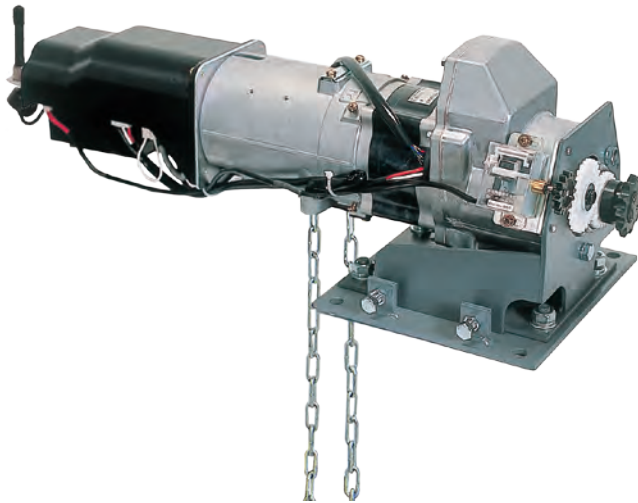


SHUTTER OPERATOR WITH OBSTACLE-SENSING MECHANISM

SHINSEI
USA-400GSC
USA-400GSCR

To use this product in safety, be sure to read the catalogue of "SHUTTER OPERATOR" and "INSTRUCTION MANUAL" before use.
Be sure to check the "Warning" and "Caution" in particular.



Transmitter

CHARACTERISTICS

"Safety & Security", "Low Energy" and "Quiet" were searched for from this operator.

1. "Safety & Security"

When an obstacle was sensed, shutter immediately stops and it reverses upward. The load sensitivity is adjustable with 10 levels. A bottom switch and any other optional sensors are no more required.

2. "Low Energy"

Low power consumption for taking down shutter was achieved. When shutter is going down, the motor collects the electric energy which is generated from taking down shutter. (*Eco product that is less than 1 watt when going down at the rated load.*)

3. "Quiet"

Soft speed-control for shutter (*slow start / slow stop*). And furthermore the superior quietness was realized.

4. "High Precision Digital Control"

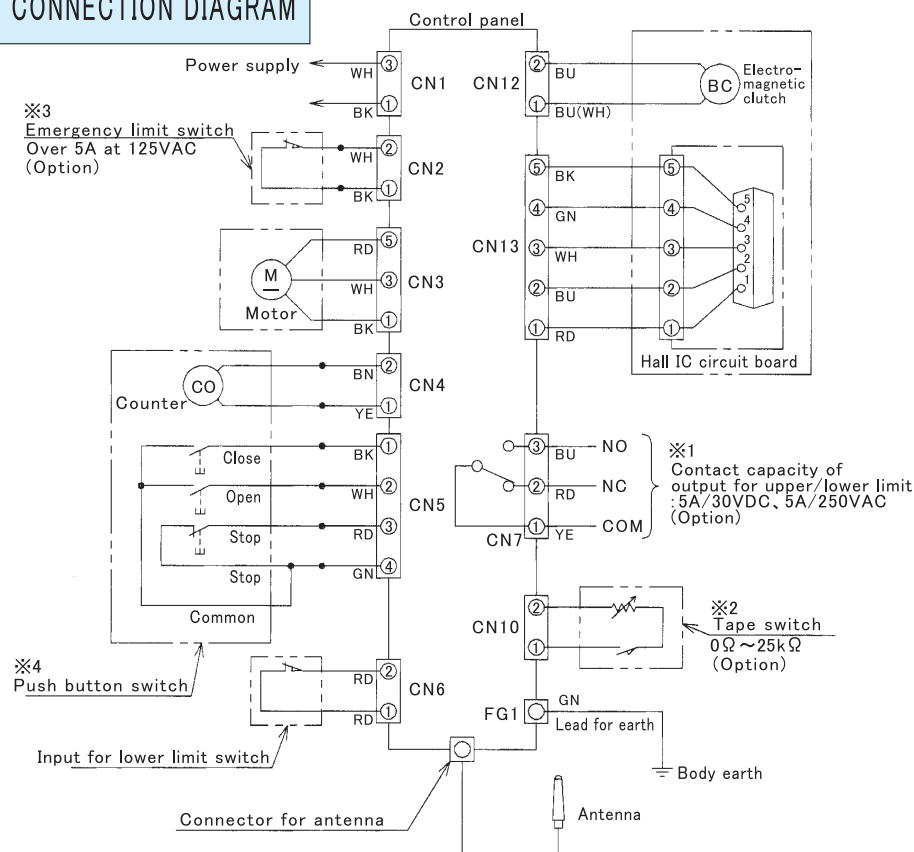
The stable controlled rotation was realized by High Precision Digital Control of DC brushless motor. Ascending/descending speed is same without relation to the power supply frequency.

