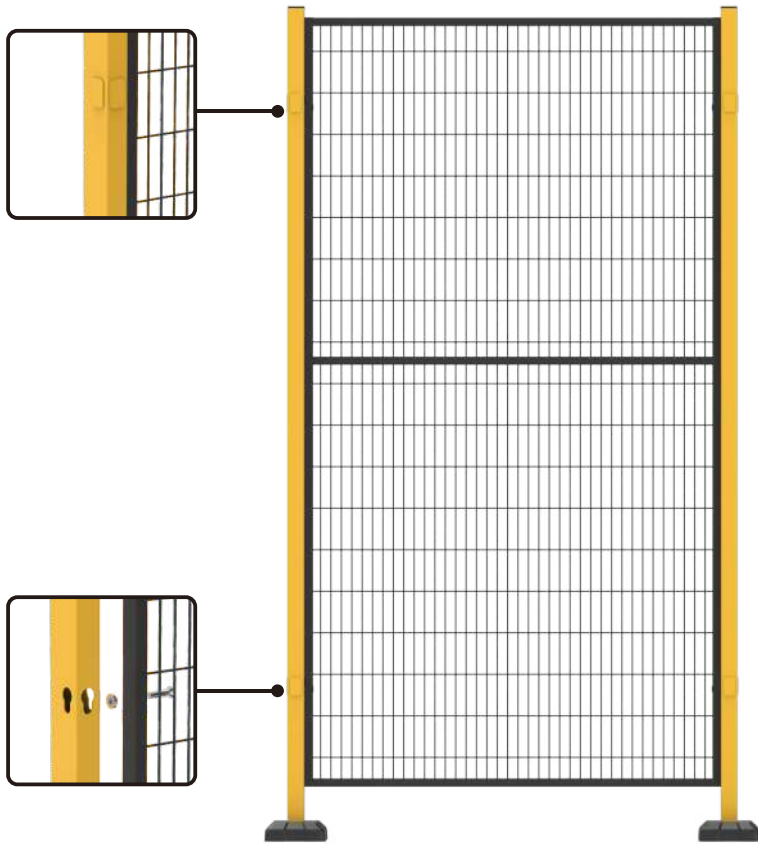


**Frame Fixing Clamp Installation Effect Diagram**

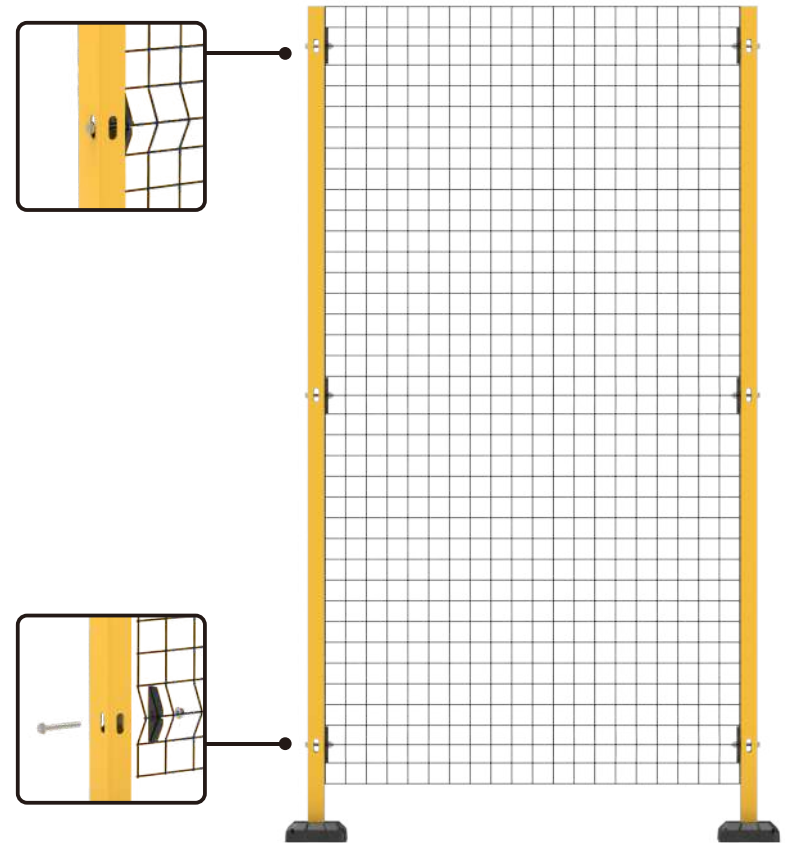


**Integrated Fixing Clamp Installation Effect Diagram**

# INSTALLATION METHODS



**QuickGuard Installation Effect Diagram**



**FlexGuard Installation Effect Diagram**

# POST

## PRODUCT: POST

**POST SIZE:** 40x60x2.0/60x60x2.0  
40x60x1.5/60x60x1.5

**OVERALL HEIGHT:** 1000mm-3000mm

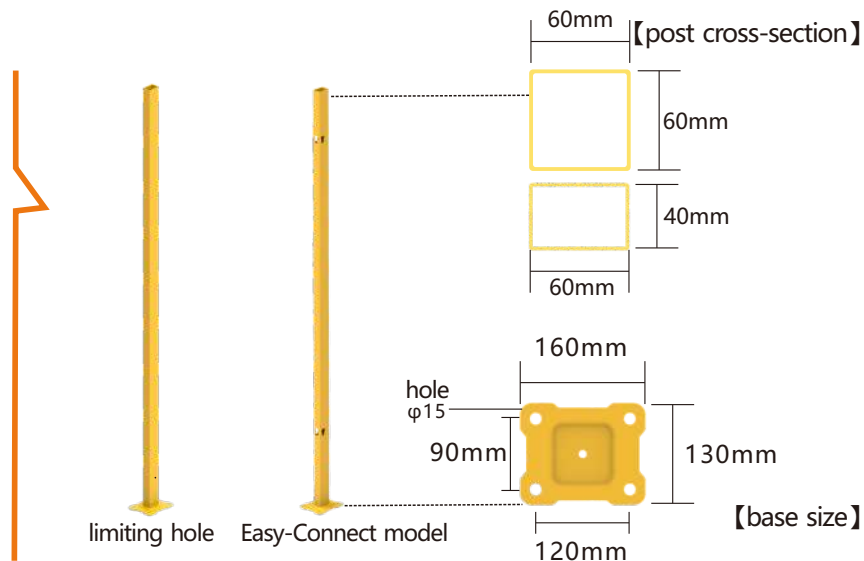
**SURFACE TREATMENT:** Powder coating

**PRODUCT COLOR:** Yellow(RAL1023), Black(RAL9005)

**FEATURES:** Set up frames, fix positions, and connect mesh panels.

**TWO OPTIONS:**

1. Fix mesh panel with the upper and lower clamps. Limiting hole is used to fix the lower clamp.
2. Easy-Connect model, directly fixed with bolts.



# MESH PANEL SELECTIONS

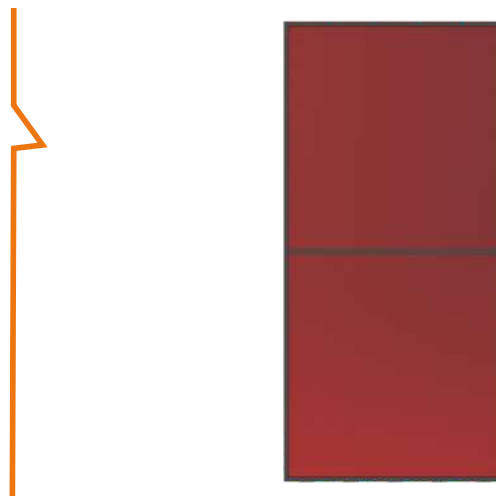
## PRODUCT: ARC PROOF PLATE / SCREEN

**PRODUCT COLOR:** Dark green, orange yellow, bright red, yellow, black, light tea transparent, deep tea transparent, etc.

**THICKNESS:** 3mm/4mm

**TRANSPARENCY:** Transparent

**FEATURES:** Beautiful and tidy, with protective isolation, anti-arc light.



## PRODUCT: PC PANEL

**PRODUCT COLOR:** Red, orange, yellow, green, cyan, blue (light, sapphire, lake), purple, pink, gray(light, medium, dark), fluorescent yellow, fluorescent red, fluorescent green, tea red, opaque white.

**THICKNESS:** 3mm

**TRANSPARENCY:** Transparent.

**FEATURES:** Ideal for areas requiring monitoring or visibility, as it offers protection while maintaining transparency for observation.



## PRODUCT: TOOL PANEL

**PRODUCT COLOR:** Black, yellow, customizable.

**THICKNESS:** 1.0mm, 1.5mm, 2.0mm; other options available.

**HOLE TYPES:** Round, square, diamond; customizable sizes.

**FEATURES:** Perforated designs with various hole styles enable flexible tool organization, maximizing vertical space and ensuring visibility and accessibility.



## PRODUCT: STEEL PLATE

**PRODUCT COLOR:** Black, yellow, customizable.

**THICKNESS:** 1.0mm, 1.5mm, 2.0mm.

**FEATURES:** Steel plates have high strength and wear resistance, making them ideal for high-impact and heavy-duty environments where strength is required.



## DOOR

### PRODUCT: SINGLE HINGED DOOR

**PRODUCT MODEL:** DM01-MAX1400      **HEIGHT:** 1500mm-3000mm

**MAXIMUM WIDTH:** 1500mm

**SURFACE TREATMENT:** Powder coating

**PRODUCT COLOR:** Black(RAL9005), Yellow(RAL1023)

**LOCK:** Simple bolt lock (type A), Simple bolt lock (type B), Jimmy proof lock, mechanical lock (type A).

**ACCESSORIES:** Hinge kit, lock kit, support wheel kit, handle kit, top frame kit.

**TOP FRAME:** Optional

**DESCRIPTION:** The door can be made of wire mesh panel or steel plate. The safe-safety lock with integrated switch is an optional feature to reinforce the protection provided by the mechanical lock.



## PRODUCT: DOUBLE OPEN HINGED DOOR

**PRODUCT MODEL:** SM02-MAX2800

**HEIGHT:** 1500mm-3000mm

**MAXIMUM WIDTH:** 3000mm

**SURFACE TREATMENT:** Powder coating

**PRODUCT COLOR:** Black(RAL9005), Yellow(RAL1023)

**LOCK:** Simple bolt lock (type A), Simple bolt lock (type B), Jimmy proof lock.

**ACCESSORIES:** Hinge kit, lock kit, support wheel kit, handle kit, top frame kit.

**TOP FRAME:** Optional

**DESCRIPTION:** Double hinged doors can have customized opening sizes of 1500mm-3000mm, the safe-safety lock with integrated switch is optional.



## PRODUCT: SINGLE SLIDING DOOR

**PRODUCT MODEL:** DM03-MAX1400

**HEIGHT:** 1500mm-3000mm

**MAXIMUM WIDTH:** 1500mm

**SURFACE TREATMENT:** Powder coating

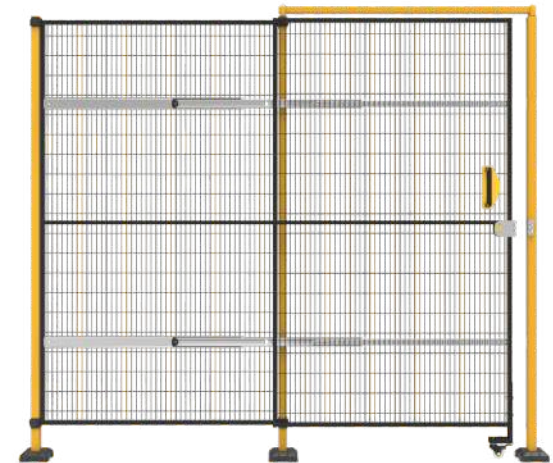
**PRODUCT COLOR:** Black(RAL9005), Yellow(RAL1023)

**LOCK:** Simple bolt lock (type A), Simple bolt lock (type B), Jimmy proof lock.

**ACCESSORIES:** Slide rail kit, support wheel kit, lock kit, top frame kit, handle.

**TOP FRAME:** Optional

**DESCRIPTION:** Single sliding doors can have customized opening sizes of 400mm-2000mm, the safety lock with integrated switch is optional.



## PRODUCT: DOUBLE SLIDING DOOR

**PRODUCT MODEL:** SM04-MAX2800

**HEIGHT:** 1500mm-3000mm

**MAXIMUM WIDTH:** 3000mm

**SURFACE TREATMENT:** Powder coating

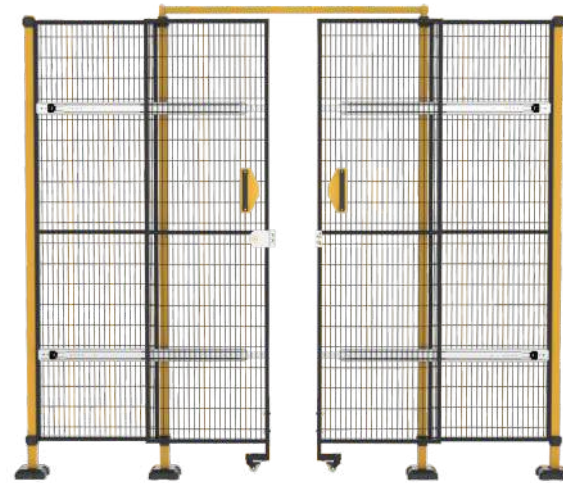
**PRODUCT COLOR:** Black(RAL9005), Yellow(RAL1023)

**LOCK:** Simple bolt lock (type A), Simple bolt lock (type B), Jimmy proof lock.

**ACCESSORIES:** Slide rail kit, support wheel kit, lock kit, top frame kit, handle.

**TOP FRAME:** Optional

**DESCRIPTION:** Double sliding doors



## PRODUCT: SINGLE FOLDING DOOR

**PRODUCT MODEL:** DM05-MAX3000

**HEIGHT:** 1500mm-3000mm

**MAXIMUM WIDTH:** 3000mm

**SURFACE TREATMENT:** Powder coating

**PRODUCT COLOR:** Black(RAL9005), Yellow(RAL1023)

**LOCK:** Simple bolt lock (type A), Simple bolt lock (type B), Jimmy proof lock.

**ACCESSORIES:** Hinge kit, lock kit, support wheel kit, limiting kit, handle kit, top frame kit.

**TOP FRAME:** Optional

**DESCRIPTION:** Single folding doors can have customized opening sizes of 1500mm-3000mm, the safety lock with integrated switch is optional.



