

# SMOOTHER

High-speed Roll-up Door



高速開閉で熱損失が少ない

エコマーク認定番号  
第 10123020 号  
株ユニフロー  
(RB シリーズ)



RB-1



RB-2s

High Air-Tightness × Wind resistance × Eco = SMOOTHER



RB-4Z



RB-3s

More environmentally and user friendly.  
SMOOTHER satisfies customer needs.

## I N D E X

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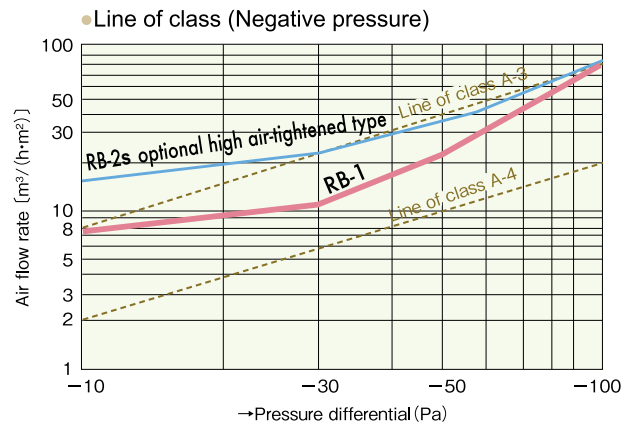
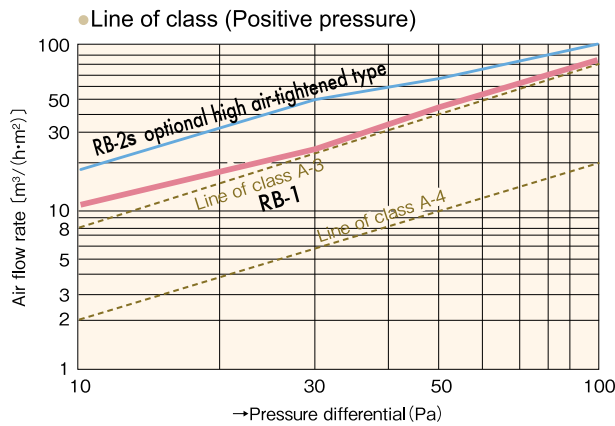
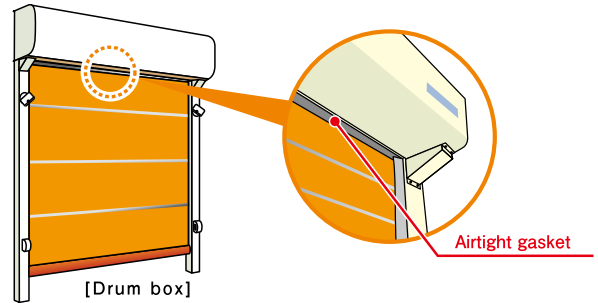
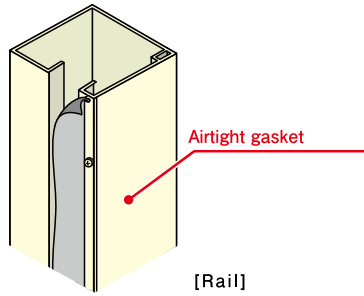
# Nine Distinctive Features



## Achieved A-3, the industry's highest level of air tightness

While the RB-1 Series is a piped model, it offers excellent air tight performance equivalent to the A-3 Class (the industry's highest level) as defined by the Japanese Industrial Standards. An airtight gasket allows the RB-1 Series to provide approximately 10 times the air tightness of conventional products. It also provides reliable protection against insects and dust-proof performance to keep your work environment clean.

|                   | Air leak volume at 10 Pa (m <sup>3</sup> /h·m <sup>2</sup> ) |  |
|-------------------|--|--|
|                   | RB-1   | RB-2s optional high air-tightened type |
| Positive pressure | 10.6   | 19.2                                   |
| Negative pressure | 7.5  | 18.7                                   |



\*In case of seal gaskets are attached.  
\*The values indicated here are test results, not guaranteed values.

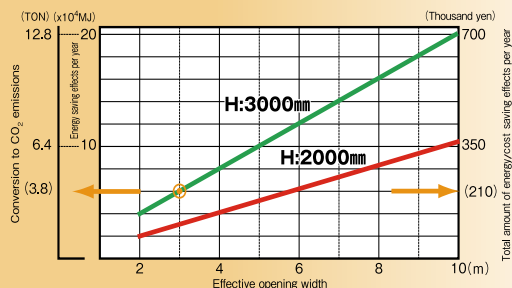


## The Smoother is an Eco Mark-certified product, justified by running the energy saving diagnostic service.

The Smoother RB-Series\* has received Eco Mark Certification granted to products that are certified to be environmentally friendly. Energy saving effects are demonstrated just by replacing your currently installed air curtain with the Smoother. Contact us for an energy saving diagnostic demonstration, based on your usage environment.



Energy saving effects when air curtain is replaced with the Smoother



At an opening of W3000×H3000  
- Just by replacing your currently installed air curtain with the Smoother -  
**Energy saving effects totaling ¥210,000 per year!**

Where nothing is installed get an **extra 30% in energy saving effects!!**

<Conditions>  
Cooler: Summer (July to August)  
Outside air: 31° C, Indoors: 26° C  
Heater: Winter (January, February, March, December)  
Outside air: 6° C, Indoors: 20° C  
Working hours: 8 hours/day  
Working days: 20 days/month  
Opening and closing frequency: 16 times/day  
Cooling and heating: Gas heat pump type (City gas)

\*Standard specifications, sheet: Clear and orange only  
\*Values indicated are based on our test results and are not guaranteed values.

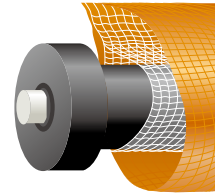


# 29.3 \* m/s of wind pressure resistance when fully closed.

The industry's highest level of wind pressure resistance enables smooth opening and closing.

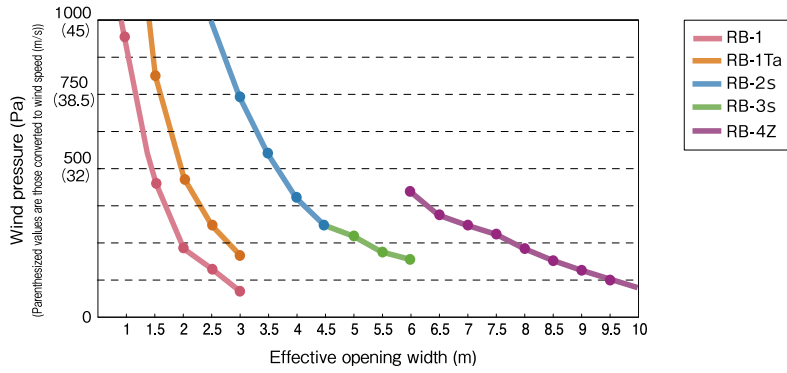
\*Converted value (to wind speed), calculated based on the RB-4Z with an effective opening width of 6,050 mm.

With bearings or rollers on the pipe ends, SMOOTHER easily opens and closes without a steel shutter even in strong winds thanks to bearings (rollers) on the pipe ends. Achieves the industry's highest level of wind pressure resistance among ultra-large shutters.



