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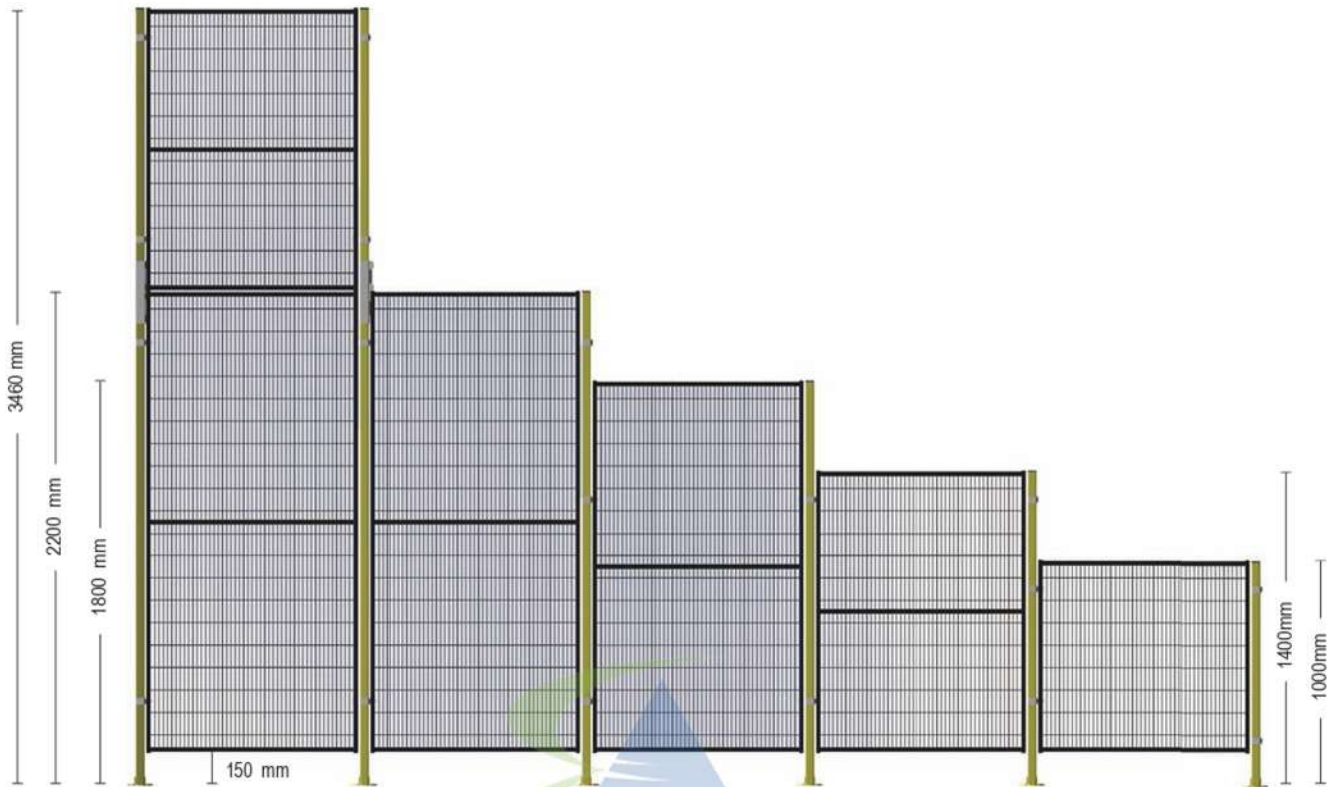
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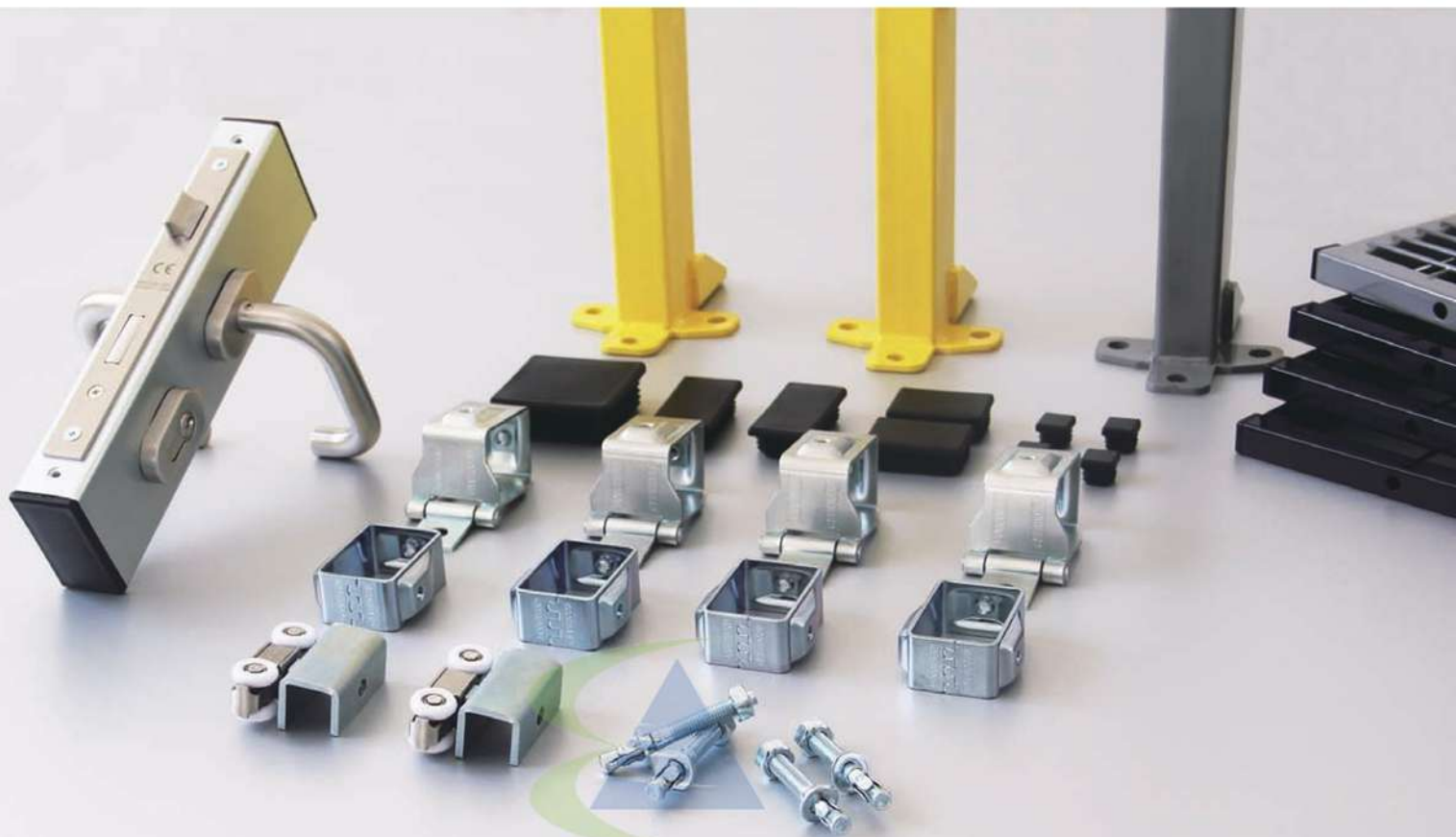


