

SMART WINDOW CONTROL

- Smoke Ventilation Systems
- Electric window Actuator Systems
- Pneumatic Smoke Ventilation System
- Sun Shading Systems
- Manual Opening Systems



Guangdong Kinlong GTI Mechatronic Window
Control System Company Limited

COMPANY PROFILE

KIN LONG Company has been an innovative and professional company engaged in research, development, manufacture, and marketing of fittings for architectural hardware. KIN LONG supplies fittings of high quality and provides consulting services to the architectural industry. Through many years' development, KIN LONG achieves a good reputation in construction industry. With a successful IPO on the SME board of Shen Zhen Stock Exchange, KIN LONG has become the largest listed company in the construction hardware industry. Stock Abbr. "KIN LONG HARDWARE" Stock code "002791".

KIN LONG has a factory of 200,000sq.m. with construction area of 200,000sq.m. The total number of employees exceeds 8000, including over 800 technical and managerial personnel. With a developing sales network both home and abroad, its products are distributed through China and exported to more than 100 countries and areas.

Unique value can only be created by professionalism, speculation has no future. This motto is practiced by KIN LONG personnel at all levels, ranging from senior executives to the new entry employees. In the continuous quest for constant technology development, higher quality and better services, today KIN LONG has become the prominent and largest supplier of fittings for architectural hardware industry.

Striving to become the leader to serve the architectural hardware industry in the world, KIN LONG not only adopts advanced management and manufacturing method, but also invests heavily in design and innovation. Till now, KIN LONG has more than 10,000 items of products and owns more than 500 patents at home and abroad. Rich product series and prominent capability of innovation is the driving force for its progress. The company has achieved acclaim in innovative design, elegant appearance, high quality products and unsurpassed services, which greatly meets the individual needs of different customers, and is widely praised by customers. KIN LONG takes pride in supplying fittings to many famous landmarks in countless cities all over the world.

KIN LONG is always your best and most reliable partner in supplying fittings for architectural hardware.

Guangdong Kinlong GTI Mechatronic Window Control System Company Limited (in the following abbreviated “Kinlong GTI”) is a joint venture company of GTI (Hong Kong) Automation Group and Guangdong Kinlong Hardware Products Company Limited. With ability of research and development, production and marketing of automatic window & door system, Kinlong GTI offers an extensive range of products including intelligent window control system, electrical window actuator, pneumatic window actuator, manual window actuator and sun-shading system. Kinlong GTI has established system of R&D, product testing and quality control units. Materials and components are purchased from renowned supplier and/or imported from oversea reputable suppliers. All purchased material and components must pass the process of quality standard verification. Kinlong GTI has two production facilities in Mainland China and Hong Kong.

Kinlong GTI is one of the leading brands in automatic window system market, driven by the continuation of innovation, quality management and advanced production. Kinlong GTI has been certified by many international standard institutions. Certificates and qualifications are as follow:

CE Certificate; Certificate of Annex G (Test Method for heat exposure) from the BS EN12101-2:2003 Smoke and Heat Control Systems; ISO9001:2008 Certificate from UKAS Quality Management System Certification (mutual recognized by HOKLAS); CCC Certificate of China; Certified by China National Supervision and Test Center for Fire Electronic Product Quality; Certified and accredited by CNAS(China National Accreditation Service for Conformity Assessment); Certified by CMA (China Metrology Accreditation); Approved and certified according to Product Quality Law of the People's Republic of China; Certified by China National Center for Quality Supervision and Test of Fixed Fire-fighting System and Fire-resisting Building Components.

Integrated with business platform of Kinlong group, GTI products can fully utilize its high quality and advanced technology to provide the best window automation solution to customers. “Only Professional Delivers Differentiated Value. Speculation Has No Future.” Kinlong GTI believes that its quality products synergy with strong sales network and management systems of Kinlong definitely boosts GTI brand and enlarge its market share.

Customer satisfaction is most important to us. Kinlong GTI definitely embraces to satisfy our customers with products of innovative technology, excellence quality and effective service.



CONTENTS



INTELLIGENT CONTROLLER SERIES1
Smoke Ventilation System
Ventilation System



ELECTRIC WINDOW ACTUATOR SERIES7
Natural and Smoke Ventilation System featuring "Fail Safe" Function
Chain Actuator
Dual Chain Actuator
Quadruple Chain Actuator
Rack and Pinion Actuator
Spindle Actuator
Multi-point Locking Actuator



PNEUMATIC SMOKE VENTILATION SYSTEM37
Pneumatic Smoke Ventilation System



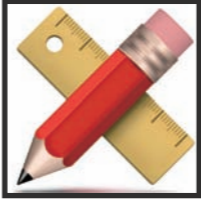
SUN SHADING SYSTEM43
Glass Louver System
Aluminium Louver System



MANUAL OPENING SYSTEM49
Shear - Style Manual Actuator
Manual Chain - Type Handle
Manual Spindle Actuator
Manual Gear - Type Handle



ACCESSORIES61
Switch Button
Remote Control
Smoke Detector
Rain / Wind Detector
Synchronized Control



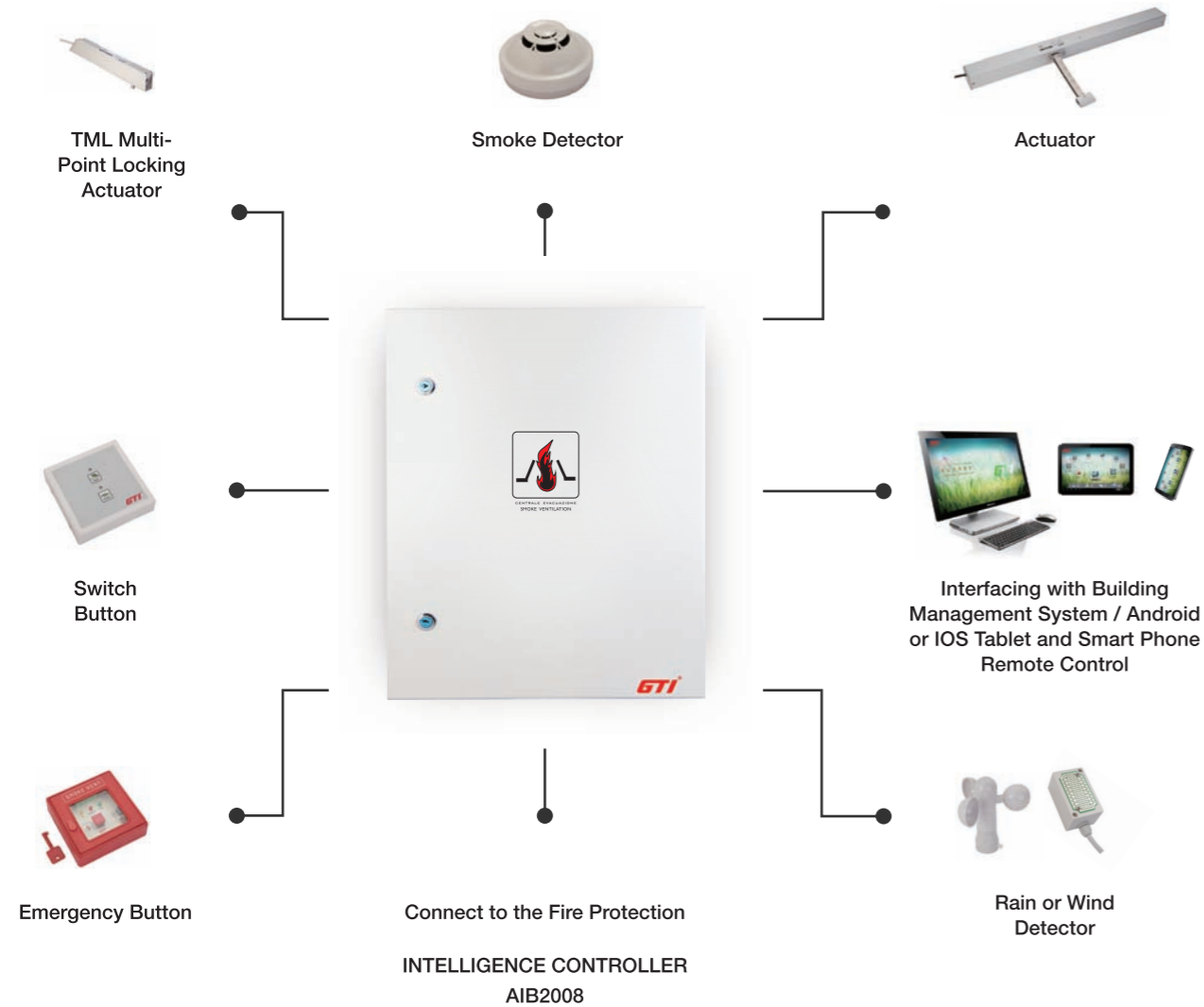
APPENDIX65
A Quick Guide to Select the Proper Actuator
Dimension and Application
Specification



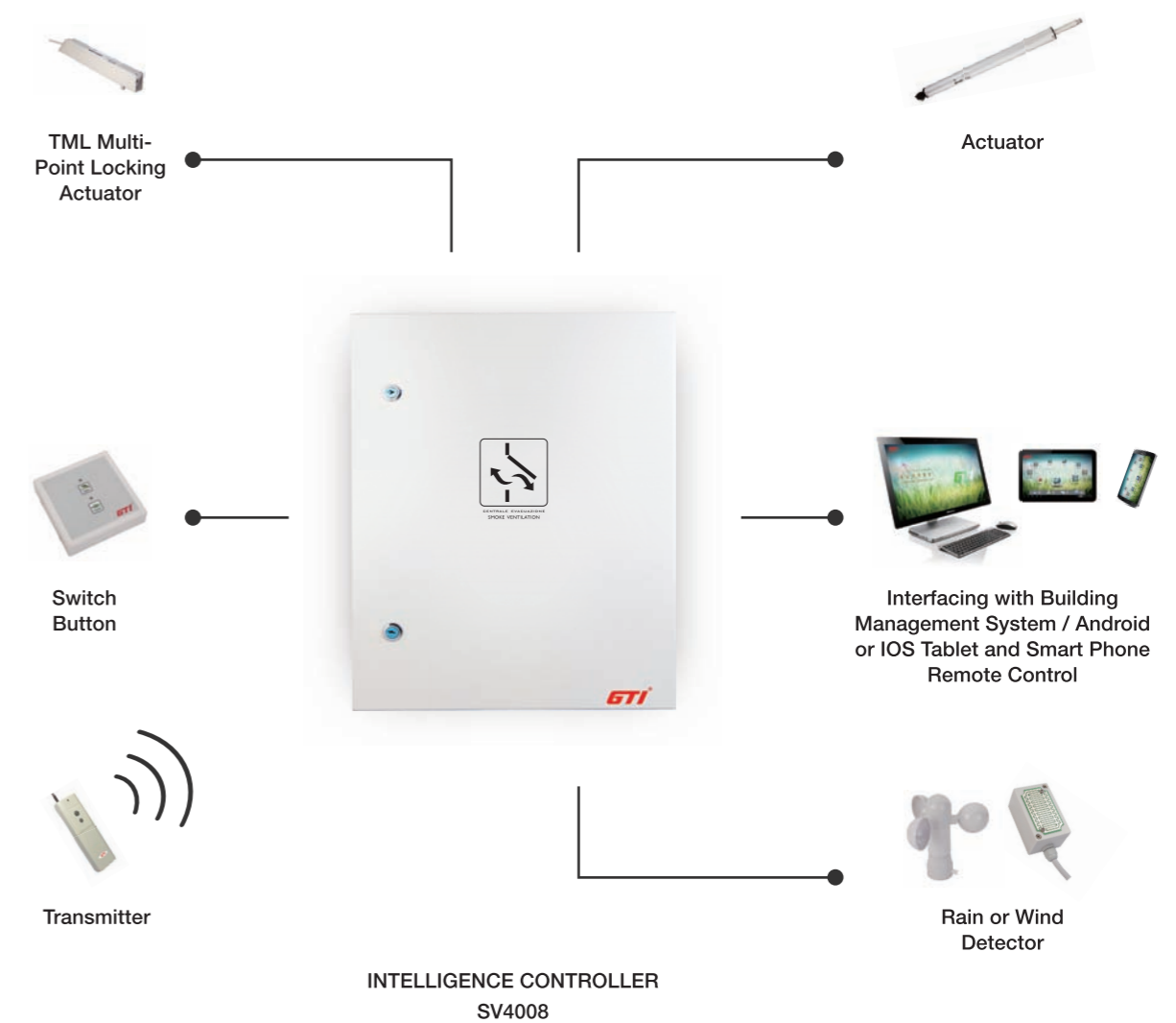
JOB REFERENCE97
Asia
Europe
North America
Oceania

INTELLIGENT CONTROLLER SERIES

- Smoke Ventilation System
- Ventilation System



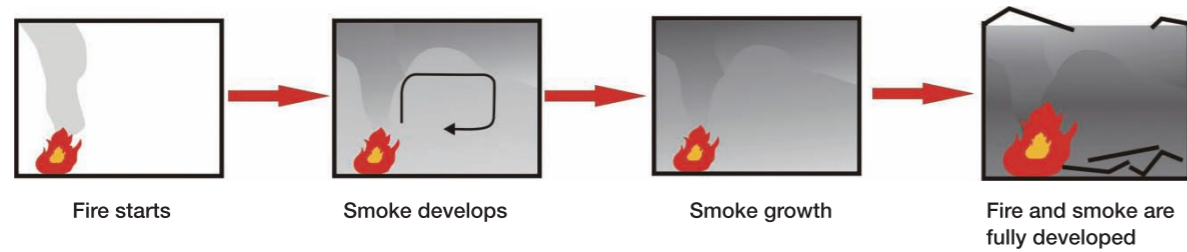
- Micro processor and electronic chips control which enhance reliability
- 72 hours emergency supply in case of power failure
- Various models and large capability are available
- Self-diagnosis function indicates the failure position
- Prioritized fire signal indication
- Special functions for operation daily ventilation
- Fire linkage function
- Custom-made smoke vent system is available upon request



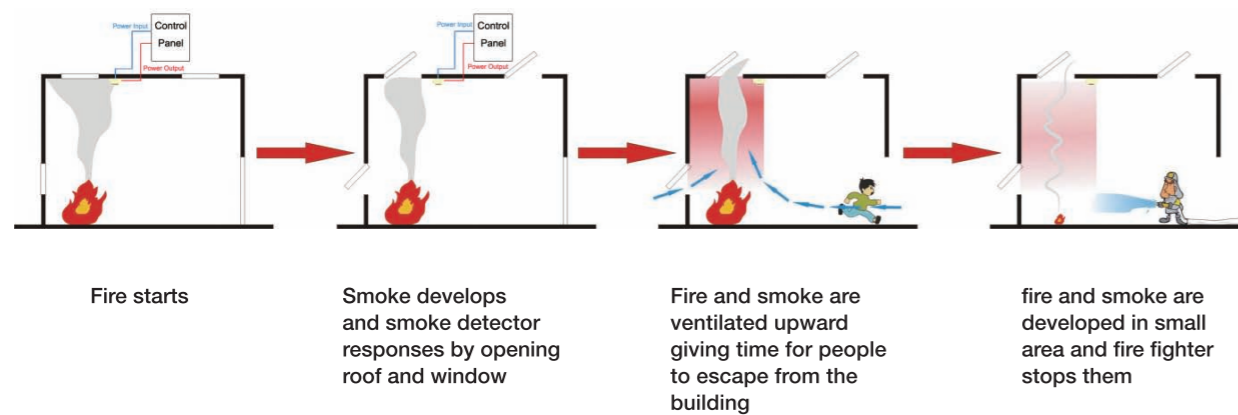
- Micro processor controlled and electronic chips improved reliability
- Various model and more larger capability are available
- Self-diagnosis function indicating the failure position
- Customization for unique control requirements is available
- Open or close the window by the optional wireless remote controller
- Special functions for operating daily ventilation

UNDERSTANDING THE FIRE SEQUENCE

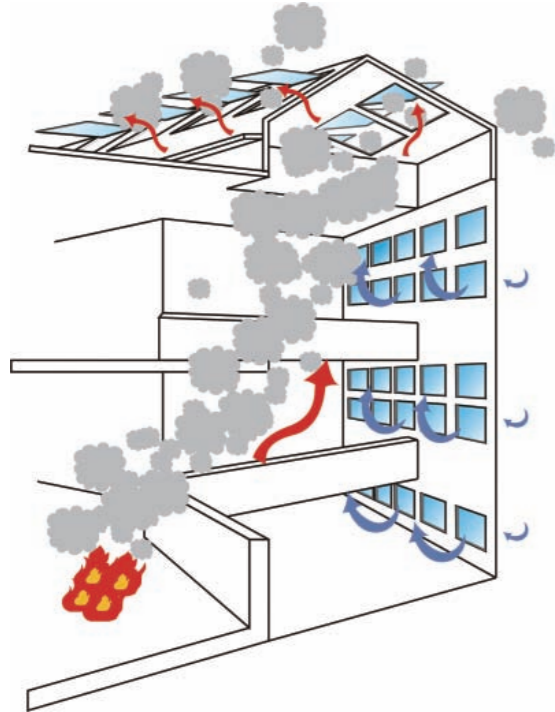
Fire Development without Ventilation



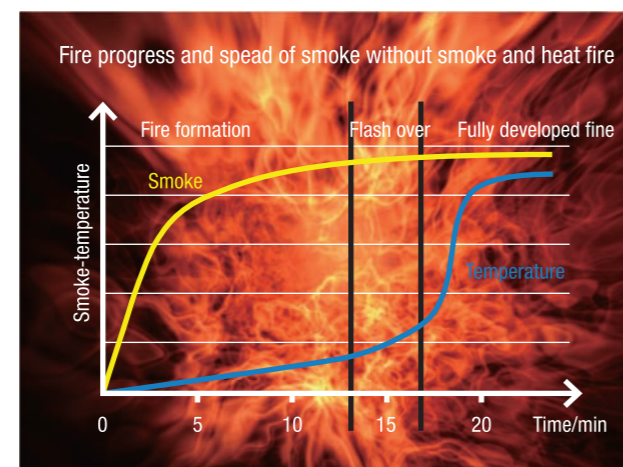
Fire Development with Ventilation



Fire and Smoke Development with Ventilation System Control



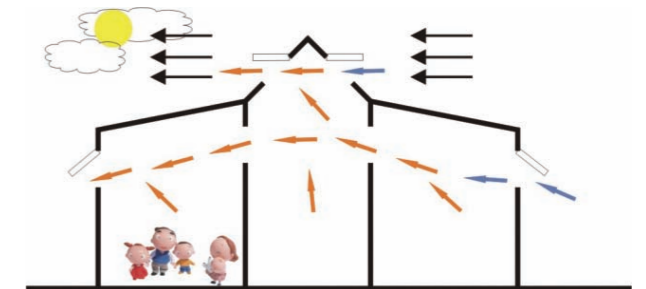
Fire Progress and Spread of Smoke VS Time



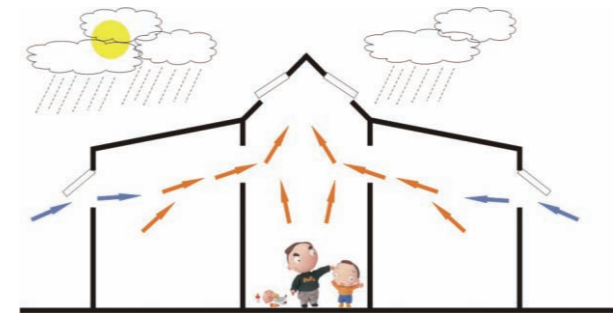
DIFFERENT NATURAL VENTILATION ILLUSTRATION



Single Side



Cross Ventilation



Trickle Ventilation

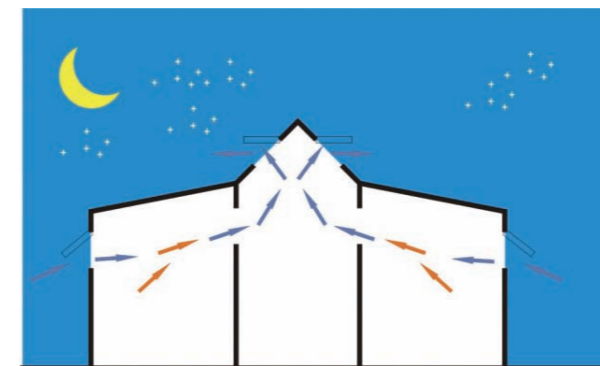


Cold & Hot Air Circulation

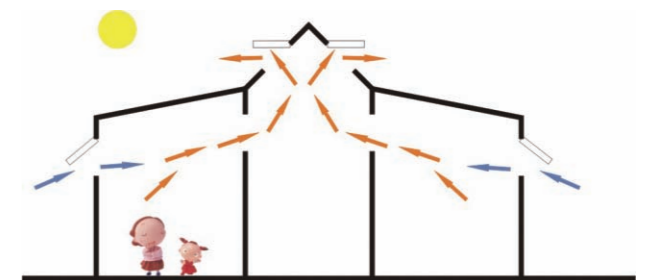
Winter (5°C) Summer (day 30°C, at night 18°C)

Open air conditioner to convey warm breeze at meeting room. Open window at night for ventilation at manager room.

