# NINGBO VICHNET TECHNOLOGY CO., LTD

## Vichnet

# SAFETY FENCING SYSTEM

Physical partioning | Interlock protection | Access management | Safety early waring | Cable management | Impact protection

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# CONTENTS

# 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, Tesla, Siemens, China State Shipbuilding Corporation(CSSC), CRRC, China Railway, Huawei, Tencent, Alibaba, etc.
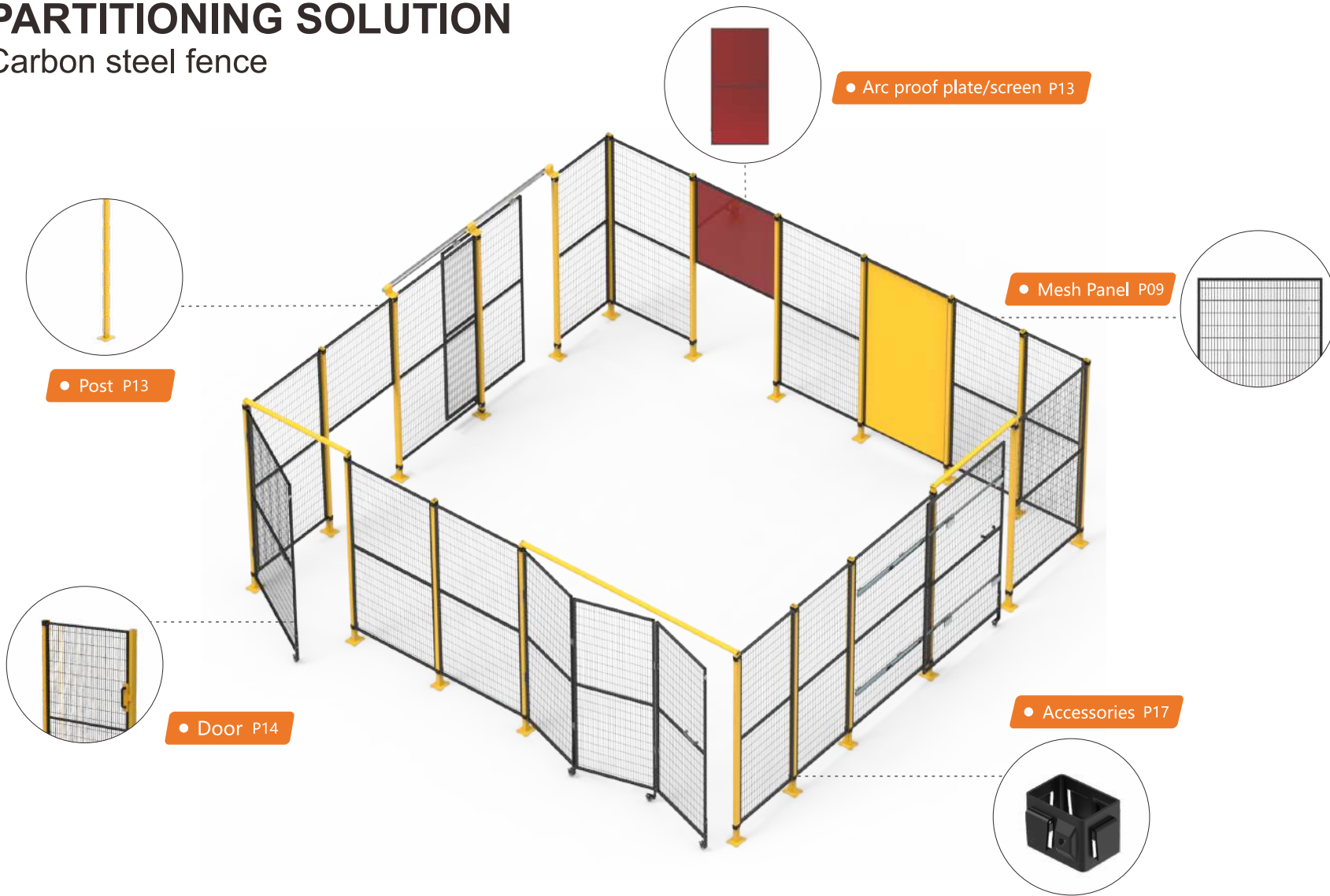
# 02

## SOLUTION

### Total Solution for Safety Protection

Partitioning Solutions

Access Management Solutions

Cable Management Solutions

Interlocking Protective Solutions

Safety Early Warning Solutions

Impact Protection Solutions

# PARTITIONING SOLUTION
Carbon steel fence



● Arc proof plate/screen P13

● Mesh Panel P09

● Post P13

● Door P14

● Accessories P17

## PRODUCT ADVANTAGE

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.

Two fixing methods are available on demand. Distance between mesh panel and ground is adjustable for flexible installation.
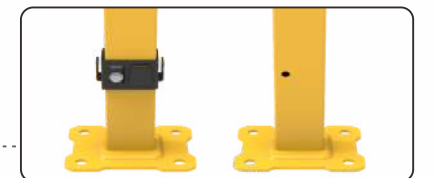
Robot welding, allows for robust, uniform welding on non-contact surface.

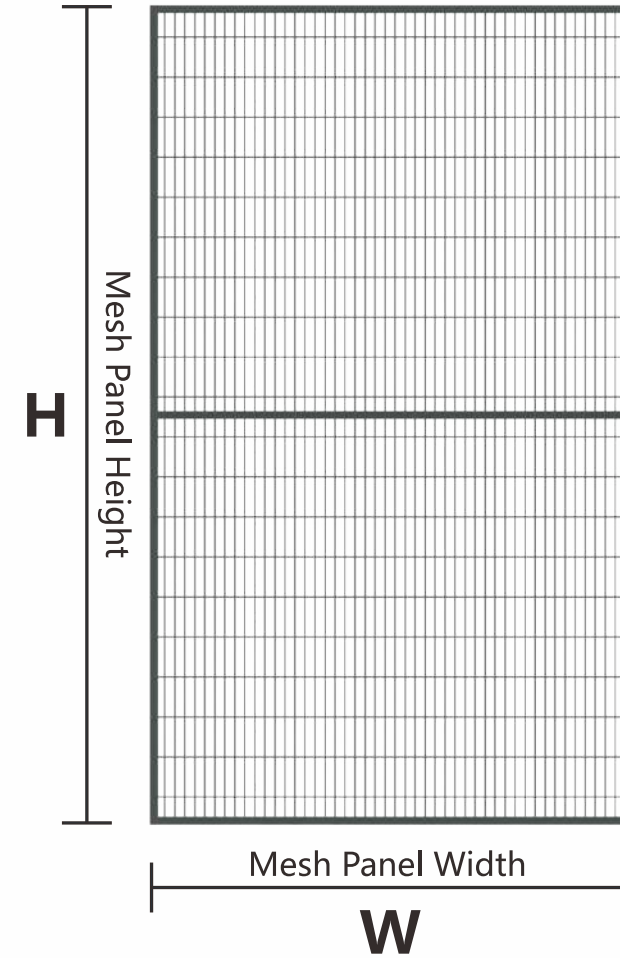Metal wires are welded flat onto the frame without burr to prevent scratches and injuries.

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

Two limiting holes on both sides of the post allow the bolt to go across the post, ensuring stronger impact resistance. Pre-drilled limiting holes makes positioning accurate, installation easy and mounting height unified.

Fixing Clamp

Post

Mesh Panel

Dust Cover

H

Mesh Panel Height
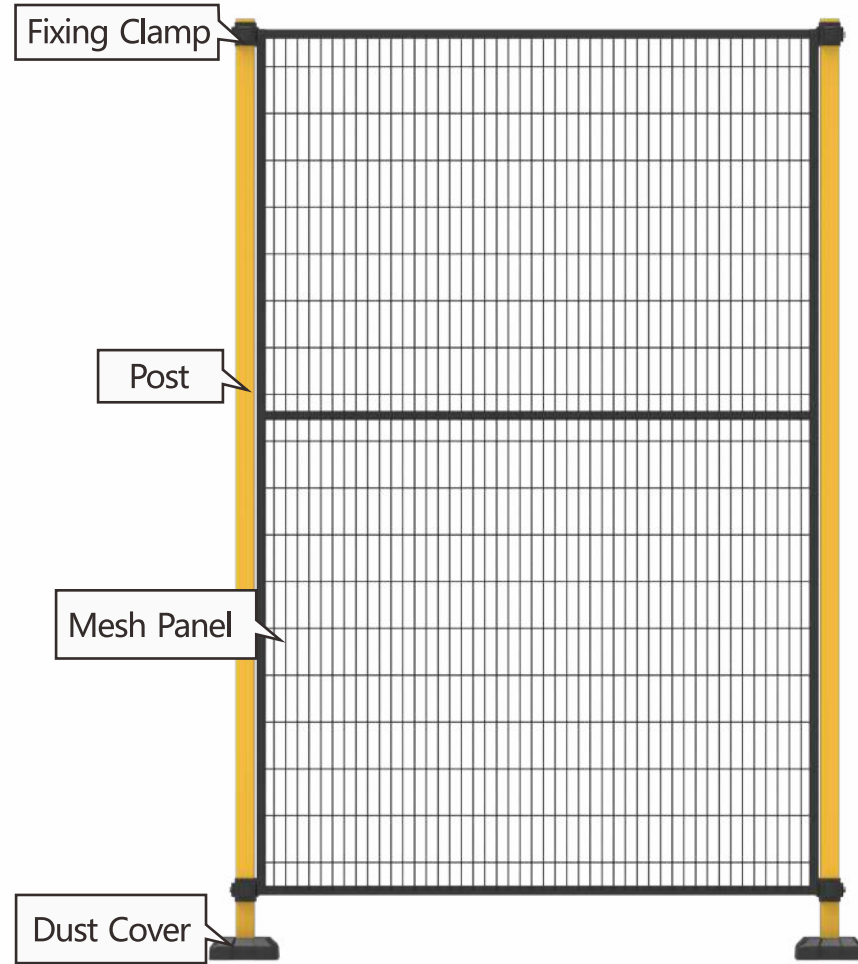
单位/unit：mm

OVERALL FRONT VIEW OF SAFETY FENCE

Mesh Panel Width

W

MESH PANEL

# PRODUCT MODEL

## FIRM TYPE SERIES SPECIFICATIONS

## SPECIFICATIONS

单位/unit：mm

| Model | Mesh Panel Height(H) | Mesh Panel Width(W) | Mesh Aperture | Diameter | Product Color |
|---|---|---|---|---|---|
| KKGD-HxW-20x100x3.0-BLK | 200≤H≤2200 | 100≤W≤1500 | 20x100 | 3.0/4.0 | black / yellow |
| KKGD-HxW-25x100x3.0-BLK | 200≤H≤3000 | 100≤W≤1400 | 25x100 | 3.0/4.0 | black / yellow |

# MESH PANEL

## PRODUCT: MESH PANEL

MESH APERTURE: 20x100 / 25x100
FRAME SIZE: 20mmx30mmx1.5mm / 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.