The standard height of our guard is 1000mm, 1400mm, 1800mm and 2200mm(combined grille unit of 3460mm height is also available). The distance from the floor is 150mm, which is designed to clean the production line easily. There are 8 types of width from 200mm to 1500mm. The column and grille unit can be specially made according to your requirement. We have column, grille unit and installation accessories with standard sizes in stock for quick delivery. The grille unit and column are powder coated. Standard colors: yellow(RAL1018), black(RAL9005), gray(RAL7037). We can also do the color you need. Special colors: white(RAL9016), red(RAL3020), blue(RAL5005). (The delivery time will be longer for special color and the cost will be a little higher)



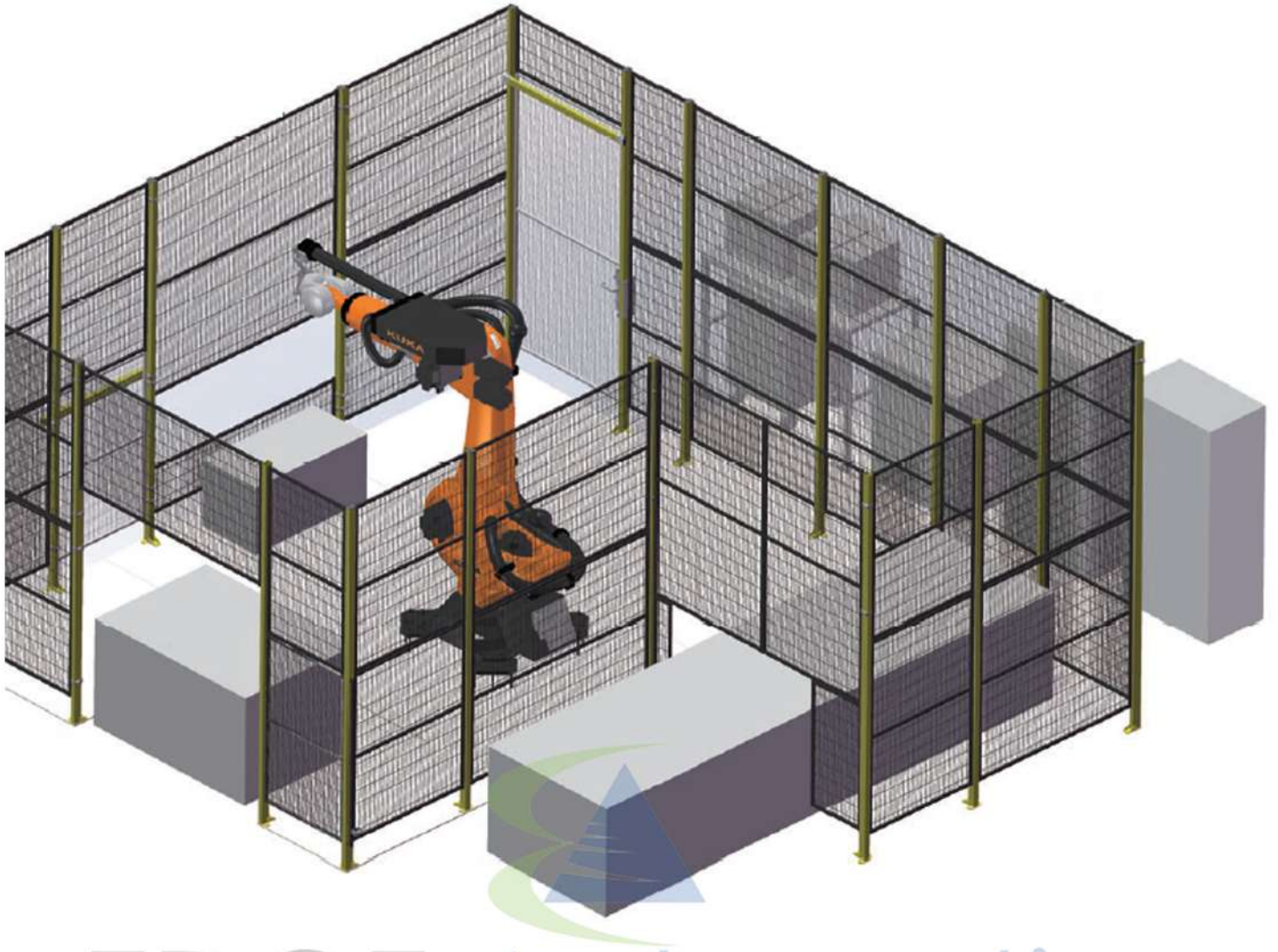
■ Already passed SGS impact inspection (IN-DL-5302-17030-2)

Ecoguard provides safe protection for personnel and equipment, which prevents falling out of materials and other parts. The machine guard can bear max. 1600J impact force. The impact test uses 4060 series 2200mm column and 15mm width grille unit. Our R&D department continues their efforts in optimizing the product system and solutions.



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Our products are widely from simple partitions to flexible, safe and stable machine protection solutions. Ecoguard provides the customers with high quality products for different areas. Our grille units can be combined with fixed system according to customers requirement. With the special door lock and safety switch, we can easily build a complete and integrated machine protection system.



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Rigid welding method

All steel wires are welded to the inner side of the pipe to form the stable steel grille panel with the frame.



Special pipe design

The horizontal frames of the grille panel are special pipes. The special shape is designed to ensure solid welding and flat panel.



40 series column connector(straight connection)



40 series column connector(L connection)



Square cap



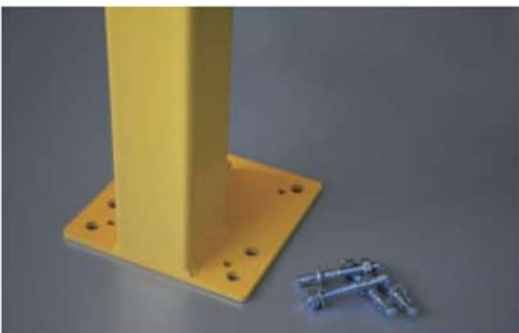
40 series column hinge connector



Door frame connection



40 series column



80 series column



40 series column base cap

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ST2 panel support base A



Edge cover



Castor support



Sliding door limit part



Sliding door guide



Hinged door key lock



Sliding door key lock



General lock

Practical examples



- 1~3 Protection guard for robot work station
- 4 Safe guard for special equipment
- 5 Protection guard for storeroom
- 6 Protection guard for conveying line

ST20 series grille panel

ST20 series grille panel is 20x100mm steel wire gridding welded to 20x20mm steel pipe. All the steel wires are welded to the frame pipe to form a stable, robust, safe and durable panel. ST20 series panel can bear max. 1600J impact force. The small gridding size is to get the 120mm safe distance, conforming to European mechanical code(206/42/EC).

There are 8 types of width from 200mm to 1500mm. The standard height is 1000mm, 1400mm, 1800mm and 2200mm.

ST20 series grille panel is powder coated. Standard colors: yellow(RAL1018), black(RAL9005), gray(RAL7037).

We can also do the color you need. Special colors: white(RAL9016), red(RAL3020), blue(RAL5005). (The delivery time will be longer for special color and the cost will be a little higher)



■ The standard grille panel in stock is black(RAL9005).