Open window for ventilation at office. Open air conditioner to convey cool breeze at office.



Night Cooling



Stack Ventilation

ACTUATOR SERIES

- Natural and Smoke Ventilation System featuring "Fail Safe" Function
- Chain Actuator
- Dual Chain Actuator
- Rack and Pinion Actuator
- Spindle Actuator
- Multi-point Locking Actuator

G5-X-FS

Dimension	Specification
P68-01	P90

World's First Patented Product

G5-X-FS system is designed to compensate the lack of ordinary window actuator. Window is not limited to open without power supply. In cases where FS signal is detected or power failure, the window will be automatically opened to achieve "Fail Safe".

G5-X-FS has passed BS EN12101-2: 2003 Smoke Ventilation-Annex G Test, Annex D Test, IP55 Protection Class Test and 6,000N Lock Force Test, Endurances Tests (20,000 cycles) are also carried out.



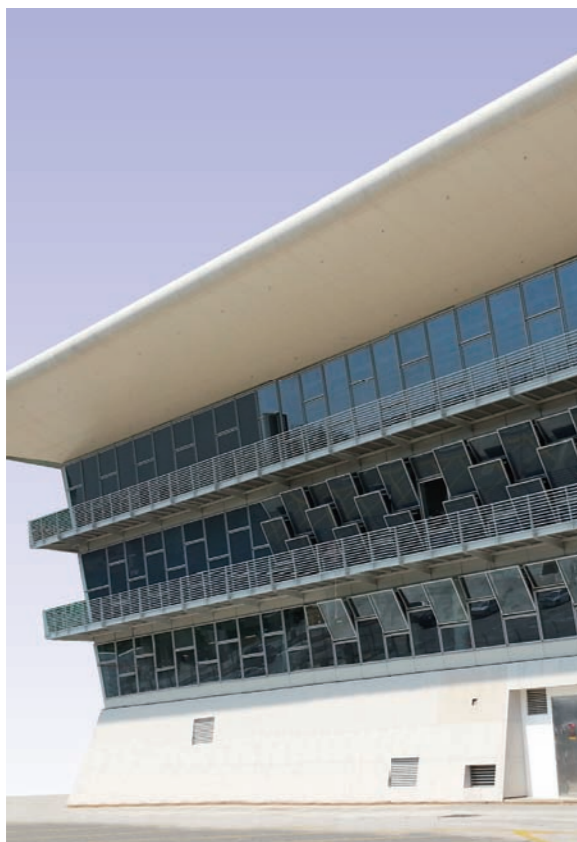
*A pair of gas spring is fixed on window to implement "Fail Safe"



ULTIMATE SMOKE EXHAUSTED SOLUTION (SELF-POWER SMOKE EXHAUSTED WINDOWS)

- Overload fault protection, Low noise design
- Double layer chain structure delivers stability and smooth operation.
- Standard with Stainless chain
- Provide choices of different distance and push power.
- Provide choices of colour variety.
- Short opening time (automatic anti-fault function) <2 second
- Certified by BS EN12101-2:2003 Smoke Ventilation Annex G, which guarantees operation sustainable upto 300 degree Celsius.
- Certified by EN12101-2:2003 ANNEX D, which guarantees operation sustainable under the loading of wind and snows pressure (Report No. R16L23-1AD)
- Windows open automatically and maintain opening when malfunction of electricity supply or receipt of fire alarm signal.
- Emergency manual override function when extreme condition of incidents such as interruption of electricity supply and missing fire alarm signal.
- Restore window position and standby mode by manual after fire alarm system is recovered.

Hong Kong *Sports Institute*



Hong Kong *MTR Yuen Long Station*



Hong Kong *The Hong Kong Polytechnic University*



Macao *The Venetian Macao- Resort-Hotel*



GTI® CHAIN ACTUATOR

G2 ELECTRIC DOUBLE LINK CHAIN ACTUATOR

Dimension	Specification
P68-02	P91



- Electronic overload cutoff, limit stop and low noise operation
- Standard with Stainless chain
- There have the rebound function to mitigate the aluminum frame become deformed and to increase the adhesive tape life time
- Built-in window open and close button (optional)
- Voltage supply 24V DC \pm 10%
- Endurance tests (50,000 cycles) are carried out
- Lock force in static motion is 4,500N
- Max push and pull force: 300N



Sill Bracket

or



Wing Bracket

+



Fixed Bracket

CHAIN ACTUATOR GTI®

G2-EX ELECTRIC DOUBLE LINK CHAIN ACTUATOR

Dimension	Specification
P69-03	P91



- Electronic overload cutoff, limit stop and low noise operation
- Standard with Stainless chain
- There have the rebound function to mitigate the aluminum frame become deformed and to increase the adhesive tape life time
- Built-in window open and close button (optional)
- Voltage supply 24V DC \pm 10%
- Endurance tests (50,000 cycles) are carried out
- Lock force in static motion is 4,500N
- Max push and pull force: 300N



Sill Bracket

or



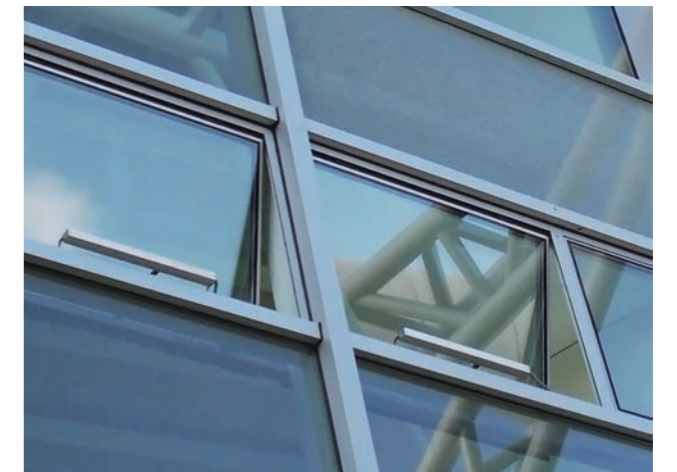
Wing Bracket

+



Fixed Bracket

Taizhou
Train Station



GTI[®] CHAIN ACTUATOR

G2-EXT ELECTRIC DUAL CHAIN ACTUATOR

Dimension	Specification
P70-04	P91



Sill Bracket

or



Wing Bracket

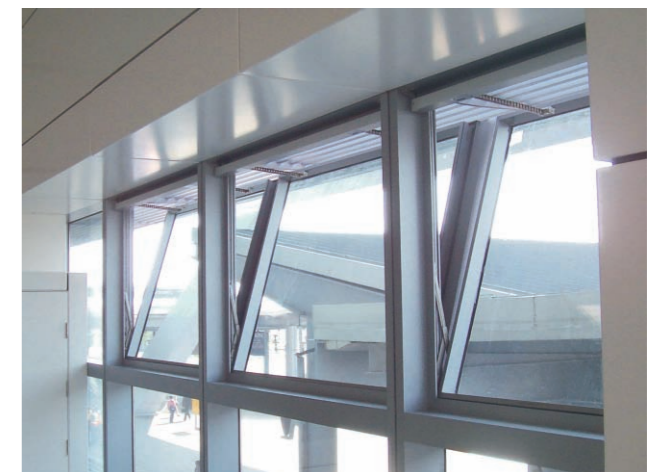
+



Fixed Bracket

- 2 Motors and 2 chains design for wide (more than 1,500mm) and heavy windows
- Electronic overload cutoff, limit stop and low noise operation
- Standard with Stainless chain
- There have the rebound function to mitigate the aluminum frame become deformed and to increase the adhesive tape life time
- Voltage supply 24V DC \pm 10%
- Endurance tests (50,000 cycles) are carried out
- Max push and pull force: 500N
- Lock force in static motion is 9,000N

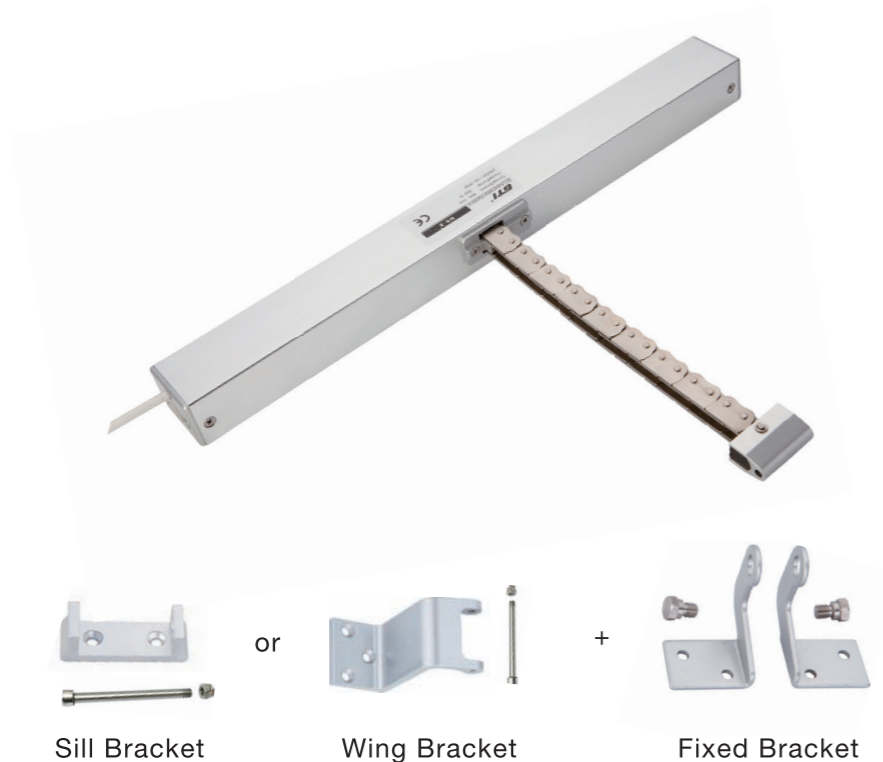
Tianjin TEDA Plaza



GTI® CHAIN ACTUATOR

G5-X ELECTRIC DOUBLE LINK CHAIN ACTUATOR

Dimension	Specification
P71-05	P92



- Tested to BS EN12101-2:2003 Part 2 Smoke Ventilation Annex G
- Electronic overload cutoff, limit stop and low noise operation
- Standard with Stainless chain
- There have the rebound function to mitigate the aluminum frame become deformed and to increase the adhesive tape life time
- Various strokes or tailor-made stroke is available
- Easy installation on window with or without window sill
- Voltage supply 24V DC \pm 10%
- Endurance tests (50,000 cycles) are carried out
- Lock force in static motion is 6,000N
- Max push and pull force: 400N

Suzhou Wuzhong District Cultural Center



GTI® CHAIN ACTUATOR

G5-XS ELECTRIC DOUBLE LINK CHAIN ACTUATOR

Dimension	Specification
P72-06	P92



- Tested to BS EN12101-2:2003 Part 2 Smoke Ventilation Annex G
- Electronic overload cutoff, limit stop and low noise operation
- Standard with Stainless chain
- There have the rebound function to mitigate the aluminum frame become deformed and to increase the adhesive tape life time
- Various strokes or tailor-made stroke is available
- Easy installation on window with or without window sill
- Voltage supply 24V DC \pm 10%
- Endurance tests (50,000 cycles) are carried out
- Lock force in static motion is 6,000N
- Max push and pull force: 700N



Sill Bracket

or



Wing Bracket

+



Fixed Bracket



Suzhou

Gate to the East



GTI® CHAIN ACTUATOR

G5-X-GS ELECTRIC INCLINE DOUBLE LINK CHAIN ACTUATOR

Dimension	Specification
P73-07	P92

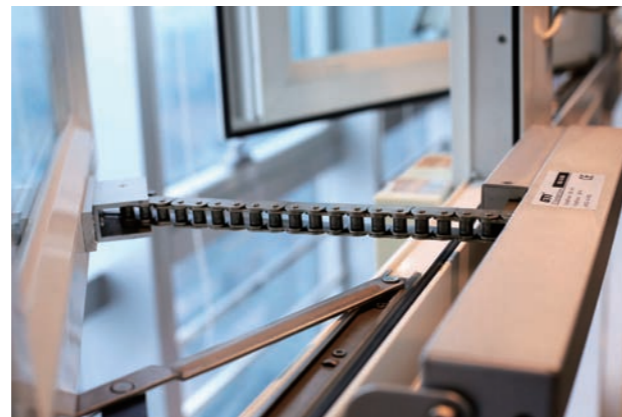
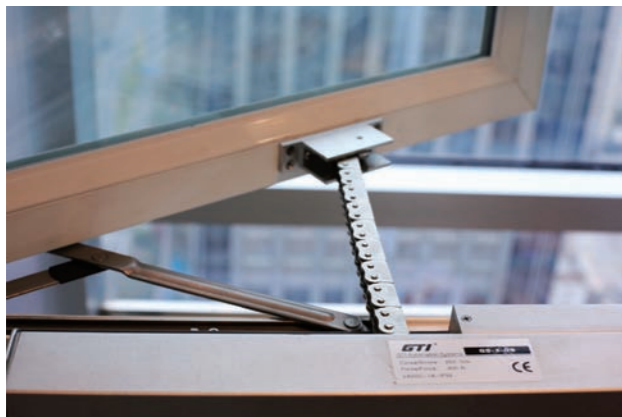


(Application of Side Hung Window)

- Tested to BS EN12101-2:2003 Part 2 Smoke Ventilation Annex G
- Electronic overload cutoff, limit stop and low noise operation
- Standard with Stainless chain
- There have the rebound function to mitigate the aluminum frame become deformed and to increase the adhesive tape life time
- Various strokes or tailor-made stroke is available
- Easy installation on window with or without window sill
- Voltage supply 24V DC \pm 10%
- Endurance tests (50,000 cycles) are carried out
- Lock force in static motion is 6,000N
- Max push and pull force: 300N



Fixed Bracket



UAE Central Market



GTI[®] CHAIN ACTUATOR

G5-XT ELECTRIC DUAL CHAIN ACTUATOR

Dimension	Specification
P73-08	P93



Sill Bracket

or



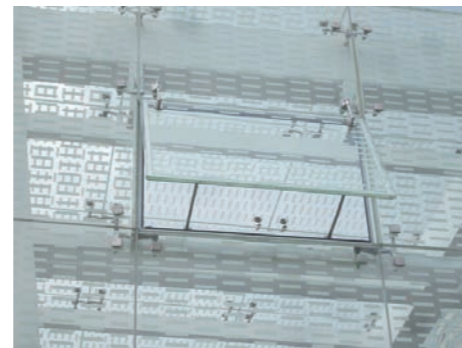
Wing Bracket

+



Fixed Bracket

- Tested to BS EN12101-2:2003 Part 2 Smoke Ventilation Annex G
- 2 Motors and 2 chains design for wide (more than 1,500mm) and heavy windows
- Electronic overload cutoff, limit stop and low noise operation
- Standard with Stainless chain
- There have the rebound function to mitigate the aluminum frame become deformed and to increase the adhesive tape life time
- Various strokes or tailor-made stroke is available
- Easy installation on window with or without window sill
- Voltage supply 24V DC \pm 10%
- Endurance tests (50,000 cycles) are carried out
- Lock force in static motion is 12,000N
- Max push and pull force: 800N



Sugian

International Convention Center



Shenzhen

Hong Kong-Shenzhen Western Corridor

GTI® CHAIN ACTUATOR

G5-XST ELECTRIC DUAL CHAIN ACTUATOR

Dimension	Specification
P74-09	P93



- Tested to BS EN12101-2:2003 Part 2 Smoke Ventilation Annex G
- 2 Motors and 2 chains design for wide (more than 1,500mm) and heavy windows
- Electronic overload cutoff, limit stop and low noise operation
- Standard with Stainless chain
- There have the rebound function to mitigate the aluminum frame become deformed and to increase the adhesive tape life time
- Various strokes or tailor-made stroke is available
- Easy installation on window with or without window sill
- Voltage supply 24V DC \pm 10%
- Endurance tests (50,000 cycles) are carried out
- Lock force in static motion is 12,000N
- Max push and pull force: 1,400N



Sill Bracket

or



Wing Bracket

+



Fixed Bracket



GTI® CHAIN ACTUATOR

G5-XT-DN ELECTRIC DUAL CHAIN ACTUATOR

Dimension	Specification
P75-10	P93



Sill Bracket

or



Wing Bracket

+



Fixed Bracket

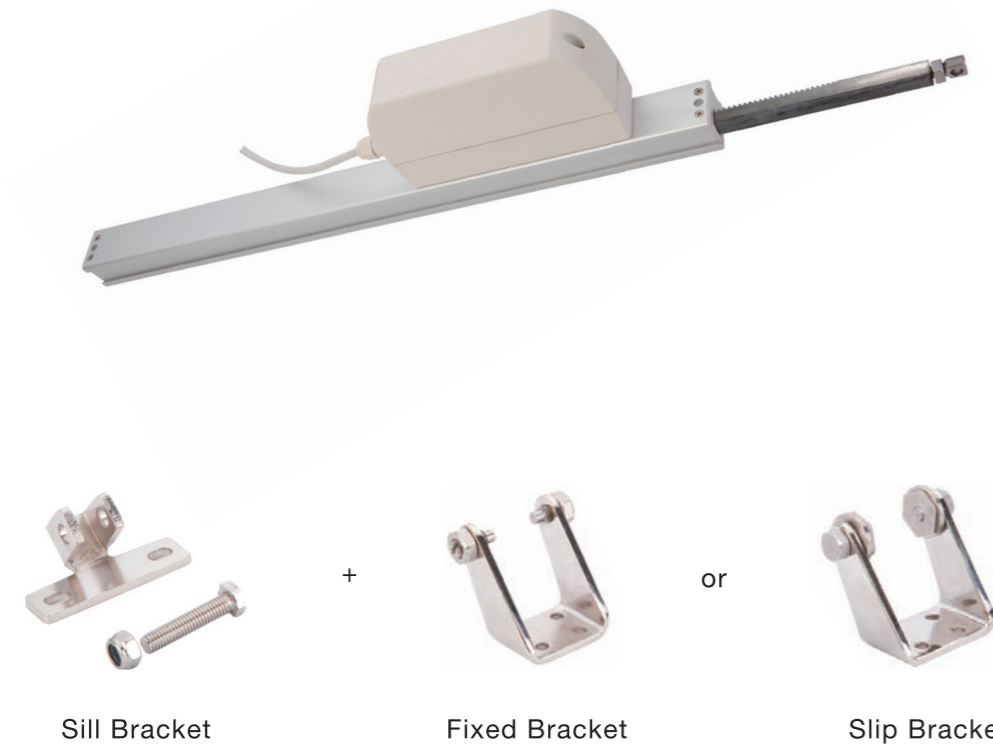
- Tested to BS EN12101-2:2003 Part 2 Smoke Ventilation Annex G
- 1 Motors and 2 chains design for wide (more than 1,500mm) and heavy windows
- Electronic overload cutoff, limit stop and low noise operation
- Standard with Stainless chain
- There have the rebound function to mitigate the aluminum frame become deformed and to increase the adhesive tape life time
- Various strokes or tailor-made stroke is available
- Easy installation on window with or without window sill
- Voltage supply 24V DC \pm 10%
- Endurance tests (50,000 cycles) are carried out
- Lock force in static motion is 6,000N
- Max push and pull force: 700N



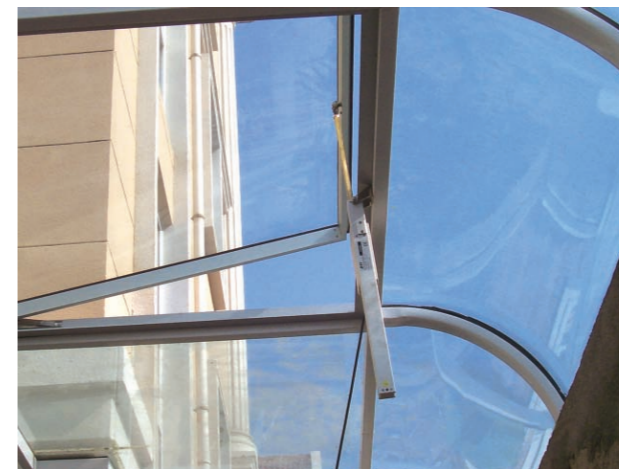
GTI[®] R&P ACTUATOR

TE368S ELECTRIC RACK AND PINION ACTUATOR

Dimension	Specification
P76-11	P94



- Fixed and movable installation
- Fire resistance (24V DC version 30 minutes / 300 °C under Lab test)
- Various push force available
- Various stroke available, maximum 1,500 mm
- Standard with Stainless rack
- Endurance tests (20,000 cycles) are carried out
- Voltage supply 24V DC \pm 10%
- Lock force in static motion is 2,500N
- Protection class: IP65