## PRODUCT: DOUBLE FOLDING DOOR

**PRODUCT MODEL:** SM06-MAX4000

**HEIGHT:** 1500mm-3000mm

**MAXIMUM WIDTH:** 4000mm

**SURFACE TREATMENT:** Powder coating

**PRODUCT COLOR:** Black(RAL9005), Yellow(RAL1023)

**LOCK:** Simple bolt lock (type A), Simple bolt lock (type B), Jimmy proof lock.

**ACCESSORIES:** Hinge kit, lock kit, support wheel kit, limiting kit, handle kit, top frame kit.

**TOP FRAME:** Optional

**DESCRIPTION:** Double folding doors can have customized opening sizes of 1500mm-4000mm, the safety lock with integrated switch is optional.



## PRODUCT: SLIDING DOOR WITH GUIDE RAIL

**PRODUCT MODEL:** DM07-MAX3000

**HEIGHT:** 1500mm-3000mm

**MAXIMUM WIDTH:** 3000mm

**SURFACE TREATMENT:** Powder coating

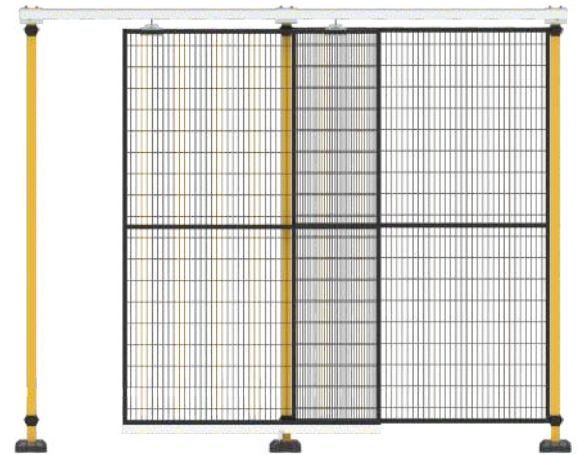
**PRODUCT COLOR:** Black(RAL9005), Yellow(RAL1023)

**LOCK:** Sliding door lock

**ACCESSORIES:** Strut channel kit, limiting kit, support wheel kit, handle kit, top frame kit, lock kit.

**TOP FRAME:** Optional

**DESCRIPTION:** Sliding door with rail can have customized opening sizes of 1500mm-4000mm, the safety lock with integrated switch is optional.



## PRODUCT: SINGLE GROUND SLIDING DOOR

**PRODUCT MODEL:** KKBj-DTM-XWL-YLW-SET

**HEIGHT:** 1500mm-3000mm

**MAXIMUM WIDTH:** 6000mm

**SURFACE TREATMENT:** Powder coating

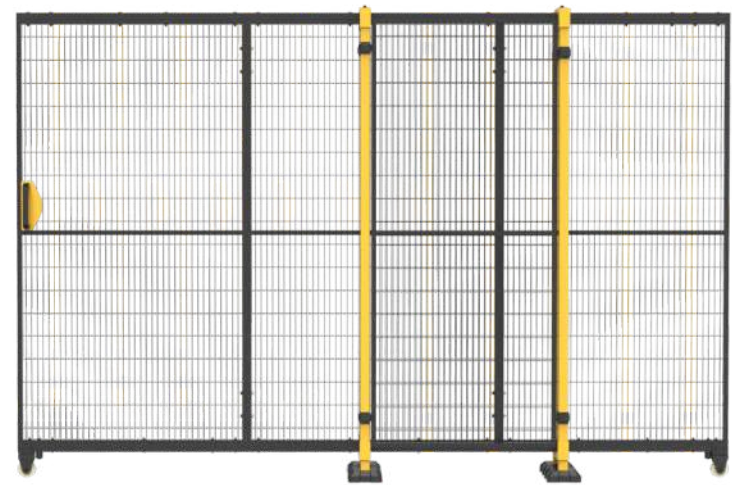
**PRODUCT COLOR:** Black(RAL9005), Yellow(RAL1023)

**ACCESSORIES:** Wheel kit x 4, pulley assembly x 2, post x 4, mesh panel, 30x30 square pipe x 2, shock pad x 2, door handle x 1.

**LOCK:** Mortise lock, Safety lock

**TOP FRAME:** N/A

**DESCRIPTION:** Suitable for ultra wide door scenarios, it can be equipped with a motor and can provide a simple safety lock with an integrated switch.



## PRODUCT: DOUBLE GROUND SLIDING DOOR

**PRODUCT MODEL:** KKBj-DTM-XWL-YLW-SET

**HEIGHT:** 1500mm-3000mm

**MAXIMUM WIDTH:** 1200mm

**SURFACE TREATMENT:** Powder coating

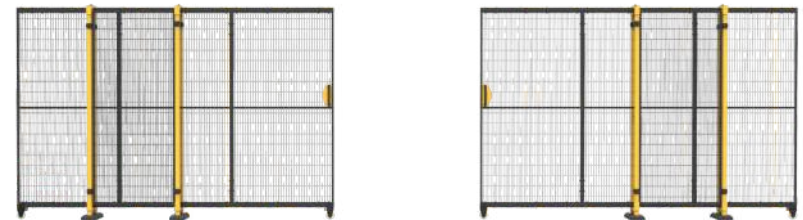
**PRODUCT COLOR:** Black(RAL9005), Yellow(RAL1023)

**ACCESSORIES:** Wheel kit x 8, pulley assembly x 4, post x 8, mesh panel, 30x30 square pipe x 4, shock pad x 4, door handle x 2.

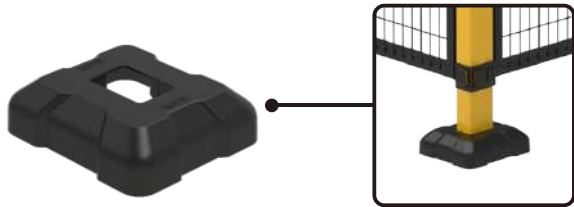
**LOCK:** Double Door Locks

**TOP FRAME:** N/A

**DESCRIPTION:** Suitable for ultra wide door scenarios, it can be equipped with a motor and can provide a simple safety lock with an integrated



# ACCESSORIES



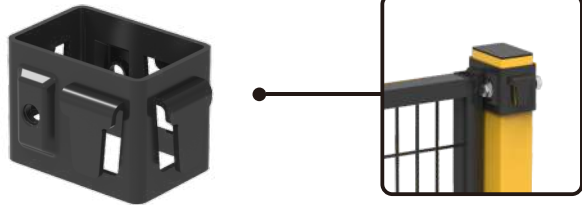
## PRODUCT: POST PROTECTIVE COVER

PRODUCT MODEL: KKPT-FHZ-40x60-BLK-SET      KKPT-FHZ-60x60-BLK-SET

MATERIAL: ABS

DESCRIPTION: black, two pieces in each set, used for the protection of post base plates.

FEATURES: anti-kick dustproof, Stylish easy to install.



## PRODUCT: FRAME FIXING CLAMP (40\*60)

PRODUCT MODEL: KKPT-40x60-BLK-SET

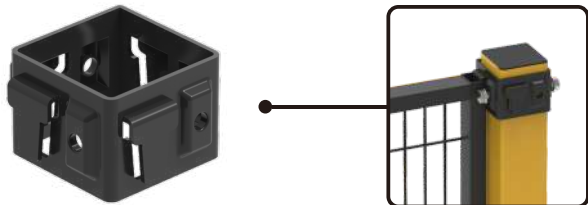
SURFACE TREATMENT: Electro galvanized, powder coating.

DESCRIPTION: Fixes the panel into the correct position when assembling.

THICKNESS: 2.75mm

ACCESSORIES: Fixing clamp x 1; 8x12-M8x12 flange bolt x 2.

FEATURES: Stylish, easy to install.



## PRODUCT: FRAME FIXING CLAMP (60\*60)

PRODUCT MODEL: KKPT-60x60-BLK-SET

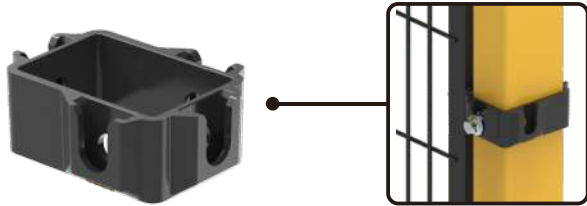
SURFACE TREATMENT: Electro galvanized, powder coating.

DESCRIPTION: Fixes the panel into the correct position when assembling.

THICKNESS: 2.75mm

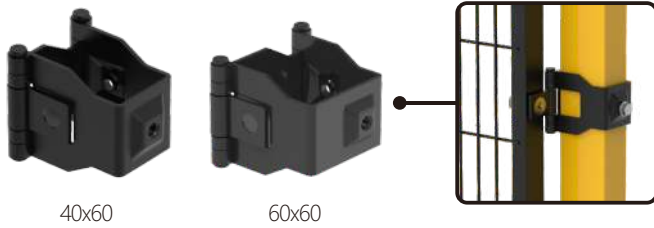
ACCESSORIES: Fixing clamp x 1; 8x12-M8x12 flange bolt x 2.

FEATURES: Stylish, easy to install.



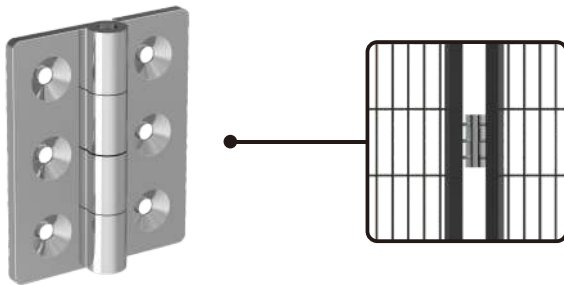
**PRODUCT: INTEGRATED FIXING CLAMP**

**PRODUCT MODEL:** KKPT-YTS-40x60-BLK-SE    **MATERIAL:** Aluminum alloy  
**SURFACE TREATMENT:** Powder Coating (Black/Yellow)  
**DESCRIPTION:** For installing 20x20 square tubes and 20x30 square tubes on 40x60 posts.  
**ACCESSORIES:** Integrated intergrated fixing clamp x1, M8x30 flange bolts x2, M8x14 flange bolt x1, square nuts x3.  
**FEATURES:** Secure installation, adjustable height, suitable for different square tubes.



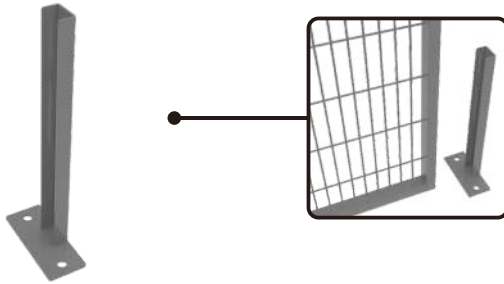
**PRODUCT: COMBINED HINGE**

**PRODUCT MODEL:** KKDR-HG-40x60-BLK-SET    KKDR-HG-60x60-BLK-SET  
**SURFACE TREATMENT:** Electro galvanized, powder coating.  
**DESP:** Connection fitting for hinged door.  
**THICKNESS:** 2.5mm  
**ACCESSORIES:** M8x35 countersunk bolt x 1; M8x30 flange bolt x 1; M8x12 flange bolt x 2; M8 flange nut x 1.



**PRODUCT: MESH PANEL DOOR HINGE**

**PRODUCT MODEL:** KKDR-80-65-5.5-SET  
**DESCRIPTION:** Fixes the door post and mesh panel.  
**THICKNESS:** 5.5mm  
**ACCESSORIES:** M8x50 countersunk bolt x 6; M8 flange nut x 6.  
**FEATURES:** Strengthful and cost-effective.



**PRODUCT: POST LEG KIT**

**PRODUCT MODEL:** KKPT-FT-BLK-SET

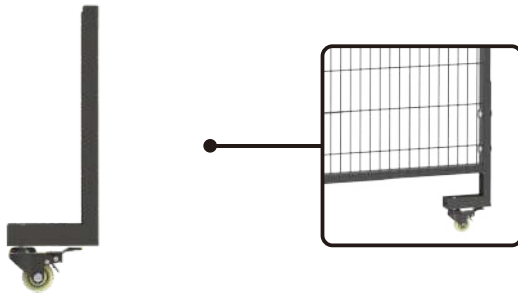
**SURFACE TREATMENT:** Powder coating (black/yellow)

**DESCRIPTION:** Used for securing 20x20 and 20x30 square tube mesh panels to posts.

**THICKNESS:** 2.0mm

**ACCESSORIES:** Post leg x 1; M10x70 anchor x 4.

**FEATURES:** Cost-effective and easy to install.



**PRODUCT: SUPPORT WHEEL KIT**

**PRODUCT MODEL:** KKDR-PLY-BLK-SET

**SURFACE TREATMENT:** Powder Coating (black/yellow)

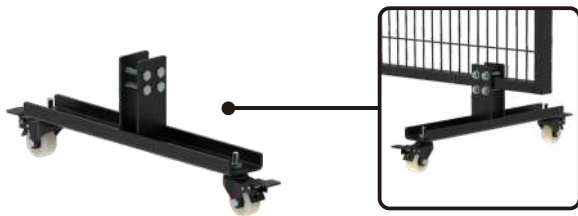
**DESCRIPTION:** Used for gate pulleys on 20x20 and 20x30 square tube fences.

**THICKNESS:** 2.0mm

**ACCESSORIES:** Support bracket x 1; brake caster x 1; M8x10 countersunk bolt x 2;

M8 flange nut x 3.

**FEATURES:** Easy to install, helps doors move.



**PRODUCT: DOUBLE WHEEL FIXING KIT**

**PRODUCT MODEL:** KKDR-FDFS-300-PC-SET

**THICKNESS:** 4.0mm

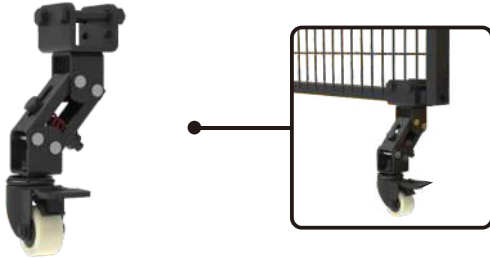
**DESCRIPTION:** Supports moving doors.

**SURFACE TREATMENT:** Powder coating (black/yellow)

**ACCESSORIES:** Double wheel fixing kit x 1, 8x55-M8x55 flange bolt x 4,

M8 flange nut x 4, brake pulley x 2.