◀ Bearings on the pipe end of the sheet (RB-4Z)

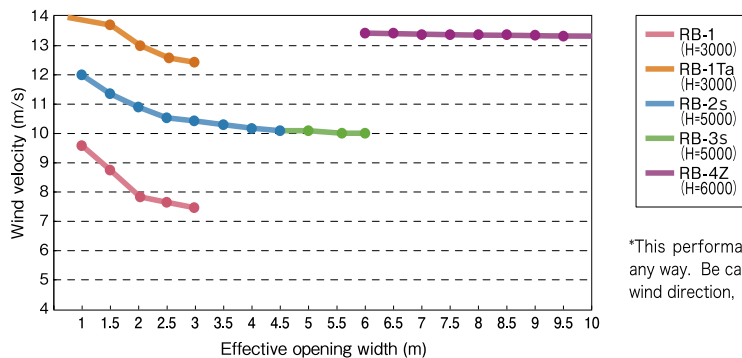
● Wind pressure-resistant performance(Wind pressure at which the pipe yields or comes off from the rail when stopping at the lowermost level)



● Wind pressure-resistant performance(Wind pressure at with the pipe yields or comes off from the rail when stopping at the lowermost level) (Pa)

| Effective opening width (m) | 1     | 1.5   | 2     | 2.5   | 3   | 3.5 | 4   | 4.5 | 5   | 5.5 | 6   | 6.5 | 7   | 7.5 | 8   | 8.5 | 9   | 9.5 | 10  |  |
|-----------------------------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| RB-1                        | 963   | 428   | 241   | 154   | 107 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| RB-1Ta                      | 1,815 | 807   | 454   | 290   | 202 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| RB-2s                       | 6,370 | 2,831 | 1,593 | 1,019 | 708 | 520 | 398 | 315 |     |     |     |     |     |     |     |     |     |     |     |  |
| RB-3s                       |       |       |       |       |     |     |     | 315 | 255 | 211 | 160 |     |     |     |     |     |     |     |     |  |
| RB-4Z                       |       |       |       |       |     |     |     |     |     |     | 419 | 357 | 308 | 268 | 229 | 185 | 152 | 126 | 105 |  |

● Wind velocity resistant performance(When in operation: wind velocity at which the sheet can descend)



\*This performance data is not a guaranteed value in any way. Be careful because it varies depending on the wind direction, usage environment, etc.

● Wind velocity resistant performance(When in operation: wind velocity at which the sheet can descend) (m/s)

| Effective opening width (m) | 1    | 1.5  | 2    | 2.5  | 3    | 3.5  | 4    | 4.5  | 5    | 5.5  | 6    | 6.5  | 7    | 7.5  | 8    | 8.5  | 9    | 9.5  | 10   |      |
|-----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| RB-1 (H=3m)                 | 9.8  | 8.7  | 7.9  | 7.7  | 7.5  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| RB-1Ta (H=3m)               | 14.0 | 12.7 | 11.7 | 11.4 | 11.3 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| RB-2s (H=5m)                | 12.0 | 11.3 | 10.9 | 10.6 | 10.4 | 10.3 | 10.2 | 10.1 |      |      |      |      |      |      |      |      |      |      |      |      |
| RB-3s (H=5m)                |      |      |      |      |      |      |      |      | 10.1 | 10.0 | 10.0 |      |      |      |      |      |      |      |      |      |
| RB-4Z (H=6m)                |      |      |      |      |      |      |      |      |      |      | 13.4 | 13.4 | 13.4 | 13.4 | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 |



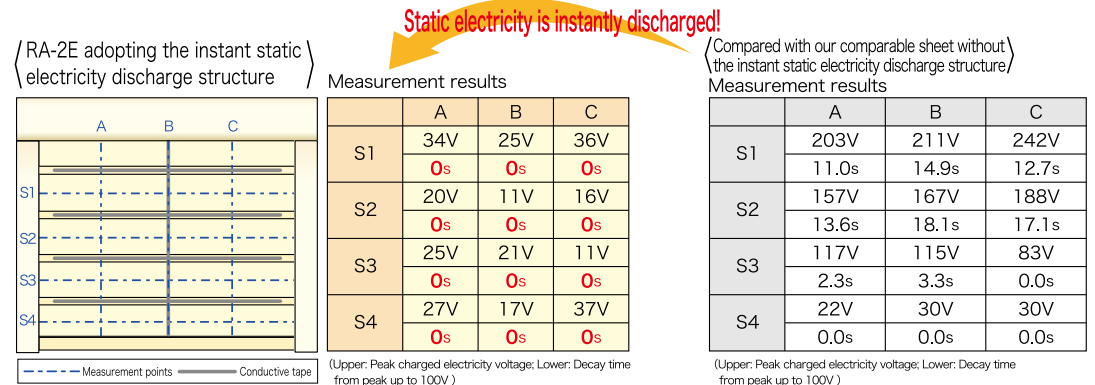
# Standardized antistatic and flame retardant sheets ensure a safer environment. Newly adopted structure prevents the build up of static electricity.

The RA-2E Smoother is an explosion-proof sheet shutter that allows use in explosion-prone areas such as chemical plants, up to classification zone 2. In addition to the adoption of the industry's first-ever antistatic flameproof sheet, an "instant static electricity elimination structure" (patent pending) has been developed. With this structure, any static electricity that may be generated when the sheet shutter is opened or closed is instantly discharged, preventing the build up of static electricity and resulting in significantly improved safety.



\* Zone 2 is:  
An area where an explosive atmosphere is unlikely to develop during the normal operation of plants or similar facilities, or where such an atmosphere may develop only for a short time even during abnormal operation (except from JNIOOSH Explosion-Proof Guidelines for Plants' Electric Equipment).  
Electric equipment used in such a hazardous area must be of an approved model type.

【Voltage generated by sheet shutter opening/closing and its decay time】

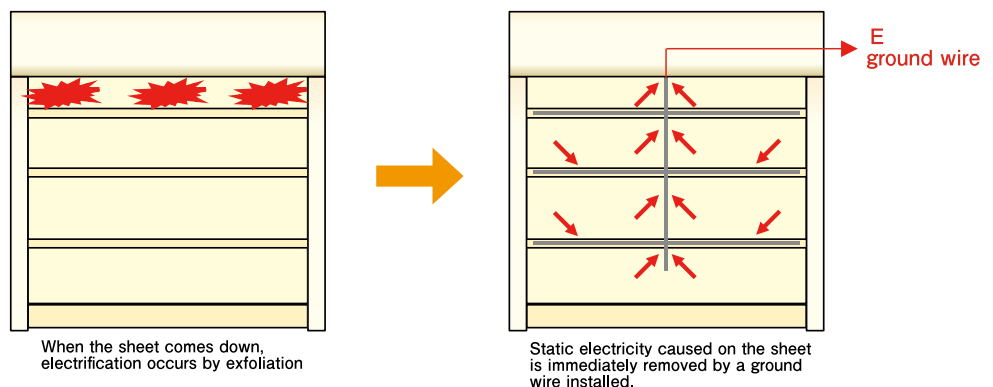


\*The values indicated here are test results, not guaranteed values.



# Instant static electricity discharge structure

With this structure, any static electricity that may be generated when the sheet shutter is opened or closed is instantly discharged, as safety measure against built up of static electricity. Dischargeable sheet can be installed optionally in RB-1, RB-1Ta, RB-2s and RB-3s.





## Backup power option available. The only feature of its kind offered in the industry. Ensures operation during an emergency.

The sheet opens and closes by using the backup power in case of power failure. If emergency evacuation is needed during a power failure, the backup power resolves such situations, whereby closed sheet blocks an evacuation route with someone left inside, as in the case with conventional products.

Backup power can be installed optionally in RB-1, RB-1Ta, RB-2s and RB-3s.

(One of the four types of backup operations can be selected in case of power failure.)

1. Manual operation: Users manually operate the ascend/descend buttons on the operation panel to open and close the sheet (up to two times).
2. Manual operation + External signals: Users manually operate the ascend/descend buttons on the operation panel to open and close the sheet (up to two times). When certain external signals are received, the sheet fully opens.
3. Automatic operation: Detects the stop due to a power failure and automatically opens the sheet.
4. Automatic operation + External signals: Detects the stop due to a power failure and automatically opens the sheet. When certain external signals are received, the sheet fully opens.