Model			USA-400GSC			USA-400GSCR Built-in radio receiver type		
Voltage			1-ph 200V	1-ph 220V	1-ph 230V	1-ph 200V	1-ph 220V	1-ph 230V
Full-load current of operator (A)			2.5	2.3	2.2	2.5	2.3	2.2
Drum sprocket	#40-T50	Winding capacity (kg)	400 (3824N)					
		Min. fall load (kg)	17.4 (171N)					
		Winding drum speed (r.p.m)	4.7/3.7 (Ascending / Descending)					
Output shaft	Torque (N•m)		70					
	Min. fall torque (N•m)		2.3					
	Speed (r.p.m)		24.3/19.4 (Ascending / Descending)					
Motor	Output (kW)		0.20					
	Speed (r.p.m)		1500/1200 (Ascending / Descending)					
	Full-load current (A)		1.6	1.5	1.5	1.6	1.5	1.5
	Time rating (minutes)		10 (Program control mode)					
Control method	Control mode		Micro computer controlled operator					
	Controlled stop position		Upper limit…Positioning control mode by the pulse-detection. Lower limit…Signal detection mode by the limit switch counter.					
	Input for operation		3-point push button switch (2a1b)			3-point push button switch (2a1b) Transmitter (AF3-T)		
	Obstacle-sensing mechanism		Pulse-detection mode					
Sprocket Output side/Drum side			#40-T11／#40-T50					
Roller chain			#40-117 links (1.5m length, with joint link and offset link)					
Operator weight (kg)			17					

Remarks :

- Use environment : Ambient temperature; -10°C to +40°C (subject to no freezing •dew condensation)
Ambient humidity less than 85%RH
- Shutter shall be surely equipped with the emergency limit switch.
- The figures in winding capacity and minimum fall load are obtained with the use of 4B drum.
When the 5B drum is used, the winding capacity is reduced to 0.87 time from the above ratings.
- Durability: 10,000 opening and closing.

CONNECTION DIAGRAM



PACKAGE CONTENTS

1. Operator package		
Model		USA-400GSC
		USA-400GSC Built-in radio receiver type
Specification		Standard / with Upper-Lower limit output (Option)
Operator	Main body	1 unit (incl. control panel, limit switch, controlled descent cord (with caution plate))
	Bolt set	Hexagon bolt M8 × 30 : 4 pcs (with hexagon nuts)
	Push button harness	1 pc.
	Counter harness	1 pc.
	Output for upper/lower limit harness	Excluded in the standard type 1 pc : included in the Upper-Lower limit output type
Radio controller	Transmitter (AF7-T3)	—
	Hand strap	—
	Antenna	—
	Antenna mount	—
	Antenna cable (Ferrite core attachment)	—
	Self tapping screw with cross recess (M4 × 6)	—
Safety circuit breaker		Operator is equipped with it.
Roller chain		#40-117 links (1.5m length, with joint link and offset link)
Instruction manual		1 set

2. Sprocket package		
Name	Specification	Accessories
Drum sprocket	#40-T50-φ40 : 1 pc.	•Hexagon socket set screw (Cup point) M8 × 35 (Strength class: 8.8) : 1 pc. •Hexagon nut M8 : 1 pc.

※The final number of specification code shows the diameter of drum sprocket.