**FEATURES:** Stable structure and convenient installation.



**PRODUCT: BUFFER PULLEY**

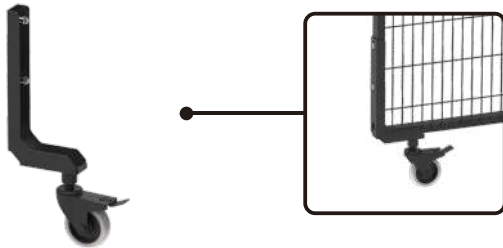
**PRODUCT MODEL:** KKDR-BDP120-160-BLK-SET

**SURFACE TREATMENT:** Powder coating (black/yellow)

**DESCRIPTION:** Pulley for uneven floor of doors **THICKNESS:** 4.0mm

**ACCESSORIES:** Brake wheel x 1, buffer mechanism x 1, fixed mechanism x 1

**FEATURES:** Through structural design, the movable mesh is well supported on uneven ground, And it does not interfere with the column foundation, making installation convenient and can be reversed at 90 °.



**PRODUCT: DOOR PULLEY 2.1 VERSION (UNIVERSAL WHEEL - LONG TYPE)**

**PRODUCT MODEL:** KKCK-MHL2.1-WXL-BLK-SET **ADJUSTABLE HEIGHT:** 140-160mm

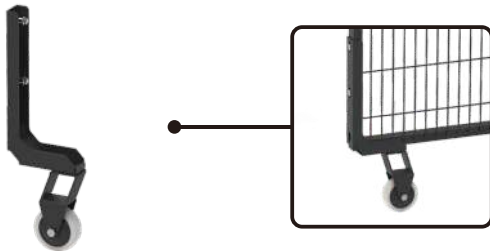
**SURFACE TREATMENT:** Powder Coating (Black/Yellow)

**COMPATIBLE DOOR TYPE:** Hinged Doors

**COMPATIBLE FENCE MESH:** 20x100x3.0 / 25x100x3.0

**DESCRIPTION:** A pulley fixture designed for single or double hinged doors, featuring a universal silent door pulley with high fit and excellent load-bearing capacity. Not compatible with PC panel or acrylic panel fences, and dense mesh fences where edge wires cannot be flattened.

**INCLUDED ACCESSORIES:** Long-Type Door Pulley 2.1 Sheet Metal x1; 3-inch M12 Universal Braking Caster x1; M8x35 Flat Head Hex Socket Bolts x2; M8 Flat Washer x1; M8 Flange Nuts x2



**PRODUCT: DOOR PULLEY 2.1 VERSION (SLIDING TRACK DOOR - LONG TYPE)**

**PRODUCT MODEL:** KKCK-MHL2.1-WXL-BLK-SET **ADJUSTABLE HEIGHT:** 140-240mm

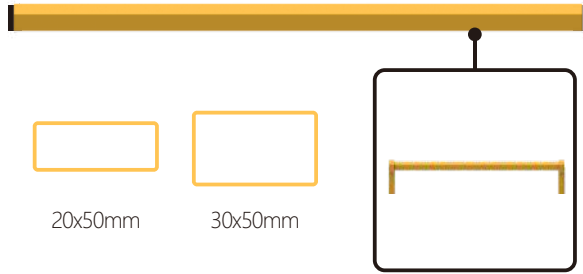
**SURFACE TREATMENT:** Powder Coating (Black/Yellow)

**COMPATIBLE DOOR TYPE:** Sliding Doors

**COMPATIBLE FENCE MESH:** 20x100x3.0 / 25x100x3.0

**DESCRIPTION:** A pulley fixture designed for single or double sliding doors, featuring a universal silent door pulley with high fit and excellent load-bearing capacity. The design avoids interference with the column base plate. Not compatible with PC panel or acrylic panel fences, and dense mesh fences where edge wires cannot be flattened.

**INCLUDED ACCESSORIES:** M8x35 Flat Head Hex Socket Bolts x2; M8 Flange Nuts x2  
Door Pulley 2.1 Support Fixture (Long Type) x1



### PRODUCT: TOP FRAME

**PRODUCT MODEL:** KKDR-BEM-20x50x2000-YLW

**SURFACE TREATMENT:** Powder coating (black/yellow)

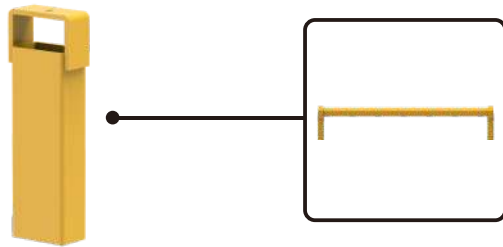
**DESCRIPTION:** Mounted on two posts.

**THICKNESS:** 4.0mm; Square tube 1.5mm

**ACCESSORIES:** Top Frame x1, End Caps x2

**FEATURES:** Easy installation and strong connection.

**SQUARE TUBE SPECIFICATIONS:** 20mmx50mmx1.5mm, 30mmx50mmx1.5mm



### PRODUCT: TOP FRAME FIXTURE

**PRODUCT MODEL:** KKDR-FXS-YLW-SET

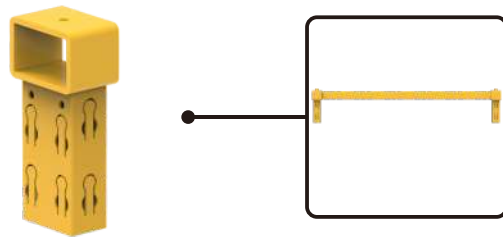
**SURFACE TREATMENT:** Powder coating (black/yellow)

**DESCRIPTION:** Used for securing 20x50 top frame to posts.

**THICKNESS:** 3.0mm;

**ACCESSORIES:** Top Frame Fixture x 1; M8x30 Flange Bolt x 1

**FEATURES:** Easy installation and strong connection.



### PRODUCT: YELLOW TOP FRAME FIXTURE 1.1 VERSION

**PRODUCT MODEL:** KKDR-FXS-A1-YLW-SET

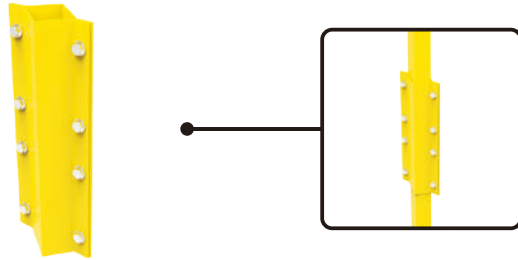
**SURFACE TREATMENT:** Powder Coating (Black/Yellow)

**COMPATIBLE DOOR TYPES:** Sliding Doors, Hinged Doors

**DESCRIPTION:** The top frame allows prying to adjust the gap, ensuring more secure fixation. Compatible with 20x50mm and 30x50mm square tubes.

**ACCESSORIES:** M8x35 Countersunk Hex Socket Bolt x1; M8x30 Flange Bolt x1;

M8x12 Flange Bolt x2; M8 Flange Nut x1



**PRODUCT: TOP FRAME FIXING KIT**

**PRODUCT MODEL:** KKDR-FXS-YLW-SET

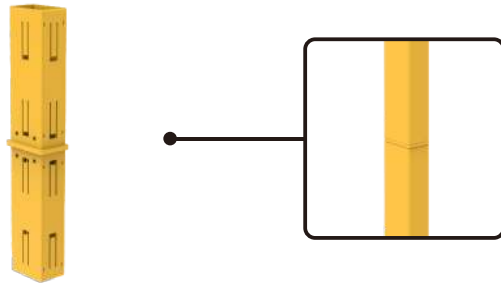
**SURFACE TREATMENT:** Powder coating (black/yellow)

**DESCRIPTION:** Fixes the post and the top frame.

**THICKNESS:** 3.0mm

**ACCESSORIES:** Top frame fixing kit x 1, M8X12 x 1, M8X20 x 1, flange bolt x 1.

**FEATURES:** Strengthful and convenient to use.



**PRODUCT: POST CONNECTION ASSEMBLY**

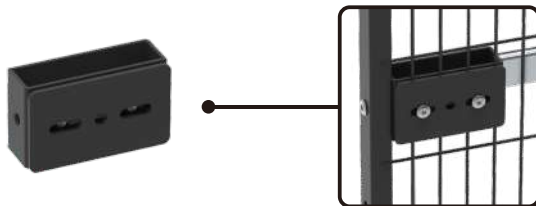
**PRODUCT MODEL:** KKPT-DP-40x60x305-YLW; KKPT-DP-60x60x405-YLW;

KKPT-DP-80x80x445-YLW **SURFACE TREATMENT:** Powder coating (black/yellow)

**DESCRIPTION:** Used for connecting posts with dimensions 40x60mm, 60x60mm, or 80x80mm square tubes of 1.5mm or 2.0mm thickness.

**THICKNESS:** 3.0mm **ACCESSORIES:** Post Connector x1

**FEATURES:** Insert-style connection with adjustable gaps. No bolts required for installation. Easy, sturdy setup with interference-free fixation ring installation.



**PRODUCT: SHORT TRACK INSTALLATION ASSEMBLY - 2.0 VERSION**

**PRODUCT MODEL:** KKDR-SRT100-V2.0-BLK-SET

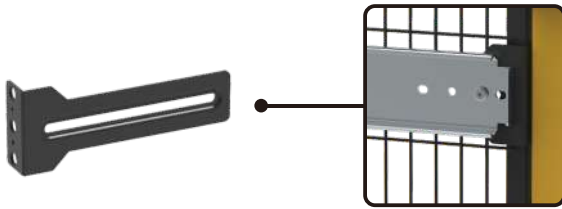
**SURFACE TREATMENT:** Powder Coating (Black/Yellow)

**COMPATIBLE DOOR TYPE:** Sliding Doors

**DESCRIPTION:** Fixture for sliding door installation, used in pairs of long and short assemblies. A single sliding door requires 4 sets of long-track installation assemblies and 4 sets of short-track installation assemblies.

**ACCESSORIES:** Short Track Installation Assembly - 2.0 Version x1

**ADDITIONAL NOTES:** If the mesh panel has no fixed holes or the ground is uneven, opt for 8 sets of short-track installation assemblies to adjust the setup.



**PRODUCT: LONG TRACK INSTALLATION ASSEMBLY - 2.0 VERSION**

**PRODUCT MODEL:** KKDR-SRT230-V2.0-BLK-SET

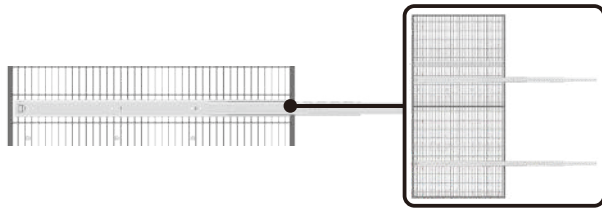
**SURFACE TREATMENT:** Powder Coating (Black/Yellow)

**COMPATIBLE DOOR TYPE:** Sliding Doors

**DESCRIPTION:** A fixture designed for sliding door installation. Used in combination with short track assemblies, each single sliding door requires 4 sets of long-track installation assemblies and 4 sets of short-track installation assemblies.

**ACCESSORIES:** Long Track Installation Assembly - 2.0 Version x1

**ADDITIONAL NOTES:** For mesh panels without fixed holes or uneven ground, use 8 sets of short-track installation assemblies to adjust the setup.



**PRODUCT: SLIDING RAIL**

**PRODUCT MODEL:** KKDR-SDW-76x1000-EZ

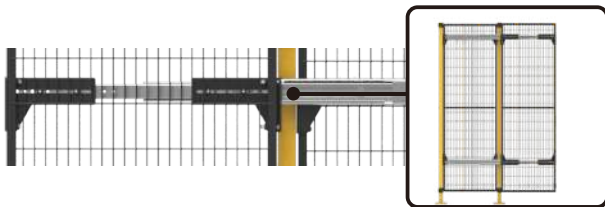
**SURFACE TREATMENT:** Electro galvanized

**DESCRIPTION:** Used to move doors.

**THICKNESS:** 2.5mm

**ACCESSORIES:** Sliding rail x 2

**FEATURES:** Easy to install.



**PRODUCT: GUIDE RAIL FASTENER SET**

**PRODUCT MODEL:** KKBJ-SRT-BLK-SET

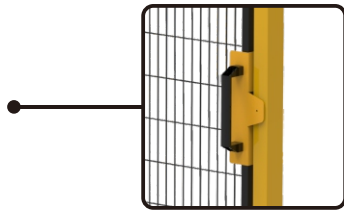
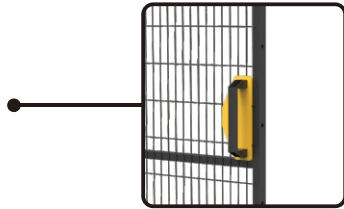
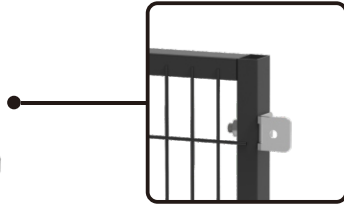
**SURFACE TREATMENT:** Powder coating (black/yellow)

**DESCRIPTION:** For sliding doors

**THICKNESS:** 4mm

**ACCESSORIES:** Sliding rail x 2

**FEATURES:** Easy to install and can be stacked on both sides for installation.



### PRODUCT: DOOR STOPPER

**PRODUCT MODEL:** KKDR-STP-EZ

**SURFACE TREATMENT:** Electro galvanized

**DESCRIPTION:** Used to align door with fence posts.

**THICKNESS:** 3.0mm

**ACCESSORIES:** Door stopper\*1; M8X30 Countersunk bolt\*1; M8 Flange nut\*1

**FEATURES:** Light and convenient.

### PRODUCT: DOOR HANDLE

**PRODUCT MODEL:** KKDR-HDBJ-120-YLW-SET      KKDR-HDBJ-180-BLK-SET

**SURFACE TREATMENT:** Powder Coating (Black/Yellow)

**DESCRIPTION:** A dual-sided door handle designed for use on doors, providing ease of grip and durability.

**ACCESSORIES:** Door Handle Sheet Metal x 2, M6x35 Flat Head Hex Socket Screws x 2, M6 Flange Nuts x 2, Door Handle x 2

**FEATURES:** Easy to install and aesthetically pleasing design. No requirement for precise pitch alignment. Compatible with various mesh enclosures.