GTI[®] R&P ACTUATOR

TE368DN ELECTRIC RACK AND PINION DRIVE TANDEM

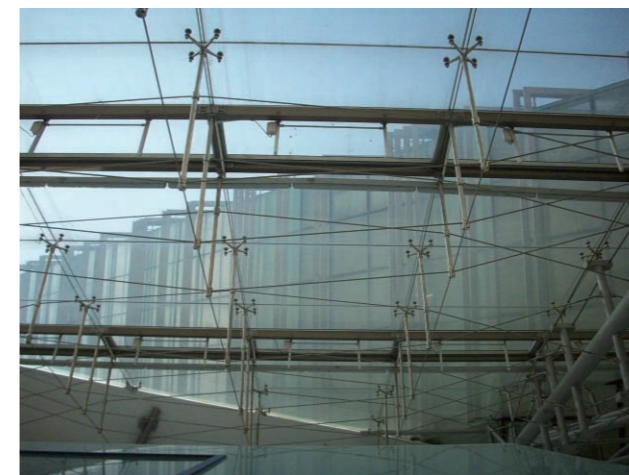
Dimension	Specification
P77-12	P94



- Rack and pinion drive tandem design
- 1 Rack and pinion drive coupling with 1 slave unit
- Fixed and movable installation
- Fire resistance (24V DC version 30 minutes / 300 °C under Lab test)
- Various push force available
- Various stroke available, maximum 1,500 mm
- Standard with Stainless rack
- Endurance tests (20,000 cycles) are carried out
- Voltage supply 24V DC \pm 10%
- Lock force in static motion is 2,500N
- Protection class: IP65

Suzhou

Suzhou Train Station



GTI® R&P ACTUATOR

TE368DR ELECTRIC RACK AND PINION DRIVE TANDEM

Dimension	Specification
P78-13	P94



- Rack and pinion drive tandem design
- 2 Rack and pinion drives
- Fixed and movable installation
- Fire resistance (24V DC version 30 minutes / 300 °C under Lab test)
- Various push force available
- Various stroke available, maximum 1,500mm
- Standard with Stainless rack
- Endurance tests (20,000 cycles) are carried out
- Voltage supply 24V DC \pm 10%
- Lock force in static motion is 5,000N
- Protection class: IP65

Shanghai Pudong International Airport



GTI® SPINDLE ACTUATOR

K10 SPINDLE ACTUATOR (Heavy-Duty)

Dimension	Specification
P79-14	P95



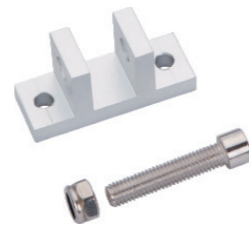
Slip Bracket

or



Back Bracket

+

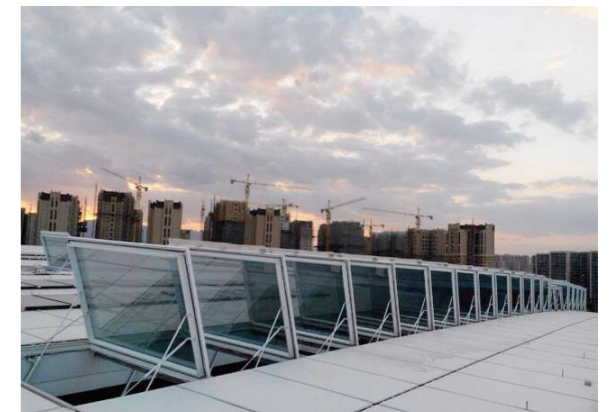


Sill Bracket

- Heavy-Duty type for very wide and heavy skylights and windows
- Corrosion-protected spindle in stainless steel (Available in upgrade version)
- Fixed & movable installation and low noise operation
- Various push force available
- Various stroke available, maximum 1,500 mm
- Optional with Stainless spindle
- Endurance tests (30,000 cycles) are carried out
- Voltage supply 24V DC \pm 10%
- Lock force in static motion is 5,000N
- Protection class: IP65

Fuzhou

Olympic Sports Center



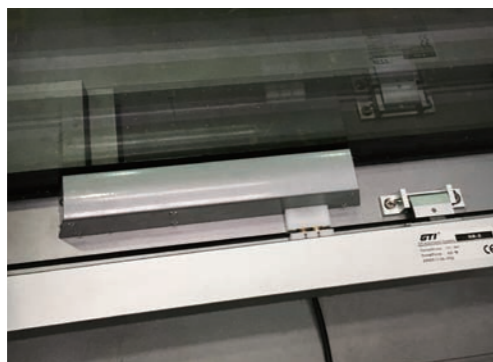
GTI® MULTI-POINT LOCKING ACTUATOR

TML-300 MULTI-POINT LOCKING ACTUATOR

Dimension	Specification
P80-16	P95



- Suitable for multi-point locking windows
- Automatic control for locking or unlocking the windows
- Install on standard fitting with or without window sill
- Improve stability and enhance building security
- Versatility and simple installation
- Available in all RAL color



MULTI-POINT LOCKING ACTUATOR GTI®

TML MULTI-POINT LOCKING ACTUATOR

Dimension	Specification
P80-15	P95



- Suitable for multi-point locking windows
- Automatic control for locking or unlocking the windows
- Install on standard fitting with or without window sill
- Improve stability and enhance building security
- Versatility and simple installation
- Available in all RAL color



PNEUMATIC SMOKE VENTILATION SYSTEM

 Pneumatic Smoke Ventilation System

PNEUMATIC SMOKE VENTILATION SYSTEM

PAS CYLINDER



About the smoke prevention products in fire alarm system, Pneumatic smoke ventilation system is a new type of effective and energy saving smoke exhausted solution. It has gained satisfactory project performance and remarkable references from extensive group of customers.

Pneumatic smoke ventilation system performs the functions of window opening and closing through the release and compression of air. It can be controlled by intelligent console unit or by manual operating switch.

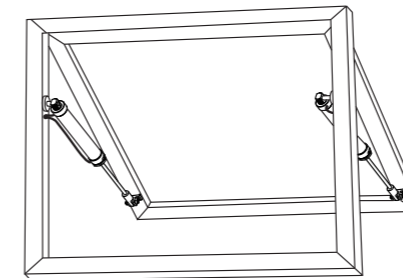
The installation of Pneumatic smoke ventilation system is very simple that some of components can be installed inside the window profile. Large opening space, easy maintenance and its sophisticated design gives Pneumatic window actuator good at durability and sustainability under severe environments with cost effectiveness.

Furthermore, the driving force of Pneumatic smoke ventilation system is from the release of compressed air transferred through the brass tube. It guarantees the performance and operation under any uncertain conditions such as electricity shortage caused by fire.

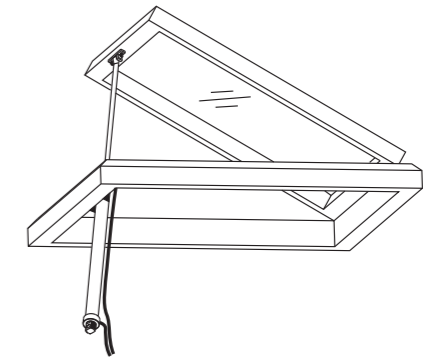
Pneumatic smoke ventilation system is vastly applicable in different building projects including large-scale public service utility structure projects, offices and commercial buildings. It fits any type of windows, such as top hung windows, bottom hung windows, side hung windows, skylight windows and venetian blinds.



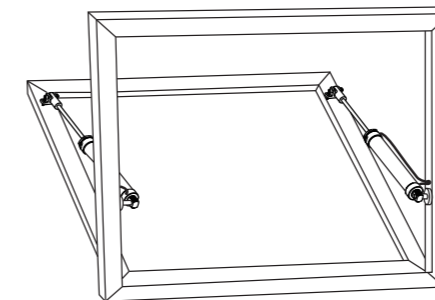
Pneumatic cylinder installation diagram on different type window:



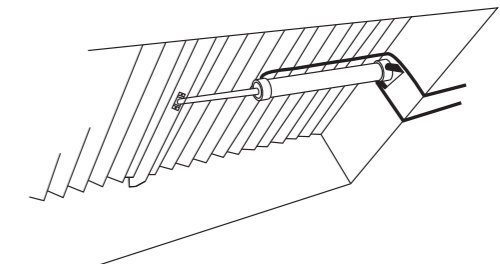
Top Hung Window Installation



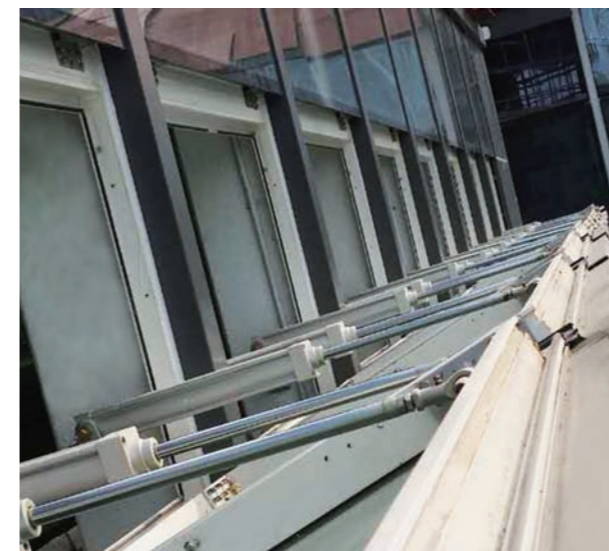
Skylight Installation



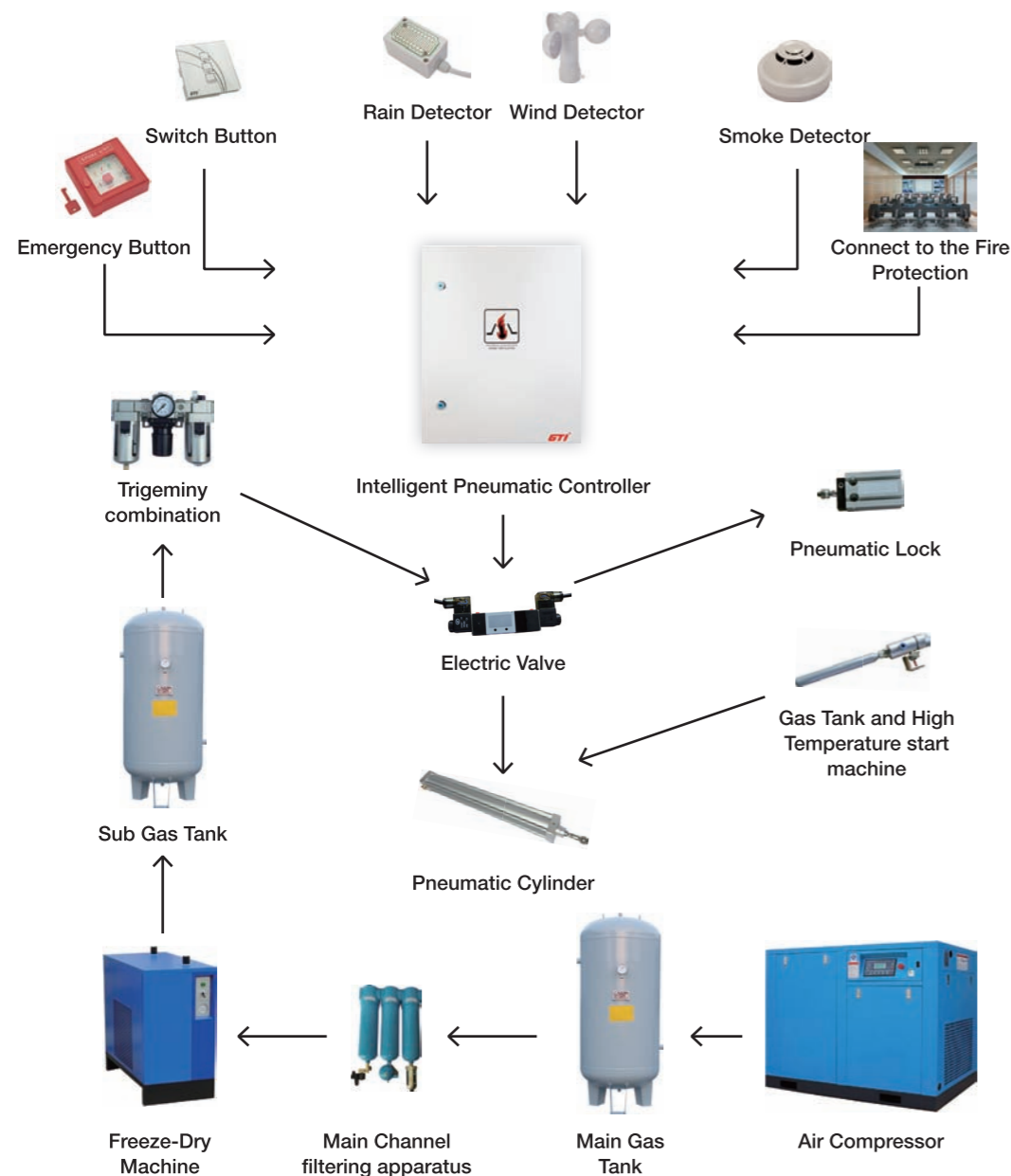
Bottom Hung Windows Installation



Louver Windows Installation



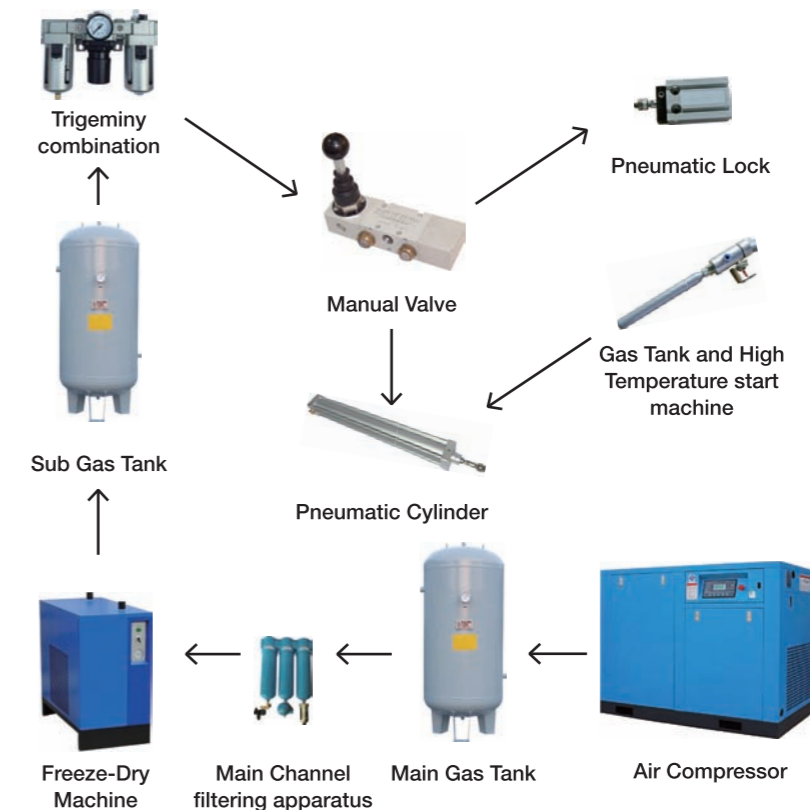
Intelligent Pneumatic Control Circuit Diagram:



Features of Pneumatic Smoke Ventilation System

- The air-compressor piston cylinder is the driving unit to control the opening and closing actions. its stable and strong movement power guarantees the performance of operation .
- No continuity supply of electricity is required which offers energy and cost savings.
- Feasible to connect with Intelligent smoke-exhaust control system and operated by the centralized fire alarm console.
- Optional spare pressurized bottle can be connected to the cylinder for assurance of windows operation in case of high temperature detection device being triggered by fire hazard.

Manual Pneumatic Control Schematic Diagram:



Principle of Pneumatic Smoke Ventilation System:

Pneumatic Smoke Ventilation System is made of air-compressor, air storage tank, air filter, low temperature dryer, electromagnetic switch or manual switch, pneumatic cylinder, pneumatic lock, air pressurized bottle, temperature detection trigger and intelligent control system. (Refer to the following diagram)

Air-compressor supplies sufficient air pressure to the system. The air storage tank stores pressurized air from the compressor and goes through the process of filtering and drying then distributed to the sub-storage tank. The functions of window opening and closing are operated by the electromagnetic switch or manual switch. Whenever the pressure has been released, the sub-storage tank will refill the air pressure. When insufficient air pressure has been detected in the system, the air-compressor will automatically generate air to replenish air pressure.

2. The electromagnetic switch system: The pneumatic controller connects with the electromagnetic switch that controls the actuator to operate the windows for performing daily ventilation. When pneumatic controller receives signal from the wind detector, rain detector, smoke detector, emergency button or fire alarm signal, it instantly activates the electromagnetic switch to control the cylinder operating the windows.

3. Manual switch controlling system: The cylinder can be controlled through manual switch to operate the windows performing daily ventilation.

4. Air-Pressurized Bottle against temperature Detection System: Fire incident causes rise of temperature to a designated level which triggers the system to pressurize the pneumatic smoke ventilation system to operate windows movements.

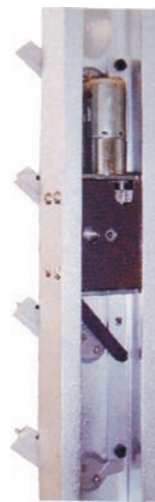
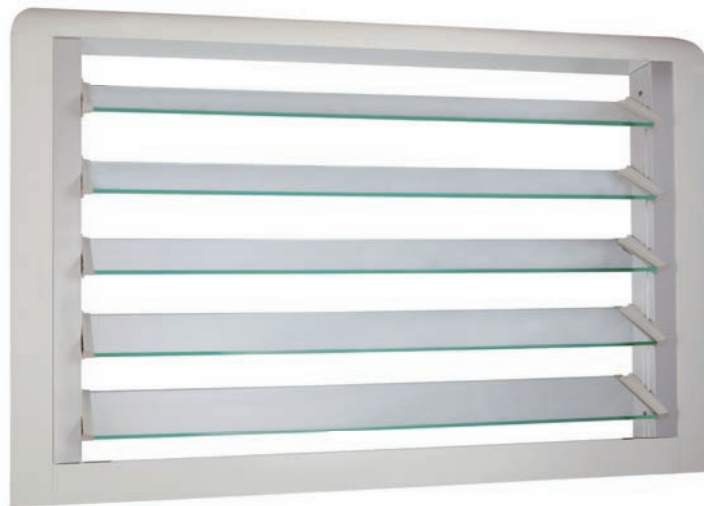
SUN SHADING SYSTEM

- Glass Louver System
- Aluminum Louver System

GTI® GLASS/SUN SHADING LOUVER

GL-6 GLASS/ALUMINIUM LOUVER

Dimension
P81-17



*The electrical actuator can be installed inside the aluminium frame

GL-8D DOUBLE OVERLAPPING GLASS LOUVER

Dimension
P81-18



*New Double Overlapping Glass Louver - Waterproof and windproof level can be improved.

Chengdu

*Borui Chuangyi Technology
Breeding Building*



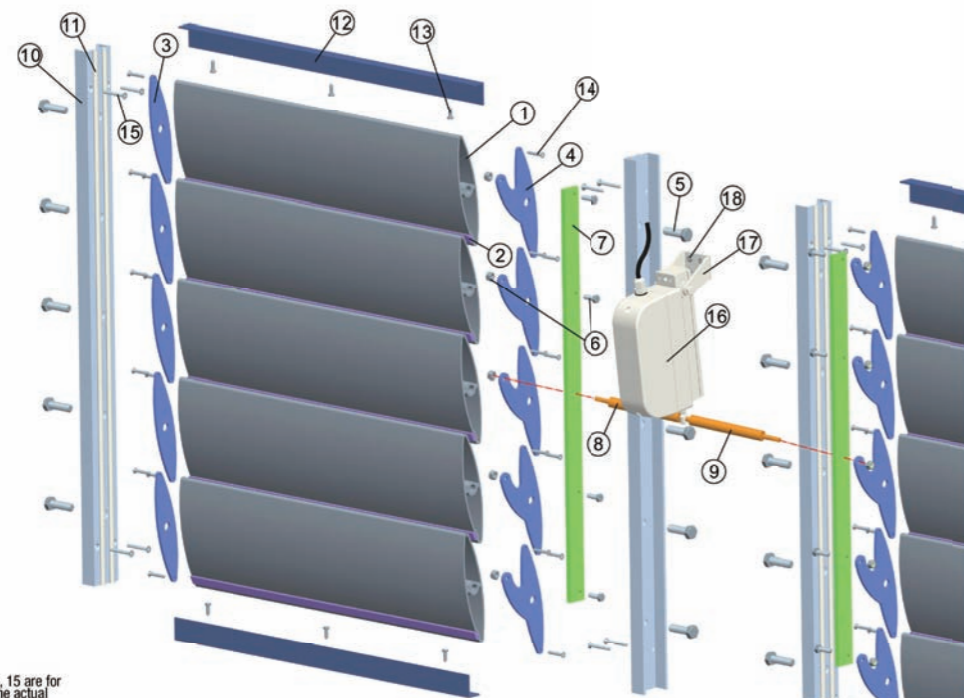
- Extruded glass profiles up to 2m long
- Fixed or movable version (to 90°)
- Choice of blade widths (100mm to 350mm)
- Horizontal or vertical installation
- Manual or electric operation for selection
- Gear wheel control



GTI® SUN SHADING LOUVER

AL Series Aluminium Louver

Dimension
P81-19



Remark: Point 13, 15 are for reference only. The actual sizes will be fixed on site.