Output sprocket
#40-T11 (P.C.D.45.08)

Drum sprocket
#40-T50 (P.C.D.202.26)

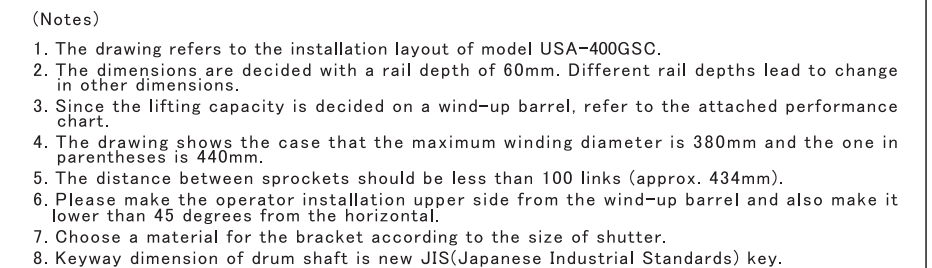
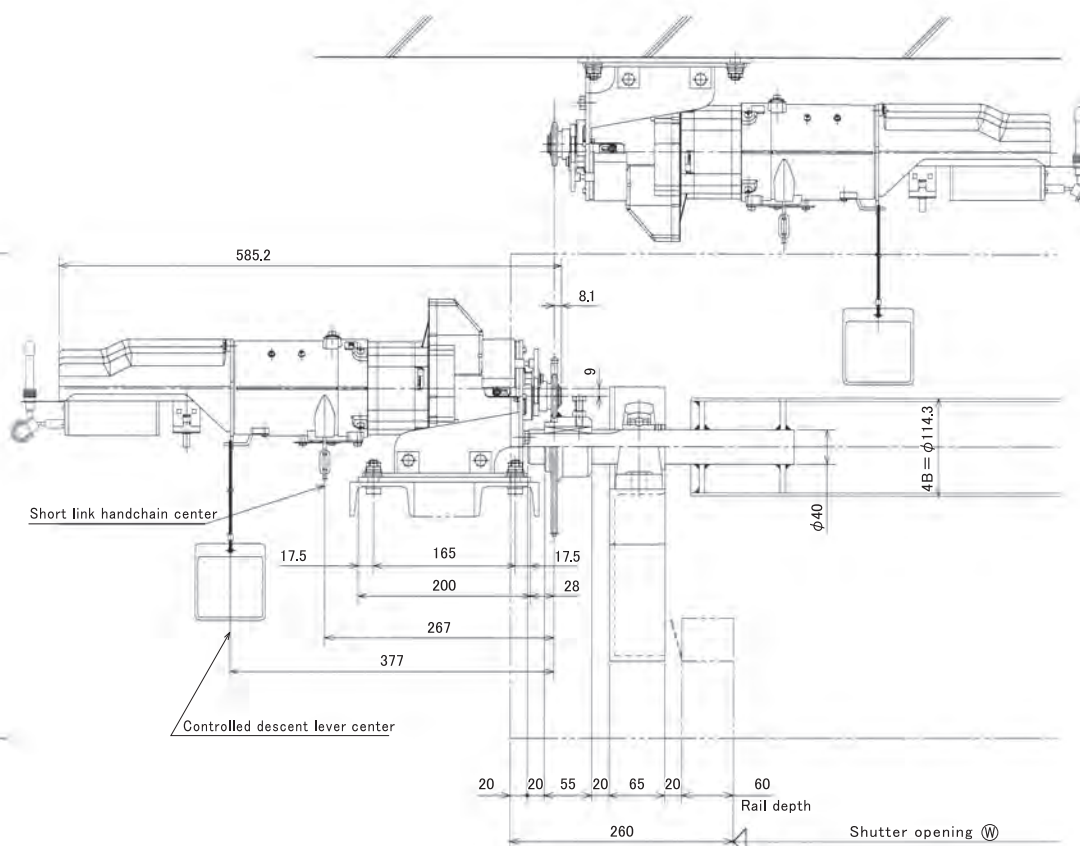
Angle bracket
L-65 x 65 x 6 or L-75 x 40

Max. winding diameter
φ380 [φ440]