## 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

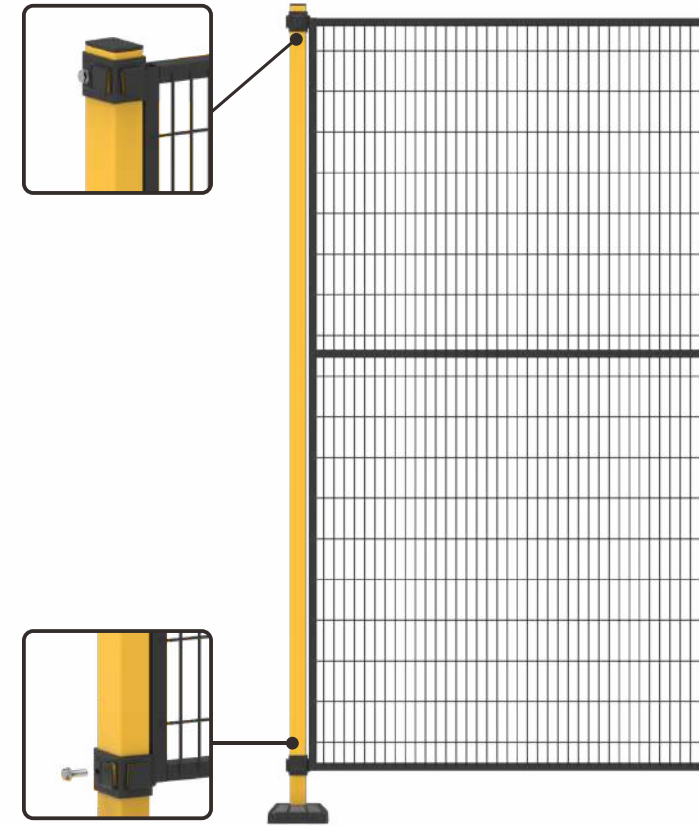

YELLOW RAL1023

BLACK RAL9005
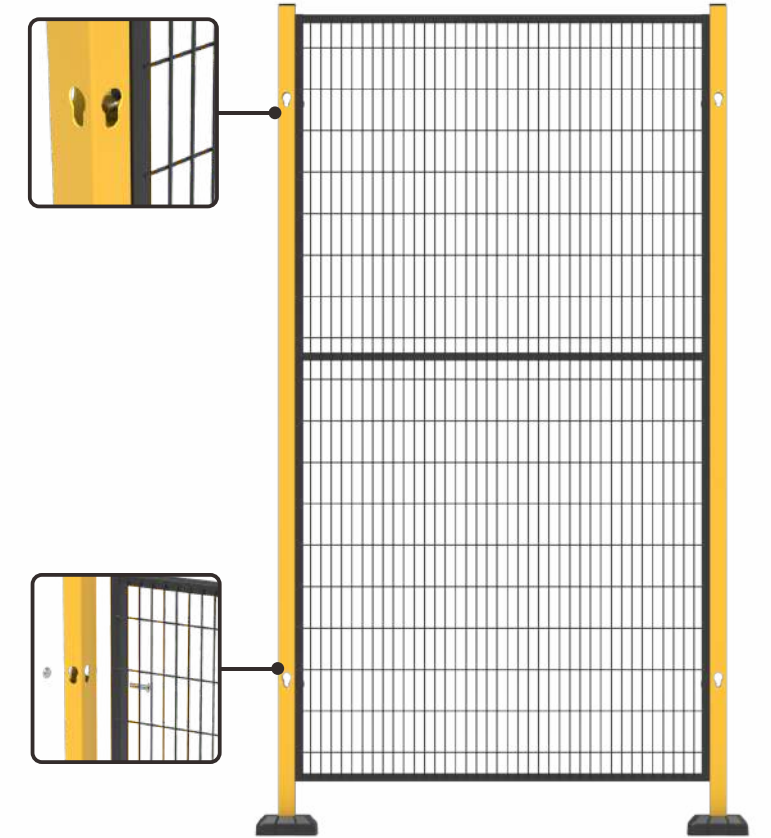
YELLOW RAL1018

GREY RAL7035
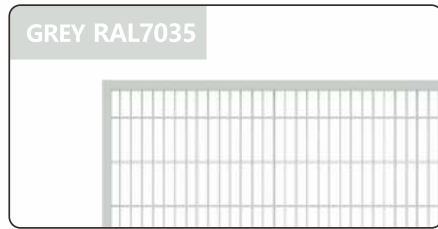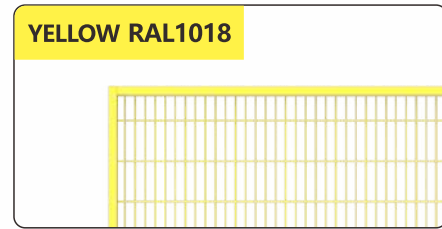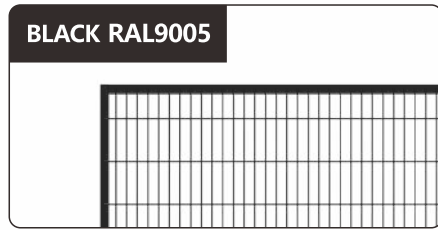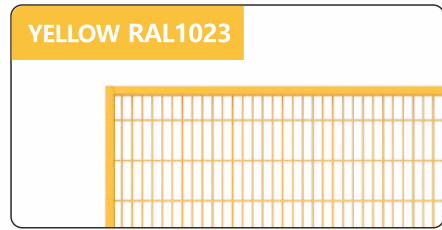
Other colors can be customized
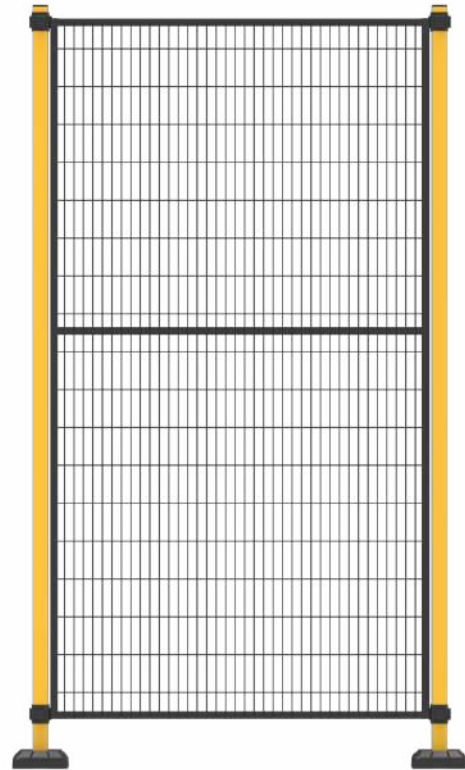
COLOR MANAGEMENT PRINCIPLES IN THE INDUSTRIAL SCENE
1. For scenes that require good visibility and no interference with effective supervision, such as around robotic arms, black or gray mesh panels will be more suitable choices.
2. For scenes that require safety warning, such as around dangerous furnaces, 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



## FIXING CLAMP INSTALLATION



## Easy-Connect Fence Installation Renderings

# POST

## PRODUCT: POST

**POST SIZE:** 40x60x2.0 / 60x60x2.0
40x60x1.5 / 60x60x1.5
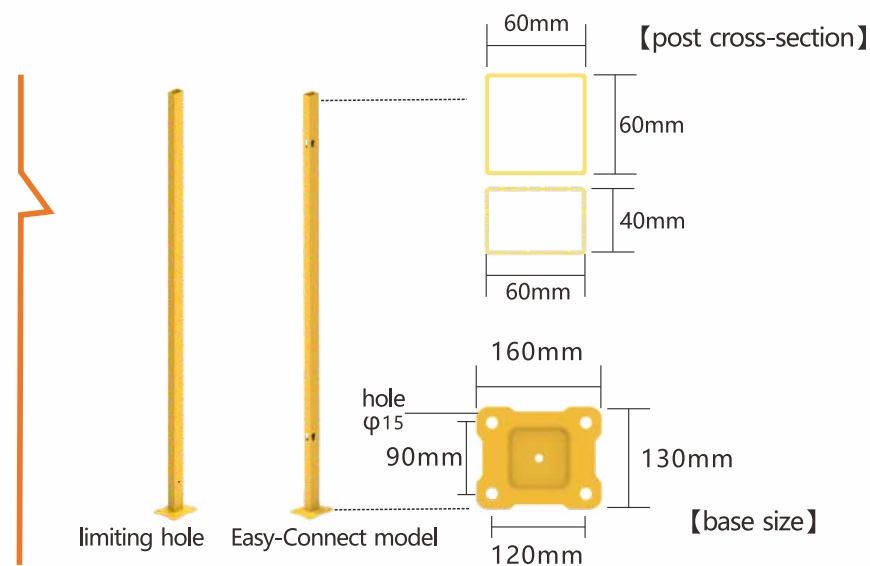
**OVERALL HEIGHT:** 1000mm-3000mm

**SURFACE TREATMENT:** Powder coating

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

**FUNCTION:** 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.

60mm 【post cross-section】

60mm

40mm

60mm

160mm

hole
φ15
90mm    130mm

limiting hole    Easy-Connect model    120mm    【base size】

# 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:** Clear Transparent

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

## PRODUCT: POLYCARBONATE SHEET

**PRODUCT COLOR:** Red, orange, yellow, green, cyan, blue (light blue/royal blue/lake blue), purple, pink, light smoke Grey, medium grey, dark grey, fluorescent yellow, fluorescent red, fluorescent green, black tea, milky white (opaque tube), etc.