### PRODUCT: MAGNETIC DOOR HANDLE FIXING KIT

**PRODUCT MODEL:** KKDR-MX-HD-YLW-SET

**SURFACE TREATMENT:** Powder Coated (Black/Yellow)

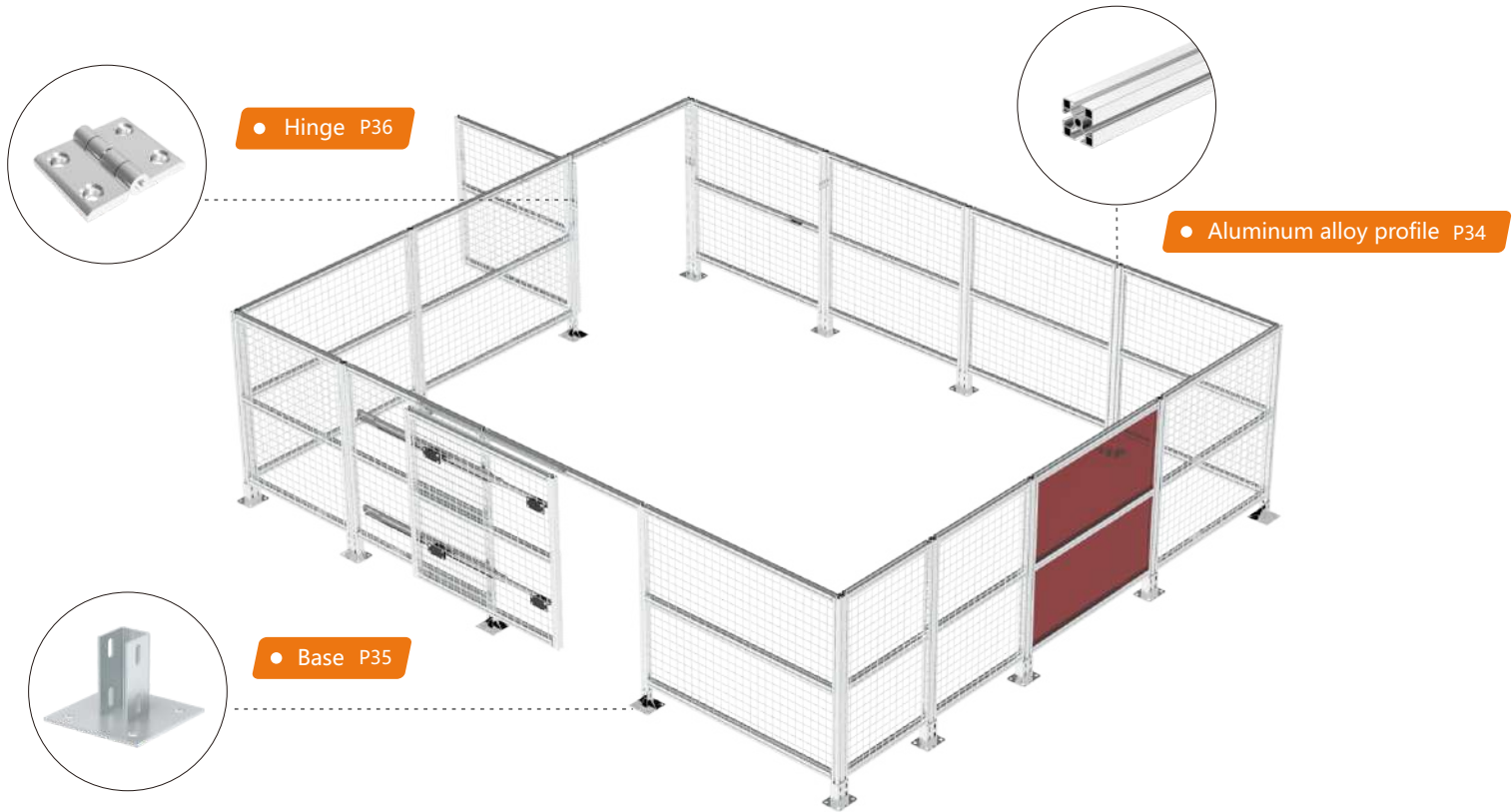
**DESCRIPTION:** A magnetic door handle designed for use with hinged doors, offering secure and convenient functionality.

**ACCESSORIES:** Door Handle x 1, M6x25 Flat Head Bolts x 2, M6 Flange Nuts x 2, Fixing Component x 1,  $\phi$ 27x5 Anti-Slip Pad x 1,  $\phi$ 30x5 Strong Magnet x 1, M4 Round Ball Cap Nut x 1, M4x10 Countersunk Hex Socket Bolt x 1

**FEATURES:** Simple structure for easy assembly. Convenient installation process. Cost-effective solution with reliable performance.

# PARTITIONING SOLUTIONS

## Aluminum alloy fence





# ALUMINUM ALLOY FENCE SERIES

## ACCESSORIES



PRODUCT: 40A FOUR-HOLE BASE PLATE (40x80)

PRODUCT MODEL: EFPT-80KK-EZ-SET

DESCRIPTION: Used to fix aluminum post, includes 4 sets of M10x70 expansion anchors.



PRODUCT: ELECTRO GALVANIZED X40A POST BASE

PRODUCT MODEL: EFPT-40KK-EZ-SET

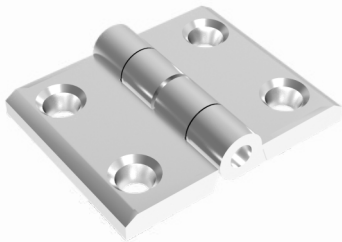
DESCRIPTION: Used to fix aluminum post, includes 4 sets of M10x70 expansion anchors.



PRODUCT: BRAKE CASTER  
PRODUCT MODEL: KK-BC-B-SET  
DESCRIPTION: Help doors move and stop.



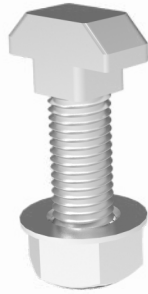
PRODUCT: 40-CONNECTOR  
PRODUCT MODEL: EFPT-YZ40-EZ  
DESCRIPTION: Used to connect aluminum fencing.



PRODUCT: HINGE  
PRODUCT MODEL: EFDR-X40A-Hinge50-SET  
DESCRIPTION: Used for aluminum door installation.



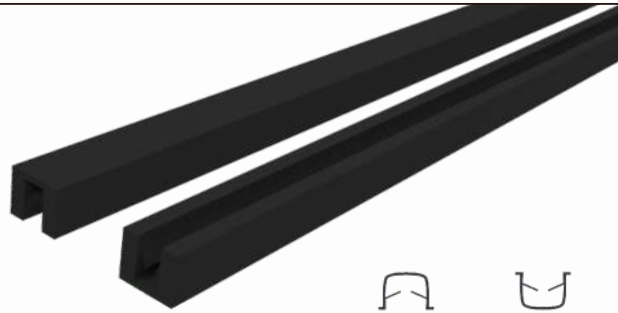
PRODUCT: X40A PROFILE END CAP  
PRODUCT MODEL: EFPT-CCT-X40A-DG  
DESCRIPTION: Used to cap the ends of aluminum beams.



PRODUCT: T-TYPE BOLT KIT  
PRODUCT MODEL: TY-TBOLT-M8x20-NI  
DESCRIPTION: Used to fix fence base and connectors.

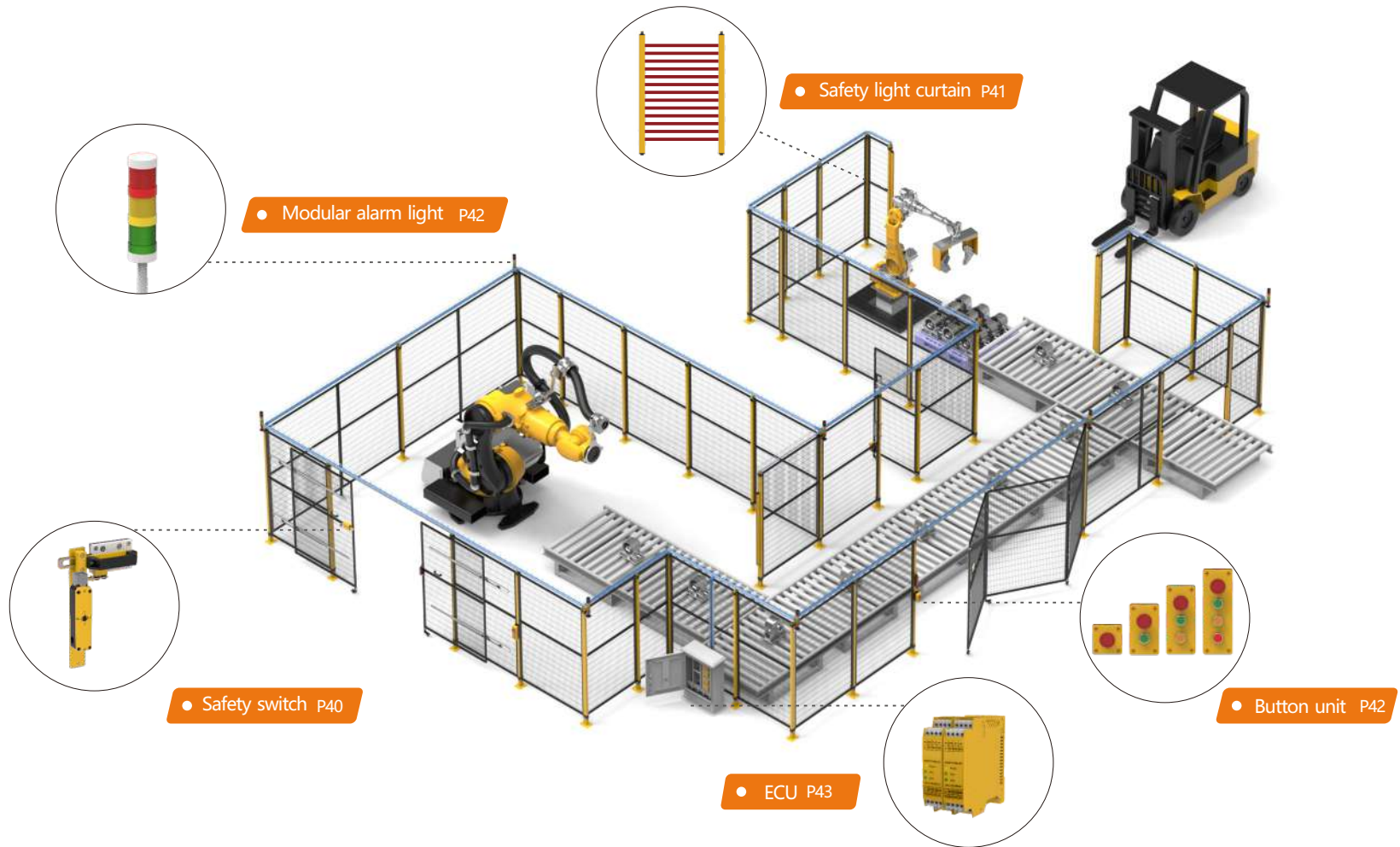


PRODUCT: X40A SEAL  
PRODUCT MODEL: EFGD-FT-2000-BLK  
DESCRIPTION: Seals the grooves of aluminum frames for aesthetic purposes.



PRODUCT: X40A GIB  
PRODUCT MODEL: EFGD-QT-2000-BLK  
DESCRIPTION: Used to fix aluminum frames and mesh panels.

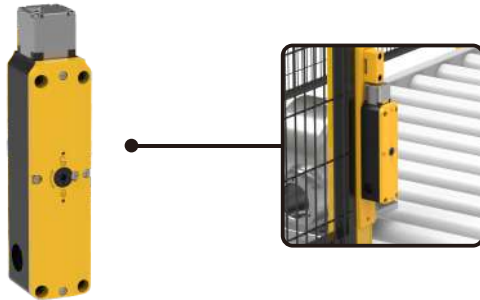
# INTERLOCK PROTECTION SOLUTIONS



# PRODUCT ADVANTAGE

## Interlocking Protection Series

- ① Safe, stable, reliable and less prone to error.
- ② System and function can be customized on demand.
- ③ Support device information exchange between devices to improve safety performance.



**PRODUCT: SAFETY SWITCH**

PRODUCT MODEL: KKCK-WCPZ-SFLOCK001

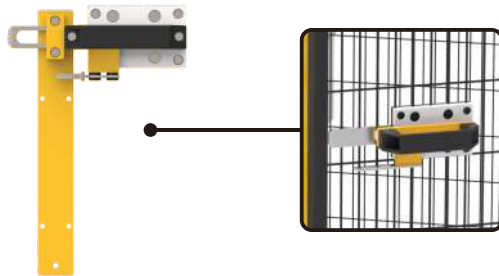
DESCRIPTION: A safety switch with safety lock function for gate position detection.

HOLDING FORCE: 1500N, contact: 4 normally closed, voltage: 24 V.

INTERLOCK CLASSIFICATIONS: Up to PLd.

ACCESSORIES: Bolt

OUTPUT: Dry contact.



**PRODUCT: SAFETY DOOR BOLT**

PRODUCT MODEL: KKCK-WCPZ-SFDRBT-SET

DESCRIPTION: Safety door bolt that can be used with safety switch.

SURFACE TREATMENT: Electro galvanized and power coating.

THICKNESS: 5.5mm

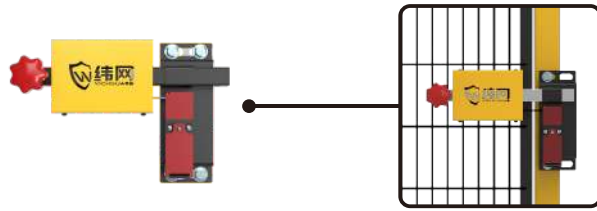


**PRODUCT: PILZ SINGLE HINGE SAFETY DOOR LATCH 2.0 VERSION**

PRODUCT MODEL: KKCK-PILZ-me5-JL-40x60-2.0-SET

SURFACE TREATMENT: Electroplating + Powder Coating (Black/Yellow)

DESCRIPTION: Compatible with the PILZ ME5 series safety switches, designed for single hinged doors. Post installation requires no drilling, utilizing sheet metal bolts for connection. Convenient and secure installation.



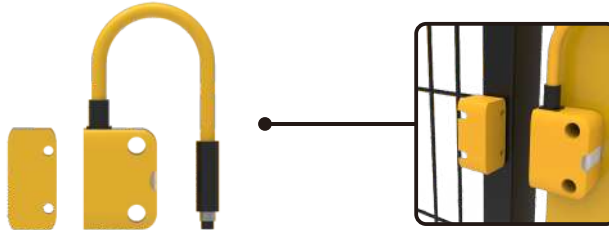
**PRODUCT: SIMPLE BOLT LOCK (TYPE B)**

**PRODUCT MODEL:** KKCK-LCK-B-SET

**DESCRIPTION:** Door lock latch with optional Schneider safety switch which outputs signal when plugging and unplugging.