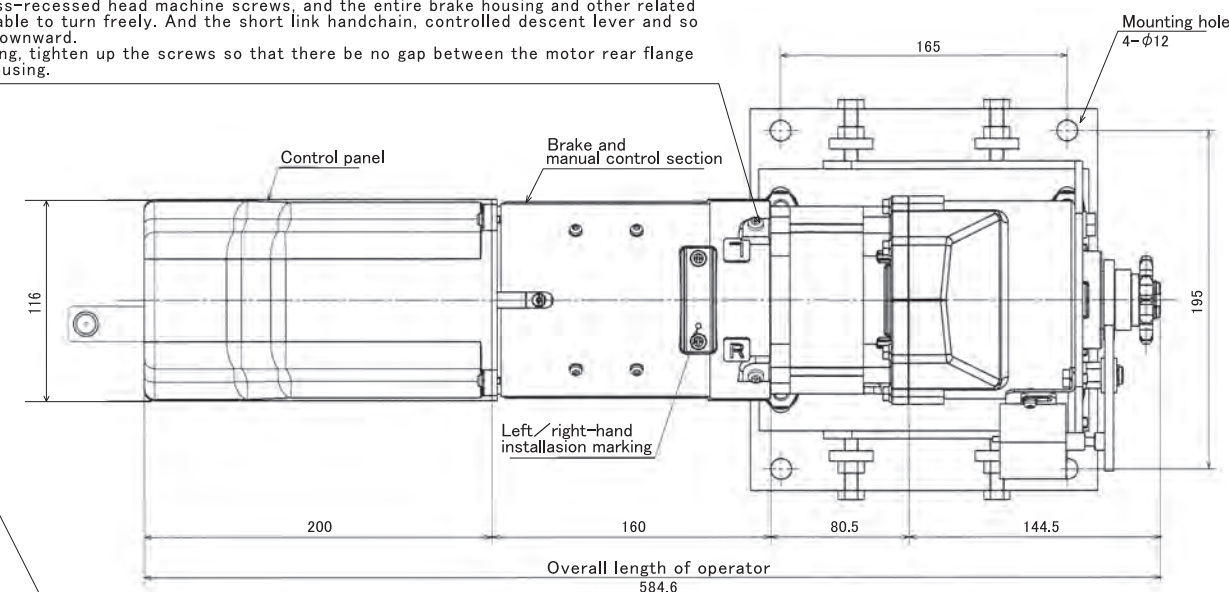
0° ~ 45° 以下

Dimensions (mm):