**THICKNESS:** 3mm

**TRANSPARENCY:** Clear Transparent

**HIGH-LIGHTS:** Beautiful and tidy, with protective isolation, making it easy to observe the machine processing.
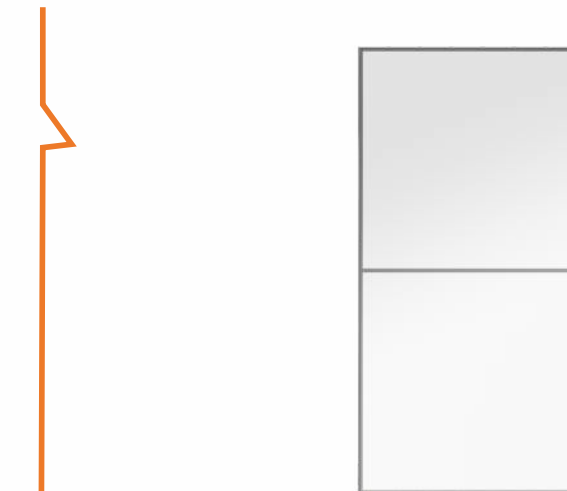
# DOOR

## PRODUCT: SINGLE HINGED DOOR

**PRODUCT MODEL:** DM01-MAX1400

**HEIGHT:** 1500mm-3000mm

**MAXIMUM WIDTH:** 1500mm
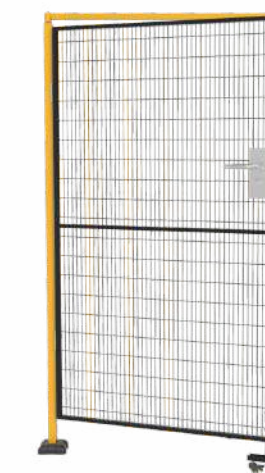
**SURFACE TREATMENT:** Powder coating

**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

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

## 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

**DESP:** 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

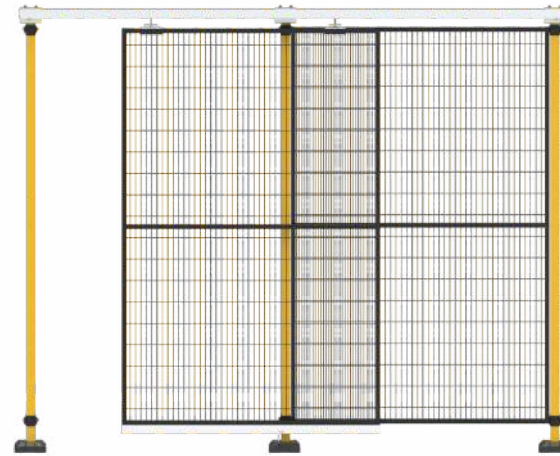**SURFACE TREATMENT:** Powder coating

**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

**DESP:** 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

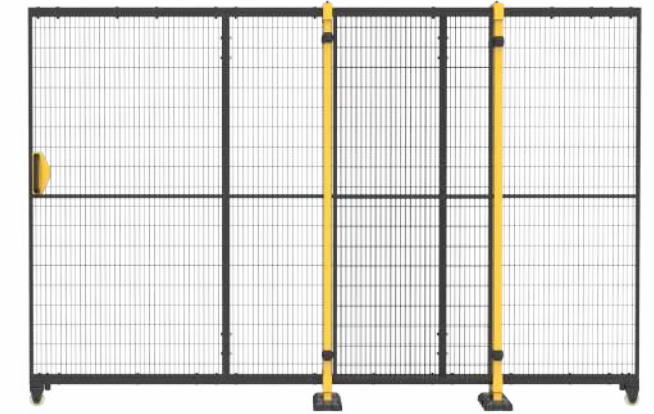**MAXIMUM WIDTH:** 6000mm

**SURFACE TREATMENT:** Powder coating

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

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

**LOCK:** Mortise lock、Safety lock

**TOP FRAME:** N/A

**DESP:** 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 *8, pulley assembly *4, post *8, mesh panel, 30x30 square pipe *4, shock pad *4, door handle *2.
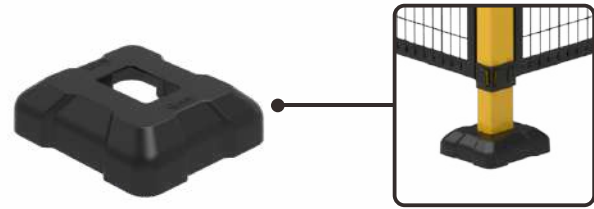
**LOCK:** Double Door Locks

**TOP FRAME:** N/A

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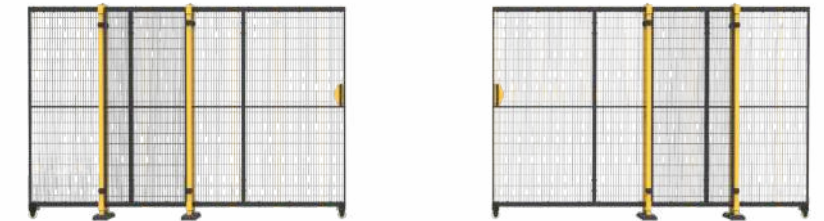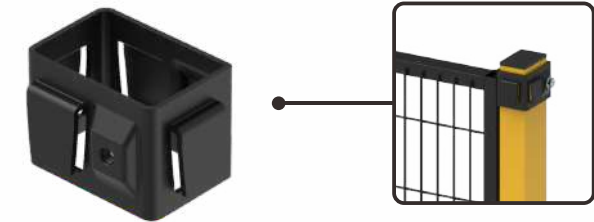
# ACCESSORIES

**PRODUCT: POST PROTECTIVE COVER**

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

MATERIAL: ABS

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

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

**PRODUCT: FRAME FIXING CLAMP**

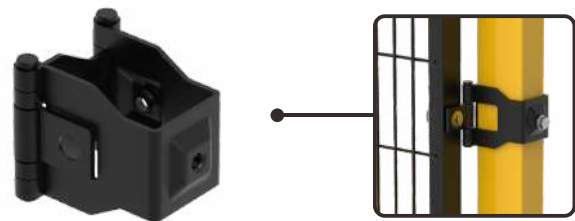PRODUCT MODEL: KKPT-40x60-BLK-SET  KKPT-60x60-BLK-SET

SURFACE TREATMENT: Electro galvanized, powder coating.

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

THICKNESS: 2.75mm

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

FEATURES: Stylish, easy to install.

**PRODUCT: COMBINED HINGE**

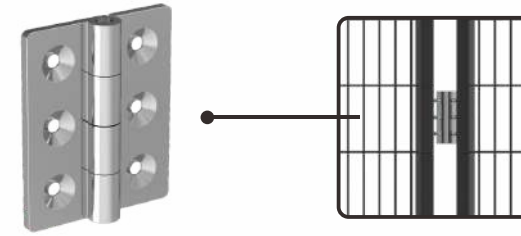PRODUCT MODEL: KKDR-HG-40x60-BLK-SET  KKDR-HG-60x60-BLK-SET

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.
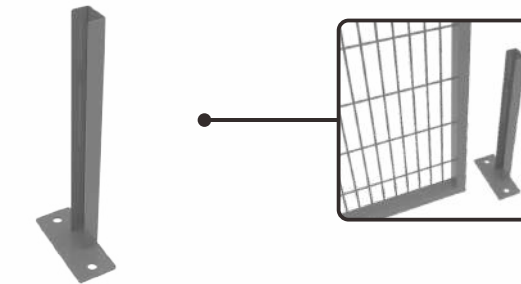
**PRODUCT: MESH PANEL DOOR HINGE**

PRODUCT MODEL: KKDR-80-65-5.5-SET

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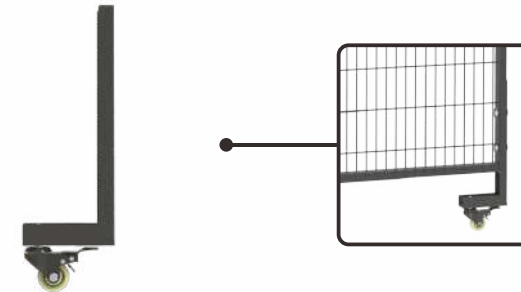
PRODUCT MODEL: KKPT-FT-BLK-SET

SURFACE TREATMENT: Powder coating (black/yellow)

DESP: Fixes the door post and mesh panel.

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
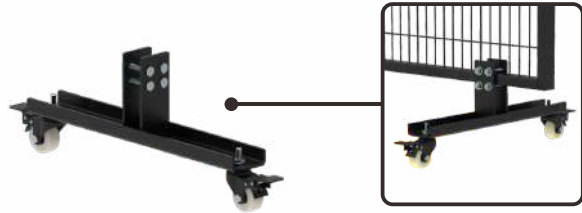
SURFACE TREATMENT: Powder Coating (black/yellow)

DESP: Supports moving doors.

THICKNESS: 2.0mm

ACCESSORIES: Support bracket x 1; brake caster x 1; M8x10 countersunk bolt x 2;
M8 flange nut x 3.

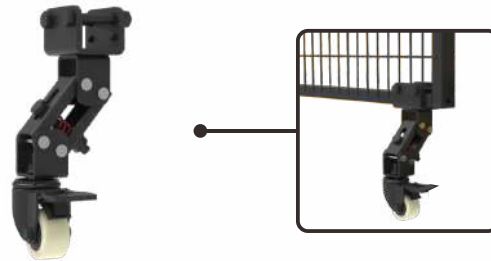FEATURES: Easy to install, helps doors move.

## PRODUCT: DOUBLE WHEEL FIXING KIT

**PRODUCT MODEL:** KKDR-FDFS-400-PC-SET      **THICKNESS:** 4.0mm

**DESCRIPTION:** Supports moving doors.

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

**ACCESSORIES:** Double wheel fixing kit x 1, 8x55 flange bolt x 4, M8 flange nut x 4, brake pulley x 2.

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

## PRODUCT: BUFFER PULLEY

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

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

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

**ACCESSORIES:** Brake wheel x1, buffer mechanism x1, fixed mechanism x1

**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 °.
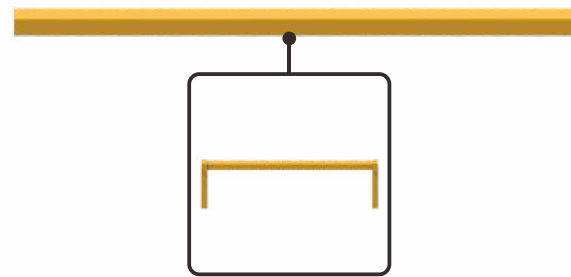
## PRODUCT: TOP FRAME
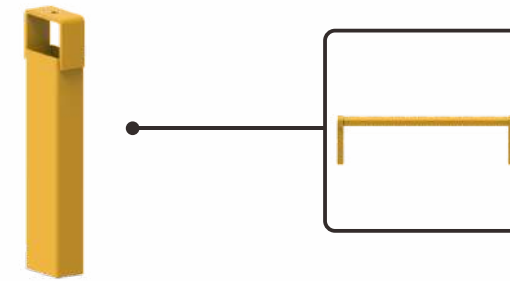
**PRODUCT MODEL:** KKDR-BEM-20x50x2000-YLW