40 series column

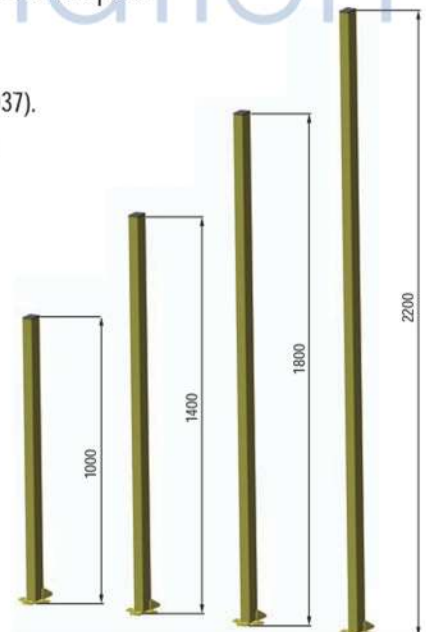
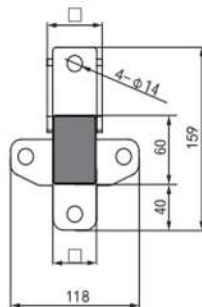
The column is 40x60 carbon steel square pipe welded to base plate. There are holes on four edges of the base plate. The column is fixed on the floor with M10 expansion bolts. The structure is stable and robust. The top of the column is covered with black PE end cap.

40 series column is powder coated. Standard colors: yellow(RAL1018), black(RAL9005), gray(RAL7037).

We can also do the color you need. Special colors: white(RAL9016), red(RAL3020), blue(RAL5005). (The delivery time will be longer for special color and the cost will be a little higher)



■ The standard column in stock is yellow(RAL1018)



Standard column	series	
Height H	Product code	Weight (kg)
1000	13 403 100	2.8
1400	13 403 200	3.6
1800	13 403 300	4.5
2200	13 403 400	5.4

- Each column is supplied with 3 pieces of M10*80 expansion bolts.
- The 40 series column base cap is optional.

80 series column

80 series column is reinforced structure, formed with 80x80 carbon steel square pipe welded to base plate.

The base plate is with 6- ϕ 14 holes and 4- ϕ 7 holes. The column is fixed on the cement floor or iron plate etc. The application location is flexible and the structure is stable and robust.

The top of the column is covered with black PE end cap.

80 series column is powder coated. Standard colors: yellow(RAL1018), black(RAL9005), gray(RAL7037).

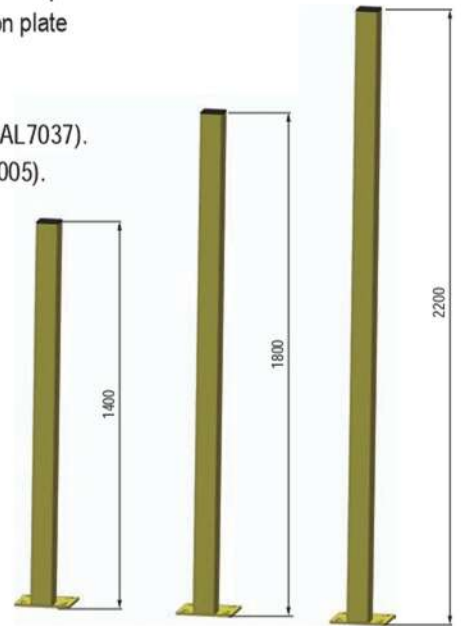
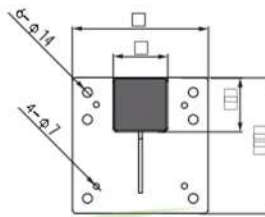
We can also do the color you need. Special colors: white(RAL9016), red(RAL3020), blue(RAL5005).

(The delivery time will be longer for special color and the cost will be a little higher)



■ The standard column in stock is yellow(RAL1018)

Standard column	series	
Height H	Product code	Weight (kg)
1400	13 404 200	14.1
1800	13 404 300	17.0
2200	13 404 400	19.9



■ Each column is supplied with 4 pieces of M10*80 expansion bolts.

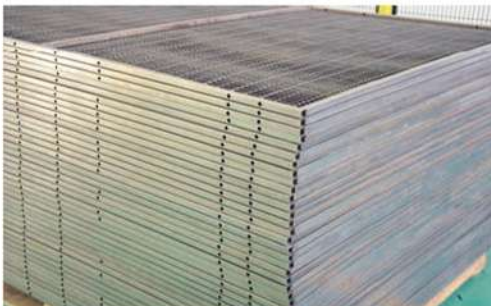
Manufacturing process



20x100mm steel wire gridding



resistance welding



20 series steel wire gridding panel (semi-finished product)



20 series steel wire gridding panel (finished product)

Grille panel

The grille panel is composed of frame square pipe and steel wires. The grille panel is the essential unit of the whole protection system. Steel wire distance 20x100mm, diameter 3mm, frame square pipe 20x20mm, connection hole diameter ϕ 10mm.

Standard grille panel 1000 series

Height H	Width W	Product code	Weight (kg)
850	200	13 111 102	1.6
	300	13 111 103	2.0
	500	13 111 105	2.8
	700	13 111 107	3.6
	800	13 111 108	4.0
	1000	13 111 110	4.8
	1200	13 111 112	5.5
	1500	13 111 115	6.7

Standard grille panel 1400 series

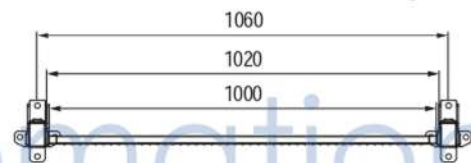
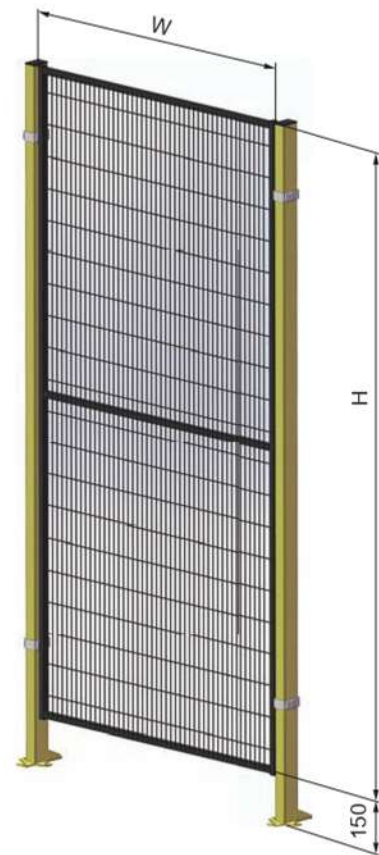
Height H	Width W	Product code	Weight (kg)
1250	200	13 111 202	2.4
	300	13 111 203	3.0
	500	13 111 205	4.1
	700	13 111 207	5.3
	800	13 111 208	5.9
	1000	13 111 210	7.0
	1200	13 111 212	8.2
	1500	13 111 215	9.9

Standard grille panel 1800 series

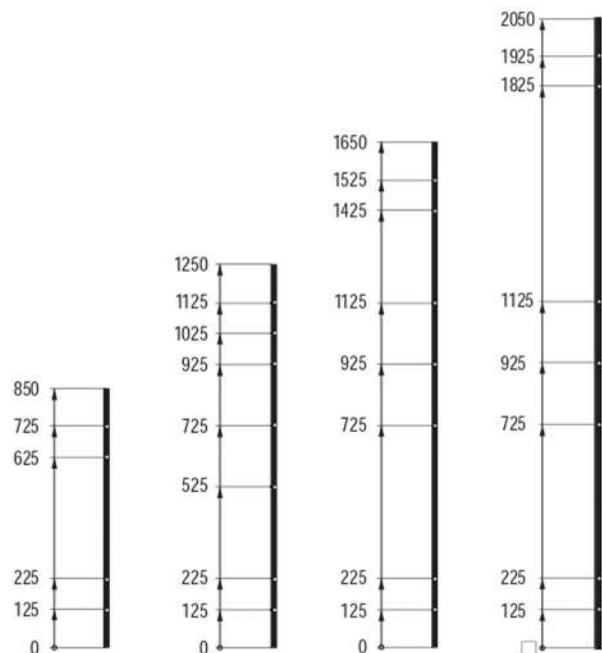
Height H	Width W	Product code	Weight (kg)
1650	200	13 111 302	3.0
	300	13 111 303	3.8
	500	13 111 305	5.2
	700	13 111 307	6.6
	800	13 111 308	7.3
	1000	13 111 310	8.8
	1200	13 111 312	10.2
	1500	13 111 315	12.3

Standard grille panel 2200 series

Height H	Width W	Product code	Weight (kg)
2050	200	13 111 402	4.1
	300	13 111 403	4.5
	500	13 111 405	6.2
	700	13 111 407	7.9
	800	13 111 408	8.8
	1000	13 111 410	10.5
	1200	13 111 412	12.2
	1500	13 111 415	14.7



■ 1000mm width grille panel for example



Single hinged door

The hinged door is composed of column, grille panel, door frame, hinge and lock etc.