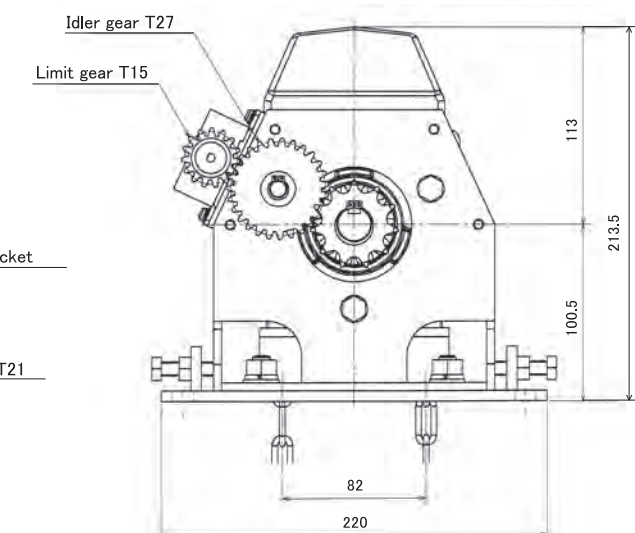
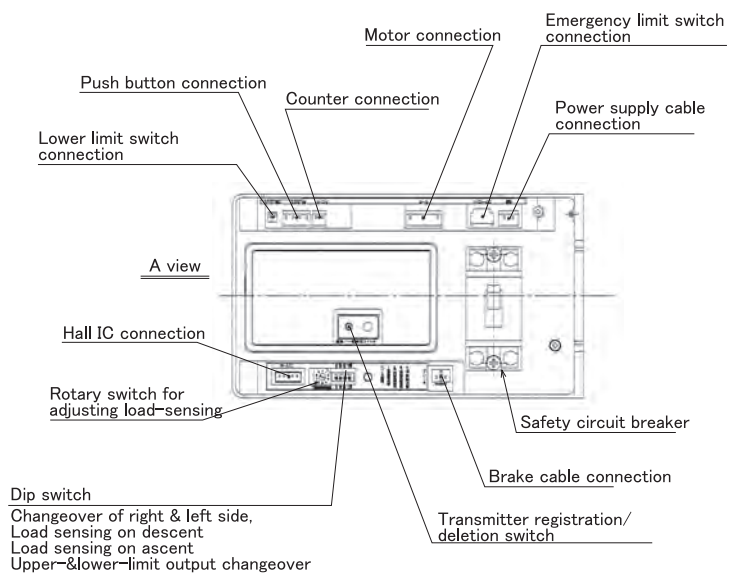
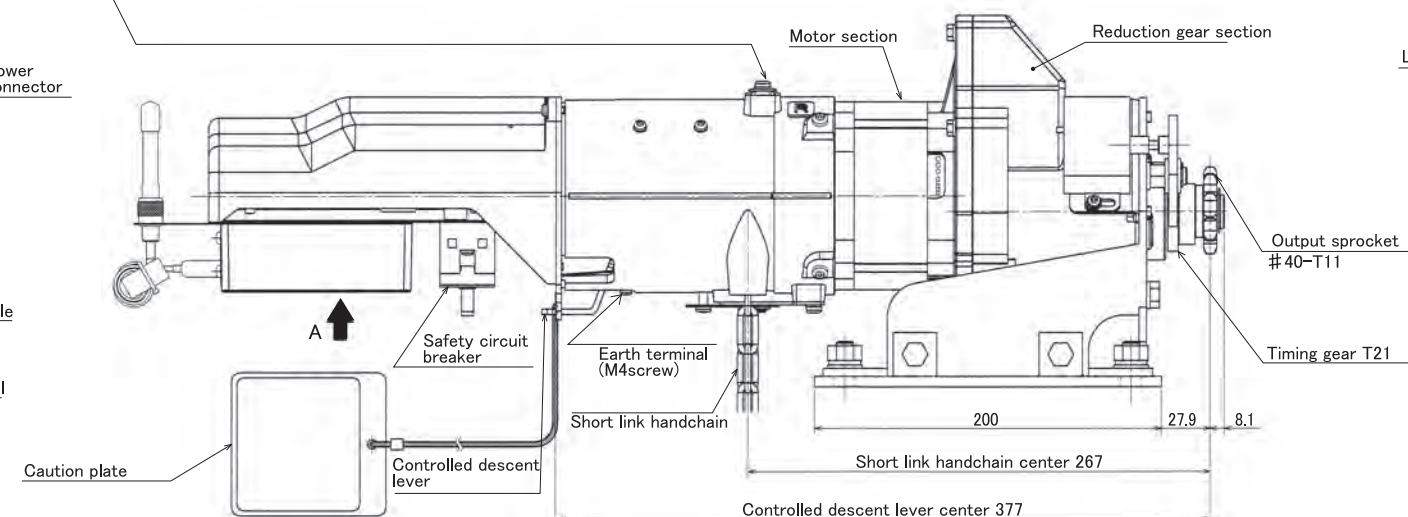
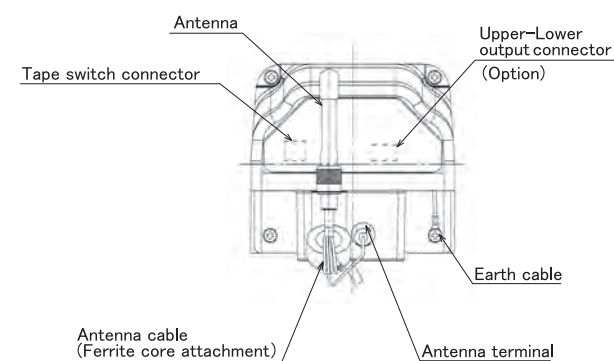
- 450 [500]
- 230 [250]
- 220 [250]
- 213.5
- 113
- 100.5
- 195
- 220
- 340 [355]
- 565 [610]
- 225 [255]