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

**DESP:** Mounted on two posts.

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

**ACCESSORIES:** Top frame x 1.

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

## PRODUCT: TOP FRAME FIXING KIT

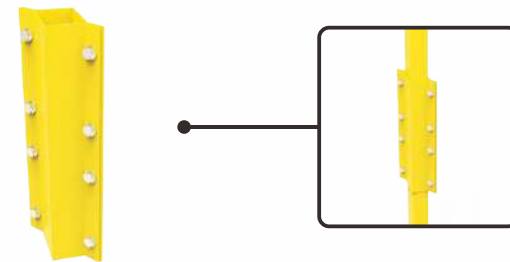**PRODUCT MODEL:** KKDR-FXS-YLW-SET

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

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

**THICKNESS:** 3.0mm

**ACCESSORIES:** Top frame fixing kit x 1; M8x30 flange bolt x 1.

**FEATURES:** Strengthful and convenient to use.
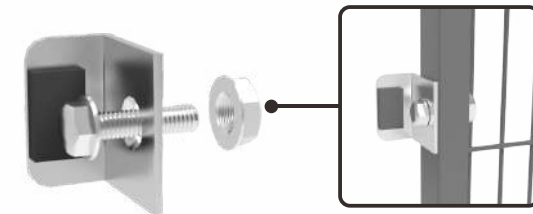
## PRODUCT: POST JOINT

**PRODUCT MODEL:** KKPT-CNT-YLW-SET

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

**DESP:** Connect posts for docking 40x60 or 60x60 columns.

**THICKNESS:** 3.0mm

**ACCESSORIES:** M8x20 flange bolt x 8; M8 flange nut x 8.

**FEATURESS:** Stylish and easy to install.

## PRODUCT: DOOR STOPPER

**PRODUCT MODEL:** KKDR-STP-EZ
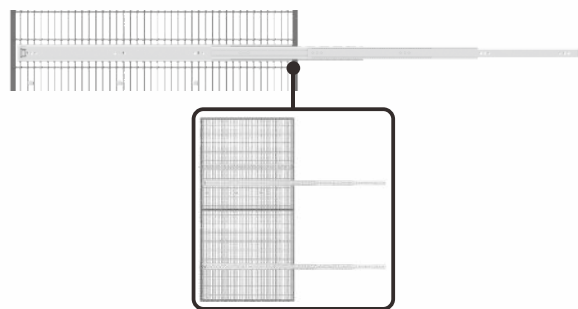
**SURFACE TREATMENT:** Electro galvanized

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

**THICKNESS:** 2.7mm

**ACCESSORIES:** Door stopper x 1; M8x30 countersunk bolt x 1; M8 flange nut x 1.

**FEATURESS:** Light and convenient.

## PRODUCT: SLIDING RAIL
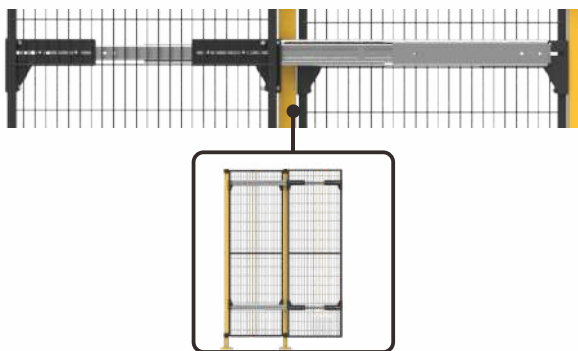
**PRODUCT MODEL:** KKDR-SDW-76x1000-EZ

**SURFACE TREATMENT:** Electro galvanized

**DESP:** Used to move doors.

**THICKNESS:** 2.5mm

**ACCESSORIES:** Sliding rail x 2

**FEATURES:** Easy to install.

## PRODUCT: GUIDE RAIL FASTENER SET
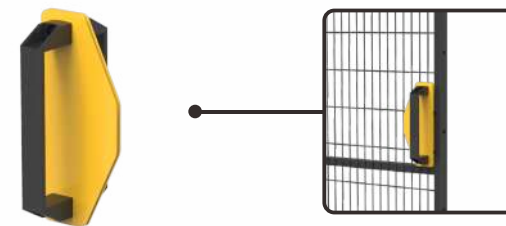
**PRODUCT MODEL:** KKBJ-SRT-BLK-SET

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

**DESP:** For sliding doors

**THICKNESS:** 4mm

**ACCESSORIES:** Sliding rail x 2

**FEATURES:** Easy to install and can be stacked on both sides for installation.
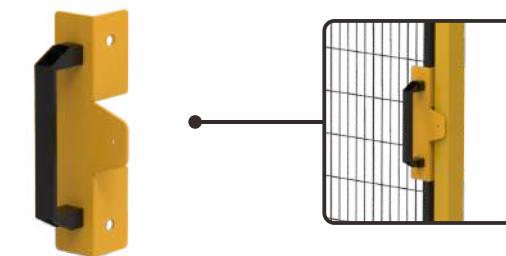
## PRODUCT: DOOR HANDLE SET

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

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

**DESP:** Used for door handles

**ACCESSORIES:** Door handle 180mm;  M6x35 fat bolt x 2;  M6 flange nut x 2

**FEATURE:** Easy to install and aesthetically pleasing, with handles on both sides for easy door opening.

## PRODUCT: MAGNETIC DOOR HANDLE FIXING KIT

**PRODUCT MODEL:** KKDR-MX-DRK-A-YLW

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

**DESCRIPTION:** Magnetic door handle for hinged doors.

**ACCESSORIES:** Door handle x 1, 6x25 fat bolt x 2, M6 flange nut x 2, fixing kit x 1, φ27x5 antiskid pad x 1, φ30x5 strong magnet x 1, M4 spherical nut x 1, 4x10 countersunk bolt x 1.

**FEATURE:** Simple structure, convenient installation, Cost-effective performance.

# PARTITIONING SOLUTION
## Aluminum alloy fence



- Hinge  P26
- Aluminum alloy profile  P24
- Base  P25
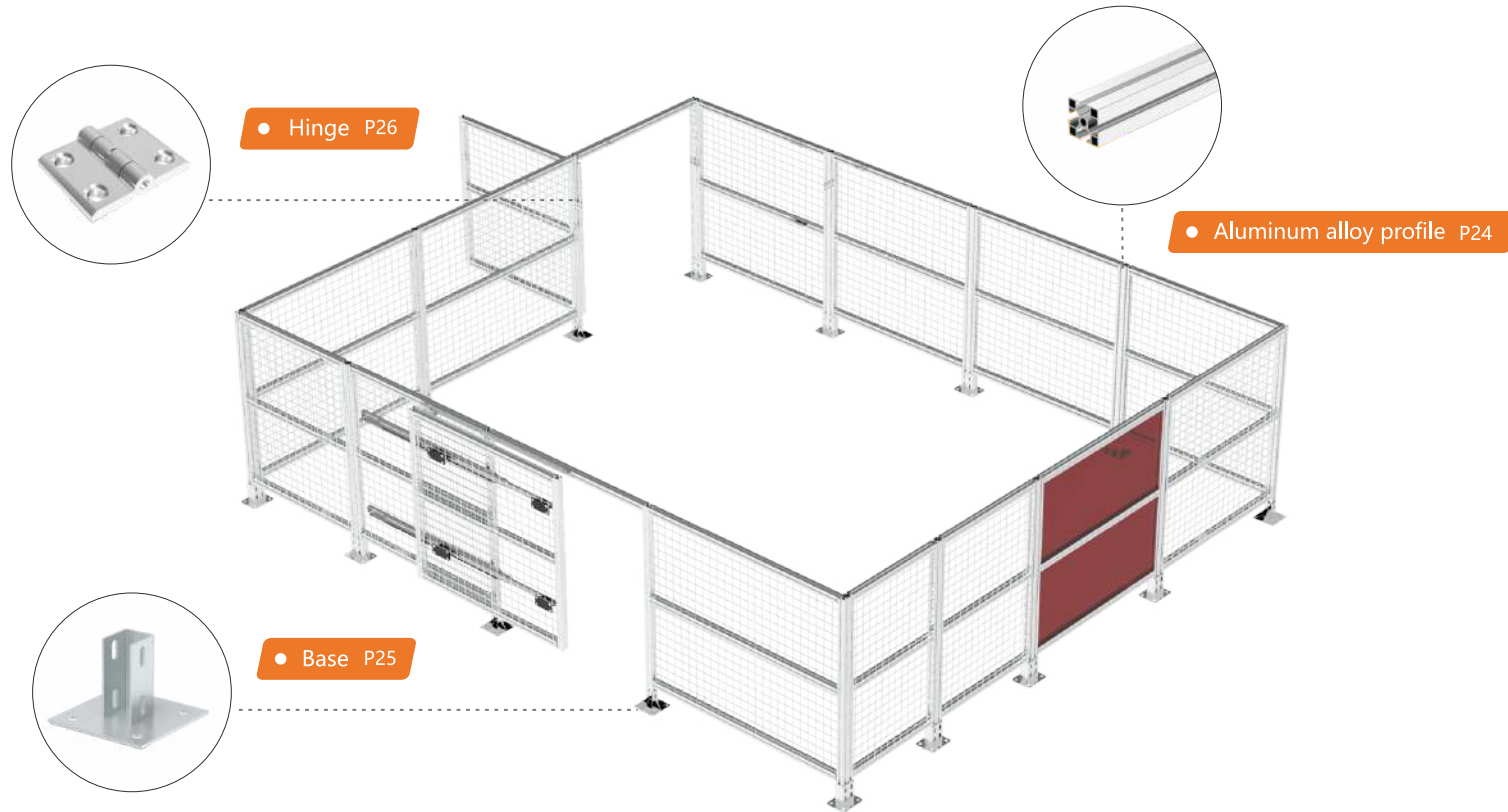
# ALUMINUM ALLOY PROFILE



**PRODUCT NAME:** 4040B Aluminum alloy
**PRODUCT MODEL:** JY-OB4040B
**SURFACE TREATMENT:** Oxide (White)



**PRODUCT NAME:** 4040C Aluminum alloy
**PRODUCT MODEL:** JY-OB4040C
**SURFACE TREATMENT:** Oxide (White)



**PRODUCT NAME:** 4040E Aluminum alloy
**PRODUCT MODEL:** JY-OB4040E
**SURFACE TREATMENT:** Oxide (White)



**PRODUCT NAME:** 8080 Aluminum alloy
**PRODUCT MODEL:** JY-OB8080
**SURFACE TREATMENT:** Oxide (White)

# ALUMINUM ALLOY
# FENCE SERIES

## ACCESSORIES

**PRODUCT: 40A FOUR-HOLE BASE PLATE (40x80)**
**PRODUCT MODEL:** EFPT-80KK-EZ-SET
**DESP:** Used to fix aluminum post, includes 4 sets of M10x70 expansion anchors.

**PRODUCT: ELECTRO GALVANIZED X40A POST BASE**
**PRODUCT MODEL:** EFPT-40KK-EZ-SET
**DESP:** Used to fix aluminum post, includes 4 sets of M10x70 expansion anchors.