It is optional for lock with or without key, or general lock used with electrical switch to ensure a more stable and safe protection guard system.

Standard hinged door - 1400 series

Height H	Width W	Product code L	Product code R	Weight kg
1250	700	13 211 110	13 212 110	7.5
	800	13 211 120	13 212 120	8.3
	1000	13 211 130	13 212 130	9.7
	1200	13 211 140	13 212 140	11.3
	1500	13 211 150	13 212 150	13.5

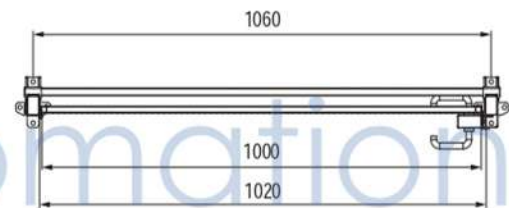
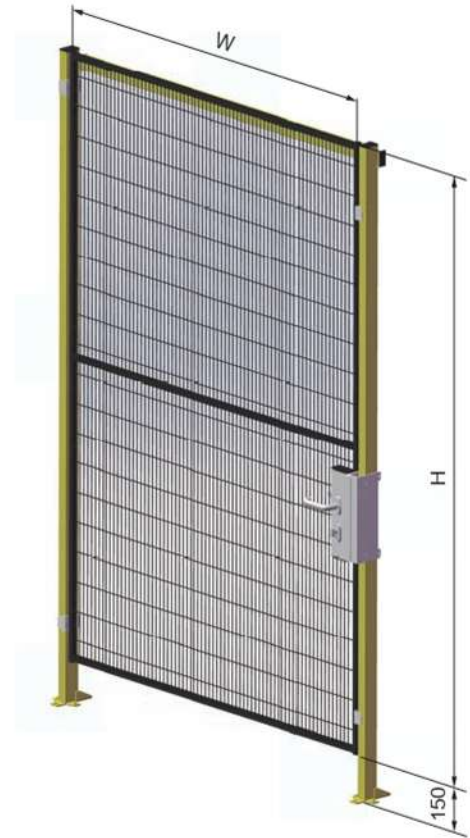
Standard hinged door - 1800 series

Height H	Width W	Product code L	Product code R	Weight kg
1650	700	13 211 210	13 212 210	8.8
	800	13 211 220	13 212 220	9.7
	1000	13 211 230	13 212 230	11.5
	1200	13 211 240	13 212 240	13.3
	1500	13 211 250	13 212 250	15.9

Standard hinged door - 2200 series

Height H	Width W	Product code L	Product code R	Weight kg
2050	700	13 211 310	13 212 310	10.1
	800	13 211 320	13 212 320	11.2
	1000	13 211 330	13 212 330	13.2
	1200	13 211 340	13 212 340	15.3
	1500	13 211 350	13 212 350	18.3

- Standard accessories: panel 1pc, hinge, door frame, door stop and related accessories
- Optional accessories: latch, castor



- 1000mm width panel for example
- Opening angle=160°
- The figure shows left open door(L)

Lock for option



Double hinged door

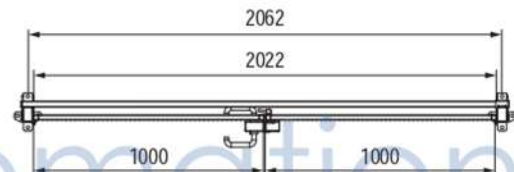
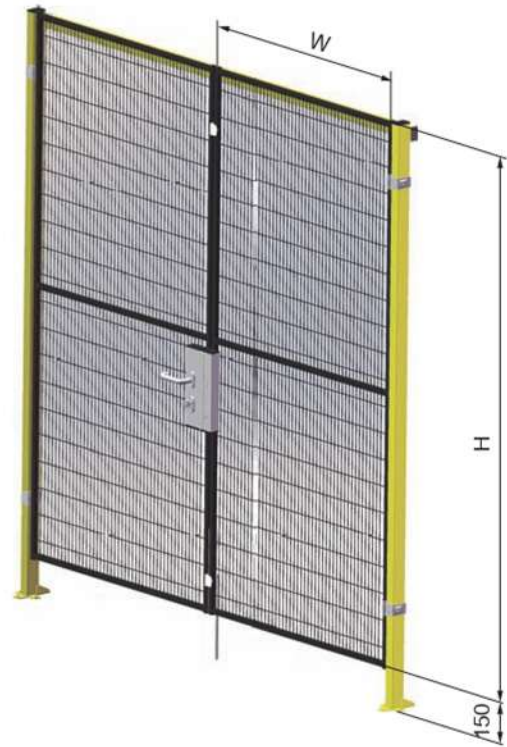
The hinged door is composed of column, grille panel, door frame, hinge and lock etc.

It is optional for key lock or general lock used with electrical switch to ensure a more stable and safe protection guard system.

Standard double hinged door - 1400 series			
Height H	Width W	Product code	Weight (kg)
1250	700	13 221 110	15.1
	800	13 221 120	16.6
	1000	13 221 130	19.5
	1200	13 221 140	22.7
	1500	13 221 150	27.1

Standard double hinged door - 1800 series			
Height H	Width W	Product code	Weight (kg)
1650	700	13 221 210	17.7
	800	13 221 220	19.4
	1000	13 221 230	23.1
	1200	13 221 240	26.7
	1500	13 221 250	31.9

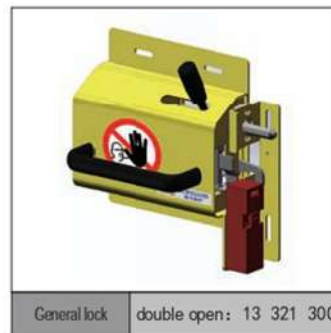
Standard double hinged door - 2200 series			
Height H	Width W	Product code	Weight (kg)
2050	700	13 221 310	20.3
	800	13 221 320	22.4
	1000	13 221 330	26.5
	1200	13 221 340	30.7
	1500	13 221 350	36.7



- Standard accessories: panel 2pcs, hinge, door frame, door stop and latch
- Optional accessories: castor

- 1000mm width panel for example
- Opening angle=160°
- The figure shows left open door(L)