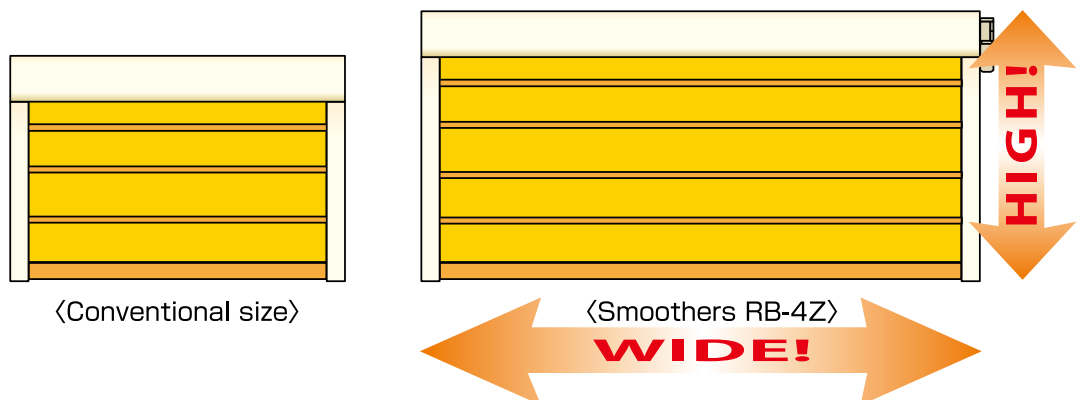
|                     |                           |  |
|---------------------|---------------------------|--|
| Backup power supply | Power outage compensation | Frequency of sheet operation 2 times (in 30 minutes during standby time)                     |
|                     | Output voltage            | Nominal DC 96 V  |
|                     | Battery service life      | Recommended replacement every three years  |
|                     | Type of power supply      | Nickel-Metal Hydride battery *Ni-cd battery in only RB-1.                                    |
|                     | Charging time             | 48 hours (charging time required after discharging to below 50% of battery content capacity) |



## The largest size in the industry for ultrawide opening. <RB-4Z>

The largest size in the industry, enabling up to 60 m<sup>2</sup> of indoor/outdoor opening (10 m in width and 6 m in height).

Allows large and heavily loaded vehicles such as trucks or forklifts to pass through smoothly. Adjustable safety sensors with rail embedded type of two optical axes are also equipped as standard to ensure even higher safety standards.

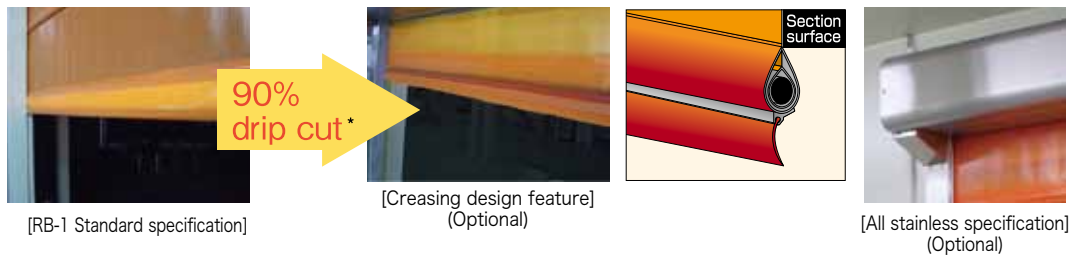




# Creasing design feature at the lower end of sheet provides greater sanitary effect <RB-1>



- The Smoother RB-1 Series adopts the industry's first creasing design feature for the lower end of the sheet. Under extreme wet conditions in food factories where the lower end of the sheet in water is raised and water drips down from the shutter. With the creasing design feature, the amount of water that drips down is only 1/10 of conventional products. This makes replacing parts easy and provides a greater sanitary effect.
- Available with an all stainless steel specification for the main body box and rails or the rails only. These specifications prevent corrosion in places exposed to water.

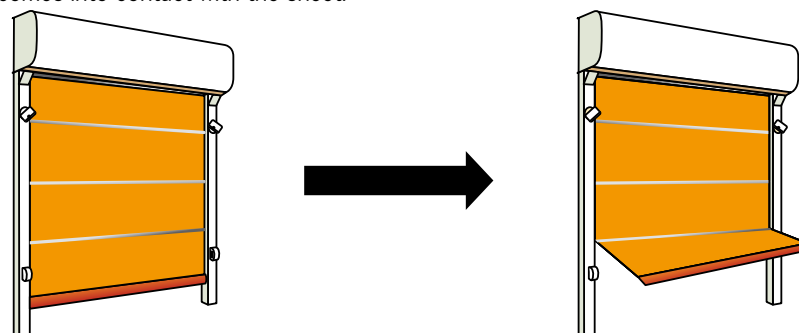


\*In the case of W2000 mm with our product comparison. Values indicated are based on our test results and are not guaranteed values.

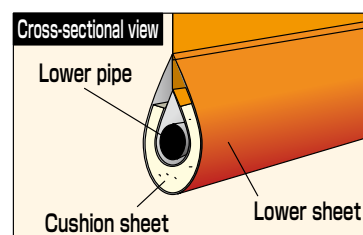


# Equipped with a "Flap function" that allows the pipe to easily disengage when something comes into contact with the sheet, thereby preventing possible rail and sheet damages.

- RB-1 and RB-1Ta are equipped with the "Flap function" (optional for the RB-2s) as standard. This allows the pipe to easily disengage, thereby preventing possible rail and sheet damage, even if a forklift comes into contact with the sheet.



- The lower pipe of the sheet is enclosed in cushion material to reduce shock impact.