1	AL-1530 Aluminium Louver	2	Sealing Felt Strip	3	Louver Cover (No Buckle)	4	Louver Cover (with Buckle)	5	Rotating Shaft Screw	6	Hexagon Head Screw with Nut
7	Flat Aluminum Connecting Rod	8	Double Connection Screw	9	Shaft Liner	10	Aluminium Pillar	11	Waterproof Rubber Strip	12	Water Retaining Aluminium Angle
13	M4 x 15 Pan Head Self-Drilling Screw	14	M4 x 25 Countersink Self-Drilling Screw	15	Countersink Screw	16	TE368M	17	Slip Bracket	18	M5 x 20 Pan Head Self-Drilling Screw

- Extruded aluminium profiles up to 3m long
- Fixed or movable version (Max. rotating angle is 110°)
- Variable pitch
- Horizontal or vertical installation
- A fully rustproof system
- Available in all RAL color
- Two type of choice for aluminium widths (150mm & 250mm)
- Two type of aluminium louver design can provide more convenient
- Lock fore of closing status are strengthen airproof and waterproof of aluminium louver system

Shenzhen

China South City



MANUAL OPENING SYSTEM

- Shear - Style Manual Actuator
- Manual Chain - Type Handle
- Manual Spindle Actuator
- Manual Gear - Type Handle

GTI® SHEAR - STYLE MANUAL ACTUATOR

FH-90 SHEAR - STYLE MANUAL ACTUATOR

Dimension
P82-20



- Stroke distance ranging from 200 to 300mm
- Operate 1-3 sashes at once
- Built-in locking function
- Simple installation
- Standard color: white, black, shinny silver
- HD Spanner-type or HS Gear-type opening and closing for selection
- Length of HS Gear-type handle can be made to customer's requirement



HS Gear-type
handle



HD Spanner-type
handle

Zhejiang Zhongao Power Building



GL-80 MANUAL WINDOW OPERATING SYSTEM

HS Gear-type handle

Dimension
P84-21

GL-820 CHAIN BOX

Dimension
P84-21



+



- Opening range from 100 to 400mm
- Operate 1 - 4 sashes at once
- Built-in locking function
- Retention force is up to 3,000N
- Simple installation
- Standard color: white, black, shiny silver

- Suitable for top hung window opening or connected to chain boxes for individual or multiple window opening
- Length of HS Gear-type handle can be made to customer's requirement



GL-85 MANUAL WINDOW OPERATING SYSTEM

HS Gear-type handle

Dimension
P85-22

GL-850 CHAIN BOX

Dimension
P85-22



+



- Suitable for top hung window opening or connected to chain boxes for individual or multiple window opening
- Opening range from 100 to 600mm
- Built-in locking function
- Operate 1 - 4 sashes at once
- Retention force is up to 4,000N

- Simple installation
- Standard color: white, black, shiny silver
- Suitable for top hung window opening or connected to chain boxes for individual or multiple window opening
- Length of HS Gear-type handle can be made to customer's requirement



GTI[®] MANUAL CHAIN - TYPE HANDLE

CA-80a MANUAL WINDOW OPERATING SYSTEM

GH-388 CRANK HANDLE

Dimension
P88-24



GL-830 CHAIN BOX

Dimension
P88-26



+

- Suitable for top hung window opening or connected to chain boxes for individual or multiple window opening
- Special designed handle for easy opening
- Opening range from 250 to 380mm
- Operate 3 - 8 sashes at once
- Retention force is up to 2,000N
- Installation on wall or aluminum frame
- Handle can be hidden inside the conduit
- Simple installation
- Standard color: white, black, shinny silver



MANUAL CHAIN - TYPE HANDLE GTI[®]

CA-80b MANUAL WINDOW OPERATING SYSTEM

GH-386 CRANK HANDLE

Dimension
P88-25



GL-830 CHAIN BOX

Dimension
P88-26



+

- Suitable for top hung window opening or connected to chain boxes for individual or multiple window opening
- Special designed handle for easy opening
- 250mm window opening
- Operate 2 - 4 sashes at once
- Retention force is up to 2,000N
- Supplied with fixed or removable handle
- Installation on wall or aluminium frame
- Handle can be hidden inside the conduit
- Simple Installation
- Standard color: white, black, shinny silver



CA-80 MANUAL WINDOW OPENING SYSTEM ILLUSTRATION



Crank handle GH-388 to the manual bottom hung opening system with 4 windows opening at the same time.



Crank handle GH-388 to the manual opening system for tall windows.



Crank handle GH-386 to the manual top hung opening system with 4 windows opening at the same time.



Crank handle GH-386 to the manual opening system for square type windows.



Beijing

Peking University International Hospital

GTI[®] MANUAL SPINDLE ACTUATOR

SH-15 MANUAL WINDOW OPERATING SYSTEM

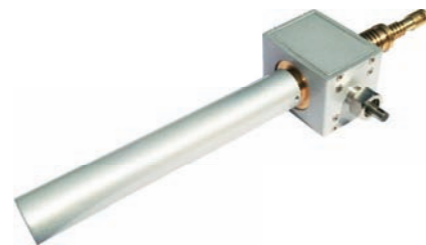
HS Gear-type handle

Dimension
P86-23



SH-15 Manual Spindle Actuator

Dimension
P86-23



+

Manual spindle actuator is used spindle to open window, it will better than the chain type manual actuator, even the skylight it can manual to operate.

- Opening range from 200 to 400mm
- Operate 2 sashes at once
- Built-in locking function
- Installation on wall or aluminum frame
- Simple installation
- Standard color: white, black, shiny silver
- Color of spindle: Brass or electroplated
- Suitable for top hung window opening or connected to chain boxes for individual or multiple window opening
- Length of HS Gear-type handle can be made to customer's requirement



GTI[®] MANUAL GEAR - TYPE HANDLE

GH-360 MANUAL GEAR - TYPE HANDLE

Dimension
P89-27



- Economical and low maintenance cost
- Quality built system to operate high level or inaccessible windows
- Operate 10 - 12 sashes at once
- Window opening as wide as 400mm
- Easy to position on the wall or aluminium frame
- Standard color: white, black, grey and other colors are optional



ACCESSORIES

- Switch Button
- Remote Control
- Smoke Detector
- Rain / Wind Detector
- Synchronized Control



Glass Touch Screen Switch
Model: GP0506
Input Voltage: 230V AC
Output Voltage: 24V DC



Glass Touch Screen Switch
 (Internal Remote Receiver)
Model: GP0506R
Input Voltage: 230V AC
Output Voltage: 24V DC



Glass Touch Screen Switch
 (White)
Model: GF03-1S
Voltage Supply: 5V DC



Remote Control
 (Max. 6 groups of output)
Model: GP0611/GP0612/
 GP0616



Remote Control
Model: GTR-80



Remote Control
 (Max. 6 groups of output)
Model: GP0716



Smoke Detector
Model: GS0315
Voltage Supply: 24V DC



Wind Detector
Model: GW0312
Voltage Supply: 5V DC



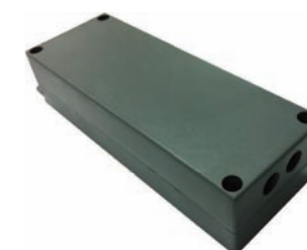
Rain Detector
Model: GR03-1
Voltage Supply: 24V DC



Switch Button
Model: GF03-1
Voltage Supply: 5V DC



Emergency Button
Model: GTI03-1
Voltage Supply: 5V DC



Synchronized Control
Model: ISY
Voltage Supply: 24V DC



Synchronized Control
Model: GW0312Q
Voltage Supply: 24V DC



+



Mini Switch Button
Model: GF03-2S
Voltage Supply: 24V DC

APPENDIX

- A Quick Guide to Select the Proper Actuator
- Dimension and Application
- Specification

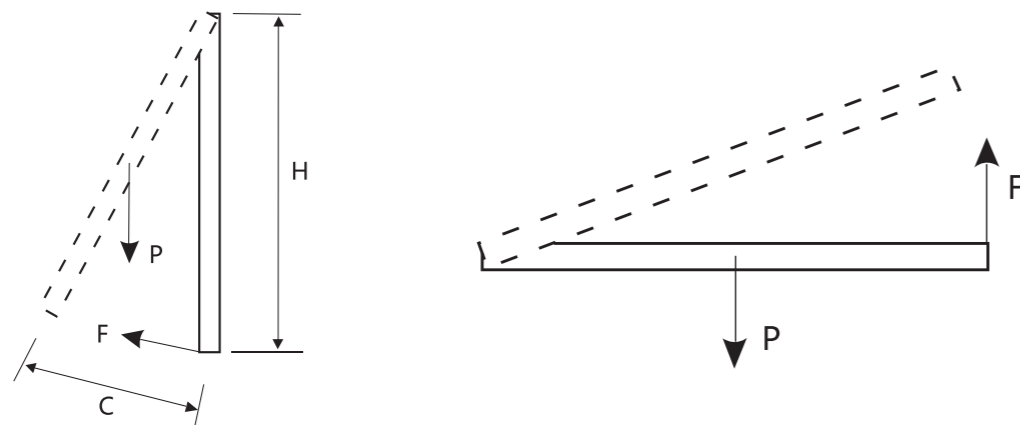
GTI® A QUICK GUIDE TO SELECT THE PROPER ACTUATOR

Since the rules for the provision of smoke ventilation systems vary from country to country, the calculation and formula are listed below as recommendations for choosing actuator only. Project manager should contact the local, district or state fire protection authority for the necessary requirements and approval before installation.

There are basically two types of actuators:

1. Chain actuators that is targeted for top, side and bottom hung windows application.
2. Spindle & Rack actuator that is targeted for domes, roof, skylight, louver, tilting or very heavy top or bottom hung windows application.

Determine the force required to open various types of windows:



Force required to open vertical windows (Top or bottom hinged windows):

$$F = P/2 \times C/H$$

Where

F = Force (N) required to open the window

P = Window force (N)

C = Open distance (m) of the window

H = Height (m) of the window

Window force (N) = Window weight (kg) × 9.8 (N/kg)

Force required to open horizontal windows (Top or bottom hinged windows):

$$F = P/2$$

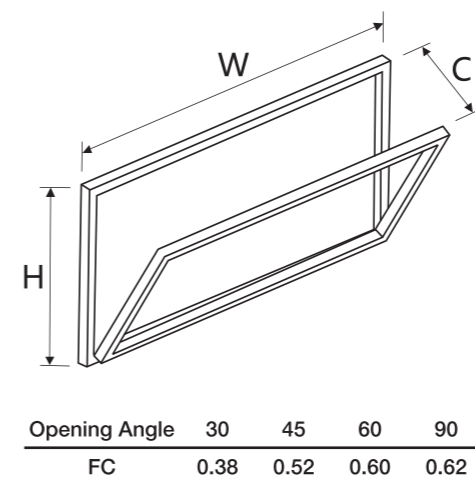
Where

F = Force (N) required to open the window

P = Window force (N)

A QUICK GUIDE TO SELECT THE PROPER ACTUATOR GTI®

Project manager shall also consider the geometric and aerodynamic areas for the ventilation project. The following calculation formula can be taken as a rough guideline:



$$\text{Geometric Area (m}^2\text{)} = W \times C$$

Where

W = Width (m) of the window

C = Open distance (m) of the window

$$\text{Aerodynamic Area (m}^2\text{)} = W \times H \times FC$$

Where

W = Width (m) of the window

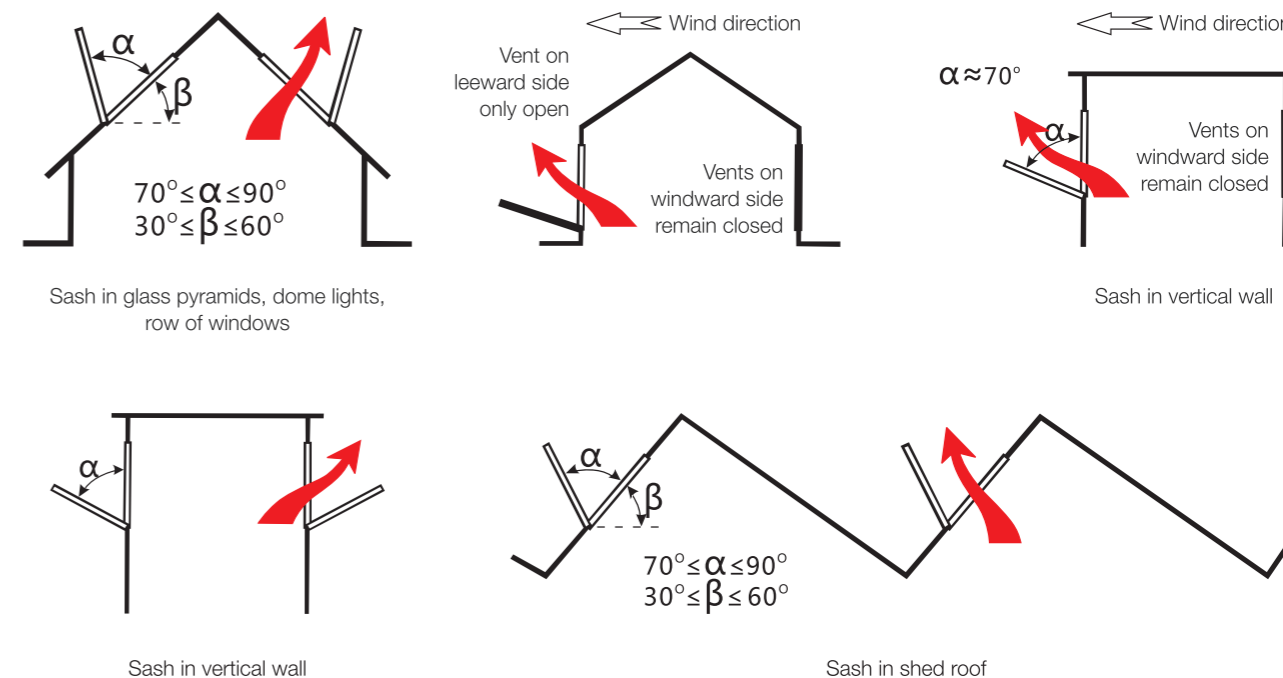
H = Height (m) of the window

FC = Flow co-efficient

*Calculated area must not over the window area

The above calculations do not include factors such as wind pressure, heavy rain, snow and ice load. Please note that there is no definitive guidelines for the ventilation system to be chosen. Project manager may refer to BS EN 12101-2 directives as a good practice guide that recommends installation parameters for mounting ventilators.

The following common practice of opening angle recommendation should also be considered:



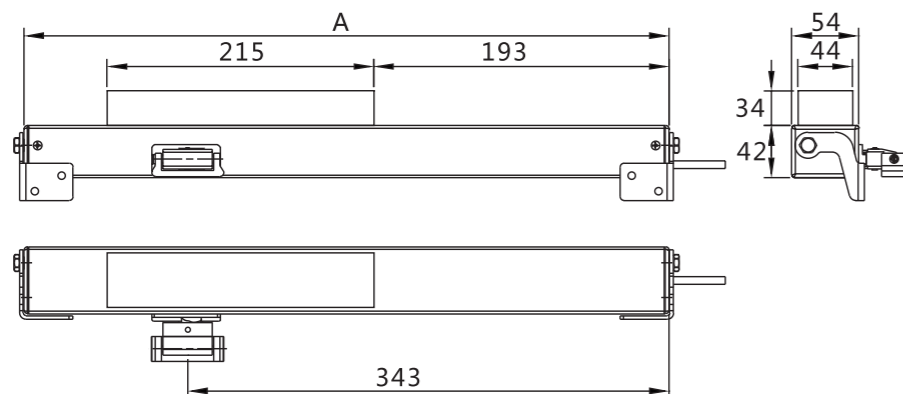
*If you have any inquiry, please consult with our technical consultant for the specific ventilation solution.

DIMENSION AND INSTALLATION

01

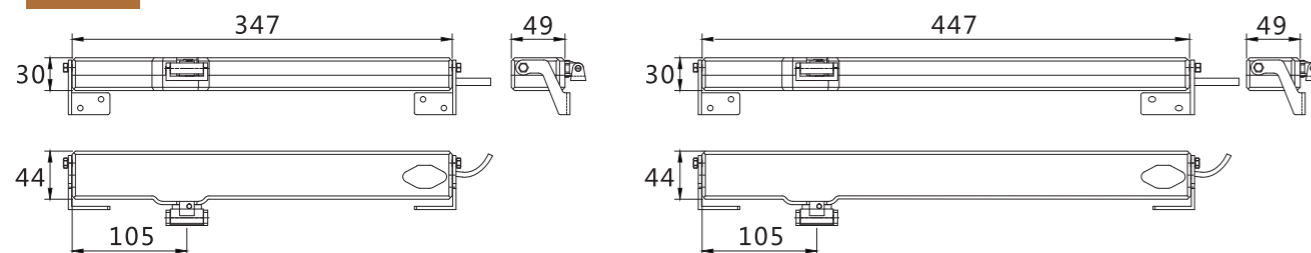
G5-X-FS NATURAL AND SMOKE VENTILATION
SYSTEM FEATURING "FAIL SAFE" FUNCTION

Stroke (mm)	Length A (mm)
200	527
300	579
500	683
550	709
600	735
650	761
800	839



02

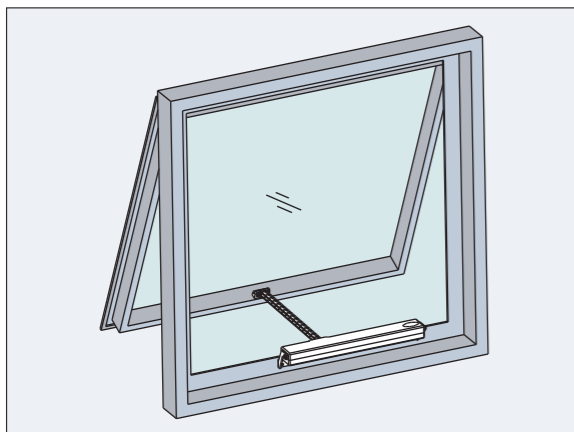
G2 ELECTRIC DOUBLE LINK CHAIN ACTUATOR



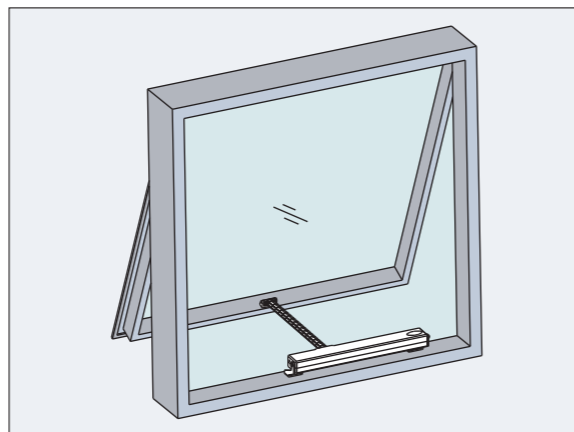
Stroke 300mm

Stroke 500mm

- G2 Electric Double Link Chain Actuator can be applied to the top and bottom hung window, central and horizontal opening, skylight and alike.
- Installation of G2 is flexible. It can be installed with or without window sill situation by suitable brackets.



