

SUN METAL

Motorized

Explosion Proof Rolling Shutter



Prevent explosions igniting from motorized rolling shutter operators, control panels and electrical devices.

Motorized explosion proof rolling shutter is designed where located in ignitable environment caused by flammable gasses and volatile chemicals.



- Application
- Factory and storage where use flammable gasses and volatile chemicals cause high ignitable environment.

- Features
- Prevent explosion igniting from operator, control panel and other electrical devices.

■ Related regulations

Reference to Labour Safety and Health Regulations of Industrial Safety and Health Law Enforcement Ordinance S47 government ordinance Act No.318, when use electrical machine and appliance in flammable vapor or combustible gasses which possible to reach explosive density environment, must use explosion proof structure electrical machine and appliance in accordance with degree of hazardous.

Electrical equipment of this explosion proof rolling shutter conform to <Explosion proof structure electrical machine and appliance> which comply with <Construction electrical equipment explosion guideline> of National Institute of Occupational Safety and Health Japan.

*Explosion proof structure electrical machine and appliance is comply with a standard of Ministry of Health, Labour and Welfare Japan.

■ Slat type



A type

B type

G type

Operator

Two types of motors are available as level of environment and type of gasses.

Type	Flame proof type	Increase safety electrical apparatus type
Standard	d2G4	eG3
Hazardous area	Zone 1 and 2	Zone 2

Classification of flammable gasses and vapor hazardous area

Zone 0	In normal situations, explosive atmosphere is able to be arisen continuously or very often.
Zone 1	In normal situations, explosive atmosphere is able to be arisen often.
Zone 2	In normal situations, explosive atmosphere is able to be arisen seldom or short period.

*Flammable gasses and vapor hazardous area : There are explosive gasses and air together where are able to arise explosion in general factory.

Other electrical equipment

Name	Control box	Limit switch	3 points push button	Emergency switch
Standard	Exd IIBT6	Exde IICT6	Exde IICT6	Exde IICT6
Temperature class	T1~T6	T1~T6	T1~T6	T1~T6
Group	IIA~IIB	IIA~IIC	IIA~IIC	IIA~IIC
Hazardous area	Zone 1 and 2	Zone 1 and 2	Zone 1 and 2	Zone 1 and 2

Classification of Explosiveness Gasses

<Applicable Range>

- Covered by Flame proof Operator (d2G4)
- Covered by Increased Safety Electrical Apparatus Operator(eG3)

		Temperature Class*					
		T1	T2	T3	T4	T5	T6
Group*	IIA	acetone ammonia carbon monoxide ethane acetic acid toluene propane methane	ethanol 1-butanol butane	gasoline hexane	acetaldehyde		ethyl nitrite
	IIB	hydrogen cyanide acrylonitrile coal gas	ethylene ethylene oxide	2-ethoxyethanol dimethyl ether isoprene	ethyl methyl ether dibutyl ether		
	IIC	hydrogen	acetylene			2carbon disulfide	ethyl nitrate
		Low Dangerousness High					

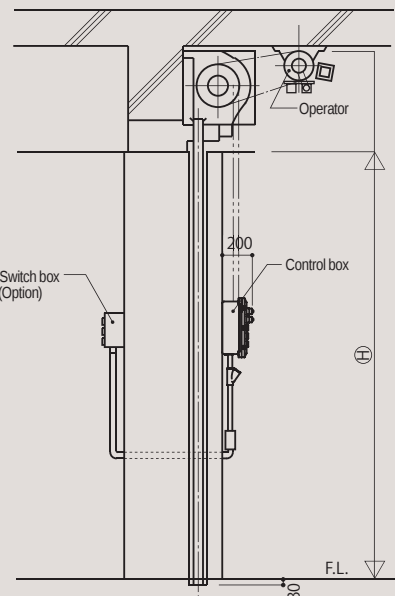
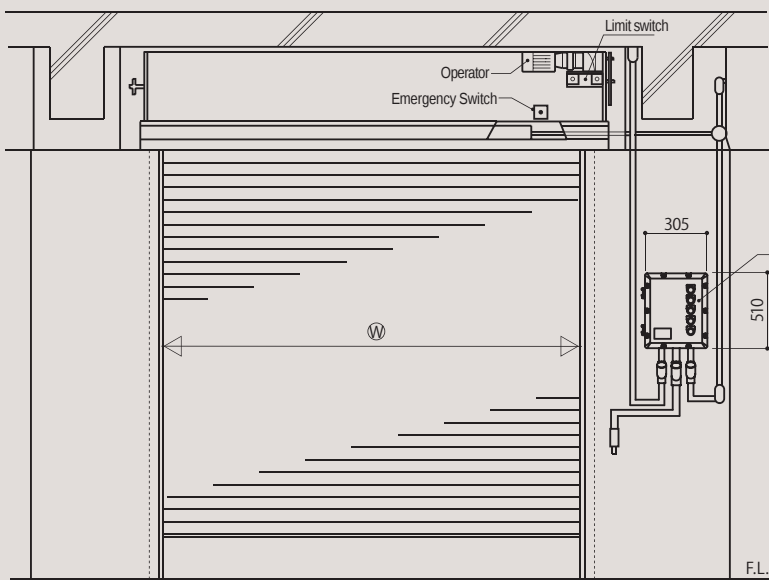
*Group and temperature class refer to <Construction electrical equipment explosion guideline>.

● Flame proof (d2G4)

When an explosive gas occurs inside electrical equipment, the completely enclosed structure does not detonate external explosions.

● Increased Safety Electrical Apparatus (eG3)

Those electrical equipment do not occur sparks, arcs and heating during normal operation which significantly increases the level of safety for electrical equipment.



Specifications

Operation

- 3 points push buttons operate this rolling shutters as below.

Down :Keep push down button to close the rolling shutter.

1. Operate by 3 points push buttons on the control box.
2. Operate from both in and out side by 3 points push buttons on the control box and independent 3 points push buttons.

*Notice: Self weight gravity closing is not available by smoke/heat detector with fire service panel.

- All electrical equipment adopt Electrical equipment standard and Indoor wiring regulation.

Applicable slat type

A type, B type, G type

Operator

Flame proof structure 3 Phase 400V: SFD40JS (0.4kW), SFD75JS (0.75kW)
SFD150JS (1.5kW)

Increased safety electrical apparatus 3 Phase 400V : SFD40AS (0.4kW), SFD75AS (0.75kW),
SFD150AS (1.5kW)

Designed durability

- Designed operable period:10years
- Designed operable cycles : 10,000 open/close (without malfunction)

*Above designed durabilities are not guaranteed figures. Those operable period and cycles require appropriated maintenance and clearing of the products by owner and carried out periodical maintenance by certified supplier. It will not reach above period and cycles where coastal districts, hot springs, chemical plants, other corrosive environment, exposed to dust and smoke, high/low temperature, high humidity condition, operation frequency, inspection period and care of products may affect the durability.

Service condition

- Ambient temperature: -10°C ~ +40°C (except freezing)
- Ambient humidity : RH 85% or below
- Environment : Except coastal districts, chemical plants and other corrosive environment.

* At contacting parts where between slat and guide rail may occur abrasion, noise and rusting although in right operation, those phenomenon when open and close operation frequently. (Operation frequency of explosion proof rolling shutter is adopted once to twice open/close per day).