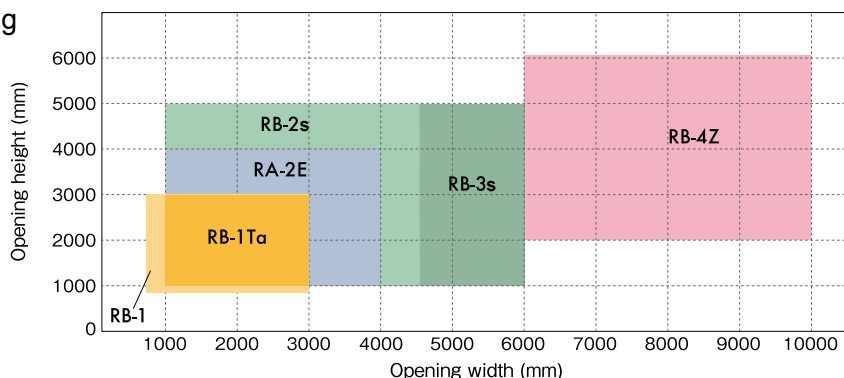




| Specifications               |  | Compact Model for Indoor Use   | Model for both Indoor and Outdoor Use  |   |  |   | Explosion-Proof Model  |
|------------------------------|--|--|--|---|--|---|--|
|                              |  | RB-1   | RB-1Tα                                 | RB-2s   | RB-3s  | RB-4Z   | RA-2E  |
| Effective opening regulation | Effective opening width (mm)                                 | W800~3000  | W1000~3000                             | W1000~4500  | W4550~6000   | W6050~10000   | W1000~4000   |
|                              | Effective opening height (mm)                                | H900~3000  | H1000~3000                             | H1000~5000  |  | H2000~6000  | H1000~4000   |
| Components used              | Box  | Colored steel plate  |  |   |  |   | Colored steel plate  |
|                              | Rail   | Colored steel plate  |  |   |  |   | Colored steel plate  |
|                              | Rotor pipe   | Aluminum alloy φ150  |  | Aluminum alloy φ216   |  |   | Aluminum alloy φ216  |
|                              | Sheet  | Polyester yarn encapsulated vinyl sheet                                      |  |   |  |   | Antistatic flameproof sheet  |
|                              | Middle pipe  | φ19.1  | φ25.4                                  | φ38.1   |  | φ48.6<br>With rollers on both ends  | φ38.1  |
|                              | Lower pipe   | φ25.4  | φ38.1                                  | φ38.1   |  | φ48.6<br>With rollers on both ends  | φ38.1  |
| Operation method             | Drive  | Induction motor (output 400 W)   |  | Induction motor (output 750 W)  |  | Induction motor (output 1.5Kw)  | Explosion-proof motor with reduction gears and brakes (d2G4) 400 W             |
|                              | Sheet speed※   | 1.3m/s(Ascent velocity of the sheet) · 1.0m/s(Descent velocity of the sheet) |  | 1.2m/s(Ascent velocity of the sheet) · 0.6m/s(Descent velocity of the sheet)        | 0.8m/s(Ascent velocity of the sheet) · 0.6m/s(Descent velocity of the sheet) | 0.6m/s(6m<W≤8m) (Ascent velocity of the sheet) · 0.5m/s(8m<W≤10m) · 0.5m/s(Descent velocity of the sheet) | 0.6m/s (Ascent velocity of the sheet) · 0.5m/s (Descent velocity of the sheet) |
|                              | Upper/lower limits setting method                            | Encoder control and teaching control   |  |   |  |   | Upper/lower limit switches and teaching control                                |
|                              | Opening/closing speed control                                | Slow start/slow stop control   |  |   |  |   | Slow start/slow stop control   |
| Sensor                       | Phototube sensor   | Photoelectric tube sensor (phototransmitting / photoreceiving type)          |  | Photoelectric tube sensors (phototransmitting/photoreceiving type · 2 optical axes) |  |   | Explosion-proof type phototube sensor (reflection type)                        |
| Power supply                 | Single phase AC 200~240 V (50 Hz/60 Hz) 6A                   |  | Three-phase AC 200 V (50 Hz/60 Hz) 6 A |   | Three-phase AC 200 V (50 Hz/60 Hz) 7 A                                       |   | Three-phase AC 200 V (50 Hz/60 Hz) 5 A   |
| Allowable frequency          | 120 times/h, 2 times/min                                     |  |  | 90 times/h, 1.5 times/min   | 60 times/h, 1 times/min  |   | 120 times/h, 2 times/min   |
| Ambient temperature          | 5~40°C   | sheet drumbox -10~40°C<br>control board 5~40°C                               |  |   |  |   | sheet drumbox -10~40°C<br>control board 5~40°C                                 |
| Ambient humidity             | There should be no freezing or condensation at 20% to 85%.   |  |  |   |  | There should be no freezing or condensation at 20% to 85%.  |  |
| Environmental conditions     | There should be no toxic gas, powder dust, and condensation. |  |  |   |  | There should be no toxic gas, powder dust, and condensation.  |  |

※Maximum speed







• Table of effective opening width and height by model



● Sensors

|  |   |
|--|---|
| <p>Infrared sensor OA-203C *</p> <p>Outside dimenssion: W221×H63×D29.9mm<br/>                 Mountable height (from FL) : 2~3.5m<br/>                 Static detection : 2・15・180 sec / Infinity<br/>                 Power supply : AC/DC12~30V<br/>                 Mountable model :<br/>                 RB-1,RB-1Ta,RB-2s,RB-3s,RB-4Z</p>  <p>For a small-size opening, that allows people or trolleys to pass through</p>  | <p>Infrared sensor OA-4700S</p> <p>Outside dimenssion : W267×H62×D45mm<br/>                 Mountable height (from FL) : 2.5~4.7m<br/>                 Static detection : 2・60 sec /10 min / Infinity<br/>                 Power supply : AC/DC12~24V<br/>                 Mountable model : RB-1,RB-1Ta,RB-2s,RB-3s,RB-4Z<br/>                 Remarks : Rainproof cover available (sold separately)</p>  <p>For a small- to medium-size opening, with high-intensity radiation area</p>  |
| <p>Infrared sensor DA-4700</p> <p>Outside dimenssion : W265×H61×D37.5mm<br/>                 Mountable height (from FL) : 2.0~4.7m<br/>                 Static detection : [1・2・3 Row] 2・15・60 sec<br/>                 / Infinity [4・5 Row] 2・15 sec<br/>                 Power supply : AC / DC12~24V<br/>                 Mountable model : RB-1,RB-1Ta,RB-2s,RB-3s,RB-4Z<br/>                 Remarks : Rainproof cover available (sold separately)</p>  <p>For a small- to medium-size opening, with high-intensity radiation area</p> | <p>Infrared sensor SHA-6501</p> <p>Outside dimenssion : W321×H102×D91mm<br/>                 Mountable height (from FL) : 2.0~6.5m<br/>                 Static detection : 2・30・180 sec / Infinity<br/>                 Power supply : AC / DC12~24V<br/>                 Mountable model : RB-1,RB-1Ta,<br/>                 RB-2s,RB-3s,RB-4Z<br/>                 Remarks : Direction detecting function, traverse cancel function, rainproof construction, (separately sold), remote control</p>  <p>For a small- to medium-size opening, with a wider infrared radiation area</p> |
| <p>FALCON/FALCON XL</p> <p>Outside dimenssion : W103×H97×D160mm<br/>                 Mountable height (from FL) : 2~3.5m(FALCON XL),<br/>                 3.5~7m(FALCON)<br/>                 Static detection : —<br/>                 Power supply : AC / DC12~24V<br/>                 Mountable model : RB-1,RB-1Ta,RB-2s,RB-3s,RB-4Z(FALCON XL),<br/>                 RB-2s,RB-3s,RB-4Z(FALCON)</p>  <p>For a small to large-size opening, .possible to detect the trolley only</p>   | <p>Infrared sensor SHA-3200</p> <p>Outside dimenssion : W210×H59×D28.5mm<br/>                 Mountable height (from FL) : 2~3.2m<br/>                 Static detection : 2・10・60 sec / Infinity<br/>                 Power supply : AC / DC24V<br/>                 Mountable model:<br/>                 RB-1,RB-1Ta,RB-2s,RB-3s,RB-4Z</p>  <p>It is mostly recommended for compact entrances where people or trolleys pass through.</p>  |

● Switches

|                   | Wireless remote control<br>(1-key type / 3-key type)                                     | String switch   | String switch<br>(for RA-2E)  | Single pushbutton  | Explosion-proof<br>single pushbutton  | Touchless sensor  |
|-------------------|--|---|---|--|---|---|
|                   |       |  |  |  |  |  |
| Type              | Receiver: RX13-1143<br>Transmitter: TX16-1111  | —   | —   | WBS5TT221ON  | SJW4200   | Panel switch with built-in touchless sensor   |
| Outside dimension | W35×H60×D12.8<br>(Transmitter)   | W140×H154×D33<br>(main body portion)  | W140×H154×D33<br>(main body portion)  | W60×H98×D47.5  | W82×H134×D81  | W70×H140×D40<br>(Panel switch)  |
| Power supply      | DC12~24V   | —   | —   | —  | —   | DC6~27V   |
| Power consumption | Below 2.4 W  | —   | —   | —  | —   | Below 0.25 W  |
| Mountable model   | RB-1,RB-1Ta,<br>RB-2s, RB-3s, RB-4Z  | RB-1,RB-1Ta,<br>RB-2s, RB-3s, RB-4Z   | RA-2E   | RB-1,RB-1Ta,<br>RB-2s, RB-3s, RB-4Z  | RA-2E   | RB-1,RB-1Ta,<br>RB-2s, RB-3s, RB-4Z   |
| Remarks           | Possible to use 100 transmitter units in each group, maximum 200 units for one receiver. | —   | —   | Explosion-proof & jet-proof IP65   | Explosion-proof grade d2G4  | Built-in to a panel switch made by our company  |

● Other options



● Guard pole  
Prevents minor collisions between the transport vehicle and the sheet shutter.



● Patlite warning lamp  
Four colors (Red, Yellow, Green, Blue) are available. It turns on a light while activating a sheet shutter when the sheet is at upper or lower limit position.

● Triple pushbutton  
Outside dimension: W86×H200×D98

● Phototube sensor (phototransmitting / photoreceiving type)

● Buzzer

\*Specifications are subject to change without notice for product improvement.

● HACCP compatible option

Apart from an insect-proof orange sheet a high performance airtight gasket (optional) also enhances protection against the entry of insects and dust, as well as prevention against temperature loss.