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

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

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

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

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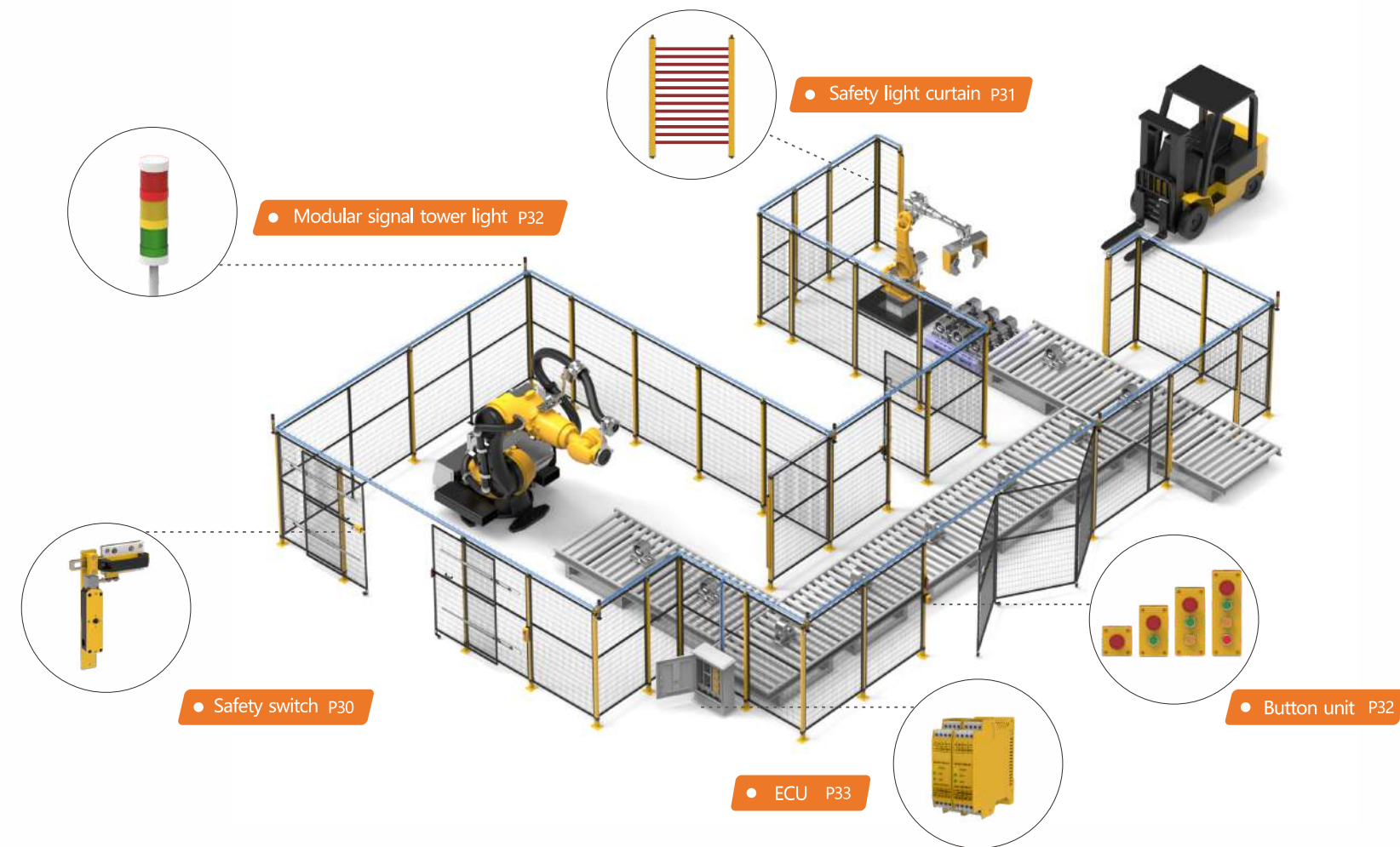DESP: Used to fix fence base and connectors.



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



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

# INTERLOCK PROTECTION SOLUTIONS



- Safety light curtain  P31
- Modular signal tower light  P32
- Safety switch  P30
- ECU  P33
- Button unit  P32

# PRODUCT ADVANTAGE

## Interlocking Protection Series

① Safe, stable, reliable and less prone to error.

② System and function can be castomized on demand.

③ Support device information exchange between devices to improve safety performance.
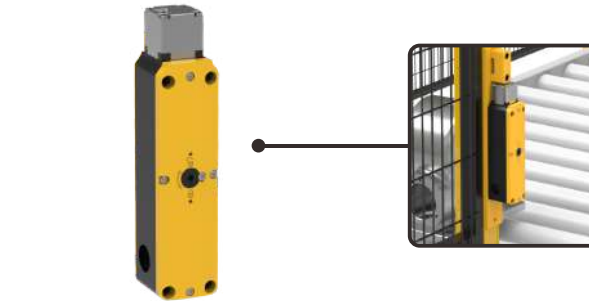
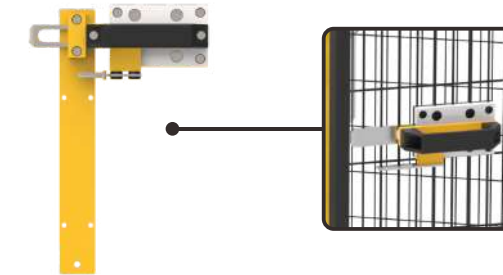| PRODUCT: SAFETY SWITCH |
| --- |
| **PRODUCT MODEL:** KKCK-WCPZ-SFLOCK001 |
| **DESCRIPTION:** A safety switch with safety lock function for gate position detection. |
| **HOLDING FORCE:** 1500N, contact: 4 normally closed, voltage: 24 V. |
| **INTERLOCK CLASSIFICATIONS:** Up to PLd. |
| **ACCESSORIES:** 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 |



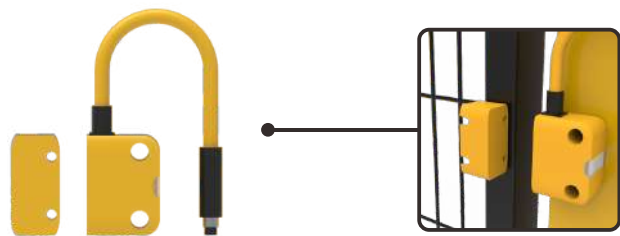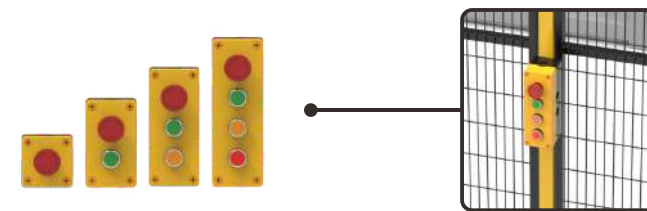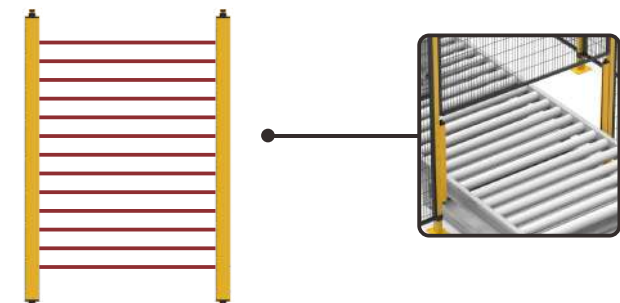| PRODUCT: SIMPLE BOLT LOCK (TYPE B) |
| --- |
| **PRODUCT MODEL:** KKCK-LCK-B-SET |
| **DESCRIPTION:** Door lock latch with optional Schneider safety switch which outputs signal when plugging and unplugging. |
| **SURFACE TREATMENT:** Electro galvanized and power coating. |
| **THICKNESS:** 4mm |
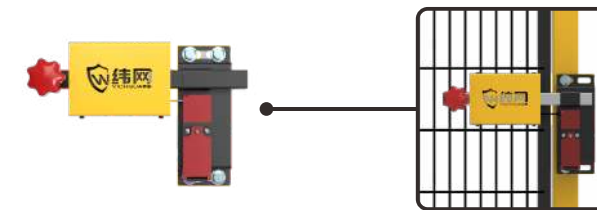
**PRODUCT: MAGNETIC SAFETY SWITCH**

**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.
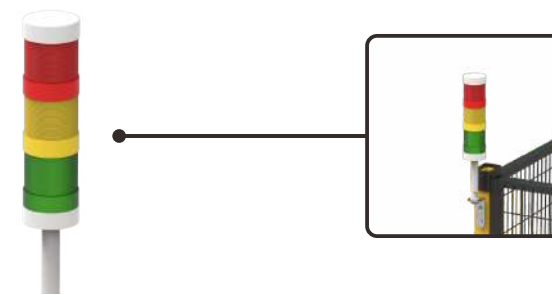
**PRODUCT: BUTTON UNIT**

**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 SIGNAL TOWER 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.
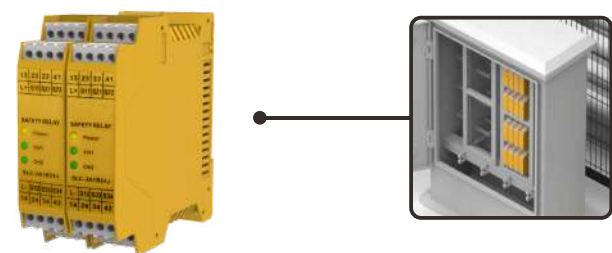
**PRODUCT: SAFETY RELAY**

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

**DESCRIPTION:** Can be connected to emergency stop button, limit switch, start button, photoelectric protection device and pushbotton 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.
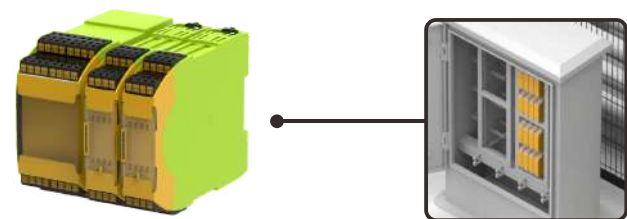
**PRODUCT: SAFETY PLC**

**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.
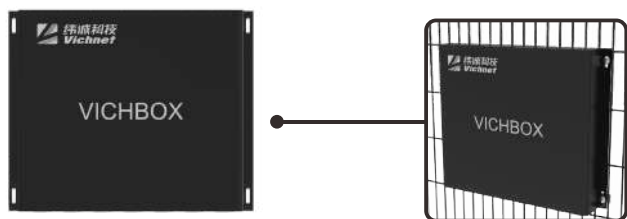
**PRODUCT: PRE-PROGRAMMED MULTI-FUNCTION CONTROL SYSTEM**

**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.

# INTELLIGENT LOCK KNOWLEDGE



## ➡ GUARD LOCKING

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.