Lock for option



Single sliding door

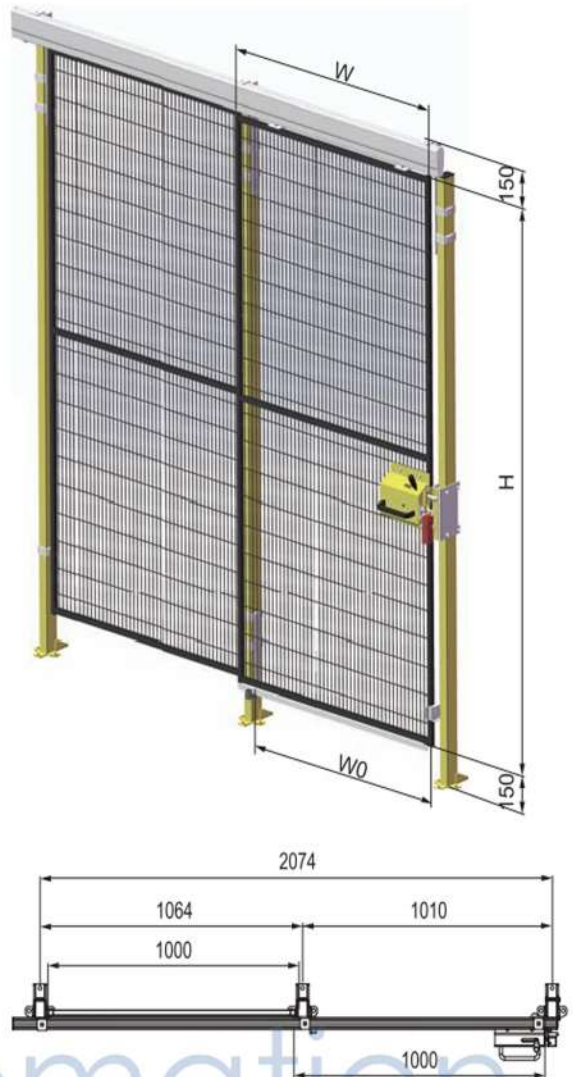
The sliding door is composed of column, grille panel, rail, wheel and lock etc.

It is optional for lock with or without key, or general lock used with electrical switch to ensure a more stable and safe protection guard system. The rail is industrial aluminum profile, used with double wheel units. The max. load capacity of the sliding door is 80kg.

Standard sliding door - 1800 series				
Height	Width	Product code	Product code	Weight
H	W	L	R	kg
1650	700	13 231 210	13 232 210	13.1
	800	13 231 220	13 232 220	14.2
	1000	13 231 230	13 232 230	16.5
	1200	13 231 240	13 232 240	18.7
	1500	13 231 250	13 232 250	22.0

Standard sliding door - 2200 series				
Height	Width	Product code	Product code	Weight
H	W	L	R	kg
2050	700	13 231 310	13 232 310	14.4
	800	13 231 320	13 232 320	15.7
	1000	13 231 330	13 232 330	18.2
	1200	13 231 340	13 232 340	20.7
	1500	13 231 350	13 232 350	24.4

- Standard accessories: panel 1pc, upper rail and accessories, lower rail and accessories, limit unit, wheel unit



- 1000mm width panel for example
- Opening width $W_0 = \text{Grille width } W - 100$
- The figure shows left open door (L)

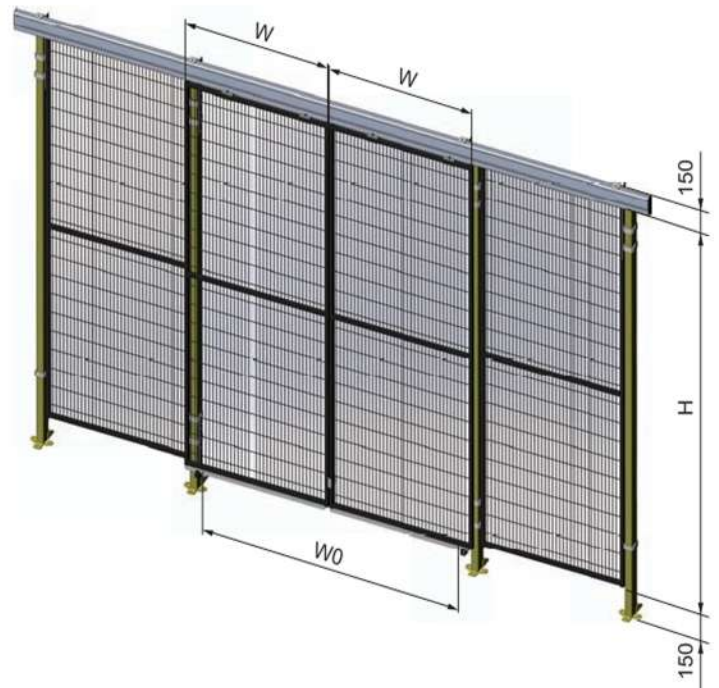
Lock for option



Double sliding door

The sliding door is composed of column, grille panel, rail, wheel and lock etc.

It is optional for lock with or without key, or general lock used with electrical switch to ensure a more stable and safe protection guard system. The rail is industrial aluminum profile, used with double wheel units. The max. load capacity of the sliding door is 80kg.



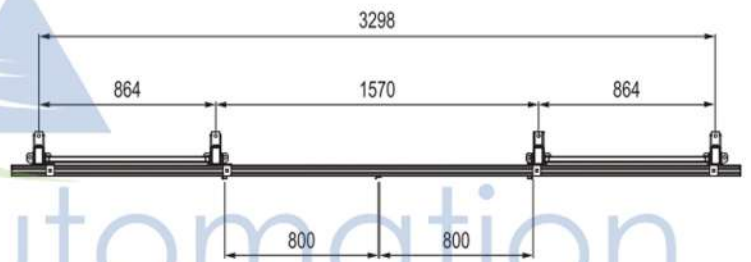
Standard double sliding door - 1800 series

Height H	Width W	Product code	Weight (kg)
1650	700	13 241 210	24.2
	800	13 241 220	26.3
	1000	13 241 230	30.9
	1200	13 241 240	35.2
	1500	13 241 250	41.8

Standard double sliding door - 2200 series

Height H	Width W	Product code	Weight (kg)
2050	700	13 241 310	26.8
	800	13 241 320	29.3
	1000	13 241 330	34.3
	1200	13 241 340	39.2
	1500	13 241 350	46.6

- Standard accessories: panel 2pcs, upper rail and accessories, lower rail and accessories, limit unit, wheel unit



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- 800mm width panels for example
- Opening width $W_0 = \text{Grille width } W * 2 - 200$

Lock for option



Folding door - Single open, two door leaves

The folding door is more flexible. Small open is for staff and big open for forklift. The column is 80*80 and 40*60 standard column and the grille panel is ST20 and ST30.

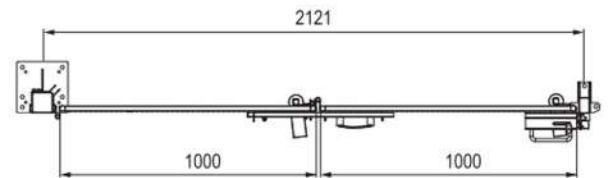
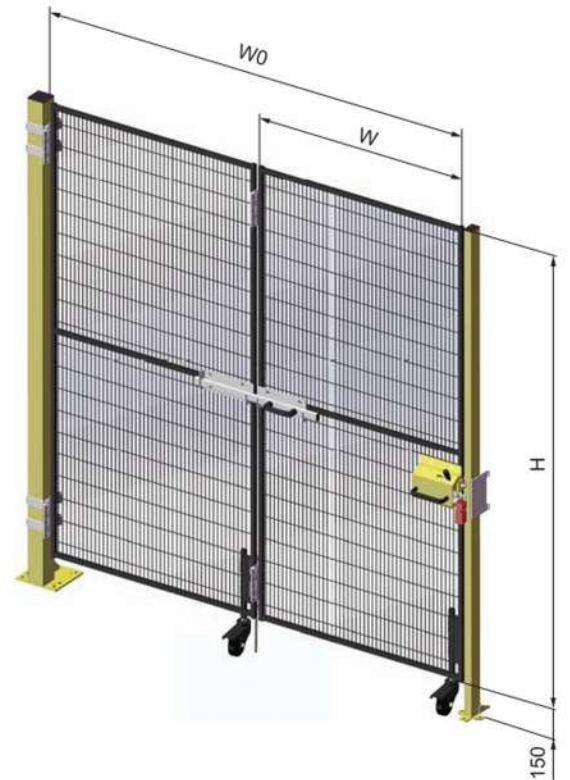
It is optional for lock with or without key, or general lock used with electrical switch to ensure a more stable and safe protection guard system.