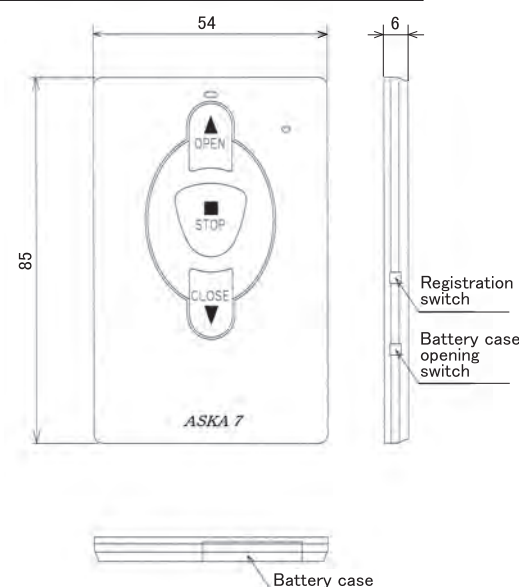
Loosen four cross-recessed head machine screws, and the entire brake housing and other related sections will be able to turn freely. And the short link handchain, controlled descent lever and so on can be set downward. After repositioning, tighten up the screws so that there be no gap between the motor rear flange and the brake housing.



The circle (○) on the fixing plate denotes the direction of installing operator (right-hand instalation in this drawing). For the other installation layout, loosen two machine screws, draw out the fixing plate and reverse it.



APPEARANCE DRAWING FOR TRANSMITTER

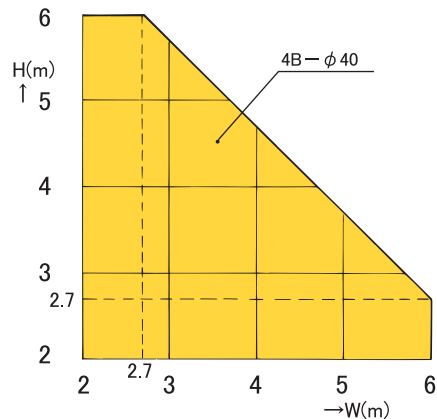


Item	Specifications
	Transmitter
Model	AF7-T3
Supply voltage	DC3V (Lithium Coin Battery CR-2025)
Transmission frequency	426.075 MHz
Modulation method	F1D
Battery life	1 year (subject to 10 times operation / day)
Operation temperature range	0~+50°C
Operation humidity range	less than 85%RH (Non condensing)
Code sets	16,770,000 codes (factory-set)
Transmission output	Within 1mW (the construction design of specified radio equipment certified)
Transmitting range	Approx. 10~50 m (Transmitting distance subjects to be changed by environment.)
Antenna	Built-in antenna

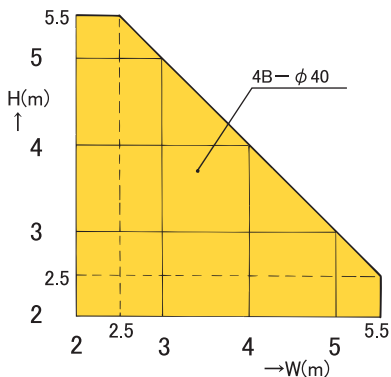
※Receiver is built into control panel.