Intelligent guard locking 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.
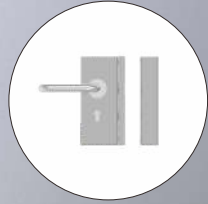
## ➡ GUARD LOCKING TYPES

**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 SOLUTION



- Mechanical lock  P38
- Intelligent IoT lock (Type A)  P35
- Face recognition system  P39

## PRODUCT ADVANTAGE

### 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.

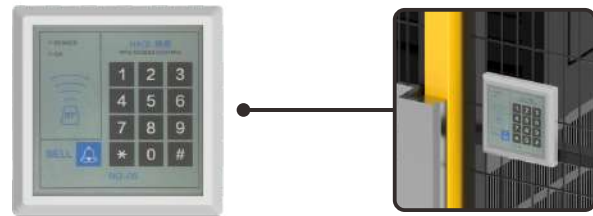3. Different access management solutions can be chosen according to different application scenarios.

# INTELLIGENT LOCK CONTROL SYSTEM COMPONENTS
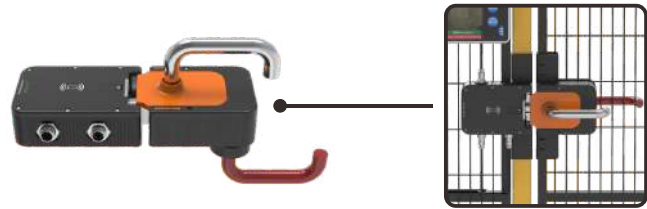


## FACE RECOGNITION SYSTEM



## ACCESS CONTROL SYSTEM



**PRODUCT: SMART LOTO SAFETY LOCK**

PRODUCT MODEL: ZNS-A-SET

**DESP:** 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.

**PRODUCT: FACE RECOGNITION SYSTEM**

MODEL: AIB-FR-A-SET

**Description:** Face recognition module for assessment management

**Features:** 1. Basic panel functions: indicate safety lock status, unlock countdown, display safety door status, count people in the danger zone, 2. Face recognition works well even with personal protective equipment covering part of the face. 3. New employee registration: support batch import of employee photos and local upload.

**PRODUCT: MAGNETIC COMBINATION LOCK**

PRODUCT MODEL: KKCK-MCLCK-A-SET

**DESCRIPTION:** A magnetic lock for access control.

**FEATURE:** Supports card swiping and password, can be connected to access control systems.

# DOOR LOCK



**PRODUCT: MECHANICAL LOCK(TYPE A)**

**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.



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

**MODEL:**  KKCK-LCK-A-SET
**APPLICABLE TO:** Single hinged door, double hinged door, double open sliding door.
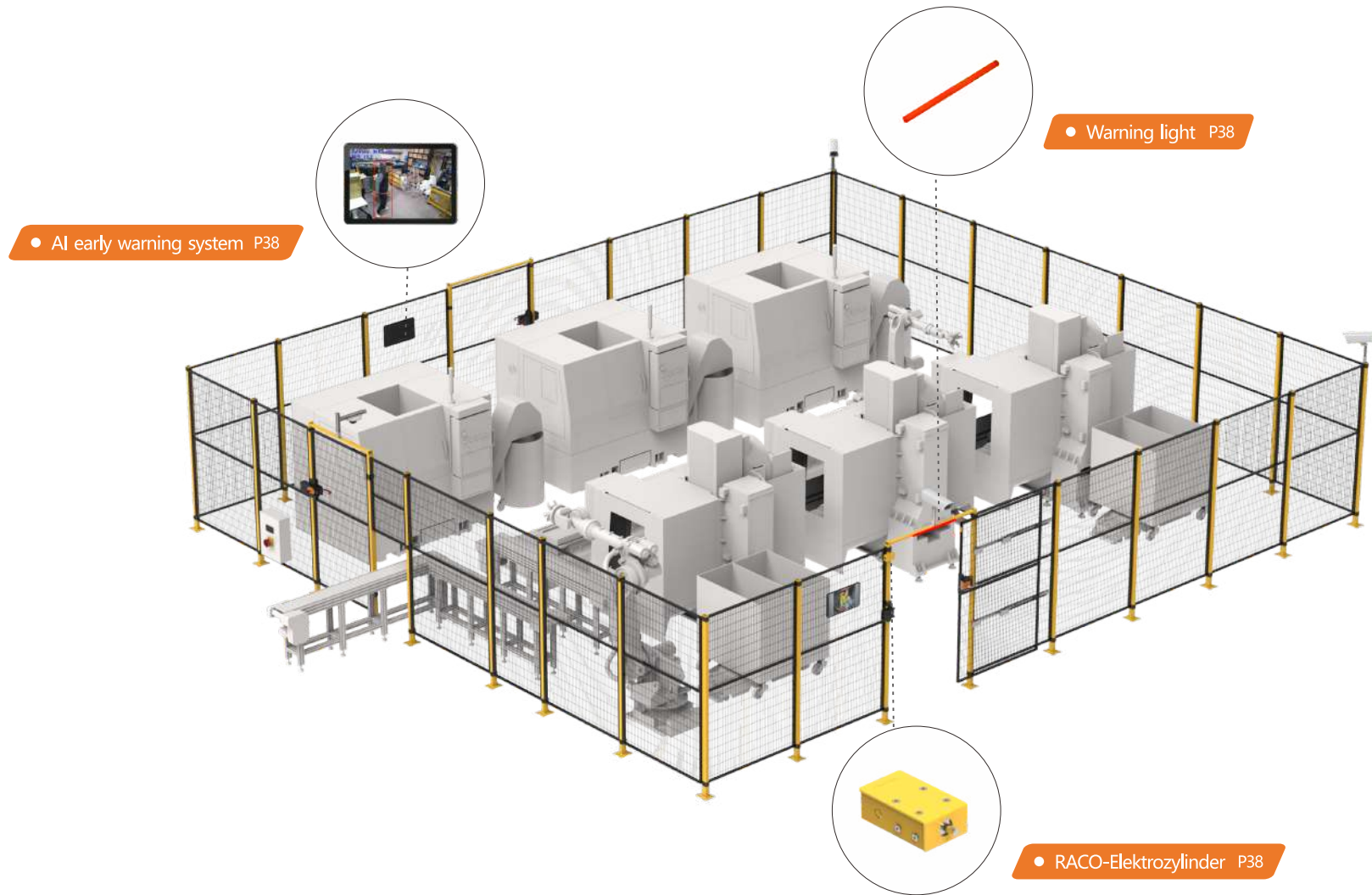**USES:** Door lock latch for machine guarding, can be used with anti-theft padlock.



**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.

# SAFETY ALERT SOLUTIONS



- AI early warning system  P38
- Warning light  P38
- RACO-Elektrozylinder  P38

## PRODUCT ADVANTAGE

### Safety Early Waring

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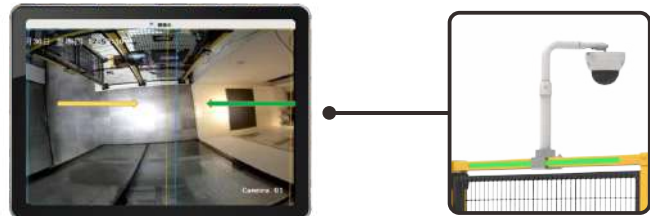
## PRODUCT: AI PERSONNEL DETECTION SYSTEM IN HAZARDOUS AREAS

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

**DESP:** 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.

**FEATURE:** 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

**DESP:** 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.
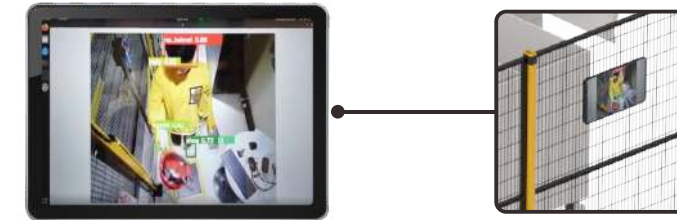
## PRODUCT:PPE IDENTIFICATION TERMINAL

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

**DESP:** 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.

**FEATURE:Efficient Identification:** Support identification of wearing safety helmets, masks, gloves, and earmuffs.
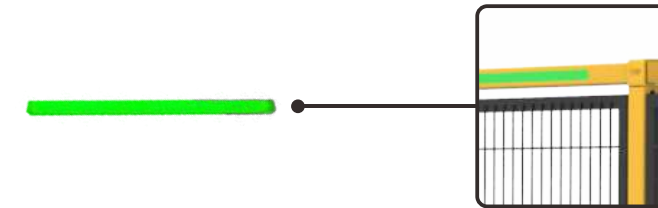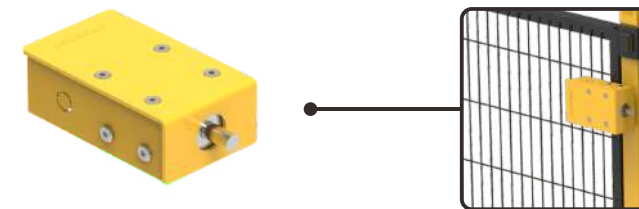
## PRODUCT: WARNING LIGHT