In addition, by, mounting a sloped trapezoid cover on the main body or In addition, mounting the sloping cover on the main body box or the control panel allows easily checking for dirt or grime.

Rails and a main body box made of stainless steel are also available.



▲Example of use



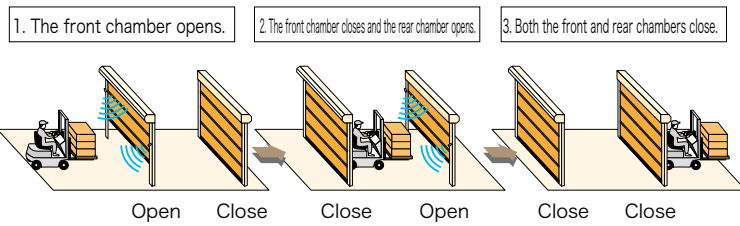
▲Example of use: Trapezoid cover for main body box



▲Example of use: Trapezoid cover for control box

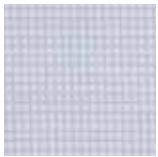
● Interlocking functions

Two units of Smoothers constitute to a front and rear chamber, which are coordinated via a microprocessor. An interlocking operation in which one side opens and the other side closes, is possible. As it prevents external air from entering, it can enhance air-conditioning efficiency. An optional printed board can be added for linked operation with belt conveyors, AGVs or other equipment.

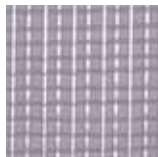


● Sheet

⟨Standard Type⟩ (RB series except for the RB-1)  
 ⟨Anti-static and Flame retardant Type⟩ (RB-1)  
 ⟨Explosion-proof finish⟩ (RA-2E)



Transparent sheet (Flame retardant finish : Fire Office Registration No. E-13-42766)



Transparent sheet (Antistatic/flame retardant finish : Fire Office Registration No. E-13-42766)



Antistatic flameproof sheet



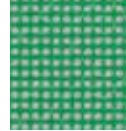
Insect-proof orange sheet (Flame retardant finish : Fire Office Registration No. E-13-42766)



Insect-proof orange sheet (Antistatic/flame retardant finish : Fire Office Registration No. E-13-42766)

⟨Option⟩

● Special mesh window material

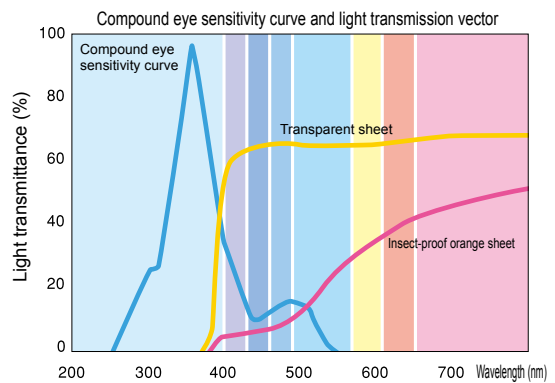


Mesh1003



Mesh1004

● Insect-proof effect

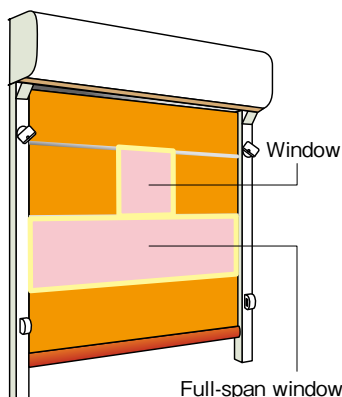


Cutting a wavelength zone of around 350 nm, to which insects are most responsive, thereby prevents their entry.

● Sheet window

A window on the sheet allows checking of to and fro traffic eg. forklift or human, to avoid collisions.

\*Transparent type, insect-proof orange-colored type, and mesh type windows are available.



● Dimension suitable for mounting windows

|        | Window        |               |        | Full-span window |                                  |
|--------|---------------|---------------|--------|------------------|----------------------------------|
|        | Maximum width | Minimum width | Height | Width            | Height                           |
| RB-1   | W-500         | 500           | 400    | W+110            | Maximum height set for each span |
| RB-1Ta |               |               |        |                  |                                  |
| RB-2s  |               |               |        |                  |                                  |
| RB-3s  |               |               |        |                  |                                  |
| RB-4Z  | W-800         |               |        | —                | —                                |
| RA-2E  | W-500         |               |        | —                | —                                |

\* Windows that can be mounted are 1 to 3 windows for a single span or a full-span window. (The number of windows varies depending on the width of a sheet.)

\* Window mounting positions may be located on the first, second, third, and fourth segments.

\* Mesh window does not comply with a full-span window.

\* For RB-1, if the opening width is less than 900, the maximum width of window is W-300.

\* The flameproof transparent type window for the RA-2E may become bleached over time due to deterioration.

Compact sheet shutter ideal for all factories, in space-saving environments.

# RB-1, RB-1Ta

The “RB-1 Series” makes the most efficient use of any opening in a space-saving environment, with its compact main body and the industry’s smallest maintenance space needs. High airtight performance and emergency backup power source (option) are add-on features.



▲Installation example (Automotive-related factory)



▲Installation example (Food factory)



▲Installation example (Supermarket)

- Industry’s first creasing design feature (option)  
Dripping from the lower end of the sheet is only 1/10 of conventional products.
- High energy saving performance, protection against insects and dust-proof performance (option)  
Airtight design feature equivalent to the A-3 Class of the Japanese Industrial Standards reduces indoor energy loss and prevents entry of insects and dust.
- Compactly fit, maximum opening  
Enables inspections and work done at front side of the main body box. The maintenance space on both sides is reduced to make the opening wide.
- Safe and secure backup power source even in an emergency (option)  
Compatible with a built-in backup power source, the only one of its kind in the industry. Feel safe and secure! Even in the case of a power outage the sheet can be raised to ensure an evacuation passage. (Various settings are available → P6)



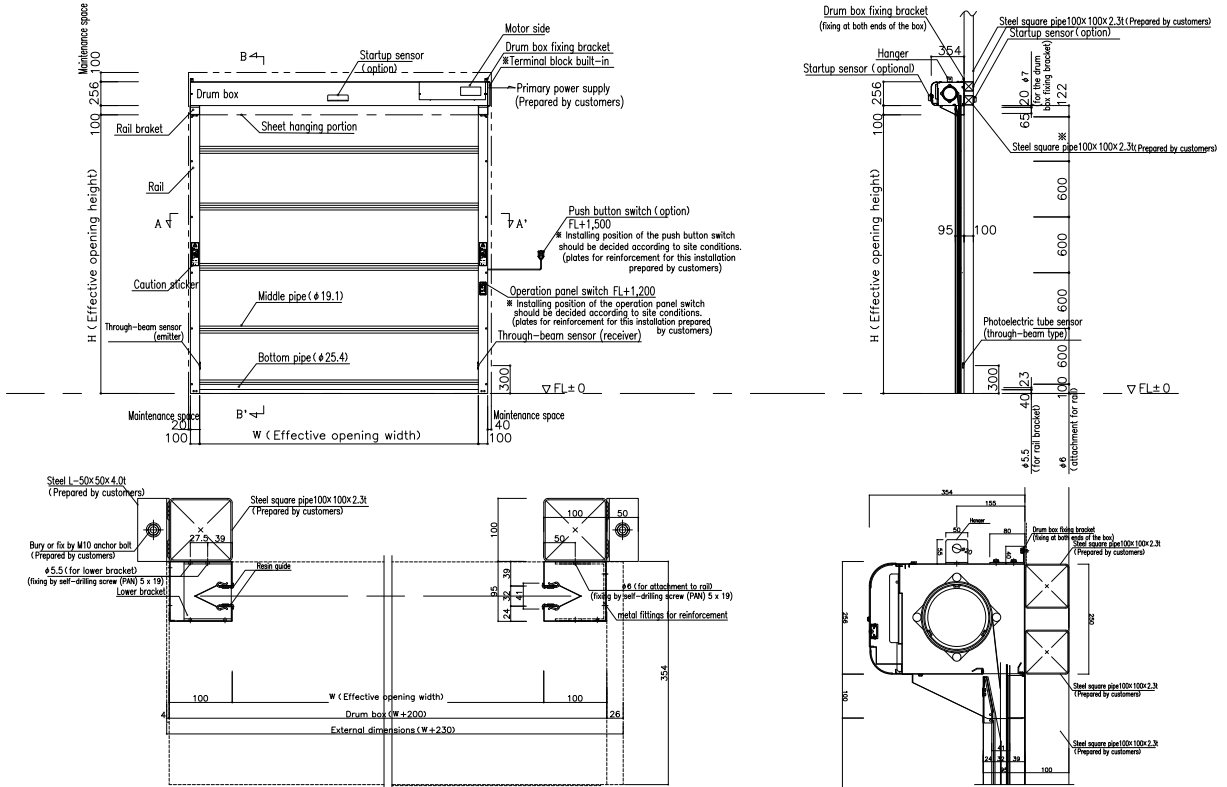
▲RB-1 control panel  
(RB-1Ta is identical to RB-2a)