**SURFACE TREATMENT:** Electro galvanized and power coating.

**THICKNESS:** 3mm

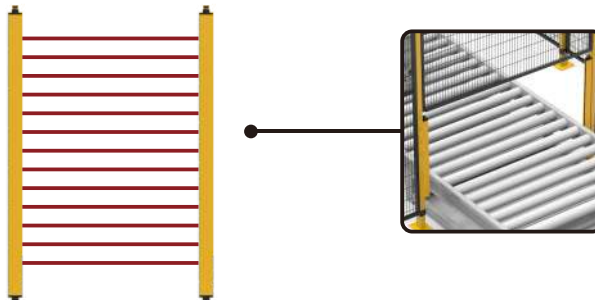


**PRODUCT: MAGNETIC SAFETY SWITCH**

**PRODUCT MODEL:** KKCK-WCPZ-SFLOCK003

**DESCRIPTION:** Non-contact magnetic switch; Effective induction distance: 10mm; Output: 2NC; Safety interlock up to ISO 13849-1 PL= E.

**OUTPUT:** Dry contact



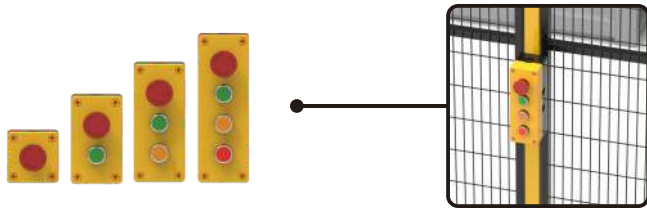
**PRODUCT: SAFETY LIGHT CURTAIN**

**PRODUCT MODEL:** KKSYS-GTYP930-NPN-SET      **OUTPUT:** NPN

**DESCRIPTION:** Safety light curtain with transmitter and receiver.

Height; 930mm; Effective protection height: 840mm; Output: NPN; 1 normally closed.

**ACCESSORIES:** Safety light curtain x2; L-shaped small stand x4; 2500mm cable tray x1; 3500mm cable tray x1.

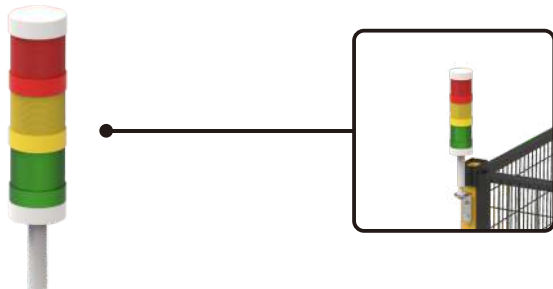


#### PRODUCT: BUTTON UNIT

**PRODUCT MODEL:** KKCK-TYX4-LA42-PD10G-J01-SET

**DESCRIPTION:** The button unit consists of a button box and illuminated buttons, with optional 1 hole, 2 holes, 3 holes, and 4 holes. The buttons are generally flatHead button (red, yellow, green) and emergency stop button.

**ACCESSORIES:** Button unit fixing kit, Emergency stop button with optional emergency stop button protective cover.

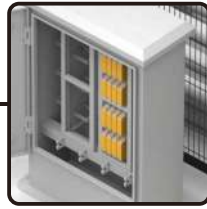


#### PRODUCT: MODULAR ALARM LIGHT

**PRODUCT MODEL:** KKCK-QZ60-Y10B-5PJ-RYG-SET

**DESCRIPTION:** Modular and programmable warning light, each layer is an independent module, you can choose the number of lights and color, the general default is three colors.

**ACCESSORIES:** Modular signal tower light x1; L-shaped fixing kit x1.

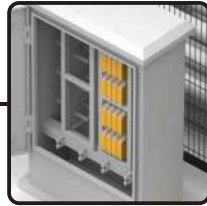
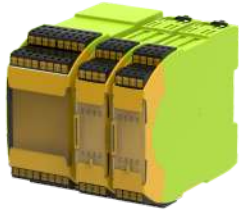


### PRODUCT: SAFETY RELAY

**PRODUCT MODEL:** KKCK-WCPZ-SFRY001

**DESCRIPTION:** Can be connected to emergency stop button, limit switch, start button, photoelectric protection device and pushbutton switch; Output contact: 3NO (safety contact)/1NC (auxiliary contact).

**FEATURES:**The circuit is redundant with built-in self-monitoring; The safety device remains effective even in the case of a component failure; The correct opening and closing of the relays on the safety device is tested automatically in each on-off cycle.



### PRODUCT: SAFETY PLC

**PRODUCT MODEL:** KKCK-WCPZ-SFPLC001

**DESCRIPTION:** The safety PLC complies with PL e (EN ISO 13849-1) and SIL CL 3 (EN/IEC 62061), the highest achievable level depends on the wiring. The CPU has two Ethernet interfaces and 4 test pulses, which could connect up to 6 additional configurations left and right. The safe digital quantity adopts safe digital quantity input and safe semiconductor output, the number of points is generally 8/4 or 4/4.



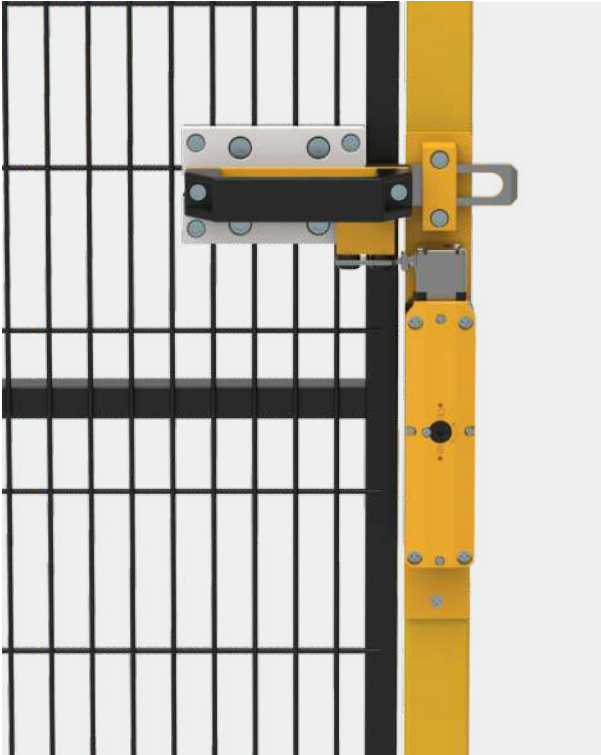
### PRODUCT: PRE-PROGRAMMED MULTI-FUNCTION CONTROL SYSTEM

**PRODUCT MODEL:** KKSYS-VB-1-DKPY-A-BLK-SET

**DESCRIPTION:** Vichbox is a pre-programmed safety interlock system developed by Vichnet, which can realize interlock control of safety door accessories such as locks, alarm lights, etc., and it also can interact with different equipment to receive warning signals and make quick actions. It's safe, stable, adjustable, and even cost-effective.

**FEATURES:** It's relatively small and light for easy carrying and operation, and the installation is simple for only 6 circular connectors are required to connect with all accessories, additionally, indicators was equipped for noticing the power status.

# SMARTLOCK KNOWLEDGE



## → SMART LOCK

The guard locking function is used to prevent the door from being accidentally opened. When there is a dangerous situation, danger the actuator (door latch) cannot be pulled out of the safety switch (locking module), and the door is locked to achieve safety protection.

Smart lock allows for the following safety settings:

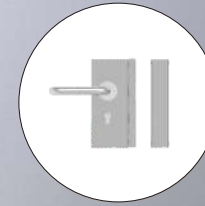
- ◆ The start commands cause dangerous machine functions are accepted only when the safety door is closed and locked.
- ◆ The guard lock will only unlock when dangerous machine functions are completed.

## → SMART LOCK TYPES

**Power-on Unlocking:** Locks by spring force and unlocks by energizing the electromagnetic coil. The door is locked mechanically immediately upon closing, it cannot be unlocked until the electromagnetic coil is energized.

**Power-off Unlocking:** Locks by energizing the electromagnetic coil and unlocks by spring force. When the door is closed, it is not automatically locked, the electromagnetic coil has to be energized to lock it. Once the electromagnetic coil is powered off, the door will be unlocked.

# ACCESS MANAGEMENT SOLUTIONS



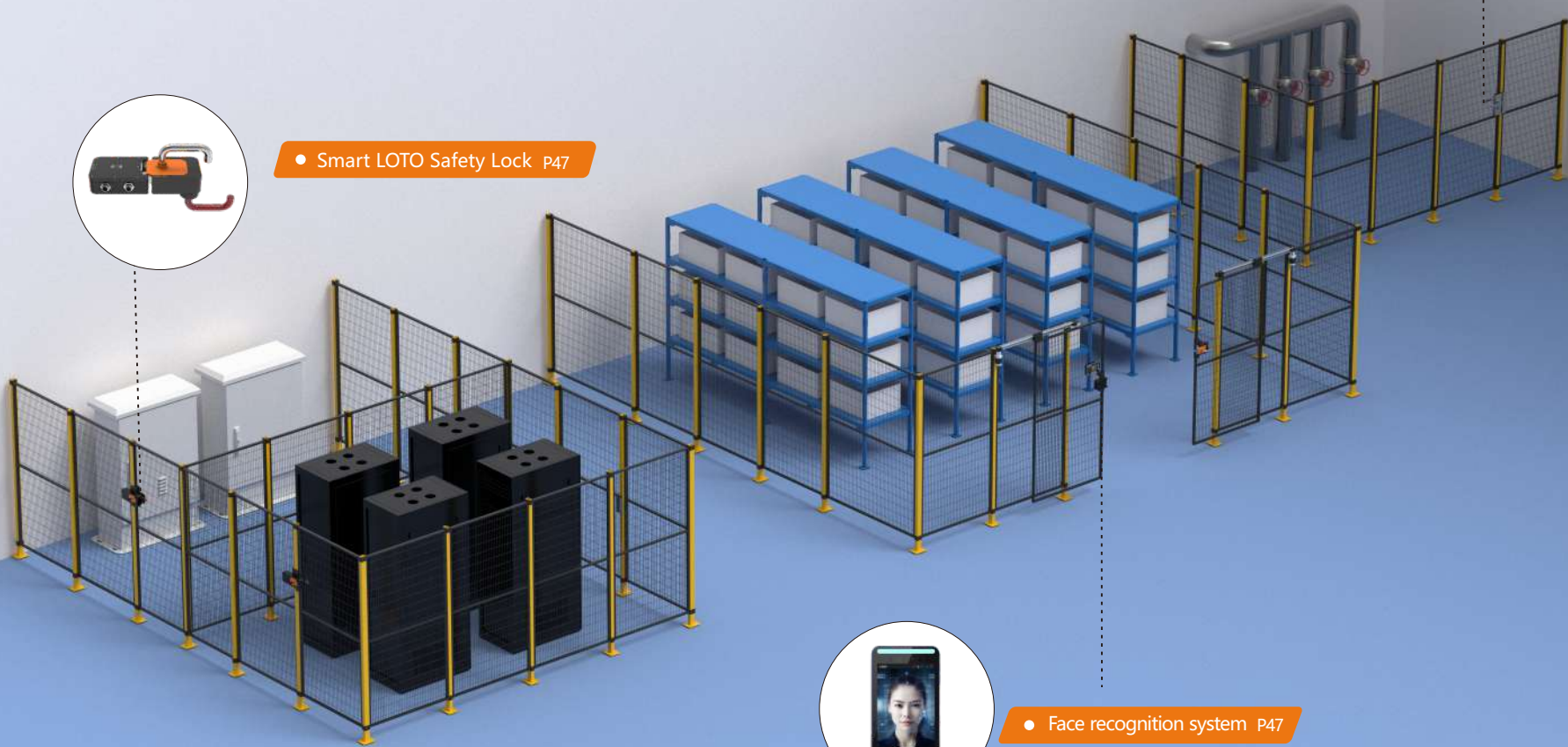
• Mechanical lock P48



• Smart LOTO Safety Lock P47



• Face recognition system P47

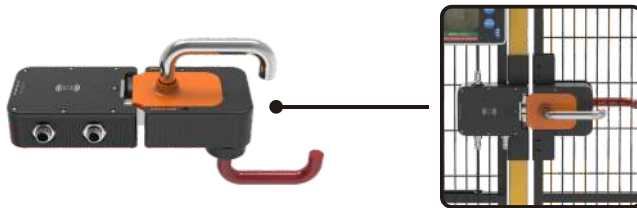


## PRODUCT ADVANTAGES

### Access Management

- ① Production safety can be improved through the access management of people, keys and locks.
- ② Supports background data query to achieve accountability and better production management.
- ③ Different access management solutions can be chosen according to different application scenarios.

## SMART LOCK SYSTEM



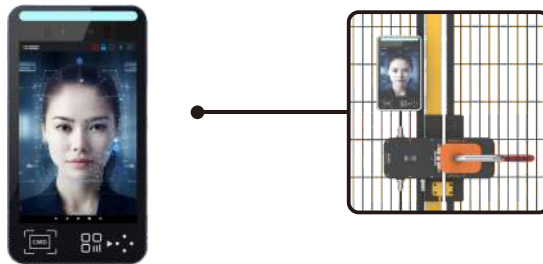
### PRODUCT: SMART LOTO SAFETY LOCK

PRODUCT MODEL: ZNS-A-SET

DESCRIPTION: An intelligent lock that is composed of handle and interlock function, an escape handle is equipped(left opening or right opening).

FEATURES: 1. Smart LOTO function 2. RFID swiping card for recognition 3. With the embedded CAT1 4G, the wireless data can interact with the cloud platform servers to realize software upgrades and configuration settings remotely. 4. There are 2 RS485 interfaces respectively, which are convenient for connecting with the face recognition module and PLC 5. The power supply and interlock interface are used for powering the Intelligent IoT lock and display status, interacting with the other devices.

## FACE RECOGNITION SYSTEM



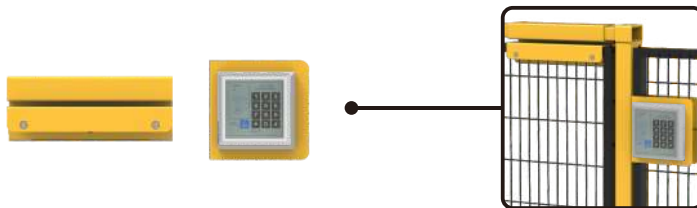
### PRODUCT: Intelligent Lock Facial Recognition Module

MODEL: ZNS-FR-MT-Q8-010-DZ-485-0.5M

DESCRIPTION: A dedicated facial recognition permission management module for intelligent locks.