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

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

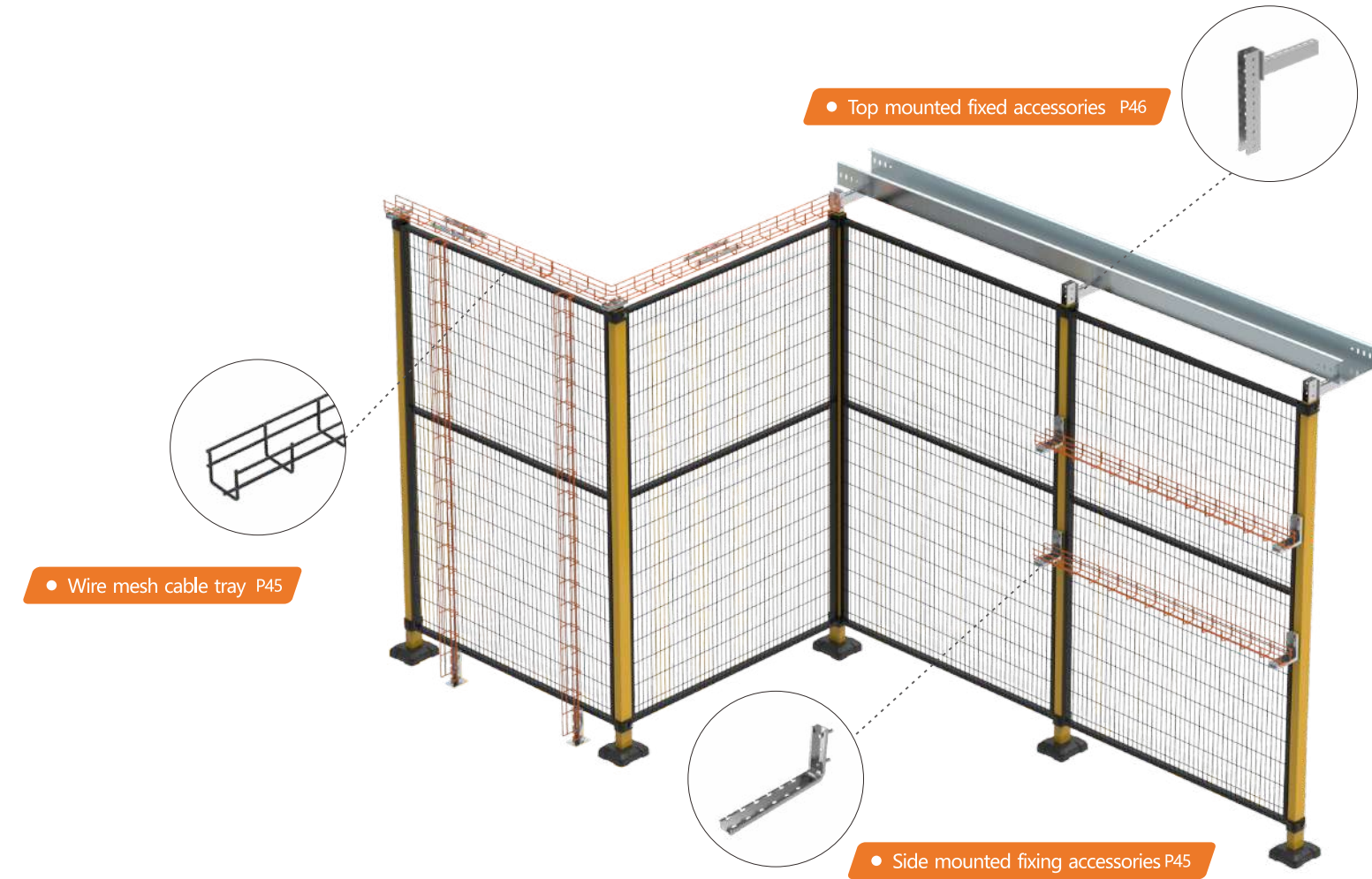**FEATURE:** 772mm long, 24V common anode power supply

## PRODUCT: RACO-ELEKTROZYLINDER

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

**DESP:** 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.

**FEATURE:** 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 * 34 * 54mm.

# CABLE MANAGEMENT SOLUTIONS



- Top mounted fixed accessories   P46
- Wire mesh cable tray  P45
- Side mounted fixing accessories P45

## PRODUCT ADVANTAGE

### Advantages of Grid Bridge

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 ≥3750N.

### Advantages of slot type bridge

1. Fully enclosed structure with good shielding performance.

2. Strong corrosion resistance: coating is superior to industry standards.

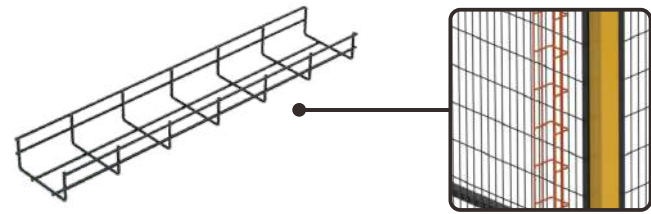3. Simple construction, flexible wiring, and beautiful appearance.
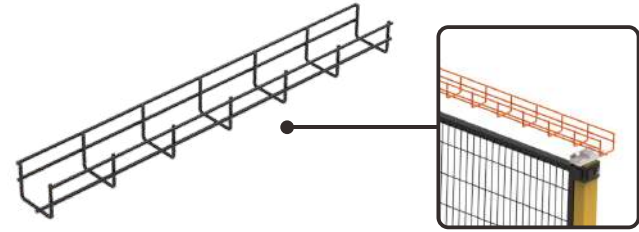
## PRODUCT: WIRE MESH CABLE TRAY

**PRODUCT MODEL:** CM50x50-3000-5.0

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

**FEATURE:** Easy to install and cut. straight sections can be modified to produce bends, tees, crosses or reducers.
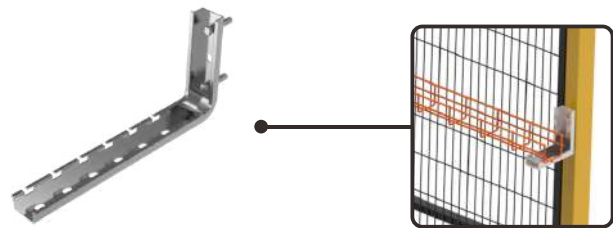
## PRODUCT: WIRE MESH CABLE TRAY

**PRODUCT MODEL:** CM50x100-3000-5.0

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

**FEATURE:** 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.

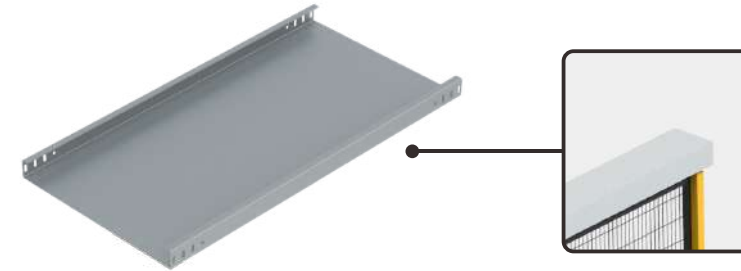**FEATURE:** Simple installation and stable structure.
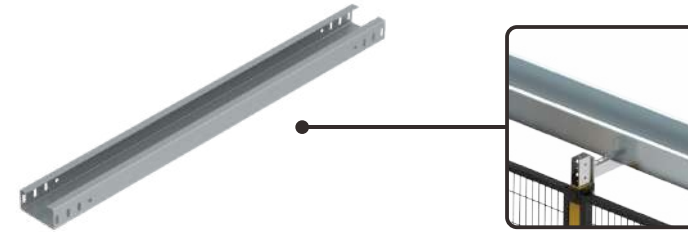
## PRODUCT: CABLE TRUNKING

**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.
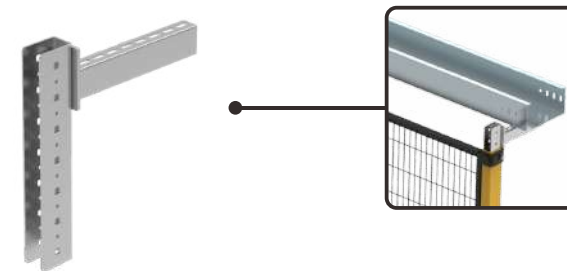
**FEATURE:** Cost-effective, dustproof.

## 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.

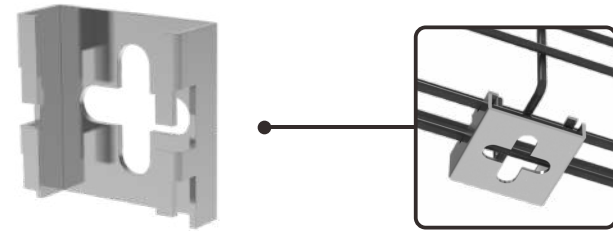**FEATURE:** Cost-effective, dustproof.

## PRODUCT: SLOT TYPE BRIDGE FIXING PARTS

**PRODUCT MODEL:** KKBJ-300x54x34-2.5-BLK

**DESCRIPTION:** Install L-shaped fasteners for the grid bridge and secure them to the columns.

**FEATURE:** 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.

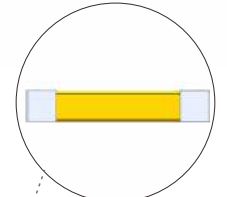FEATURE: Simple installation and stable structure.



## PRODUCT: 5MM GROUNDING COPPER BOLTS

PRODUCT MODEL: PJ-EHB-5

DESCRIPTION: Grounding components used every 10 meters on wire mesh cable trays.
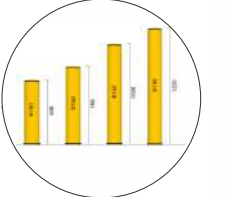
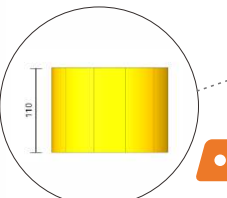FEATURE: Simple installation and good conductivity.