# Compact Model for Indoor Use RB-1/Compact Model for Outdoor Use RB-1Ta

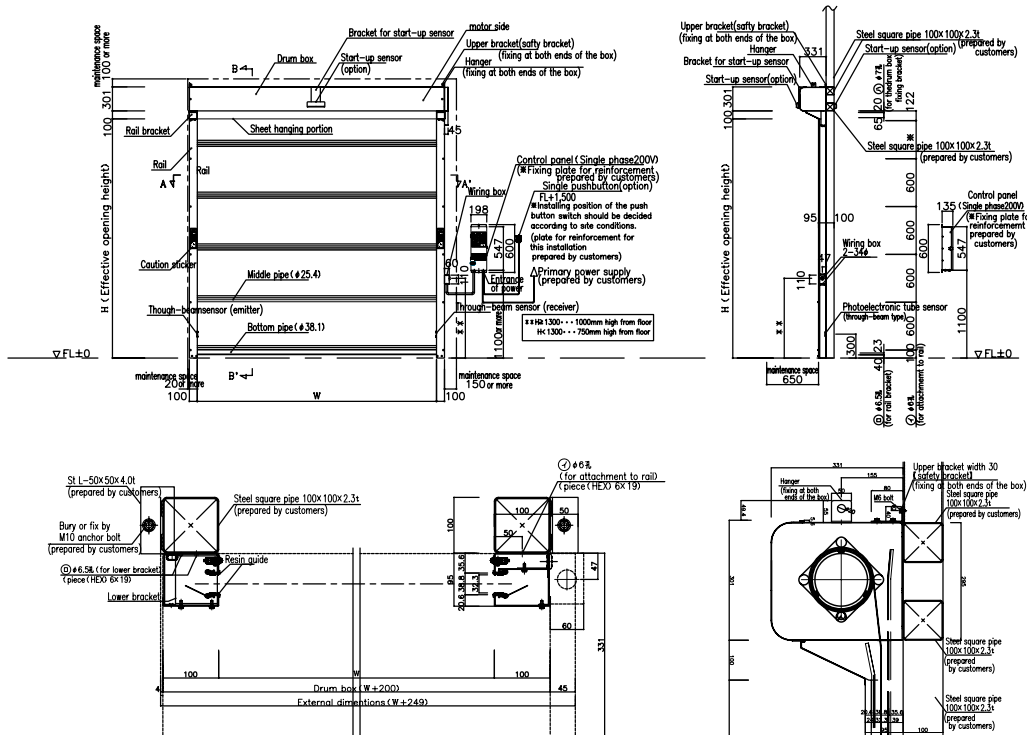
CAD download ► <http://www.uniflow.co.jp>

- Range of possible opening / Effective opening width (mm) : minimum W 800 to maximum W 3000(RB-1), minimum W 1000 to maximum W 3000(RB-1Ta)  
Effective opening height (mm) : minimum H 900 to maximum H 3000(RB-1), minimum H 1000 to maximum H 3000(RB-1Ta)
- Power : Single phase 200V - 240V AC 6A
- Sheet speed : 1.3m/s when ascending, 1.0 m/s when descending

## RB-1 Installation



## RB-1Ta Installation



\* The installation location of the control panel or optional equipment will be determined upon on-site consultation.  
 \*Installation base will be determined upon on-site inspection and consultation.  
 \*The above drawings show the motor set in right side option (standard type). \*NOTE: RB-1 only has Right-side motor.

Best selling indoor and outdoor UNIFLOW model.

# RB-2s, RB-3s

User-friendly and handy operation panel, facilitates easy setup and display of maintenance information.

Highly air-tightened type (optional) provides enhanced insect/dust-proof performance.



▲Example of use : Logistics center



▲Example of use : Manufacturing plant



▲Example of use : Printing plant

■ Operation panel equipped with display window :

Displays maintenance information and the type of error in case a fault occurs in order to support maintenance and management by the user.

■ Easier setting of upper and lower limit sheet positions :

Control by the encoder allows easy and accurate settings on the operation panel at hand.

■ New phototube sensor :

The angle adjust mechanism makes it easier to fix problems due to deviation of standard optical axis, with additionalone to further enhance safety.