FEATURES: 1. Plug and play with intelligent locks, enabling facial recognition upgrade authorization management. 2. Equipped with a request confirmation button to prevent accidental recognition of individuals passing by. 3. Support for platform historical record queries. 4. Support for platform facial ID modification.

## ACCESS CONTROL SYSTEM



### PRODUCT: MAGNETIC COMBINATION LOCK

PRODUCT MODEL: KKCK-MCLCK-A-SET

DESCRIPTION: A magnetic lock for access control.

FEATURES: Supports card swiping and password.

# DOOR LOCK



**(SINGLE DOOR)**

## PRODUCT: MECHANICAL LOCK

**MODEL:** KKCK-ML-A-SS304-SET

**APPLICABLE TO:** Single hinged door.

**USES:** Stainless steel mechanical lock for single hinged door on machine guards.



## PRODUCT: JIMMY PROOF LOCK

**MODEL:** KKCK-GL-TGLCK-SET

**APPLICABLE TO:** Double hinged door, single sliding door, double sliding door.

**USES:** A mechanical lock for sliding door and double hinged door on machine guards.



**(DOUBLE DOORS)**

## PRODUCT: MECHANICAL LOCK

**MODEL:** KKCK-ML-A-JL-SS304-SET

**COMPATIBLE DOOR TYPE:** Double Hinged Doors

**USES:** Stainless steel mechanical lock designed for double hinged doors in fencing applications.



## 40A ALUMINUM ALLOY MECHANICAL LOCK

**MODEL:** ELCK-40A-SALONG-AL-SET

**APPLICABLE TO:** Single hinged door, double hinged door.

**USES:** A mechanical lock for aluminum alloy machine guards.



## PRODUCT: Simple Bolt Lock (Type A)

**MODEL:** KKCK-LCK-A-SET

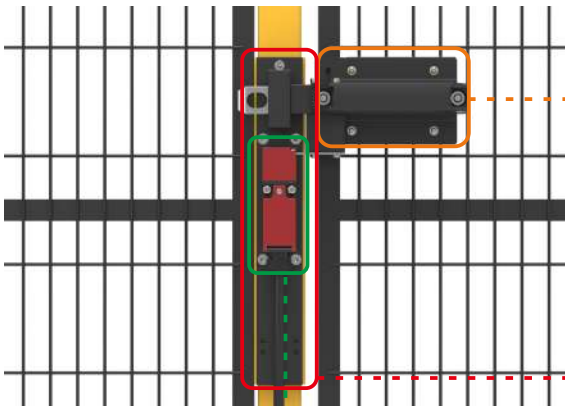
**COMPATIBLE DOOR TYPES:** Single/Double Hinged Doors, Double Sliding Track Doors

**USES:** A bolt lock for fence doors, compatible with padlocks for enhanced theft protection.

# MODULAR SAFETY DOOR LATCH

## What is a Modular Safety Door Latch?

【Handle Module】 + 【Locking Module】 + 【Installation Module】



HANDLE MODULE: KKCK-MBL-HM0-SET



**LOCKING MODULE:** Includes options such as bolt locks, Schneider, Banner, Euchner, Pilz, and Omron.



**INSTALLATION MODULE:** Adaptable for hinged doors, sliding track doors, single-hung doors, and double doors.

**PRODUCT: MODULAR SAFETY DOOR LATCH**

**HANDLE MODULE:** KKCK-MBL-HM0-SET

**LOCKING MODULE:** KKCK-MBL-LM0-SET (Bolt Lock - Mechanical Lock); KKCK-MBL-LM1-SET (Schneider 592); KKCK-MBL-LM2-SET (Banner DSM); KKCK-MBL-LM3-SET (Banner DSQ); KKCK-MBL-LM7-SET (Pilz ME5)

**INSTALLATION MODULE:** KKCK-MBL-IM5-SET (40x60 Hinged Door); KKCK-MBL-IM6-SET (60x60 Hinged Door); KKCK-MBL-IM7-SET (40x60 Single Sliding Door); KKCK-MBL-IM8-SET (60x60 Single Sliding Door); KKCK-MBL-IM9-SET (Double Doors)

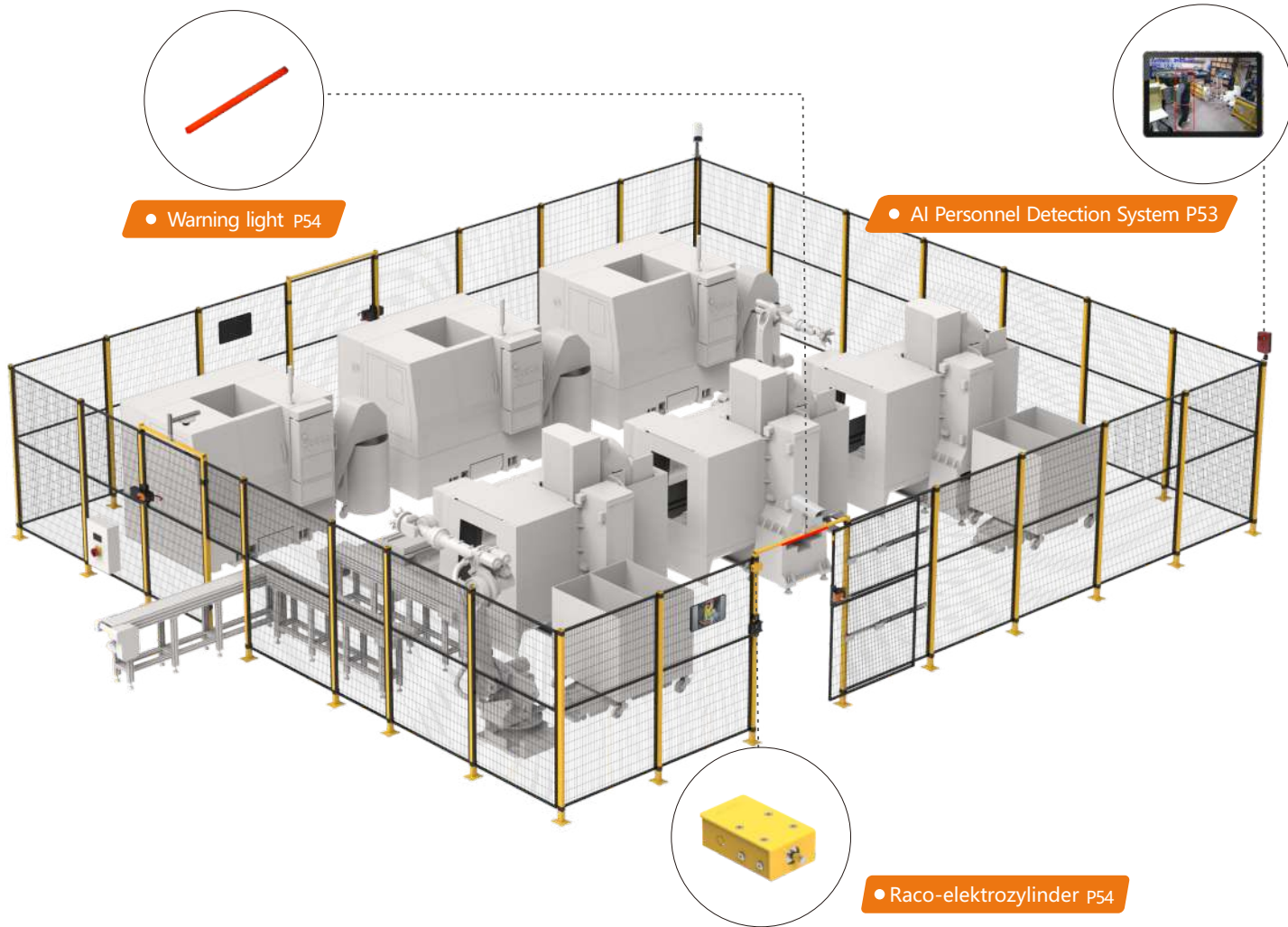
**DESCRIPTION:** A modular solution compatible with various brands of safety locks and adaptable for different door types. Expandable and versatile.

**FEATURES:** Aluminum plate with black anodized finish. Nylon PA66 precision machining.

**APPLICATION:** Compatible with single/double hinged doors and single/double sliding doors. Supports both left- and right-opening doors.

Bolt Lock - Mechanical Lock	Omron D4SL-N: With Locking	Banner DSM: Without Locking	Banner DSQ: With Locking
 <p>LOCKING: KKCK-MBL-LM0-SET</p>	 <p>LOCKING: KKCK-MBL-LM1-SET</p>	 <p>LOCKING: KKCK-MBL-LM2-SET</p>	 <p>LOCKING: KKCK-MBL-LM3-SET</p>
Euchner NP1: Without Locking	Euchner TP3 (B4): With Locking	Euchner STM: With Locking	Pilz ME5: With Locking
 <p>LOCKING: KKCK-MBL-LM4-SET</p>	 <p>LOCKING: KKCK-MBL-LM5-SET</p>	 <p>LOCKING: KKCK-MBL-LM6-SET</p>	 <p>LOCKING: KKCK-MBL-LM7-SET</p>
Omron D4NS: Without Locking	Omron D4NL: With Locking	Omron D4SL-N: With Locking	
 <p>LOCKING: KKCK-MBL-LM8-SET</p>	 <p>LOCKING: KKCK-MBL-LM9-SET</p>	 <p>LOCKING: KKCK-MBL-LM10-SET</p>	

# SAFETY ALERT SOLUTIONS



## PRODUCT ADVANTAGES

### Safety Advance Warning

- ① Real time monitoring and early warning of potential safety hazards, timely detection and resolution of safety issues, and improvement of safety performance.
- ② Realize automated management, reduce manual intervention, improve work efficiency and accuracy.
- ③ Conduct data analysis and statistics on security incidents to provide reference and decision-making support for enterprises.
- ④ Customized development and expansion can be carried out according to the needs of enterprises to meet the security management needs of different enterprises.

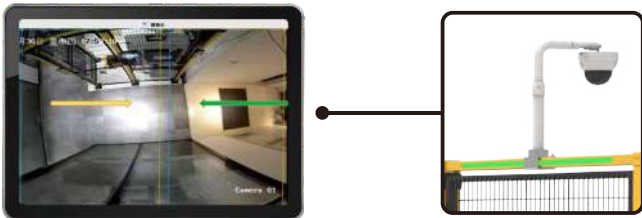


### PRODUCT: AI PERSONNEL DETECTION SYSTEM IN HAZARDOUS AREAS

**PRODUCT MODEL:** KKSYS-DAD-A-SET

**DESCRIPTION:** An intelligent system implemented through artificial intelligence technology, which uses high-definition cameras and deep learning Algorithm that can quickly and accurately identify whether a person is in a designated hazardous area and provide Reminders and Warnings for Time.

**FEATURES:** Support self setting of the size of the area within the camera's viewing range that needs to be recognized and judged, and support precise recognition Identified specific parts of the human body, capable of handling various refined work situations.



### PRODUCT: AI EYE SMART LOTO SYSTEM

**PRODUCT MODEL:** KKSYS-PTP-CAM-A-SET

**DESCRIPTION:** An intelligent system implemented through artificial intelligence technology, which uses high-definition cameras and deep learning The algorithm calculates the number of people remaining in the controlled area by accurately detecting the number of people entering and exiting the safety gate channel. Output signals to the actuator to reduce the risk of personnel falling into hazardous areas such as LOTO failure.

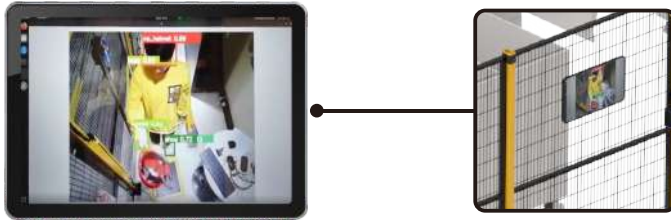
**EFFICIENT IDENTIFICATION:** Achieves High-accuracy recognition, capable of identifying entries and exits even in special cases such as multi-person parallel entry and close-proximity tailgating.

**RAPID DEPLOYMENT:** Controls complex areas with camera deployment only at safety door locations.

**NON-INTRUSIVE DATA COLLECTION:** Collects data automatically without adding management control processes.

**SUPER NETWORKING:** Supports multi-channel networking judgment in controlled areas.

**DATA INTERACTION:** Uses Modbus TCP protocol, supports data output.

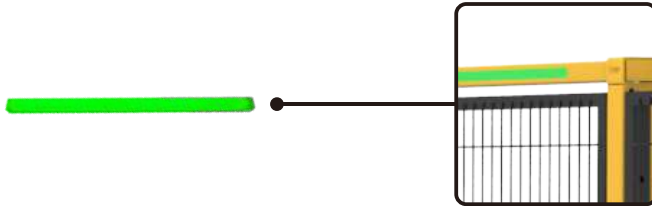


**PRODUCT:PPE IDENTIFICATION TERMINAL**

**PRODUCT MODEL:** KKSYS-TW-RGY-T22772

**DESCRIPTION:** Intelligent devices implemented through artificial intelligence technology can quickly and accurately identify the items worn by personnel Personal Protective Equipment (PPE), which uses high-definition cameras and deep learning algorithms and can automatically recognize Check if employees are wearing the correct PPE and provide timely reminders and warnings.

**FEATURES:** Support identification of wearing safety helmets, masks, gloves, and earmuffs.

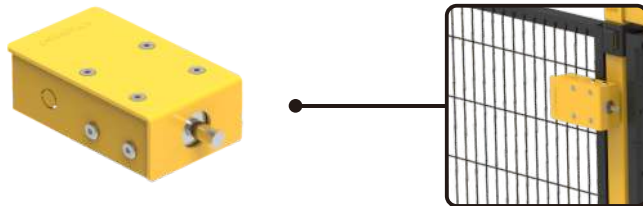


**PRODUCT: WARNING LIGHT**

**PRODUCT MODEL:** KKSYS-TW-RGY-T22772

**DESCRIPTION:** As the executing agency of the early warning system, the red, green, and yellow light strips can be embedded in the entry gear.