# IMPACT PROTECTION SOLUTION
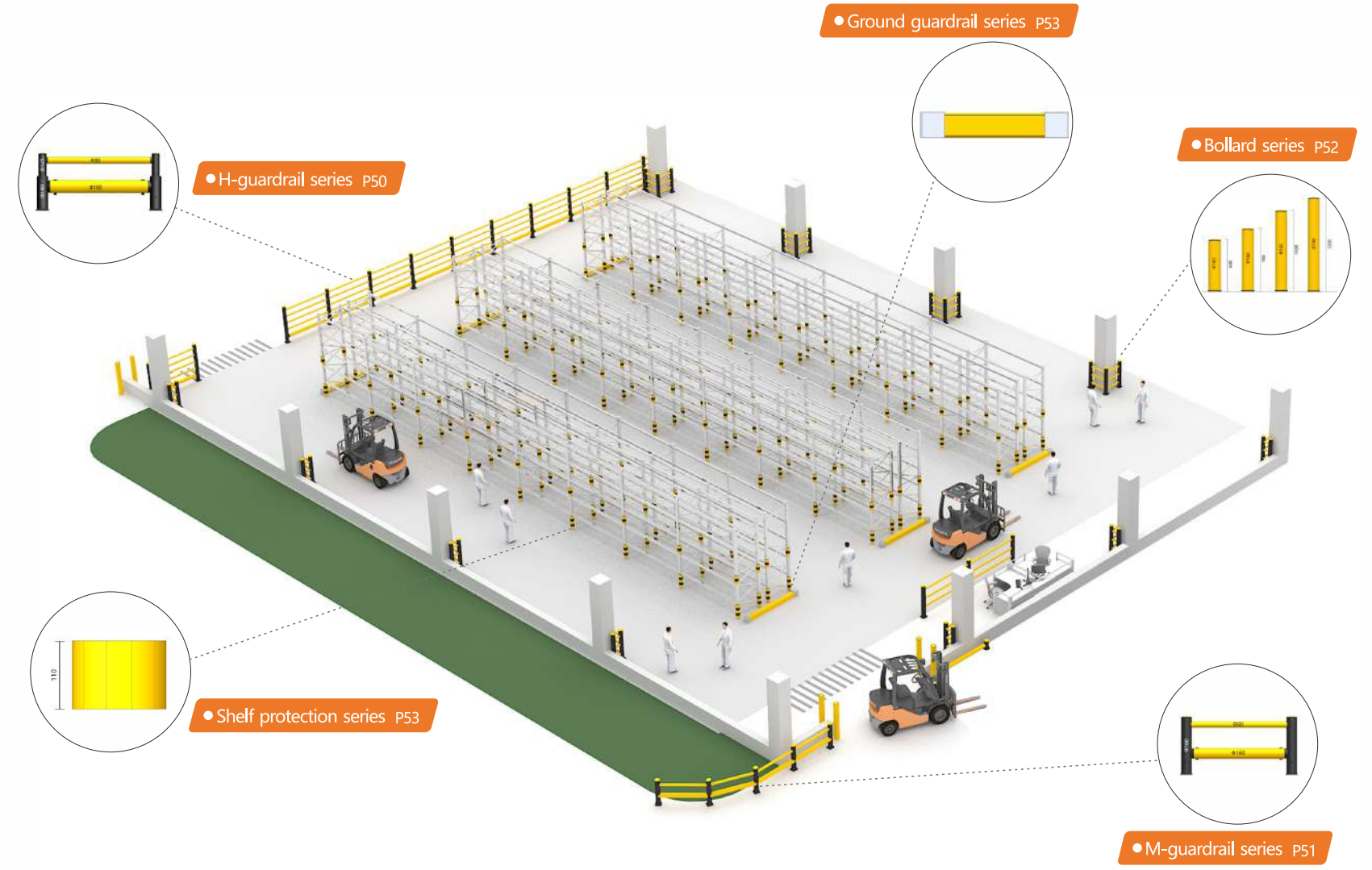


• Ground guardrail series  P53

• Bollard series  P52

• H-guardrail series  P50

• Shelf protection series  P53

• M-guardrail series  P51

# PRODUCT ADVANTAGE

## 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 φ180 posts, one φ180 beam and fixing kit.



**① region**
**4823 Joules**
Absorbable impact energy: 5 Tonne vehicle at 5.0 km/h

**② region**
**1459 Joules**
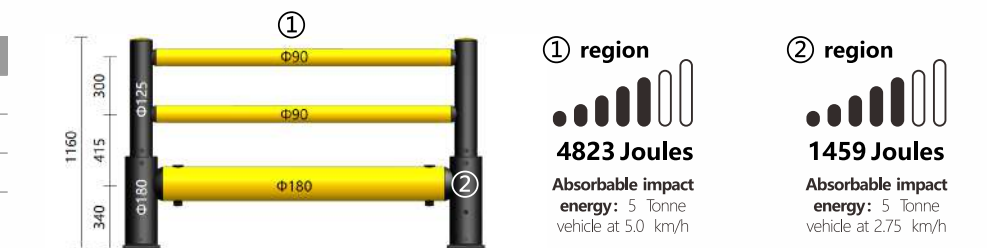Absorbable impact energy: 5 Tonne vehicle at 2.75 km/h

## ■ 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 φ180 beam,one φ90 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 φ180 beam,two φ90 beams and fixing kit.



**① region**
**4823 Joules**
Absorbable impact energy: 5 Tonne vehicle at 5.0 km/h

**② region**
**1459 Joules**
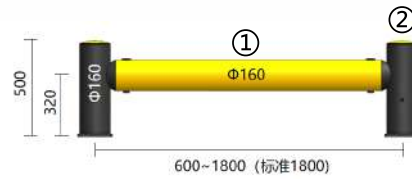Absorbable impact energy: 5 Tonne vehicle at 2.75 km/h

# 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 φ160 posts, one φ160 beam and fixing kit.



① region
**4167 Joules**
Absorbable impact
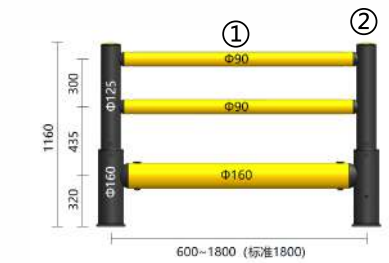energy: 3 Tonne
vehicle at 6.0 km/h

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 φ160 posts, one φ160 beam,one φ90 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 φ160 beam,two φ90 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
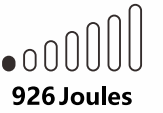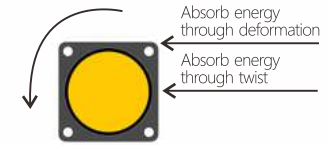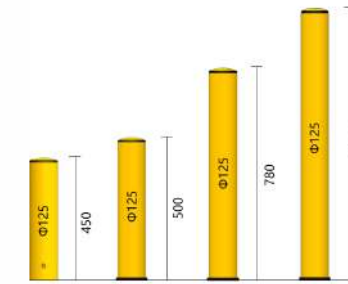vehicle at 3.5 km/h

# 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 φ125 bollard and fixing kit.



Absorb energy through deformation
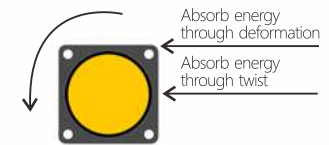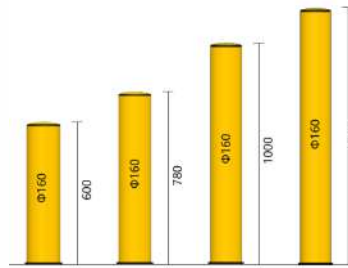Absorb energy through twist

**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 φ160 bollard and fixing kit.



Absorb energy through deformation
Absorb energy through twist

**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 φ180 bollard and fixing kit.



Absorb energy through deformation
Absorb energy through twist

**3906 Joules**
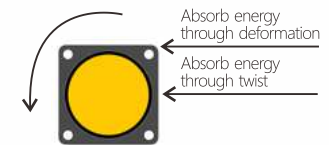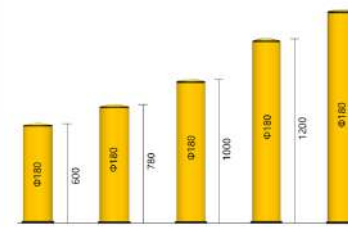
Absorbable impact
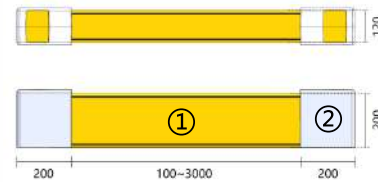energy: 5.0 Tonne
vehicle at 4.5 km/h

# 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
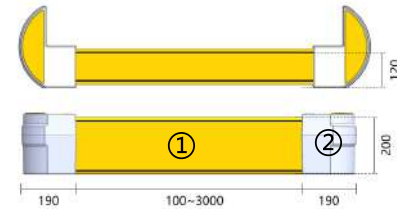vehicle at 5.5 km/h

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
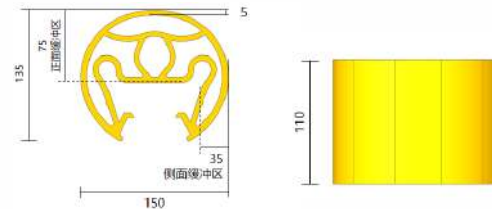energy： 3 Tonne
vehicle at 5.5 km/h

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

# 03

# APPLICATION

## Application Cases

Data Centre

Intelligent Warehouse

Panel Furniture

Chemical Industry

Food Packaging

Automobile Production

Rubber Product

New Energy Resources

# DATA CENTRE



# FOOD PACKAGING

# FOOD PACKAGING

# INTELLIGENT WAREHOUSE
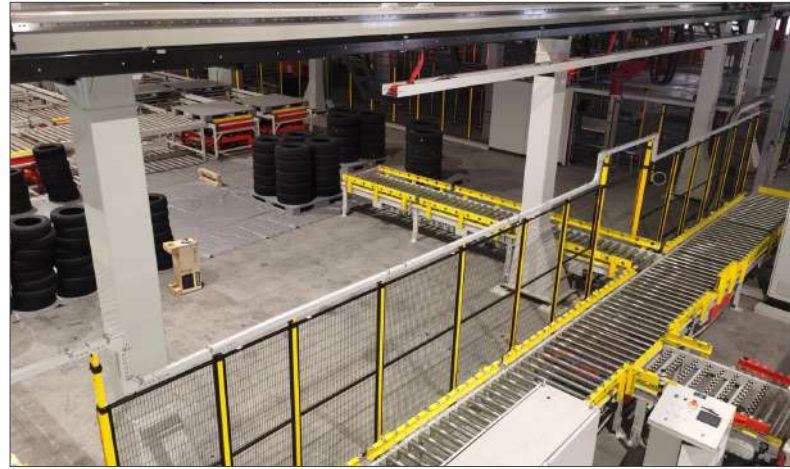
# AUTOMOBILE PRODUCTION



# PANEL FURNITURE

# RUBBER PRODUCT









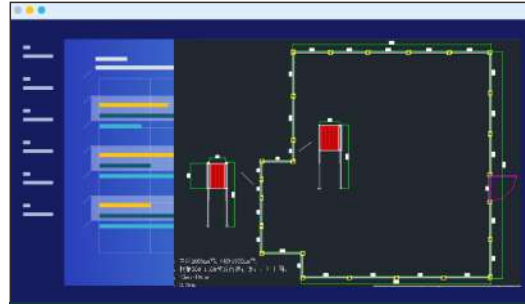# CHEMICAL INDUSTRY

## NEW ENERGY RESOURCES

# 04
## SERVICE

Pre-sale Service                    Packaging and Delivery

After-sale Service

## Pre-sale Service



Site measurement service



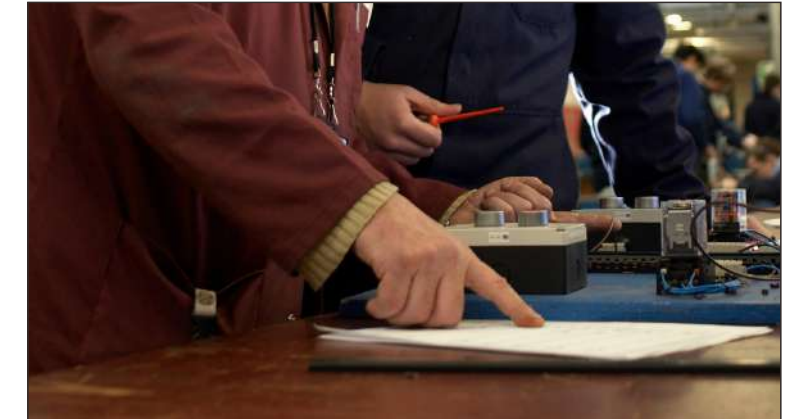Professional fence protection solution design



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 Services



Detailed installation instructions