PERFORMANCE CHART

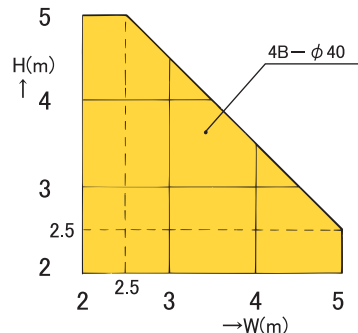
○1.2mm thick slat (pitch 75mm) in use



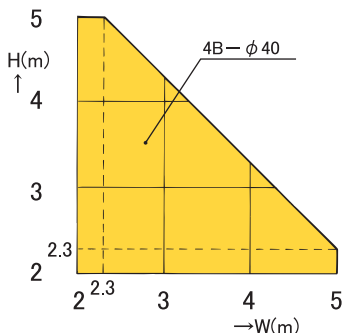
○1.4mm thick slat (pitch 75mm) in use



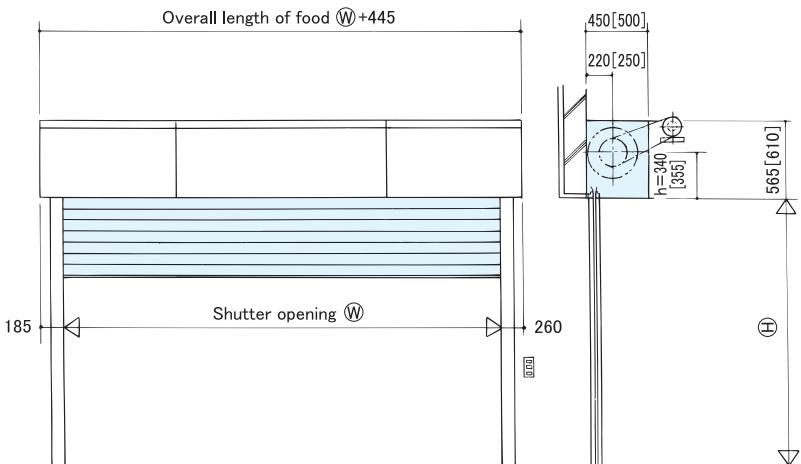
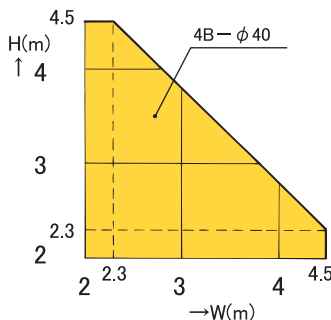
○1.5mm thick slat (pitch 75mm) in use



○1.6mm thick slat (pitch 75mm) in use



○1.6mm thick smoke-proof slat in use



(Notes)

1. Since the performance charts include hanging weight (parth, bottom bar, etc.), the specifications should be decided with effective "W" and "H" figures.
2. The effective height "H" depends on the form of slat.
3. The maximum winding height of the standard limit switch is about 6200mm.
4. Refer to the shutter storage drawing for detail of hood dimensions.
5. The sleeve dimensions depend on the rail depth.
6. The winding drum shaft should be kept shorter than specified in the storage drawing.
7. The slat strength is not considered in the performance charts.
8. In the drawing, the maximum winding diameter is 380mm. The dimension in parentheses are referred to in the case of 440mm diameter.

FOR YOUR SAFETY USE



WARNING

If the system is set up or handled wrongly, death or serious injury may result.

To avoid hazards, follow the instructions below.

1. Read the catalogue and the instruction manual thoroughly for correct use before designing shutter.
2. This operator is designed only for the shutter. Do not use this operator for the other purpose.
3. This operator installation works require any qualified electric operator and skilled operator. Ask a qualified shutter worker to install operator.
4. Be sure to supply power from the commercial power source. Use the power within the specified voltage range of the operator.
* Using the power out of the range of the specified voltage may damage the motor or control panel, causing a fire or an electric shock.
5. The bracket install the shutter in the correct position in the building structure following the shutter working diagram (installation diagram).
* Bracket supports all shutter weight. An injury may result by damaged shutter if it is not fixed firmly.
6. Install the operator in a place kept away from rain or water.
* A fire or an electric shock may result.
7. Be sure to connect the operator to ground.
* A fire or an electric shock may result.
8. Do not disassemble or modify the operator. In addition, do not install any optional parts except for our specified parts.
* An injury may result by unusual operation.
9. Before opening and closing the shutter, make sure there is nobody and no obstacle around.
* An injury may result by getting stuck in the shutter.
10. Choose key-locked push button switches.
* An injury may result by getting stuck in the shutter if any other person who is not in charge (e.g./ a child) operates.



CAUTION

If the system is set up or handled wrongly, personal injury or property damaged may result.

To avoid accidents, follow the instructions below.

1. Be sure to keep the winding torque within the shutter operator's specified range.
* The operator may not work normally, and an injury may result in case of shutter may damaged.
2. Make sure that the power supply is turned off before manual operation (handchain or handcrank). Never use the push button switches at manual operation.
* In case that handchain is involved or handcrank revolves, an injury may result.
3. Before using the controlled descent cord, make sure the shutter is not moving. Never use the push button switches.
4. Set the limit switch correctly, and be sure to check the stop position after setting.
5. Check the type, operation voltage and rating torque before installing the operator.
6. The motor is ten-minute rating. If the motor is operated longer then the time rating, the thermal protector detects the long operation and stops the motor automatically. In such a case, the motor will be automatically restored after cooling down for a while. When you use the shutter, pay attention how much or how often you open and close the shutter.
7. Check the operator regularly and if any trouble is found, repair or replace the operator.
8. Be sure to instruct the person in charge of the shutter to keep this in mind.

※ Specifications subject to change for product improvement without prior notice.

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