Top Hung Window Installation
(With Window Sill)

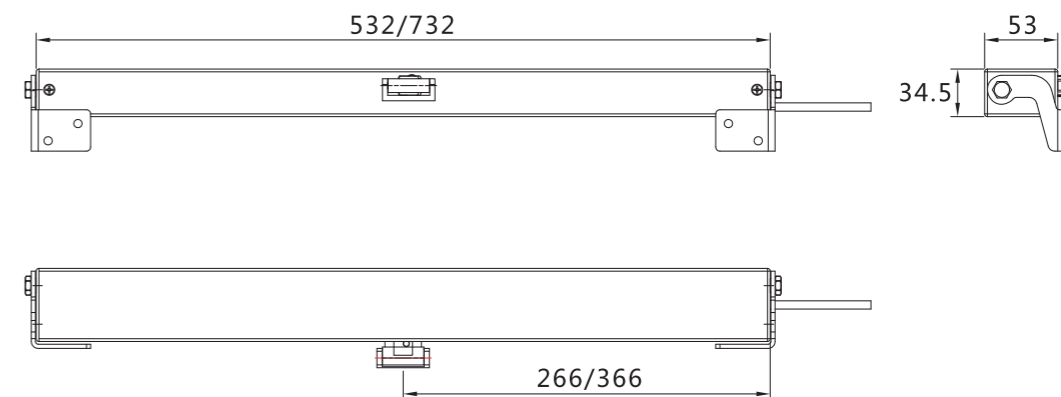


Top Hung Window Installation
(Without Window Sill)

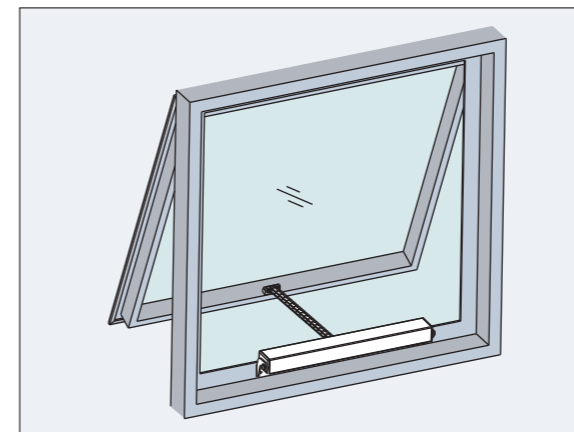
DIMENSION AND INSTALLATION

03

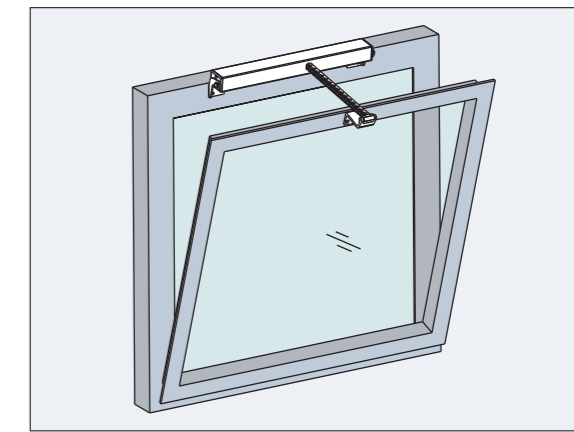
G2-EX ELECTRIC DOUBLE LINK CHAIN ACTUATOR



- G2-EX Electric Double Link Chain Actuator can be applied to the top and bottom hung window, central and horizontal opening, skylight and alike.
- Installation of G2-EX is flexible. It can be installed with or without window sill situation by suitable brackets.



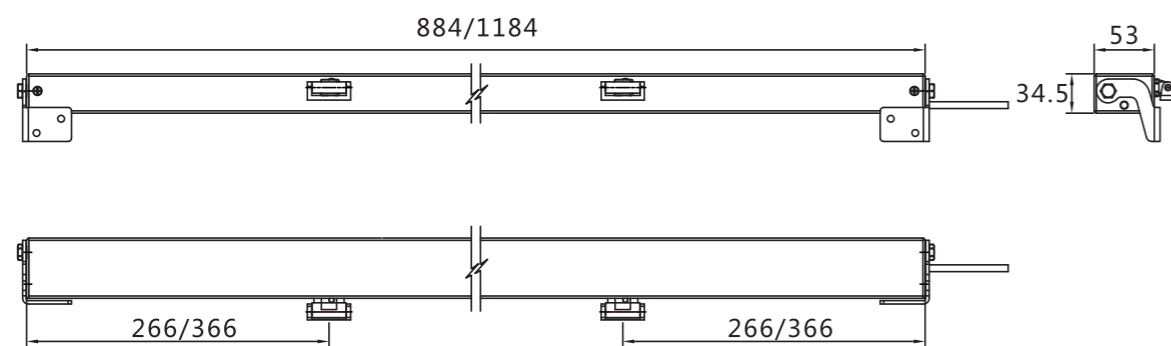
Top Hung Window
Installation



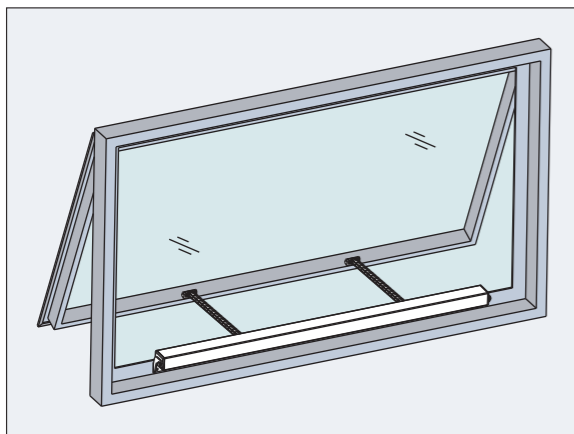
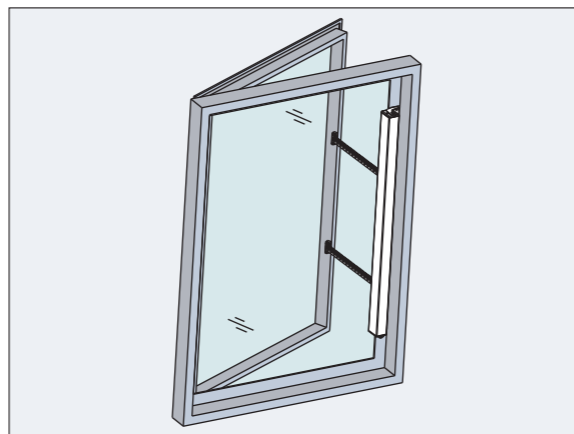
Bottom Hung Inward Tilt-turn
Window Installation

04

G2-EXT ELECTRIC DUAL CHAIN ACTUATOR



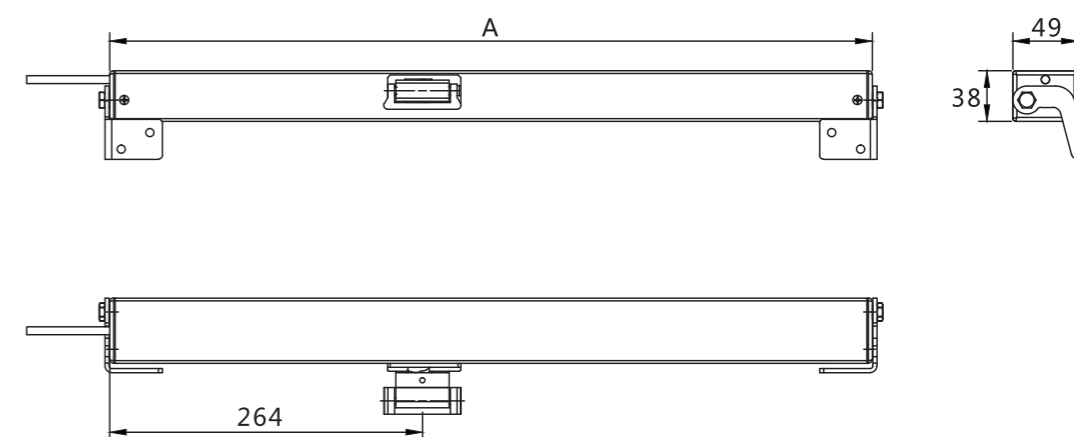
- G2-EXT Electric Dual Chain Actuator can be applied to the top and bottom hung window, central and horizontal opening, skylight and alike.
- Installation of G2-EXT is flexible. It can be installed with or without window sill situation by suitable brackets.

Top Hung Window
InstallationSide Hung Window
Installation

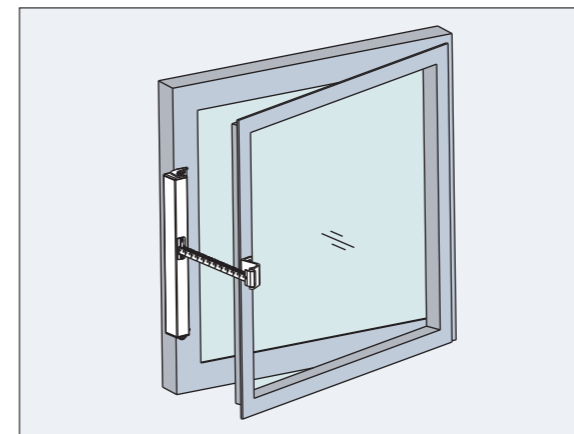
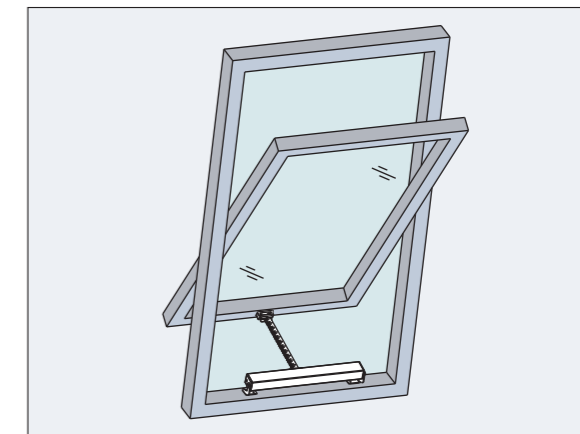
05

G5-X ELECTRIC DOUBLE LINK
CHAIN ACTUATOR

Stroke (mm)	24V DC A (mm)
200	446
300	498
400	550
600	654
800	758



- G5-X Electric Double Link Chain Actuator can be applied to the top and bottom hung window, central and horizontal opening, skylight and alike.
- Installation of G5-X is flexible. It can be installed with or without window sill situation by suitable brackets.

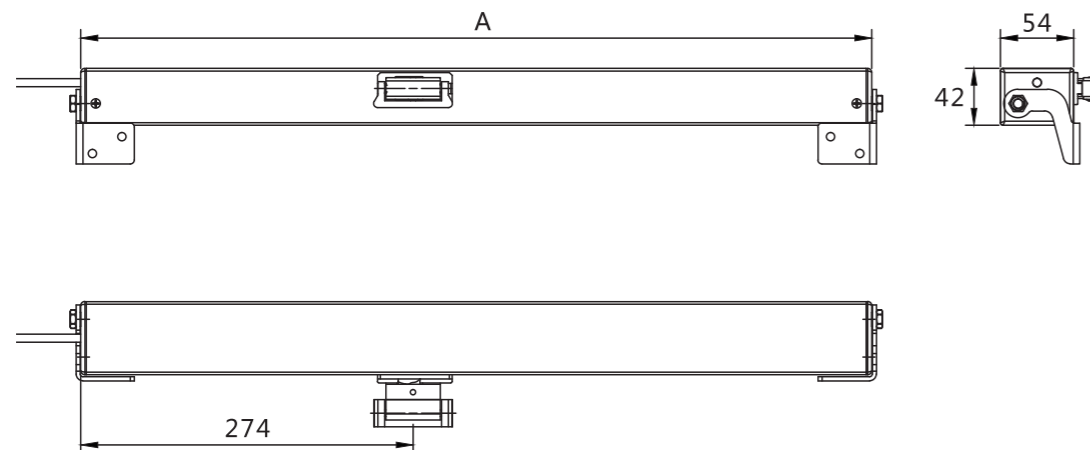
Side Hung Inward Window
InstallationHorizontal Pivot Window
Installation

DIMENSION AND INSTALLATION

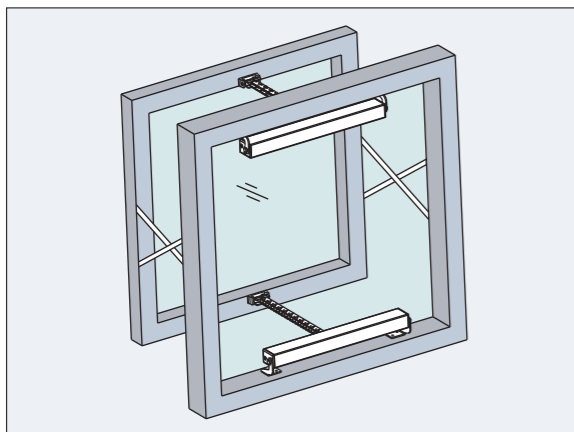
06

G5-XS ELECTRIC DOUBLE LINK CHAIN ACTUATOR

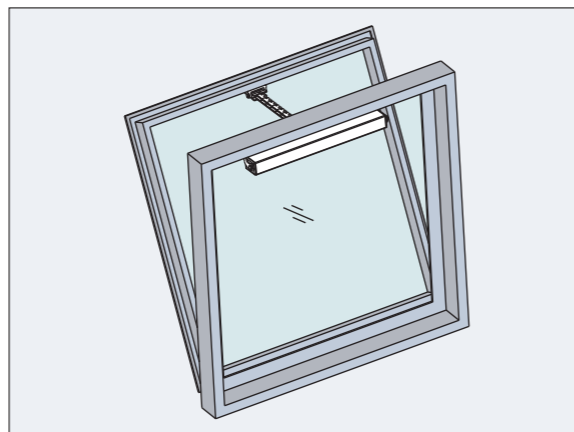
Stroke (mm)	24V DC A (mm)
200	456
300	508
400	560
600	664
800	768



- G5-XS Electric Double Link Chain Actuator can be applied to the top and bottom hung window, central and horizontal opening, skylight and alike.
- Installation of G5-XS is flexible. It can be installed with or without window sill situation by suitable brackets.



Parallel Push-out Window Installation



Bottom Hung Outward Window Installation

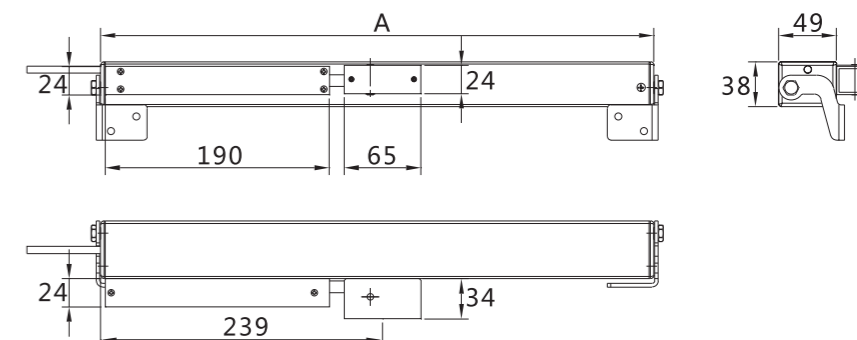
DIMENSION AND INSTALLATION

07

G5-X-GS ELECTRIC INCLINE DOUBLE LINK CHAIN ACTUATOR

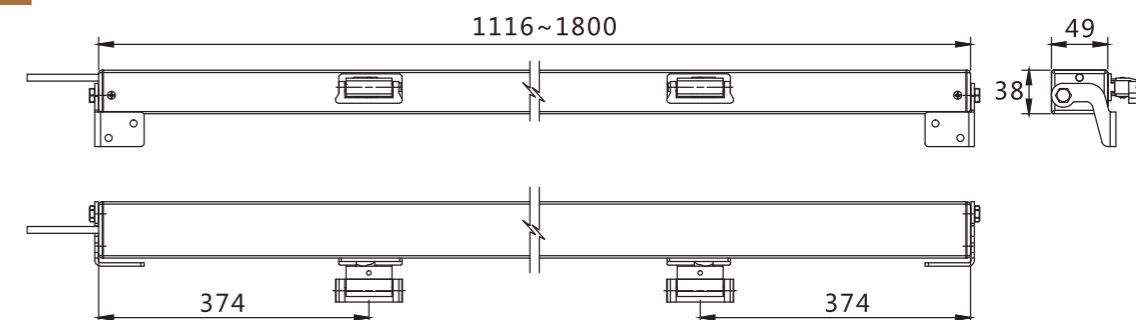
Stroke (mm)	24V DC A (mm)
200	417
300	469
400	521

- G5-X-GS Electric Incline Double Link Chain Actuator is suitable for Side Hung Window

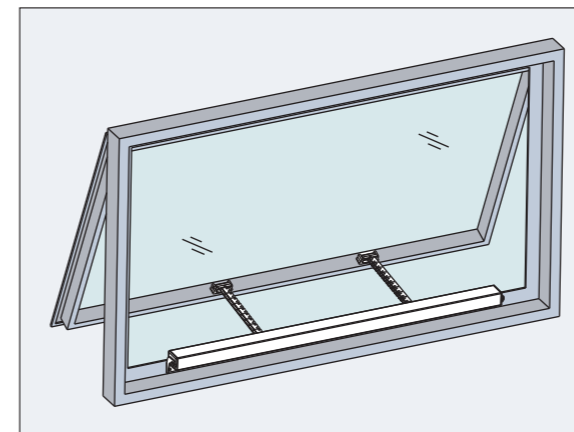


08

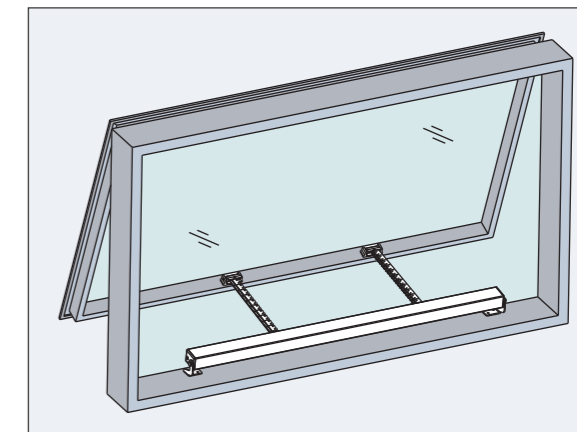
G5-XT ELECTRIC DUAL CHAIN ACTUATOR



- G5-XT Electric Dual Chain Actuator can be applied to the top and bottom hung window, central and horizontal opening, skylight and alike.
- Installation of G5-XT is flexible. It can be installed with or without window sill situation by suitable brackets.