Standard folding door(Single open, two door leaves) - 1400 series				
Height	Width	Product code	Product code	Weight
H	W	L	R	kg
1250	700	13 251 110	13 252 110	16.1
	800	13 251 120	13 252 120	17.3
	1000	13 251 130	13 252 130	19.5

Standard folding door(Single open, two door leaves) - 1800 series				
Height	Width	Product code	Product code	Weight
H	W	L	R	kg
1650	700	13 251 210	13 252 210	18.7
	800	13 251 220	13 252 220	20.1
	1000	13 251 230	13 252 230	23.1

Standard folding door(Single open, two door leaves) - 2200 series				
Height	Width	Product code	Product code	Weight
H	W	L	R	kg
2050	700	13 251 310	13 252 310	21.3
	800	13 251 320	13 252 320	23.1
	1000	13 251 330	13 252 330	26.5

- Standard accessories: panel 2pcs, hinge and accessories, door latch unit 1set, ground latch unit 1set, castor unit 2sets



- 1000mm width panel for example
- Opening width $W_0 = \text{Grille width } W * 2 + 60$
- The figure shows left open door(L)

Lock for option



Folding door - Single open, three door leaves

The folding door is more flexible. Small open is for staff and big open for forklift. The column is 80*80 and 40*60 standard column and the grille panel is ST20 and ST30.

It is optional for lock with or without key, or general lock used with electrical switch to ensure a more stable and safe protection guard system.

Standard folding door(Single open, three door leaves) - 1400 series

Height	Width	Product code	Product code	Weight
H	W	L	R	kg
1250	700	13 253 110	13 254 110	30.6
	800	13 253 120	13 254 120	32.4
	1000	13 253 130	13 254 130	35.7

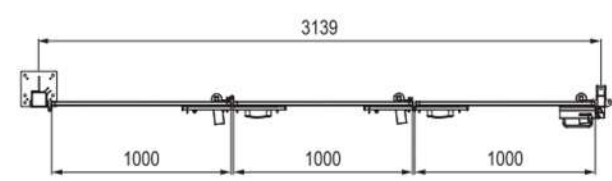
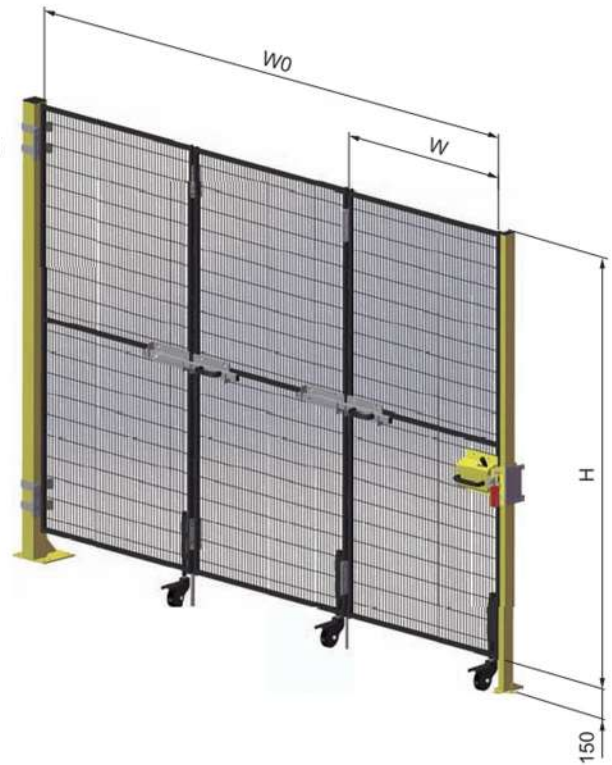
Standard folding door(Single open, three door leaves) - 1800 series

Height	Width	Product code	Product code	Weight
H	W	L	R	kg
1650	700	13 253 210	13 254 210	34.5
	800	13 253 220	13 254 220	36.6
	1000	13 253 230	13 254 230	41.1

Standard folding door(Single open, three door leaves) - 2200 series

Height	Width	Product code	Product code	Weight
H	W	L	R	kg
2050	700	13 253 310	13 254 310	38.4
	800	13 253 320	13 254 320	41.1
	1000	13 253 330	13 254 330	46.2

- Standard accessories: panel 3pcs, hinge and accessories, door latch unit 2sets, ground latch unit 2sets, castor unit 3sets



- 1000mm width panel for example
- Opening width $W_0 = \text{Grille width } W * 3 + 78$
- The figure shows left open door(L)

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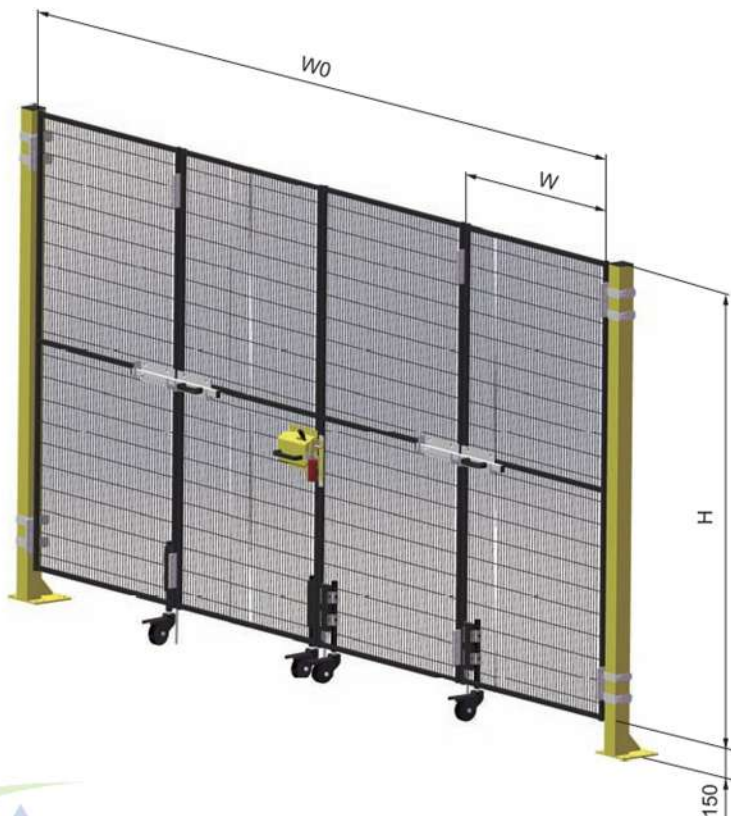
Lock for option



Folding door - Double open

The folding door is more flexible. Small open is for staff and big open for forklift. The column is 80*80 standard column and the grille panel is ST20 and ST30.

It is optional for key lock, or general lock used with electrical switch to ensure a more stable and safe protection guard system.