**FEATURES:** 772mm long, 24V common anode power supply



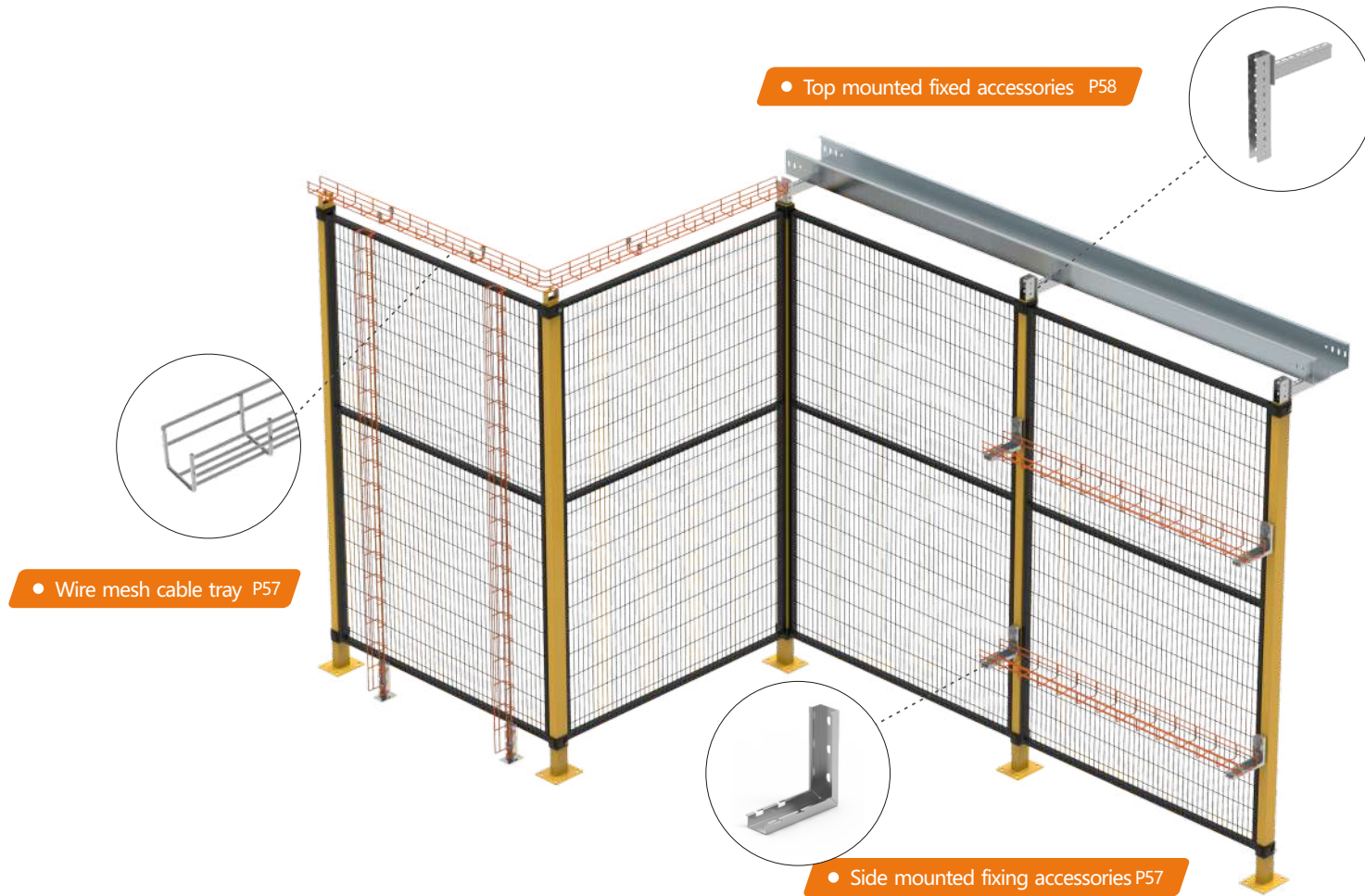
**PRODUCT: RACO-ELEKTROZYLINDER**

**PRODUCT MODEL:** KKSYS-EPR-DC24V-0.27A-20mm

**DESCRIPTION:** As the executing mechanism of the early warning system, when the electric push rod is pushed out, the safety door is blocked and cannot be closed to ensure that When the certification area is in a dangerous state, personnel inside the area can escape as soon as possible.

**FEATURES:** By connecting with the relay, the use effect of pushing or retracting the push rod in the specified state is achieved. Rated voltage DC24V, rated current 0.27A, stroke 20mm, push and pull force 25N, size 32 x34 x54mm.

# CABLE MANAGEMENT SOLUTIONS



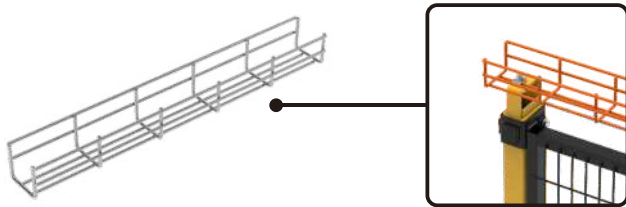
# PRODUCT ADVANTAGES

## Advantages of Wire Basket

- ① Open structure, anti-rodent, anti-mildew, easy to clean, good heat dissipation and convenient maintenance.
- ② Flexible and convenient installation: the cable tray can be cut according to need, and there are many kinds of accessories to meet a variety of installation methods.
- ③ Smooth welding joints: weld with intermediate frequency welder, the strength of each welding joint is  $\geq 3750\text{N}$ .

## Advantages of Cable Trunking

- ① Fully enclosed structure with good shielding performance.
- ② Strong corrosion resistance: coating is superior to industry standards.
- ③ Simple construction, flexible wiring, and beautiful appearance.

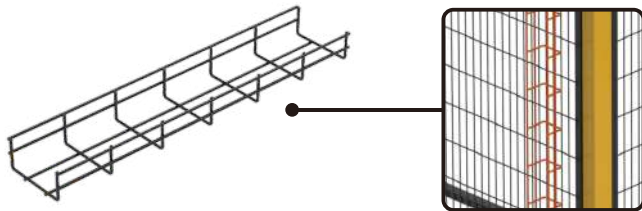


**PRODUCT: WIRE MESH CABLE TRAY**

PRODUCT MODEL: CMS50x50-3000-5.0

DESCRIPTION: Open cable tray, height 50mm, width 50mm, wire diameter 5.0mm.

FEATURES: Easy to install and cut. straight sections can be modified to produce bends, tees, crosses or reducers.

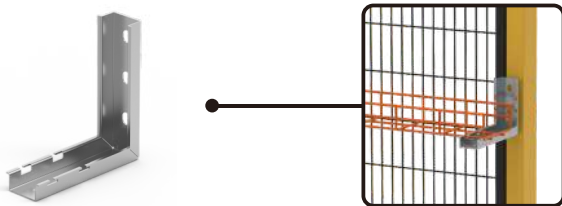


**PRODUCT: WIRE MESH CABLE TRAY**

PRODUCT MODEL: CM50x100-3000-5.0

DESCRIPTION: Open cable tray, height 50mm, width 100mm, wire diameter 5.0mm.

FEATURES: Easy to install and cut, straight sections can be modified to produce bends, tees, crosses or reducers.

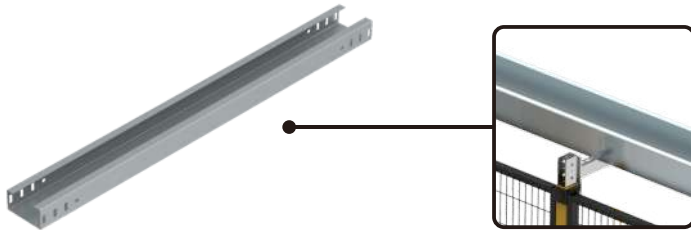


**PRODUCT: L-SHAPED BRACKET INSTALLED ON THE WALL**

PRODUCT MODEL: PJ-LWB

DESCRIPTION: For side installation of grid bridge.

FEATURES: Simple installation and stable structure.



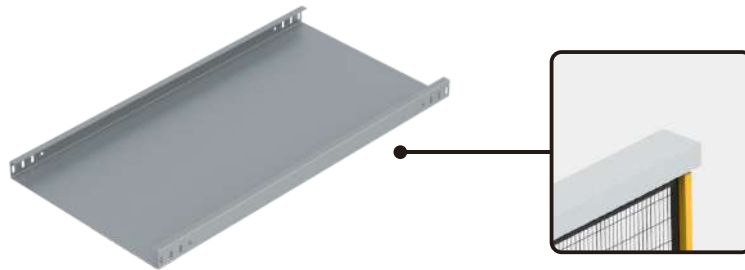
**PRODUCT: CABLE TRUNKING**

PRODUCT MODEL: CT50x100-2000-1.5-PC-SET

DESCRIPTION: Enclosed cable tray, height 50mm, width 100mm, plate thickness 1.5mm.

ACCESSORIES: Contains a pair of straight segment connectors with fixing kit and bolts.

FEATURES: Cost-effective, dustproof.



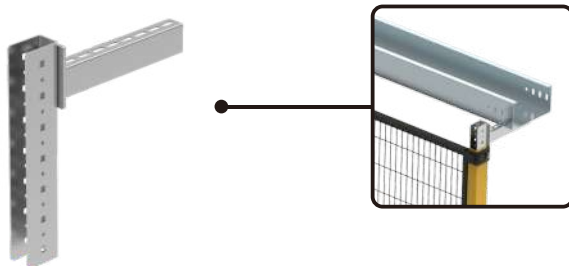
**PRODUCT: CABLE TRUNKING**

PRODUCT MODEL: CT50x500-2000-1.5-PC-SET

DESCRIPTION: Enclosed cable tray, height 50mm, width 50mm, plate thickness 1.5mm.

ACCESSORIES: Contains a pair of straight segment connectors with fixing kit and bolts.

FEATURES: Cost-effective, dustproof.

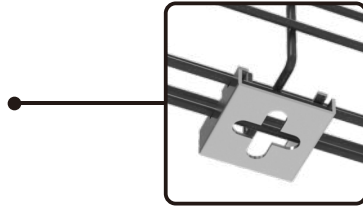
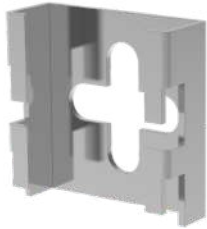


**PRODUCT: CABLE TRAY BRACKET**

PRODUCT MODEL: KKBj-300x54x34-2.5-BLK

DESCRIPTION: Install L-shaped fasteners for the cable tray and secure them to the columns.

FEATURES: Simple installation and stable structure.



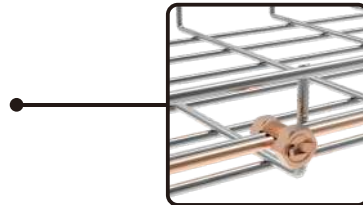
**PRODUCT: MINI SPIDER BUCKLE**

PRODUCT MODEL: PJ-MLK-EZ

SURFACE TREATMENT: Powder Coating

DESCRIPTION: Fixes the wire mesh cable tray, suitable for width 50-100 wire mesh cable trays.

FEATURES: Simple installation and stable structure.



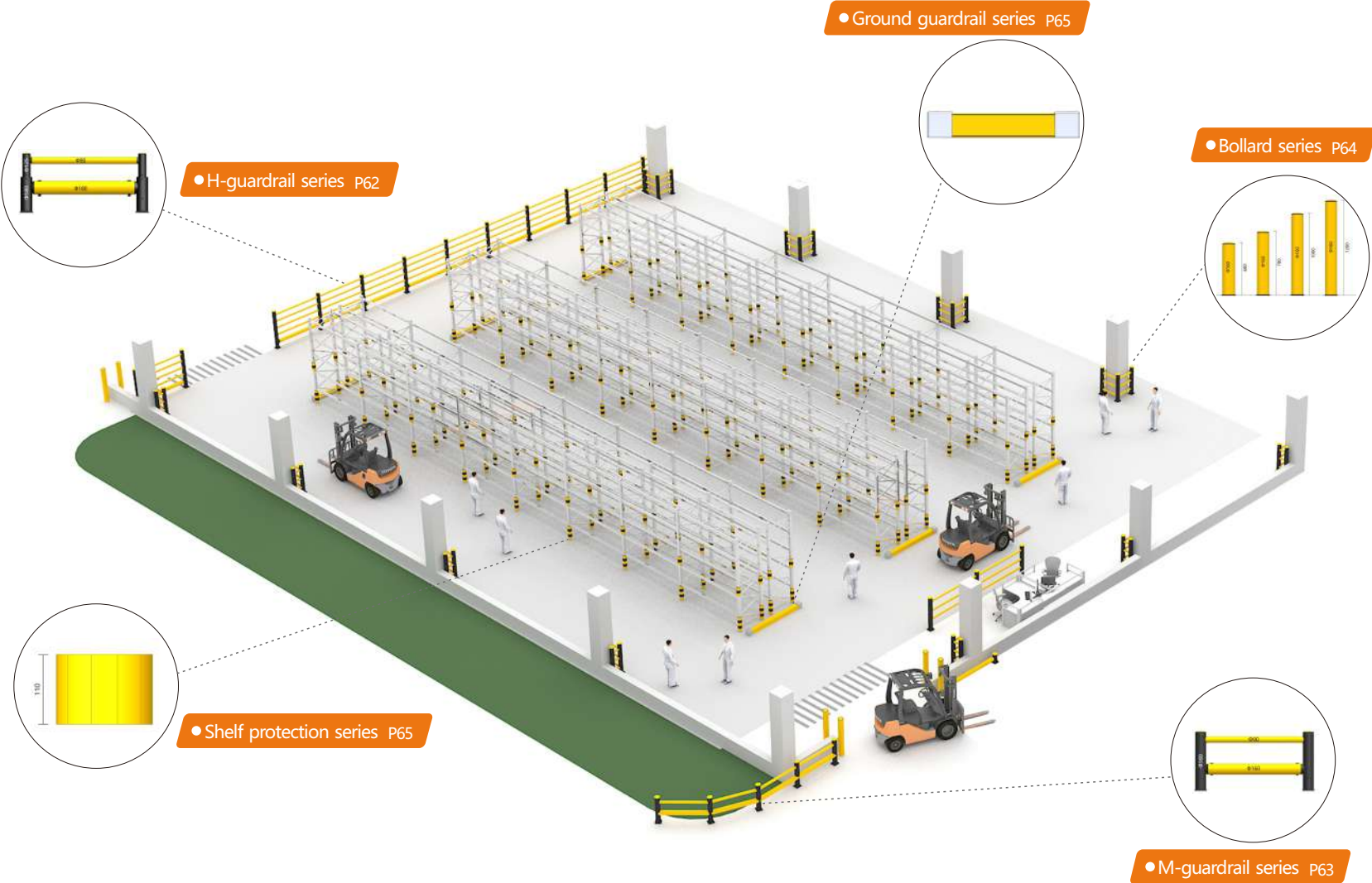
**PRODUCT: 5MM GROUNDING COPPER BOLTS**

PRODUCT MODEL: PJ-EHB-5

DESCRIPTION: Grounding components used every 10 meters on wire mesh cable trays.