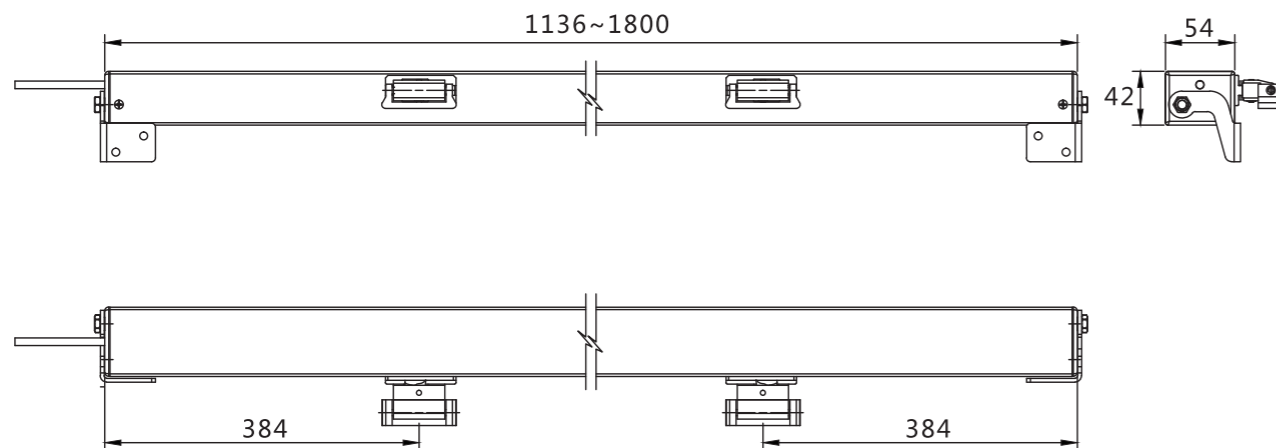
Top Hung Window Installation
(With Window Sill)



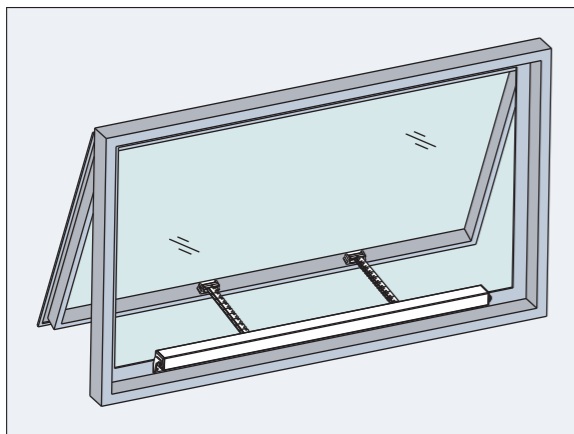
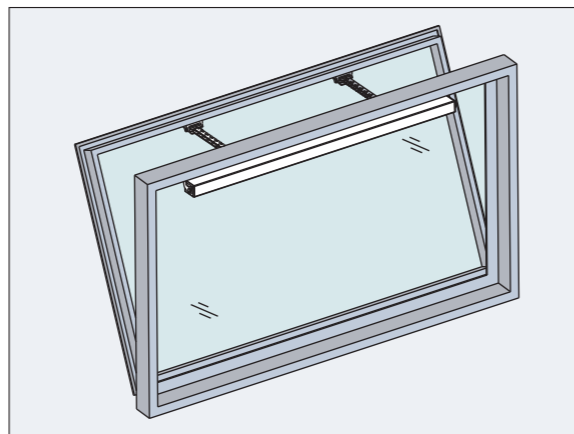
Top Hung Window Installation
(Without Window Sill)

09

G5-XST ELECTRIC DUAL CHAIN ACTUATOR



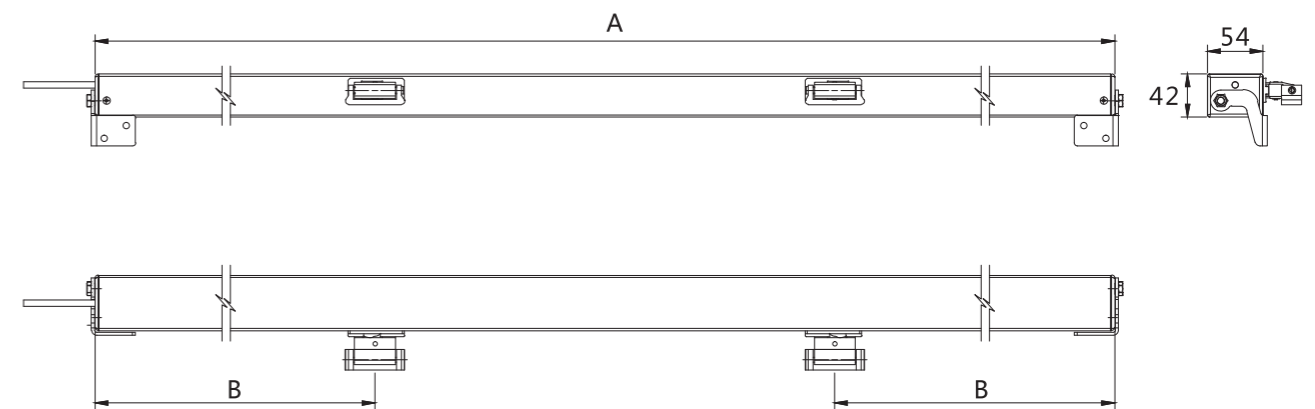
- G5-XST Electric Dual Chain Actuator can be applied to the top and bottom hung window, central and horizontal opening, skylight and alike.
- Installation of G5-XST is flexible. It can be installed with or without window sill situation by suitable brackets.

Top Hung Window
InstallationBottom Hung Outward Window
Installation

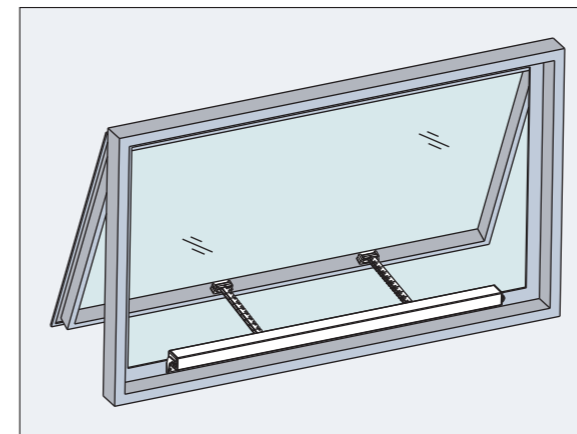
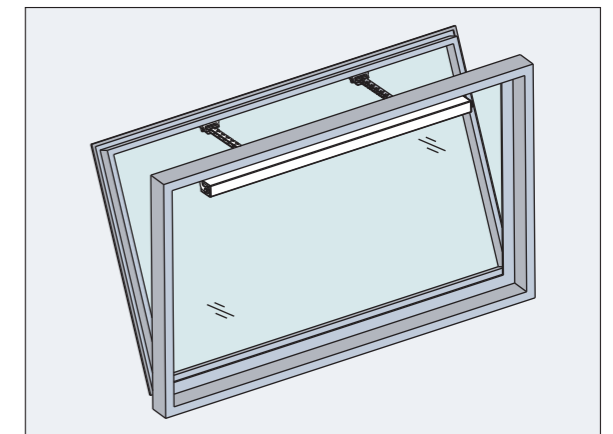
10

G5-XT-DN ELECTRIC DUAL
CHAIN ACTUATOR

Stroke (mm)	A (mm)	B (mm)
100	728	139
200	828	189
300	928	239
400	1028	289
500	1128	339



- G5-XT-DN Electric Dual Chain Actuator can be applied to the top and bottom hung window, central and horizontal opening, skylight and alike.
- Installation of G5-XST is flexible. It can be installed with or without window sill situation by suitable brackets.

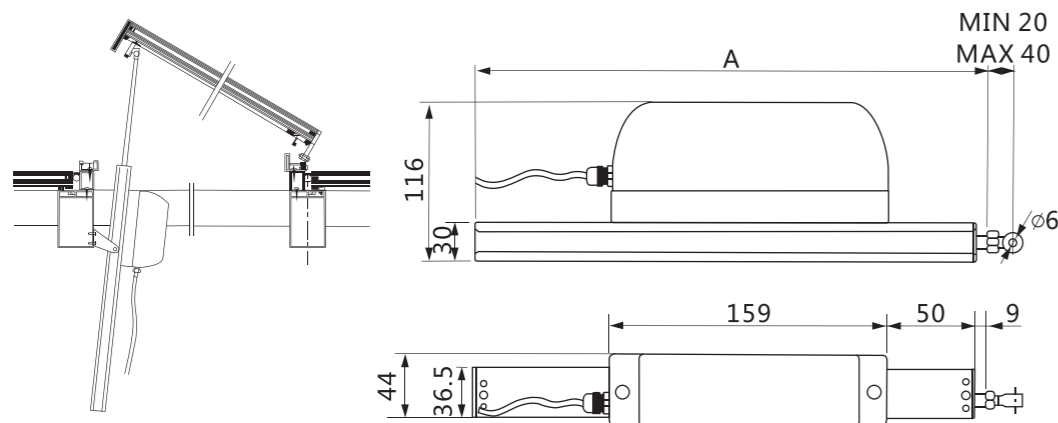
Top Hung Window
InstallationBottom Hung Outward Window
Installation

DIMENSION AND INSTALLATION

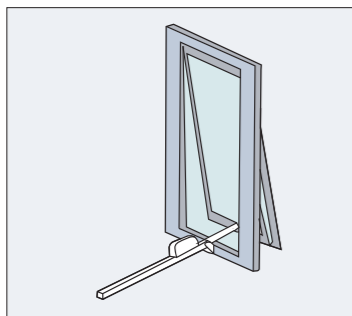
11

TE368S ELECTRIC RACK AND PINION ACTUATOR

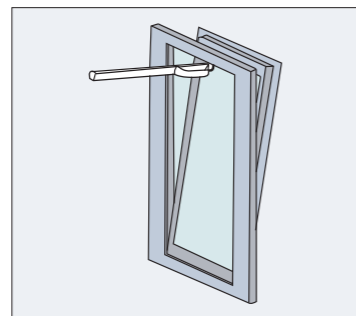
Stroke (mm)	Length A (mm)
300	460
500	660
1000	1160
1200	1360
1500	1660



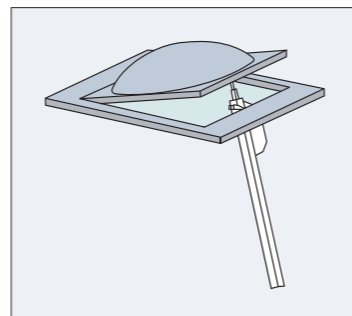
- TE368S Electric Rack and Pinion Actuator can be applied to the top and bottom hung window, central and horizontal opening, skylight and alike.
- Installation of TE368S is flexible. Fixed or sliding bracket is available for Installation.



Top Hung Windows
Installation



Bottom Hung Windows
Installation



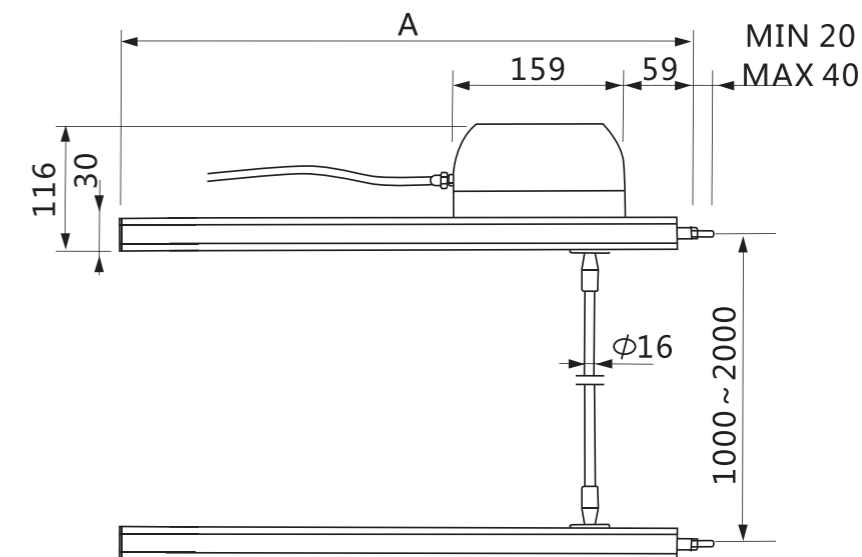
Skylight
Installation

DIMENSION AND INSTALLATION

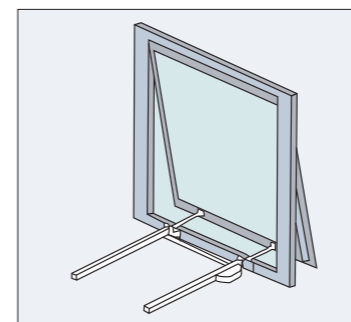
12

TE368DN ELECTRIC RACK AND PINION DRIVE TANDEM

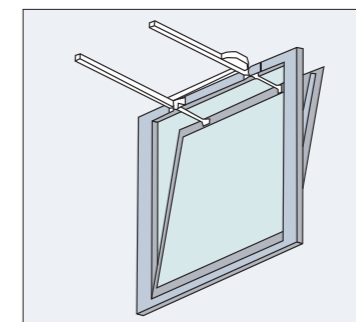
Stroke (mm)	Length A (mm)
300	460
500	660
1000	1160
1200	1360
1500	1660



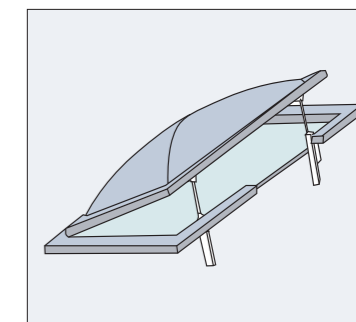
- TE368DN Electric Rack and Pinion Drive Tandem can be applied to the top and bottom hung window, central and horizontal opening, skylight and alike.
- Installation of TE368DN is flexible. Fixed bracket is available for Installation.



Top Hung Windows
Installation



Bottom Hung Windows
Installation

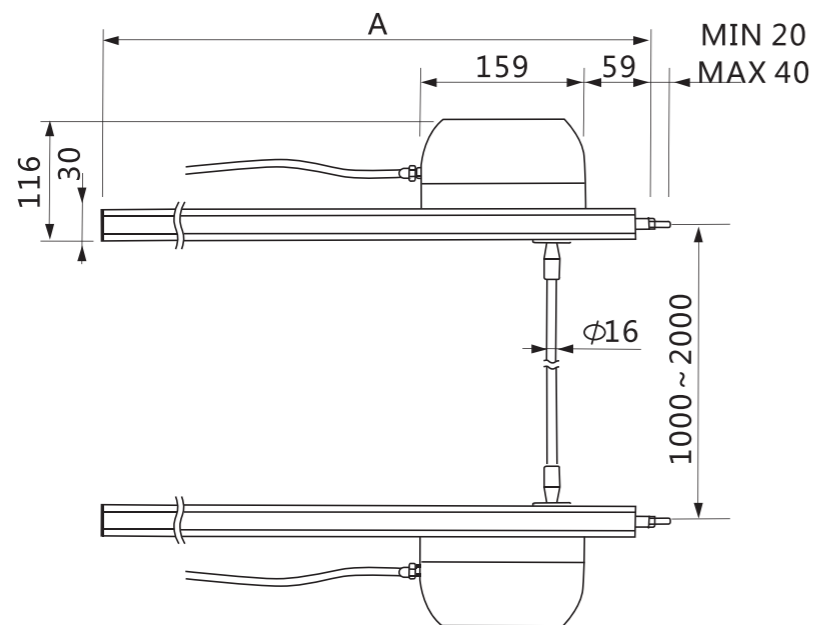


Skylight
Installation

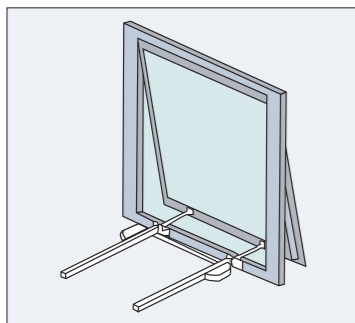
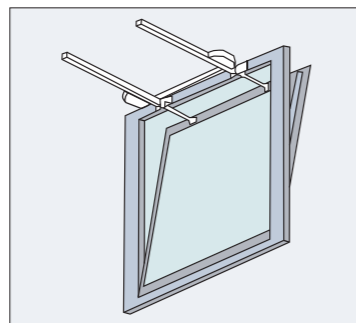
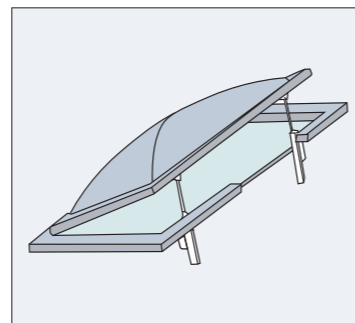
13

TE368DR ELECTRIC RACK AND PINION DRIVE TANDEM

Stroke (mm)	Length A (mm)
300	460
500	660
1000	1160
1200	1360
1500	1660



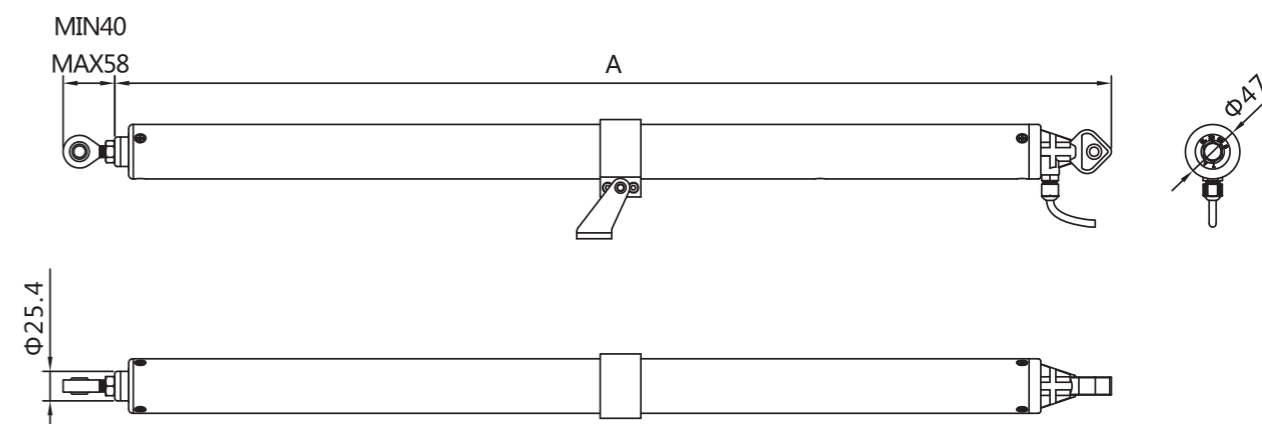
- TE368DR Electric Rack and Pinion Drive Tandem can be applied to the top and bottom hung window, central and horizontal opening, skylight and alike.
- Installation of TE368DR is flexible. Fixed bracket is available for Installation.

Top Hung Windows
InstallationBottom Hung Windows
InstallationSkylight
Installation

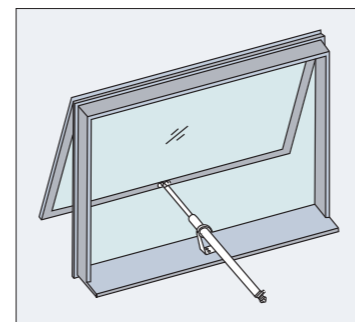
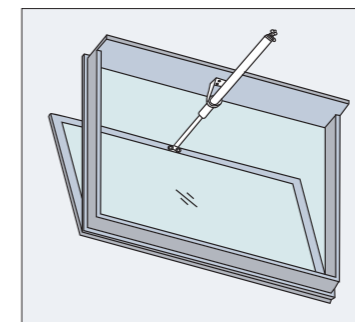
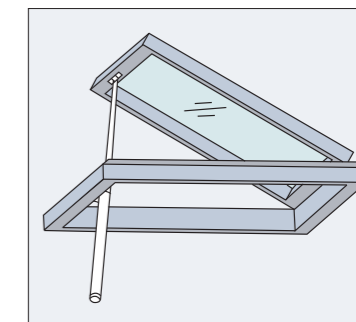
14

K10 SPINDLE ACTUATOR

Stroke (mm)	Length A (mm)
150	509
200	559
350	709
550	909
750	1109
1000	1359



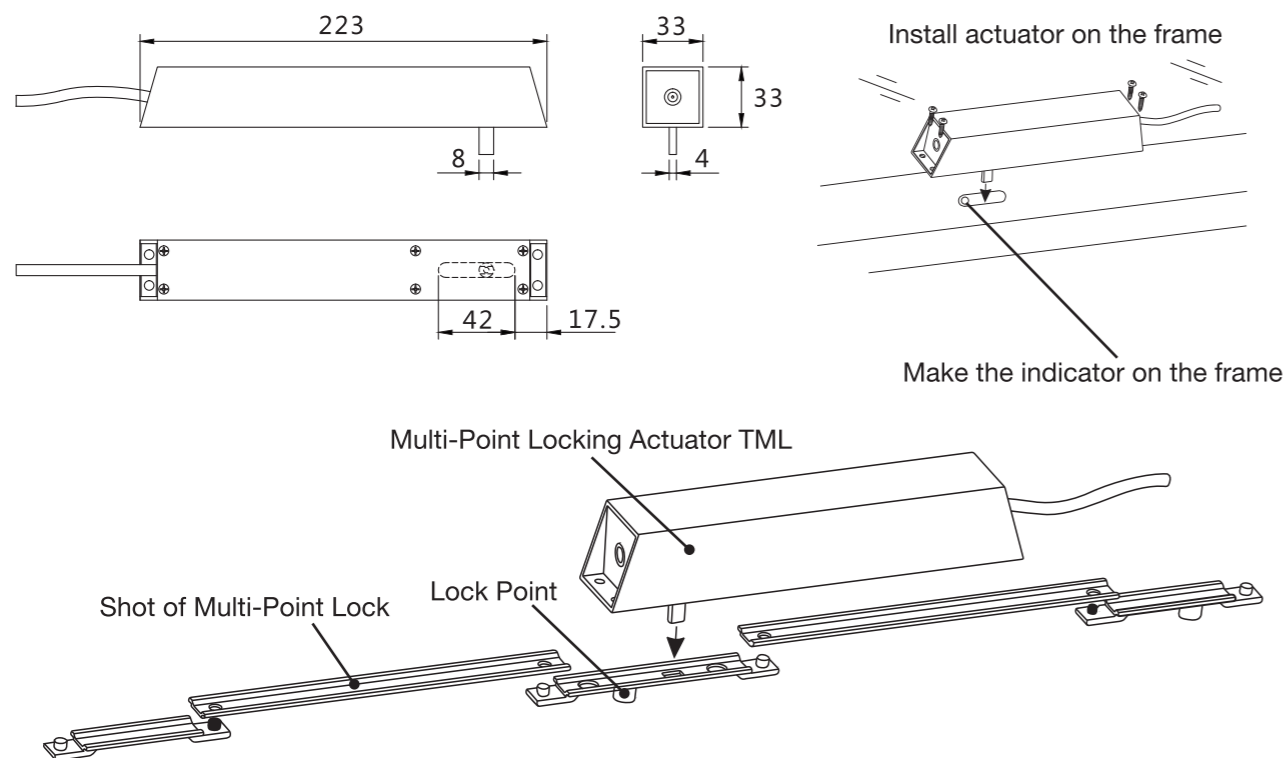
- K10 Spindle Actuator can be applied to the top and bottom hung window, horizontal opening, skylight and alike.
- Installation of K10 is flexible. Slip bracket or back bracket is available for Installation.