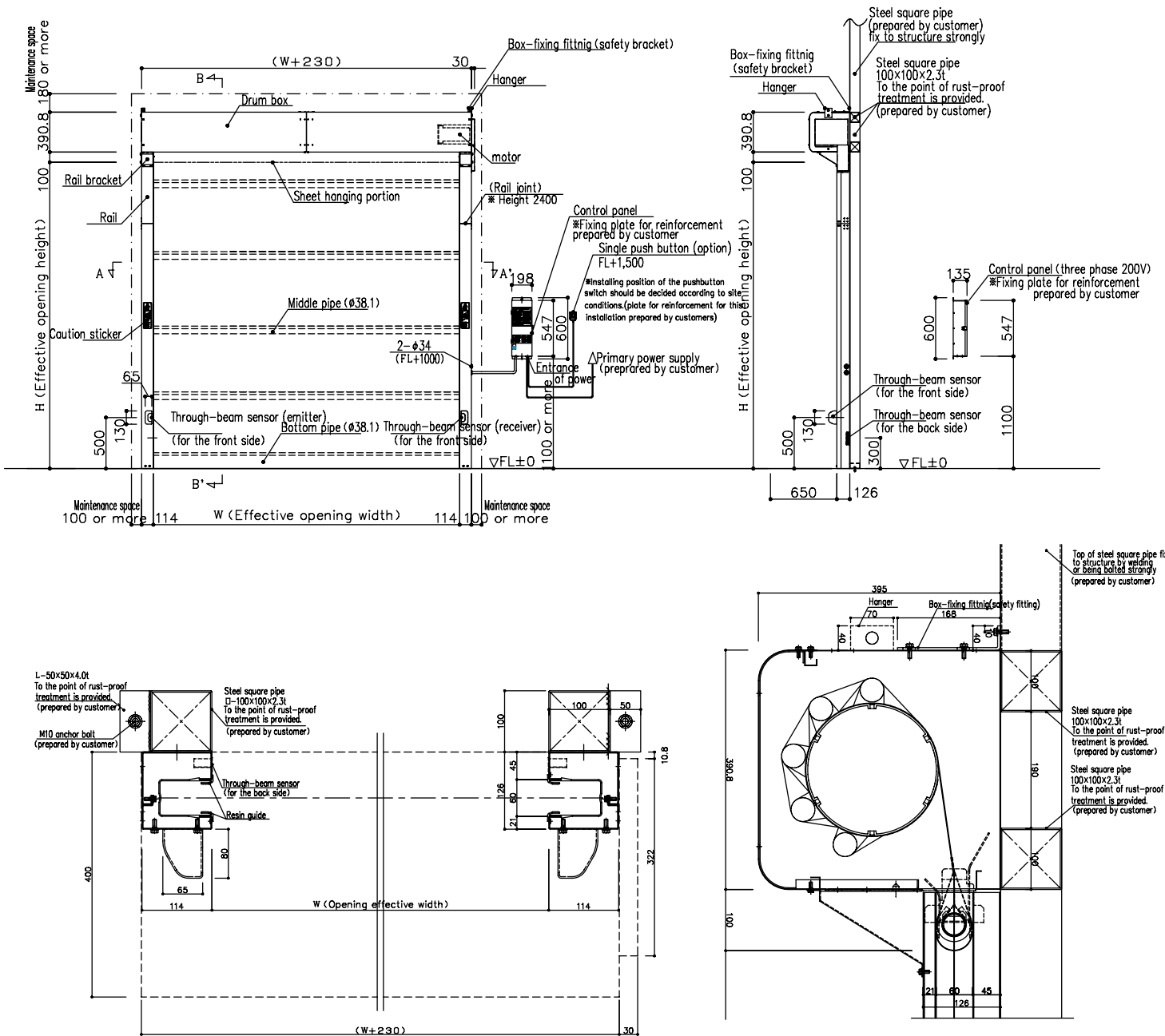
▲Control panel

# RB-2s, RB-3s for both Indoor and Outdoor Use

CAD download ► <http://www.uniflow.co.jp>

- Range of possible opening / Effective opening width (mm) : minimum W 1000 to maximum W 4500(RB-2s), minimum W 4550 to maximum W 6000(RB-3s)  
Effective opening height (mm) : minimum H 1000 to maximum H 5000
- Power / Three phases AC 200 V 6A
- Sheet speed / RB-2s : 1.2 m/s when ascending, 0.6 m/s when descending / RB-3s : 0.8 m/s when ascending, 0.6 m/s when descending

## RB-2s, RB-3s Installation



- \* Where to install the control panel or optional equipment must be determined upon on-site consultation.
- \* Installation base will be determined upon on-site inspection and consultation.
- \* High Airtight model (option) differs from that of the standard model . Please consult us for further details.
- \* The above drawings show the motor set in right side option (standard type).

The largest size in the industry, enabling up to 60 m<sup>2</sup> of opening in plants or warehouses.

# RB-4Z

Ultra-large type available for sizes of up to 10 m in width and 6 m in height.

Featuring the industry's highest level of wind resistance, with its safe and firm design structure, there is no necessity to work on elevated places during adjustment.



- Largest size in the industry for ultra-wide opening :

Affords an effective opening size up to 10 m in width and 6 m in height, thus allowing large vehicles like trucks to smoothly pass through smoothly. Improved durability particularly in the driving unit where a high load is applied.

- Shutter featuring the highest wind resistance in the industry :

Easily opens and closes even in strong winds facilitated by bearings on the pipe ends of the sheet. Achieves the highest wind pressure resistance in the industry at 29.3 m/s \* (when fully closed).

\* Converted value (to wind speed), calculated based on effective opening width of 6,050 mm.



▲Control panel

- Safe structure with new control panel :

Eliminates the need to work on elevated places, as the handy control panel comes equipped with an emergency stop button (push-to-lock and turn-to-reset type) as a standard feature to ensure safety in case of emergency. Moreover, with the encoder control system, it is also possible to configure all functional settings (including the uppermost and lowermost stop positions) from the control panel, at human-reachable height.

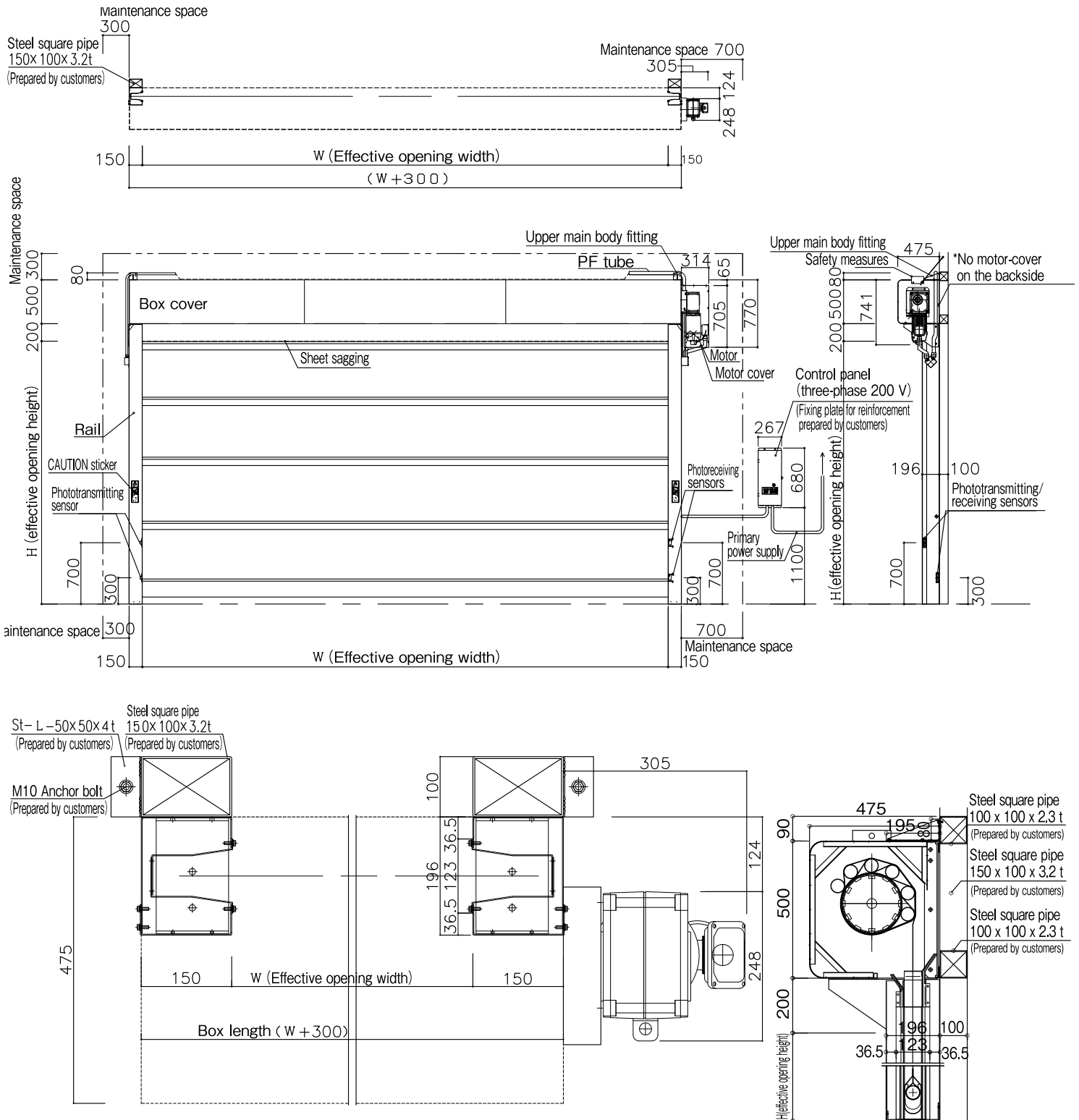


# RB-4Z, large model for Indoor and Outdoor Use

CAD download ► <http://www.uniflow.co.jp>

- Range of possible opening / Effective opening width (mm) : minimum W 6050 to maximum W 10000  
Effective opening height (mm) : minimum H 2000 to maximum H 6000
- Power / Three phases AC 200 V 7A
- Sheet speed / 0.6 m/s (6m < W ≤ 8m), 0.5 m/s (8m < W ≤ 10m) when ascending / 0.5 m/s when descending

## RB-4Z Installation



\* Where to install the control panel or optional equipment must be determined through upon on-site consultation.  
 \* Installation base will be determined upon on-site inspection and consultation.  
 \* For outdoor use, install the products under a roof and mount the covers for External motor.  
 \* The above drawings show the motor set in right side option (standard type).