Standard folding door(Double open) - 1400 series

Height H	Width W	Product code	Weight (kg)
1250	700	13 261 110	36.5
	800	13 261 120	38.9
	1000	13 261 130	43.3

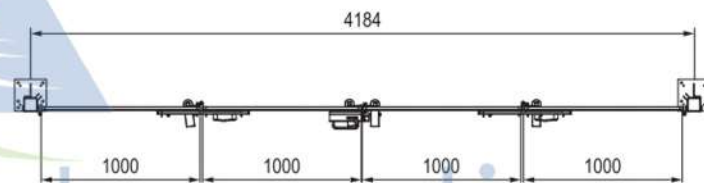
Standard folding door(Double open) - 1800 series

Height H	Width W	Product code	Weight (kg)
1650	700	13 261 210	41.7
	800	13 261 220	44.5
	1000	13 261 230	50.4

Standard folding door(Double open) - 2200 series

Height H	Width W	Product code	Weight (kg)
2050	700	13 261 310	46.9
	800	13 261 320	50.5
	1000	13 261 330	57.3

- Standard accessories: panel 4pcs, hinge and accessories, door latch unit 2sets, ground latch unit 3sets, castor unit 4sets



- 1000mm width panel for example
- Opening width $W_0 = \text{Grille width } W * 4 + 102$

Lock for option



Telescopic door - Single open

The telescopic door is composed of column, grille panel, rail, castor unit and lock etc.

It is optional for lock with or without key, or general lock used with electrical switch to ensure a more stable and safe protection guard system.

Standard telescopic door - 1400 series				
Height	Width	Product code	Product code	Weight
H	W	L	R	kg
1250	1000	13 271 110	13 272 110	30.2
	1200	13 271 120	13 272 120	35.5
	1500	13 271 130	13 272 130	46.7

Standard telescopic door - 1800 series				
Height	Width	Product code	Product code	Weight
H	W	L	R	kg
1650	1000	13 271 210	13 272 210	32.0
	1200	13 271 220	13 272 220	37.5
	1500	13 271 230	13 272 230	49.1

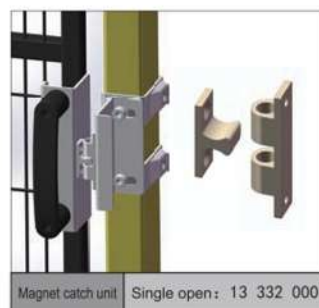
Standard telescopic door - 2200 series				
Height	Width	Product code	Product code	Weight
H	W	L	R	kg
2050	1000	13 271 310	13 272 310	33.7
	1200	13 271 320	13 272 320	39.5
	1500	13 271 330	13 272 330	51.5

- Standard accessories: panel 1pc, rail 1pc and accessories, castor unit 1set



- 1000mm width panel for example
- Opening width W_0 = Grille width $W - 30$
- The figure shows left open door(L)

Lock for option



Telescopic door - Double open

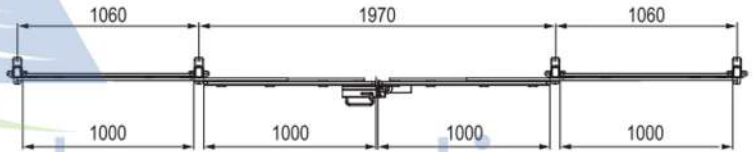
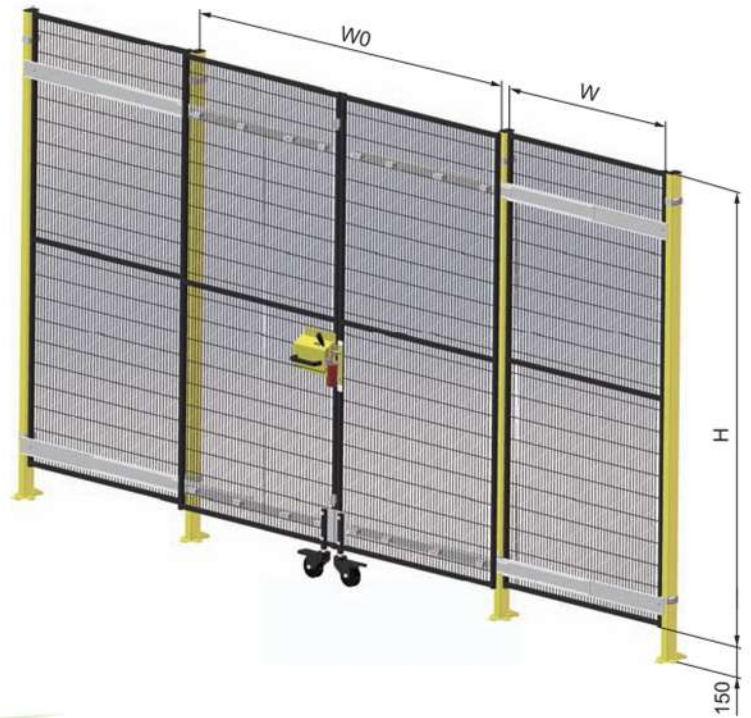
The telescopic door is composed of column, grille panel, rail, castor unit and lock etc. It is optional for lock with or without key, or general lock used with electrical switch to ensure a more stable and safe protection guard system.

Standard telescopic door - Double open - 1400 series			
Height H	Width W	Product code	Weight (kg)
1250	1000	13 281 110	40.4
	1200	13 281 120	46.9
	1500	13 281 130	59.8

Standard telescopic door - Double open - 1800 series			
Height H	Width W	Product code	Weight (kg)
1650	1000	13 281 210	44.0
	1200	13 281 220	50.9
	1500	13 281 230	64.6

Standard telescopic door - Double open - 2200 series			
Height H	Width W	Product code	Weight (kg)
2050	1000	13 281 310	47.4
	1200	13 281 320	54.9
	1500	13 281 330	69.4

- Standard accessories: panel 2pcs, rail 2pcs and accessories, castor unit 2sets, limit unit



- 1000mm width panel for example
- Opening width $W_0 = \text{Grille width } W \times 2 - 70$

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Lock for option



Magnet catch unit

The magnet catch unit is composed of aluminum magnet catch, handle and special connector. The connector is zinc plated. It is quick and easy to install, and also economical. There two types of magnet catches for single open and double open. Please note for order.



■ Figure for magnet catch unit for hinged door

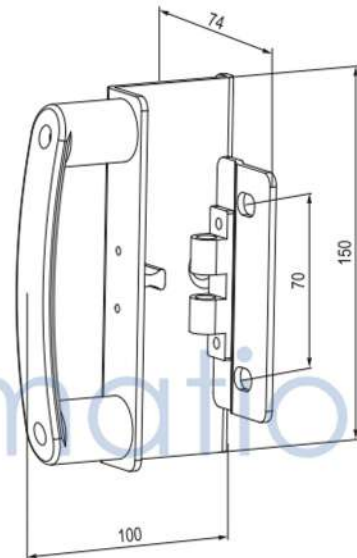
Technical data

Magnet catch unit			
Overall dimension	Product code	Product code	Product code
WxHxD (mm)	Hinged door	Sliding door	Double open
74x150x100	13 331 000	13 332 000	13 332 300

The magnet catch unit is applicable for the following doors:

- Hinged door
- Telescopic door
- Sliding door
- Telescopic door - double open
- Double sliding door
- Folding door

- The magnet catch unit for hinged door is applicable on folding door. Please use product code of hinged door magnet catch unit for order.
- The magnet catch unit for sliding door is applicable on telescopic door. Please use product code of sliding door magnet catch unit for order.
- It is not suggested to use magnet catch unit for double open hinged door and double open folding door.