Top Hung Windows
InstallationBottom Hung Windows
InstallationSkylight
Installation

DIMENSION AND INSTALLATION

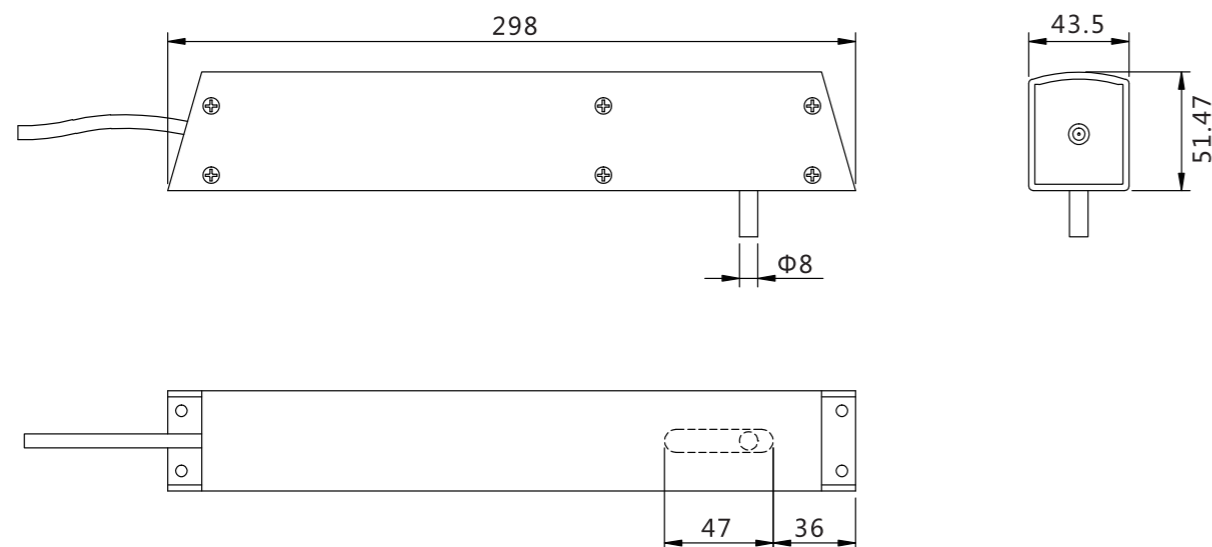
15

TML MULTI-POINT LOCKING ACTUATOR



16

TML-300 MULTI-POINT LOCKING ACTUATOR



DIMENSION AND INSTALLATION

17

GL-6 GLASS/ALUMINIUM LOUVER

Material for blade holder: Plastic
 Material for frame: Aluminum
 Glass blade thickness: 6mm , 8mm
 Glass blade width: 150mm
 Glass blade length: 1000mm
 Current of Internal electrical actuator: 0.6A
 1 Internal motor to operate up to 4 blades
 Choice of Internal motor: TE368M or K10
 Stroke: 150mm

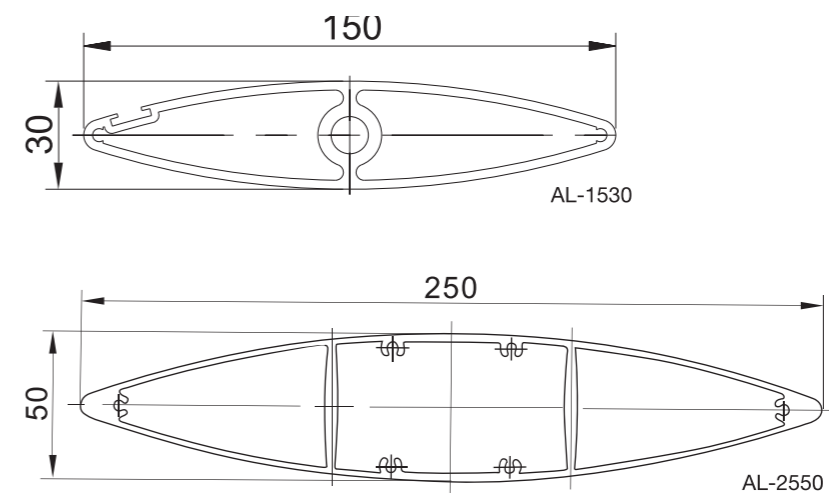
18

GL-6 DOUBLE OVERLAPPING GLASS LOUVER

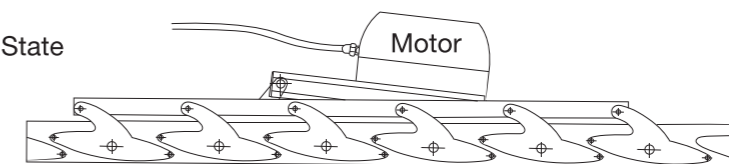
Material for blade holder: Aluminum
 Material for frame: Aluminum
 Glass blade thickness: below 18mm
 Glass blade width: 100 - 350mm
 Glass blade length: 500 - 2000mm
 Current of External electrical actuator: 0.6-0.8A
 1 External motor to operate up to 12 blades
 Choice of External motor: TE368M or K10

19

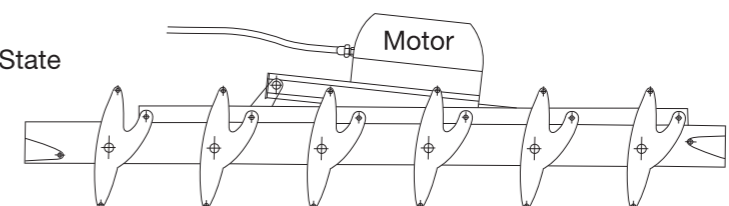
AL Series Aluminium Louver



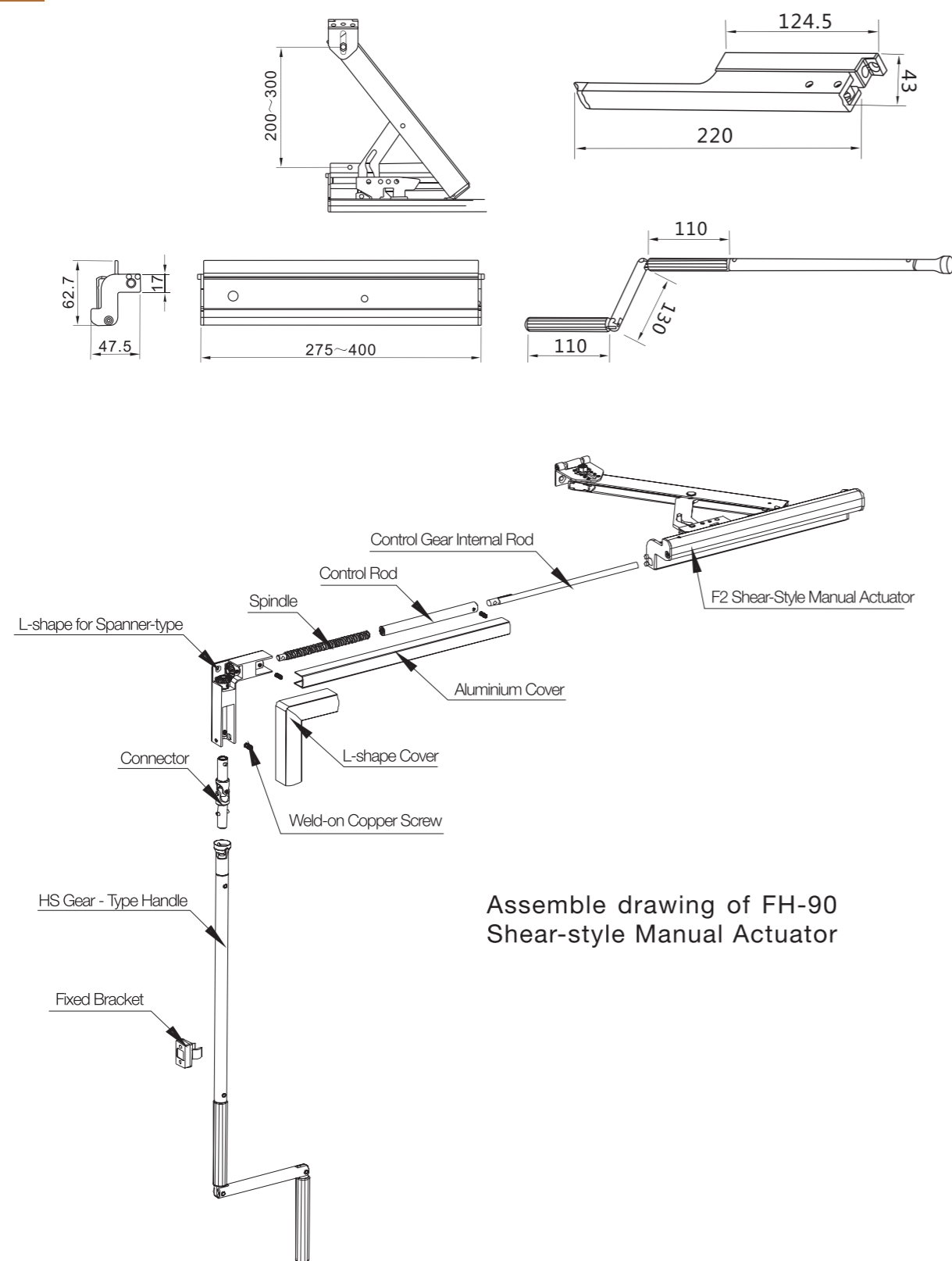
Close State



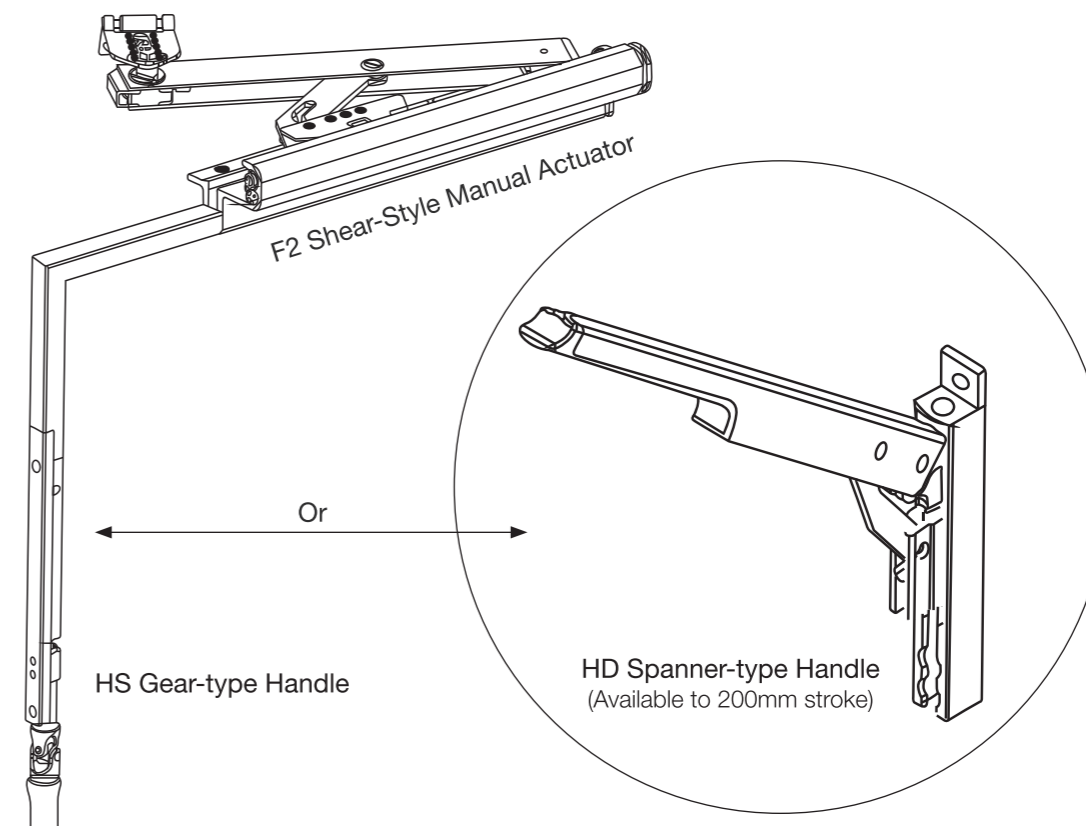
Open State



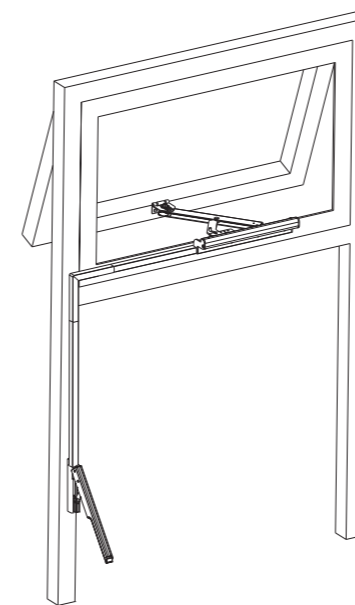
FH-90 SHEAR-STYLE MANUAL ACTUATOR



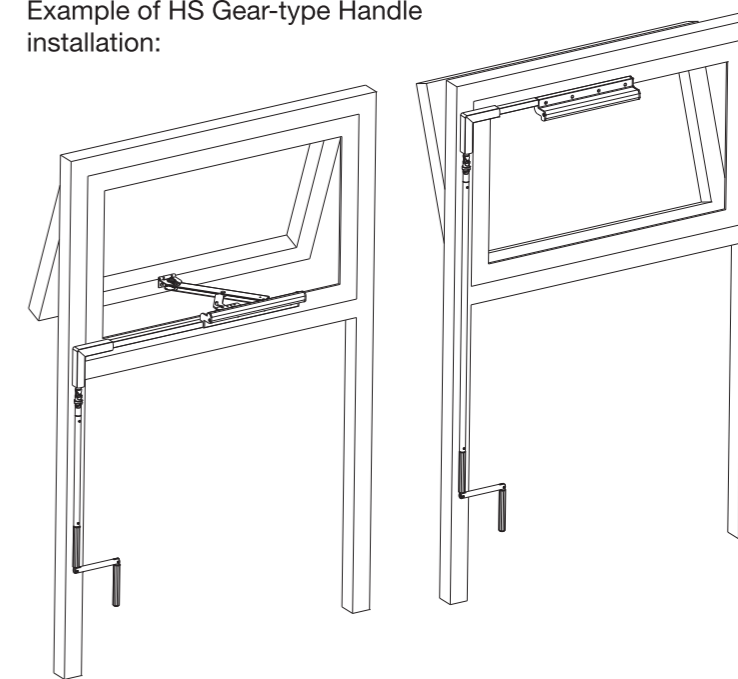
Assemble drawing of FH-90 Shear-style Manual Actuator



Example of HD Spanner-type Handle Installation:



Example of HS Gear-type Handle installation:

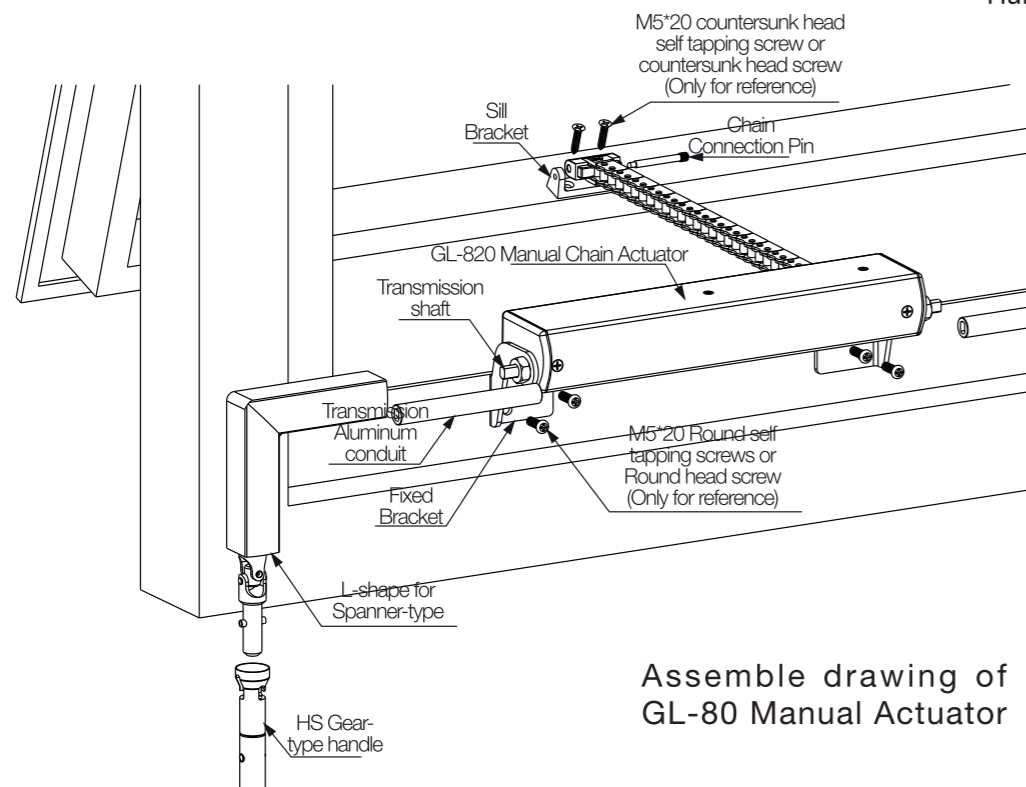
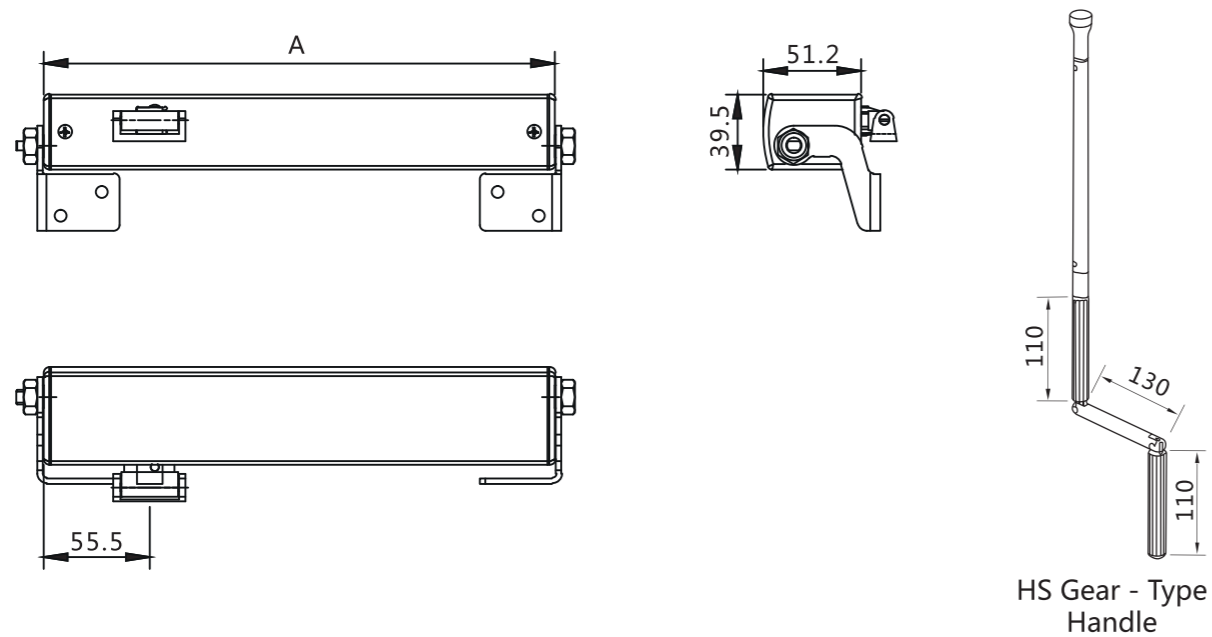