For partitions in explosion-proof ranges in chemical factories, etc. This model conforms to explosion-proof guidelines, and can be used in areas up to Zone 2 (formerly, Type 2 area).

Patent  
pending

# RA-2E

Only Japan Uniflow applies intrinsically explosion-proof specifications based on JNIOOSH Explosion-Proof Guidelines, instead of simply a construction to enhance safety.

The adoption of an antistatic flameproof, sheet and a new structure helps to further enhance safety.



- Industry's first-ever antistatic flameproof sheet provided as standard
- Newly developed instant static electricity elimination structure (patent applied for)  
Our proprietary new structure instantly discharges static electricity that may be generated when the sheet shutter is opened or closed. Since no static electricity builds up on the shutter, it is safer to use.
- Wide range of explosion-proof options available  
In addition to conventional antistatic transparent sheets and antistatic insect-proof orange sheets, also available are push buttons, microwave sensors, and inspection windows intended for use with flameproof sheets.

\*An explosion-proof type (RA-2E), in accordance to explosion-proof regulations in Japan. There is no guarantee of compliance with explosion-proof regulations outside Japan.

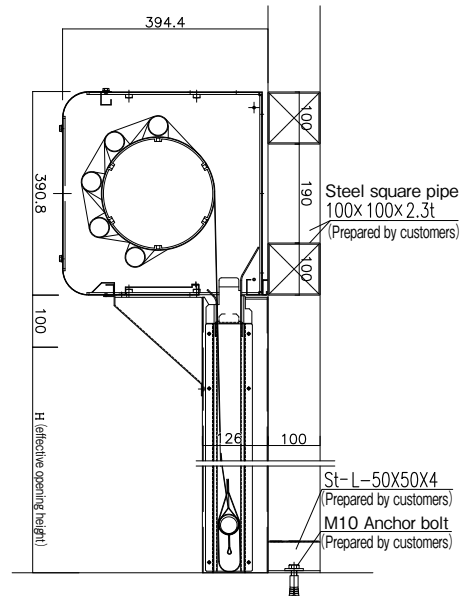
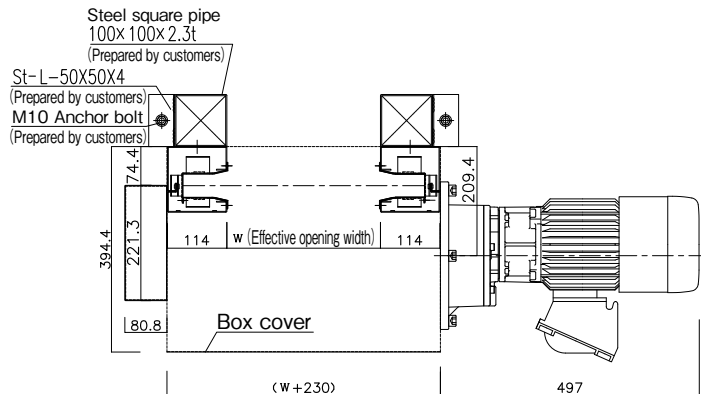
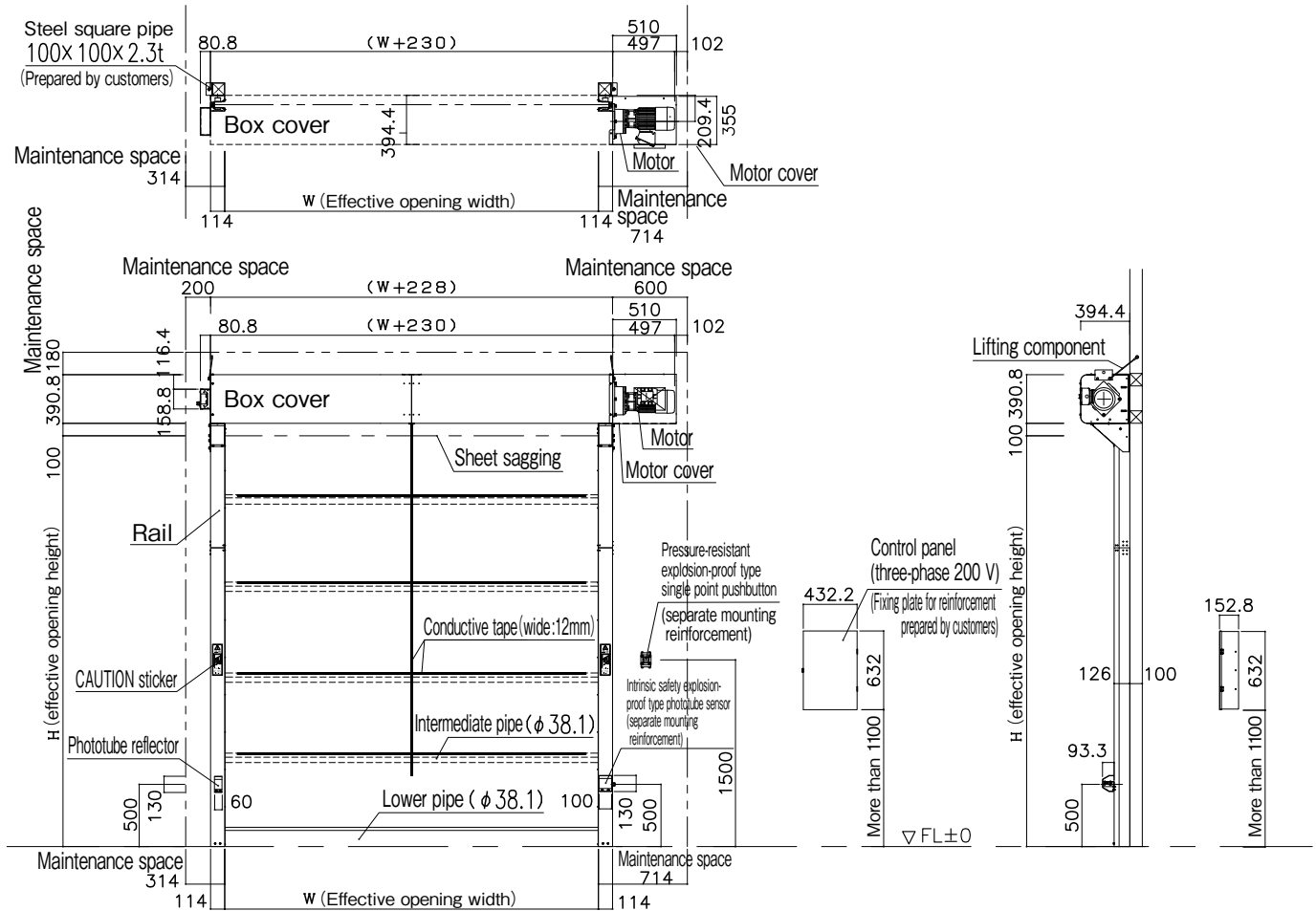
□ Relevant verifications with local explosion-concern authority are required in advance, before order confirmation. It is a MUST to handle this product as regulated by the relevant local authority.

# RA-2E, explosion-proof model for Indoor Use

CAD download ► <http://www.uniflow.co.jp>

- Range of possible opening / Effective opening width (mm) : minimum W 1000 to maximum W 4000  
Effective opening height (mm) : minimum H 1000 to maximum H 4000
- Power / Three phases AC 200 V (50 Hz/60 Hz) 5 A
- Sheet speed / 0.6 m/s when ascending / 0.5 m/s when descending

## RA-2E Installation



- \* Install the control panel in a non-explosion-proof area.
- \* Where to install the control panel or optional equipment must be determined through consultation at each site.
- \* Treatment of the installation base must be determined through consultation at each site.
- \* Wiring work for such optional equipment as explosion-proof primary cables and switches is not included. The customer must make arrangements with electric construction suppliers to perform such work.
- \* Class C grounding work (measuring 10 Ω or less in grounding resistance) should be done.
- \* The drawings above show the motor set in right side (standard type).

**UNIFLOW**

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