FEATURES: Simple installation and good conductivity.

# IMPACT PROTECTION SOLUTIONS



# PRODUCT ADVANTAGES

## Impact Protection

- ① Strong impact resistance, products can be reused after after being hit.
- ② Built with imported polymer plastic, that has strong weather resistance and anti-aging properties.
- ③ Material' s natural color meets ISO4892-3 UV resistance standards.
- ④ Strong resistance against chemical corrosion, low chemical activity.
- ⑤ Different series can be chosen according to different application scenarios.

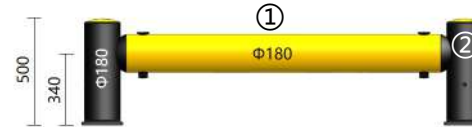
# H GUARDRAIL SERIES

## Single Barriers (H-guardrail series)

**PRODUCT MODEL: KKCA-1HC-14400J**

**DESCRIPTION:** Used for separating passageways for pedestrians and vehicles, streamline the movement of traffic, protect people, machinery and equipment from impact damage. Lengths range from 600 to 2000 (Standard 1800 mm).

**ACCESSORIES:** Two  $\phi 180$  posts, one  $\phi 180$  beam and fixing kit.



① region



**4823 Joules**

**Absorbable impact energy:** 5 Tonne vehicle at 5.0 km/h

② region



**1459 Joules**

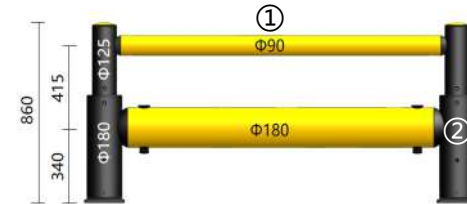
**Absorbable impact energy:** 5 Tonne vehicle at 2.75 km/h

## Double Barriers (H-guardrail series)

**PRODUCT MODEL: KKCA-2HC-14400J**

**DESCRIPTION:** Used for separating passageways for pedestrians and vehicles, streamline the movement of traffic, protect people, machinery and equipment from impact damage. Lengths range from 600 to 2000 (Standard 1800 mm).

**ACCESSORIES:** Two posts, one  $\phi 180$  beam, one  $\phi 90$  beam and fixing kit.



① region



**4823 Joules**

**Absorbable impact energy:** 5 Tonne vehicle at 5.0 km/h

② region



**1459 Joules**

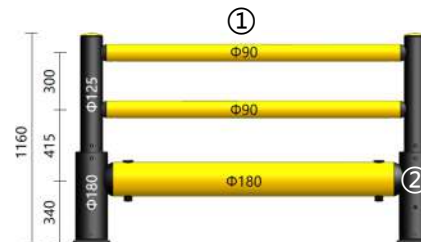
**Absorbable impact energy:** 5 Tonne vehicle at 2.75 km/h

## Triple Barriers (H-guardrail series)

**PRODUCT MODEL: KKCA-3HC-14400J**

**DESCRIPTION:** Used for separating passageways for pedestrians and vehicles, streamline the movement of traffic, protect people, machinery and equipment from impact damage. Lengths range from 600 to 2000 (Standard 1800 mm).

**ACCESSORIES:** Two posts, one  $\phi 180$  beam, two  $\phi 90$  beams and fixing kit.



① region



**4823 Joules**

**Absorbable impact energy:** 5 Tonne vehicle at 5.0 km/h

② region



**1459 Joules**

**Absorbable impact energy:** 5 Tonne vehicle at 2.75 km/h

# M GUARDRAIL SERIES

## Single Barriers (M-guardrail series)

**PRODUCT MODEL: KKCA-1MC-9900J**

**DESCRIPTION:** Used for separating passageways for pedestrians and vehicles, streamline the movement of traffic, protect people, machinery and equipment from impact damage. Lengths range from 600 to 2000 (Standard 1800 mm).

**ACCESSORIES:** Two  $\phi 160$  posts, one  $\phi 160$  beam and fixing kit.



① region



**4167 Joules**

**Absorbable impact energy:** 3 Tonne vehicle at 6.0 km/h

② region



**1418 Joules**

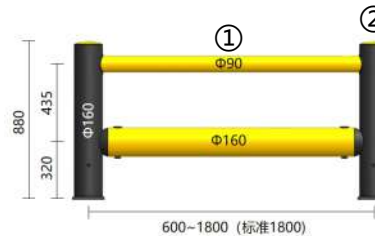
**Absorbable impact energy:** 3 Tonne vehicle at 3.5 km/h

## Double Barriers (M-guardrail series)

**PRODUCT MODEL: KKCA-2MC-11700J**

**DESCRIPTION:** Used for separating passageways for pedestrians and vehicles, streamline the movement of traffic, protect people, machinery and equipment from impact damage. Lengths range from 600 to 2000 (Standard 1800 mm).

**ACCESSORIES:** Two  $\phi 160$  posts, one  $\phi 160$  beam, one  $\phi 90$  beam and fixing kit.



① region



**4167 Joules**

**Absorbable impact energy:** 3 Tonne vehicle at 6.0 km/h

② region



**1418 Joules**

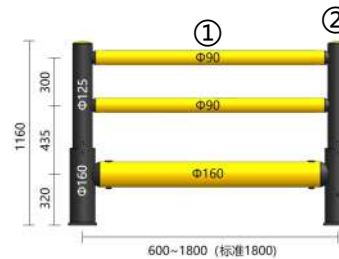
**Absorbable impact energy:** 3 Tonne vehicle at 3.5 km/h

## Triple Barriers (M-guardrail series)

**PRODUCT MODEL: KKCA-3MC-11700J**

**DESCRIPTION:** Used for separating passageways for pedestrians and vehicles, streamline the movement of traffic, protect people, machinery and equipment from impact damage. Lengths range from 600 to 2000 (Standard 1800 mm).

**ACCESSORIES:** Two posts, one  $\phi 160$  beam, two  $\phi 90$  beams and fixing kit.



① region



**4167 Joules**

**Absorbable impact energy:** 3 Tonne vehicle at 6.0 km/h

② region



**1418 Joules**

**Absorbable impact energy:** 3 Tonne vehicle at 3.5 km/h

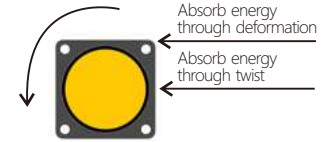
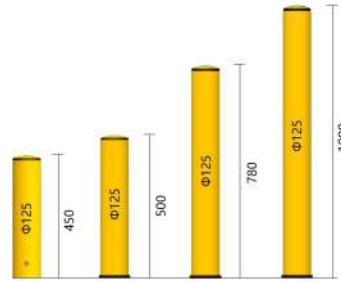
# GUARD COLUMN SERIES

## 125 Bollards

**PRODUCT MODEL:** KKCA-125-3900J

**DESCRIPTION:** Used for separating passageways for pedestrians and vehicles, streamline the movement of traffic, protect people, machinery and equipment from impact damage. Bollards height: 450mm, 500mm, 780mm, 1000mm.

**ACCESSORIES:** One  $\phi 125$  bollard and fixing kit.



**926 Joules**

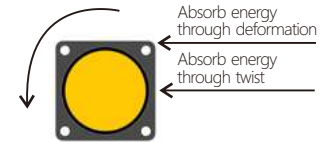
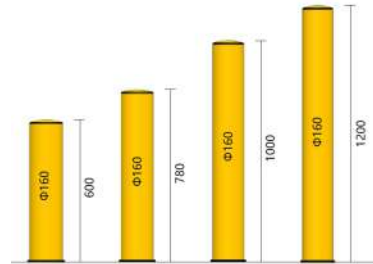
**Absorbable impact energy:** 1.5 Tonne vehicle at 4.0 km/h

## 160 Bollards

**PRODUCT MODEL:** KKCA-160-3900J

**DESCRIPTION:** Used for separating passageways for pedestrians and vehicles, streamline the movement of traffic, protect people, machinery and equipment from impact damage. Bollards height: 450mm, 500mm, 780mm, 1000mm.

**ACCESSORIES:** One  $\phi 160$  bollard and fixing kit.



**2344 Joules**

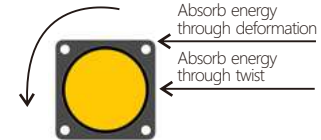
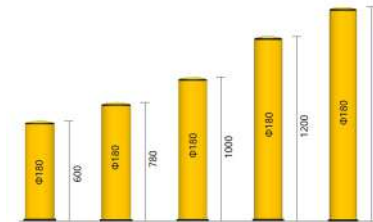
**Absorbable impact energy:** 3.0 Tonne vehicle at 4.5 km/h

## 180 Bollards

**PRODUCT MODEL:** KKCA-180-3900J

**DESCRIPTION:** Used for separating passageways for pedestrians and vehicles, streamline the movement of traffic, protect people, machinery and equipment from impact damage. Bollards height: 450mm, 500mm, 780mm, 1000mm.

**ACCESSORIES:** One  $\phi 180$  bollard and fixing kit.



**3906 Joules**

**Absorbable impact energy:** 5.0 Tonne vehicle at 4.5 km/h

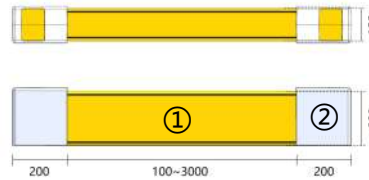
# GROUND COLUMN SERIES

## Horizontal Ground Barriers

**PRODUCT MODEL:** KKCA-DL1-9900J

**DESCRIPTION:** Provides ground level protection, used in combination with L, M and H barriers to prevent forklift impact.

**ACCESSORIES:** Each ground barrier two casting seats and fixing kit.



① region



**3502 Joules**

**Absorbable impact energy:** 3 Tonne vehicle at 5.5 km/h

② region



**462 Joules**

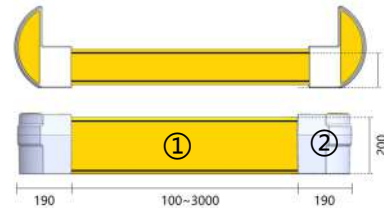
**Absorbable impact energy:** 3 Tonne vehicle at 2.0 km/h

## Arcuated Ground Barriers

**PRODUCT MODEL:** KKCA-DL2-9900J

**DESCRIPTION:** Protect end of rack.

**ACCESSORIES:** Each ground barrier two casting seats and fixing kit.



① region



**3502 Joules**

**Absorbable impact energy:** 3 Tonne vehicle at 5.5 km/h

② region



**462 Joules**

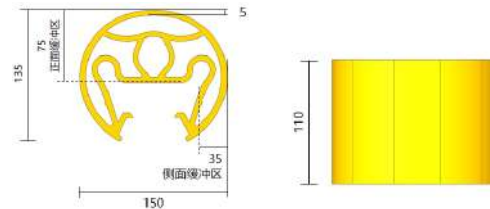
**Absorbable impact energy:** 3 Tonne vehicle at 2.0 km/h

# SHELF PROTECTION SERIES

## Flexible Plastic Foot Guards

**PRODUCT MODEL:** KKCA-RSSL-1800J

**DESCRIPTION:** Protect 80~100mm size columns, prevent forklift damage to shelves.



**3906 Joules**

**Absorbable impact energy:** 5 Tonne vehicle at 4.5 km/h



# 04

## APPLICATION

### Application Cases

Data Center

Intelligent Warehouse

Panel Furniture Industry

Chemical Industry

Food Packaging Industry

Auto Industry

Rubber Products Industry

New Energy Industry

# DATA CENTER



# FOOD PACKAGING INDUSTRY



# FOOD PACKAGING INDUSTRY



# INTELLIGENT WAREHOUSE



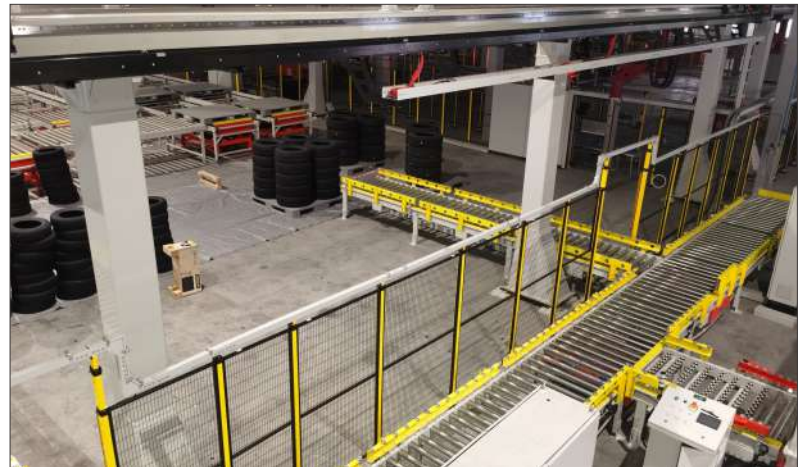
# AUTO INDUSTRY



# PANEL FURNITURE INDUSTRY



# RUBBER PRODUCTS INDUSTRY



# CHEMICAL INDUSTRY



# NEW ENERGY INDUSTRY



A grayscale background image showing a person's hand in a white sleeve dialing a number on a black telephone keypad. The image is semi-transparent, allowing text to be overlaid. Two horizontal orange lines with circular endpoints extend from the left and right sides towards the center, framing the main title.

# 05

## SERVICE

Pre-sale Service

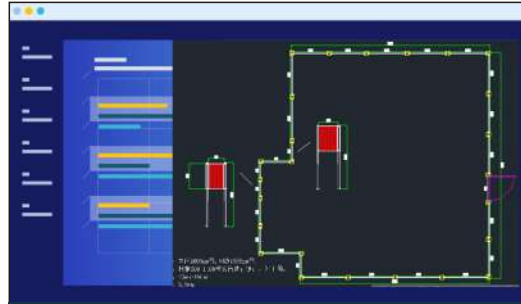
After-sale Service

Packaging and Delivery

## Pre-sale Service



On-Site measurement service



Professional Safety solution design



Professional interlocking control solution design

## Packaging and Delivery



Corner protection to protect each panel from abrasion, five pieces in one bundle



Reinforced tray with eight wooden strips on all sides



Palletizing properly to reduce abrasion during transportation

## After-sale Service



Onsite Support



Installation Support

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