Installation



■ Figure for magnet catch unit for hinged door and folding door



■ Figure for magnet catch unit for sliding door and telescopic door



■ Figure for magnet catch unit for double open sliding door and double open telescopic door

Key lock for hinged door

Hinged door key lock is composed of European standard lock with special connector. The connector is zinc plated. The installation is quick and easy. There are three types for left open(L), right open(R) and double open(D). Please note for order.



■ The figure shows right open.

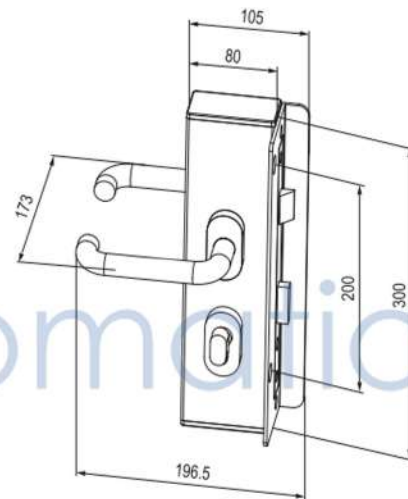
Technical data

Hinged door key lock			
Overall dimension	Product code	Product code	Product code
WxHxD (mm)	L	R	D
105x300x173	13 311 100	13 311 200	13 311 300

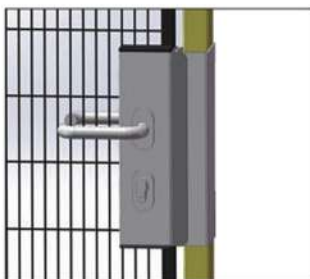
The hinged door key lock is applicable for the following doors:

- Hinged door
- Double open hinged door
- Folding door
- Double open folding door

- The key lock for hinged door is applicable on folding door. Please use product code of hinged door key lock for order.
- The key lock for double open hinged door is applicable on double folding door. Please use product code of double open hinged door key lock for order.
- L is for left open, R is for right open, D is for double open.



Installation



■ Figure for key lock for hinged door



■ Figure for key lock for double open hinged door

Key lock for sliding door

Sliding door key lock is composed of European standard lock with special connector. The connector is zinc plated. The installation is quick and easy. There are three types for left open(L), right open(R) and double open(D). Please note for order.



■ The figure shows right open

Technical data

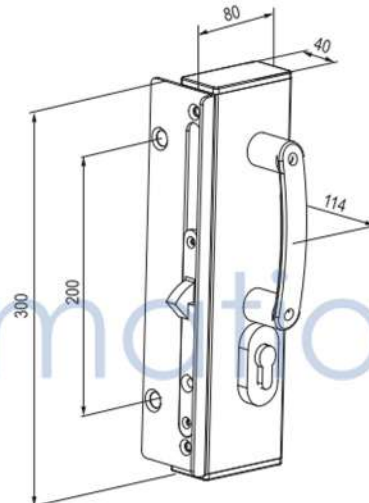
Sliding door key lock

Overall dimension	Product code	Product code	Product code
WxHxD (mm)	L	R	D
80x300x114	13 312 100	13 312 200	13 312 300

The sliding door key lock is applicable for the following doors:

- Sliding door
- Double open sliding door
- Telescopic door
- Double open telescopic door

- The key lock for sliding door is applicable on telescopic door. Please use product code of sliding door key lock for order.
- The key lock for double open sliding door is applicable on double telescopic door. Please use product code of double open sliding door key lock for order.
- L is for left open, R is for right open, D is for double open.



Installation



■ Figure for key lock for sliding door



■ Figure for key lock for double open sliding door

General lock

The general lock has the function of both hook lock and mortise lock, and also can be used with electrical switch to ensure person safety and safe working process. The structure can be used with many types of safe switch to meet different safe requirement class. The safety lock we usually use is Enchner, Omron, Schneider etc. The surface is powder coated, yellow(RAL1018). There are left open(L), right open(R) and double open(D). Please note for order.



■ The figure shows left open

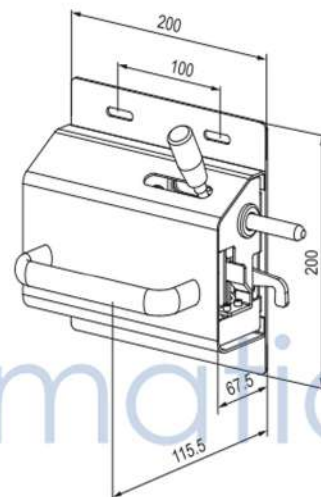
Technical data

General lock			
Overall dimension	Product code	Product code	Product code
WxHxD (mm)	L	R	D
200x200x115.5	13 321 100	13 321 200	13 321 300

The general lock is applicable for the following doors:

- Hinged door
- Folding door
- Double hinged door
- Double folding door
- Sliding door
- Telescopic door
- Double sliding door
- Double telescopic door

- Please choose the product code of right open method for order.
- L is for left open, R is for right open, D is for double open.



Safe switch for option



■ Omron safe switch



■ Omron safe switch



■ Euchner safe switch



■ Euchner safe switch

Accessories



40 series column fixing connector



80 series column fixing connector



40 series column hinge connector



General hinge



Ground latch unit



Angle connector (45°, 30° and 60° for option)



Corner connector



Castor unit

EDGE Automation

Product standard

BSENISO13857-2008 «Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs»

1. Height of protection guard

Reaching over protective structures -- High risk mm										
Height of hazard zone a	Height of protective structure, b									
	1000	1200	1400	1600	1800	2000	2200	2400	2500	2700
	Horizontal safety distance to hazard zone, c									
2700	0	0	0	0	0	0	0	0	0	0
2600	900	800	700	600	600	500	400	300	100	0
2400	1100	1000	900	800	700	600	400	300	100	0
2200	1300	1200	1000	900	800	600	400	300	0	0
2000	1400	1300	1000	900	800	600	400	0	0	0
1800	1500	1400	1100	900	800	600	0	0	0	0
1600	1500	1400	1100	900	800	500	0	0	0	0
1400	1500	1400	1100	900	800	0	0	0	0	0
1200	1500	1400	1100	900	700	0	0	0	0	0
1000	1500	1400	1000	800	0					
800	1500	1300	900	600	0					
600	1400	1300	800	0	0					
400	1400	1200	400	0	0					
200	1100	900	0	0	0					
0	1100	500	0	0	0					

a Height of hazard zone b Height of protective structure c Horizontal safety distance to hazard zone

2. Gridding distance

Regular opening for persons of 14 years of age and above					
Part of body	Illustration	Opening	Safety distance, S _r		
			Slot	Square	Round
Fingertip		e ≤ 4	≥ 2	≥ 2	≥ 2
		4 < e ≤ 6	≥ 10	≥ 5	≥ 5
Finger up to knuckle joint Hand		6 < e ≤ 8	≥ 20	≥ 15	≥ 5
		8 < e ≤ 10	≥ 80	≥ 25	≥ 20
		10 < e ≤ 12	≥ 100	≥ 80	≥ 80
		12 < e ≤ 20	≥ 120	≥ 120	≥ 120
		20 < e ≤ 30	≥ 850	≥ 80	≥ 80
Arm up to junction with shoulder		30 < e ≤ 40	≥ 850	≥ 200	≥ 120
		40 < e ≤ 120	≥ 850	≥ 850	≥ 850

The dimension of the opening, e, corresponding to the side of a square opening, the diameter of a round opening and the narrowest dimension of a slot opening.

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