DIMENSION AND INSTALLATION

21

GL-820 MANUAL CHAIN ACTUATOR

Stroke (mm)	Length A (mm)
400	318

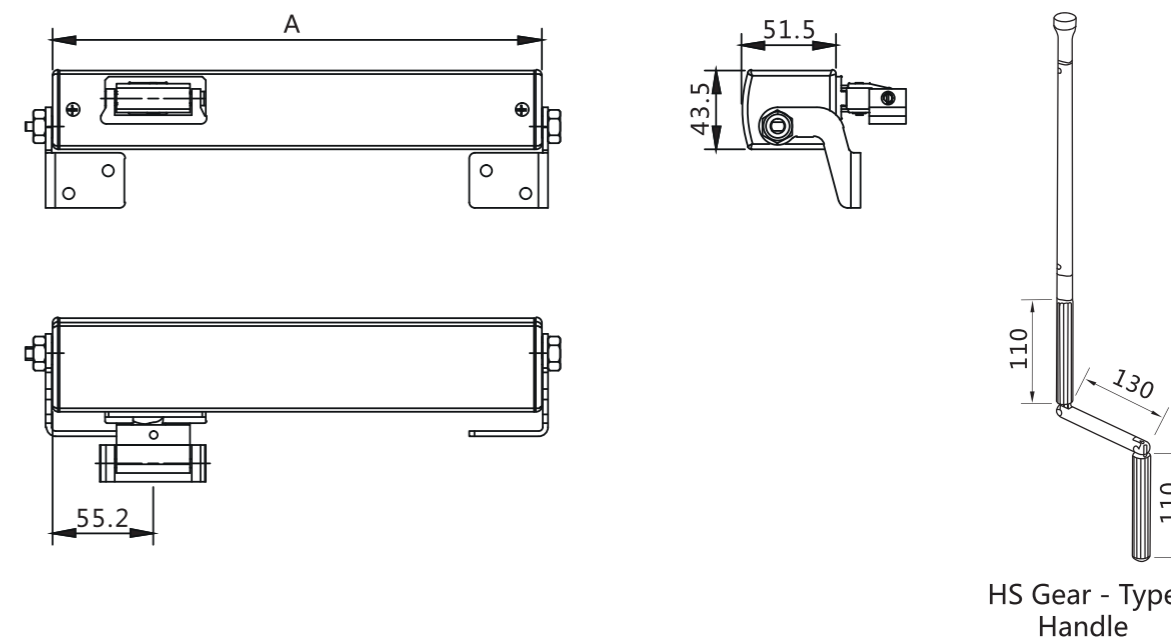


DIMENSION AND INSTALLATION

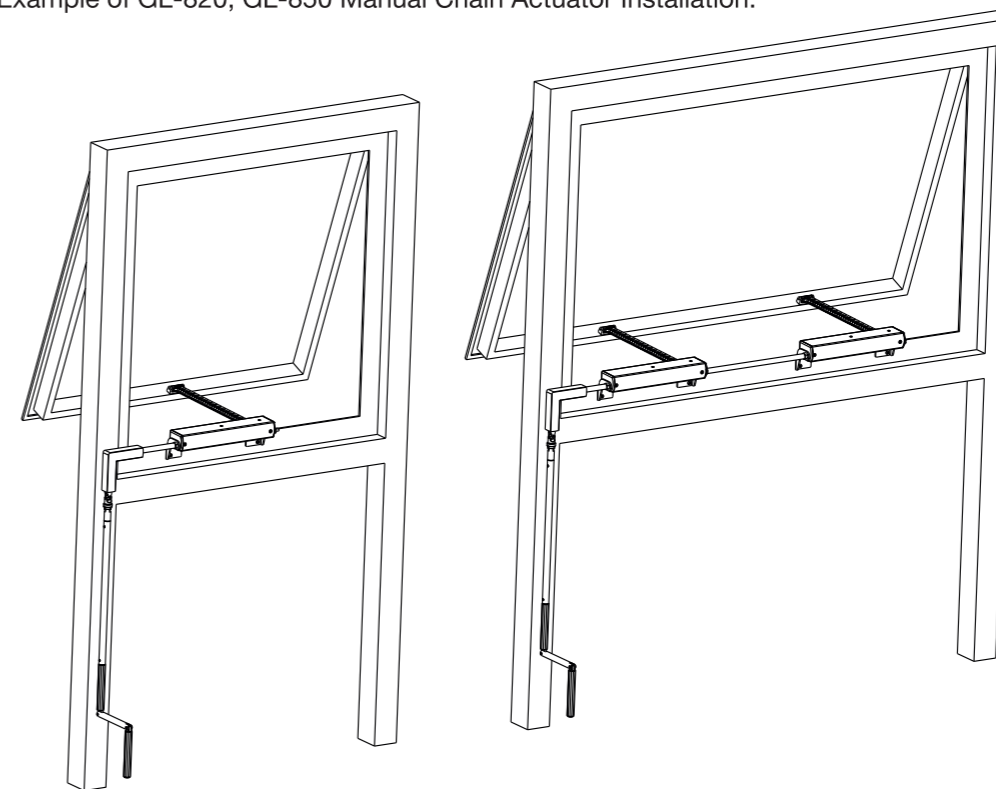
22

GL-850 MANUAL CHAIN ACTUATOR

Stroke (mm)	Length A (mm)
600	418

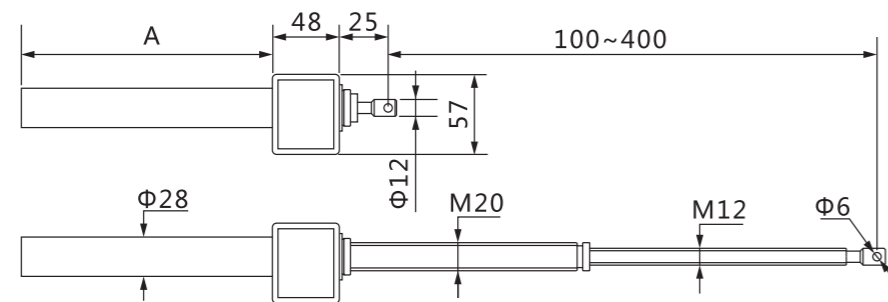


Example of GL-820, GL-850 Manual Chain Actuator Installation:

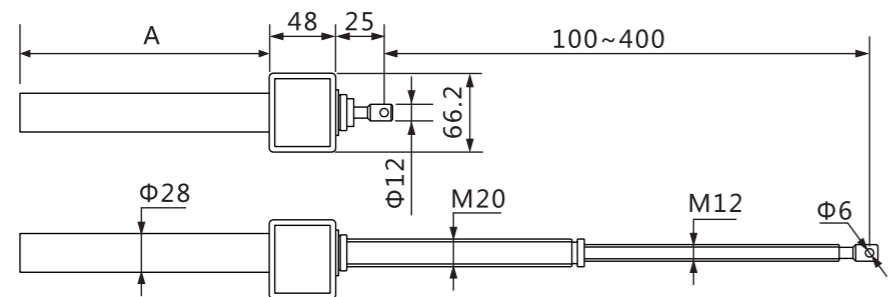


SH-15 MANUAL WINDOW OPERATING SYSTEM

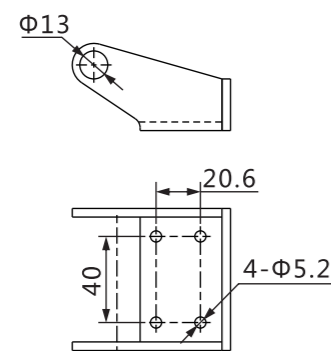
Stroke (mm)	Length A (mm)
200	105
250	130
300	155
350	180
400	205



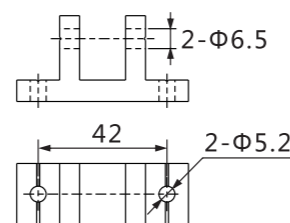
One control one



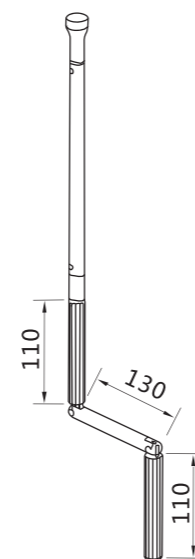
One control two



Fixed Bracket

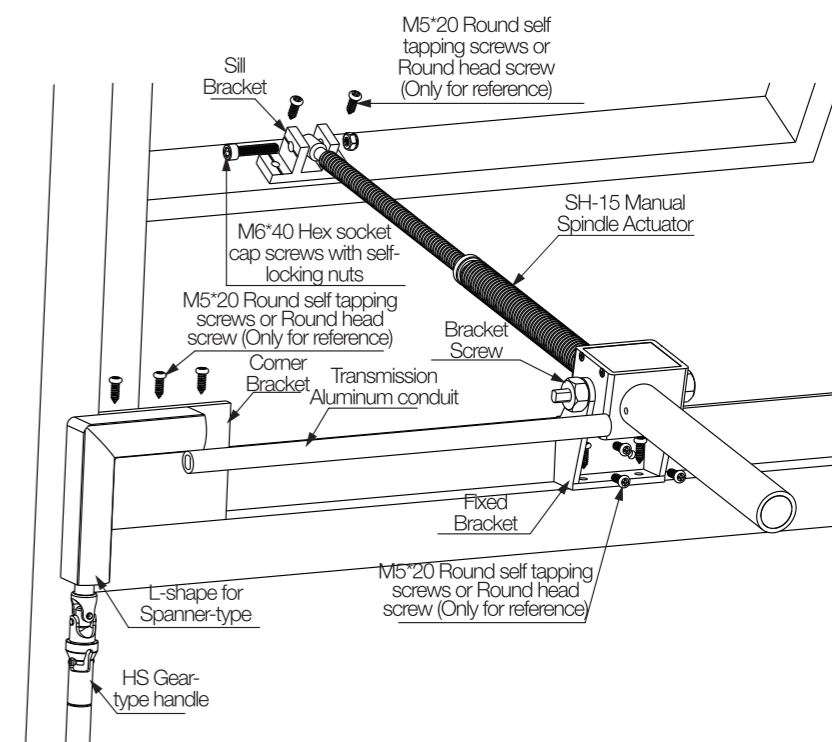


Sill Bracket

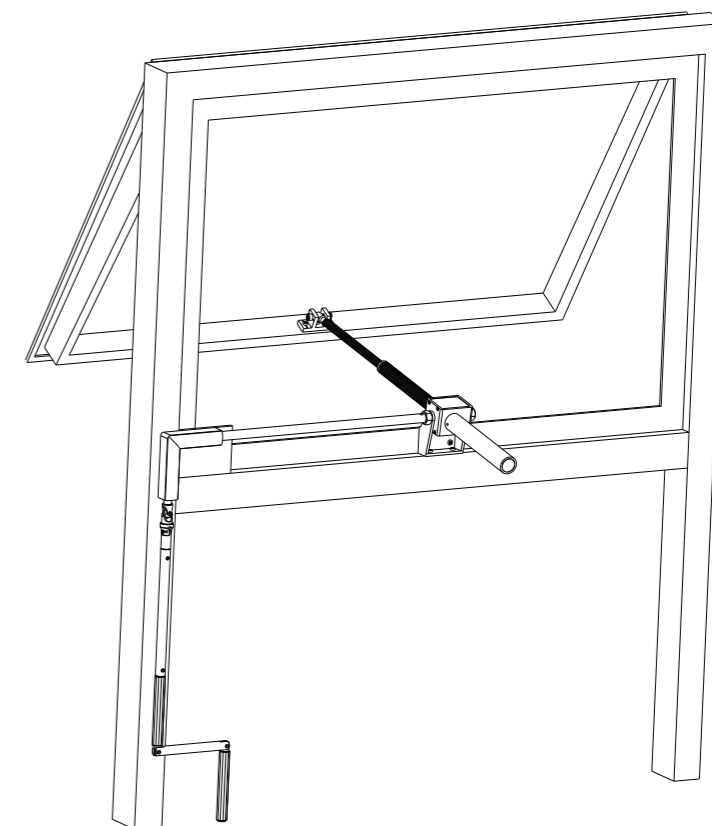


HS Gear-type handle

Assemble drawing of SH-15 Manual Actuator



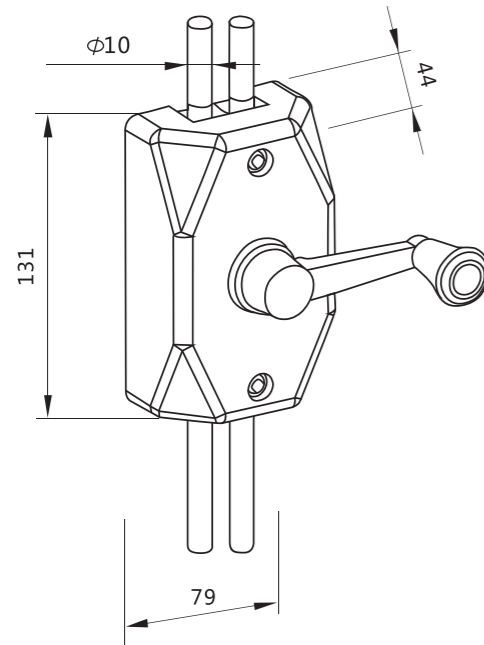
Example of SH-15 Manual Chain Actuator Installation:



DIMENSION AND INSTALLATION

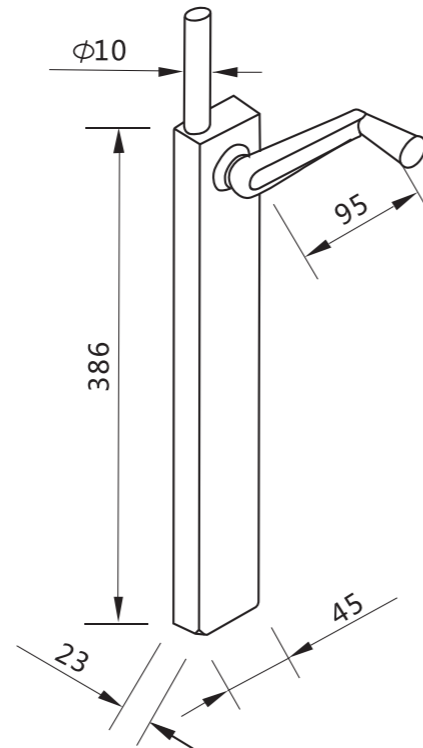
24

GH-388 CRANK HANDLE



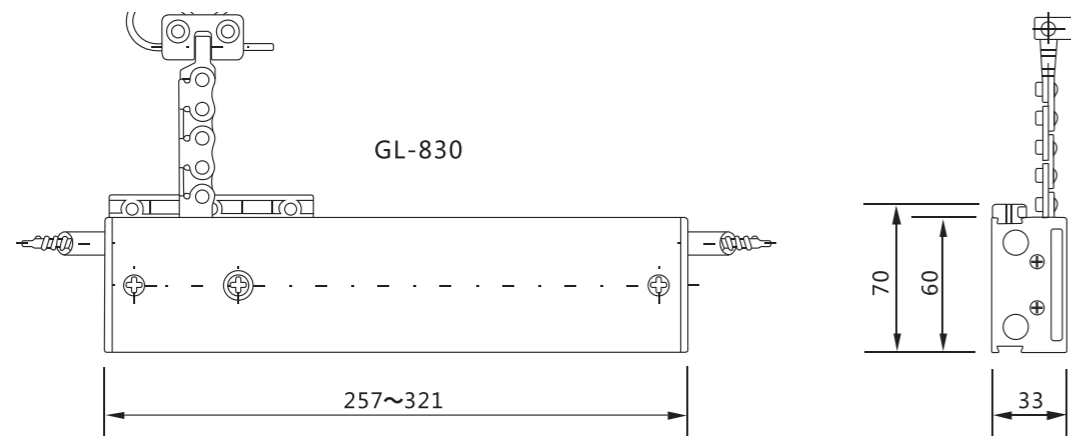
25

GH-386 CRANK HANDLE



26

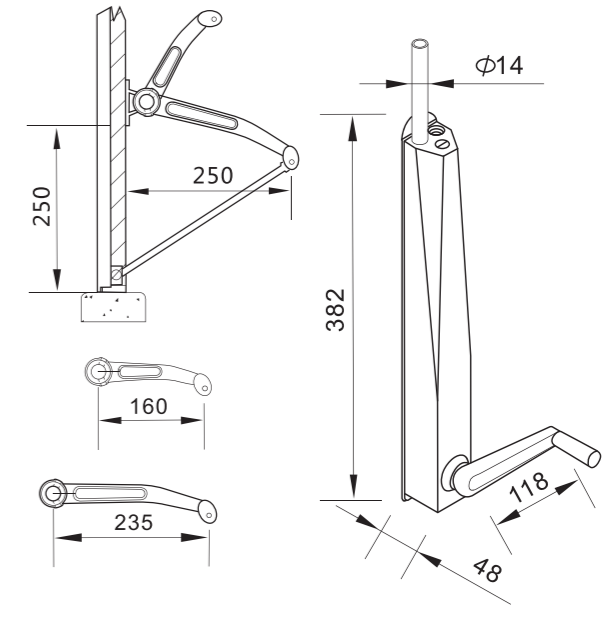
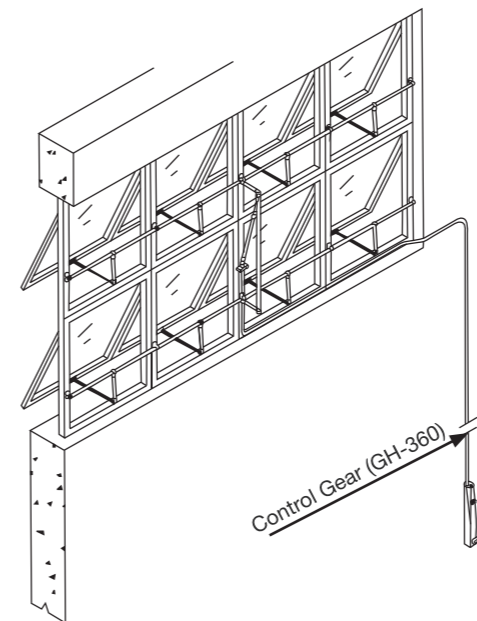
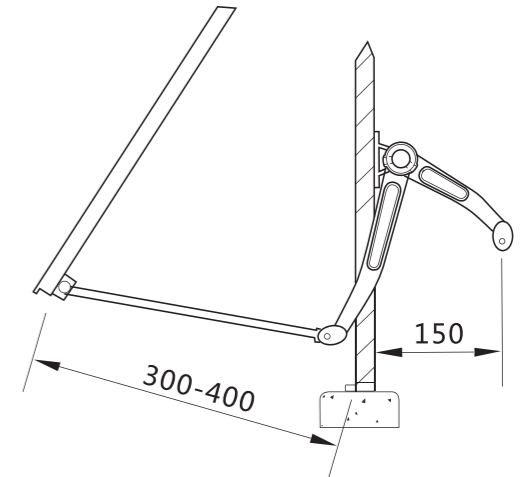
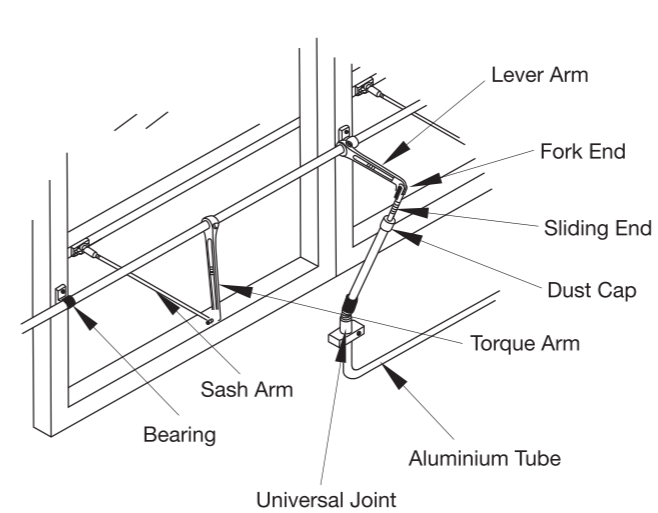
GL-830 CHAIN BOX



DIMENSION AND INSTALLATION

27

GH-360 MANUAL GEAR-TYPE HANDLE



SMOKE VENTILATION SYSTEM

Model	Power (W)	Max Current (A)	Output Current of Each Group	Dimension (mm)	Weight (Kg)	Protection Class
AIB2008-G1	250	8	8A (1 Group)	500 × 400 × 200	18	IP 54
AIB2008-G1	450	16	8A (2 Group)	500 × 400 × 200	20	IP 54
AIB2008-G2	850	32	8A (4 Group)	800 × 600 × 250	40	IP 54
AIB2008-G4	1650	64	8A (8 Group)	1000 × 800 × 250	62	IP 54

VENTILATION SYSTEM

Model	Power (W)	Max Current (A)	Output Current of Each Group	Dimension (mm)	Weight (Kg)	Protection Class
SV4008-G1	250	8	8A (1 Group)	500 × 400 × 200	18	IP 54
SV4008-G1	450	16	8A (2 Group)	500 × 400 × 200	20	IP 54
SV4008-G2	850	32	8A (4 Group)	800 × 600 × 250	30	IP 54
SV4008-G4	1650	64	8A (8 Group)	800 × 600 × 250	45	IP 54

G5-X-FS

Specification	Unit	Technical Data
Voltage	V	24V DC ± 10%
Current	A	1.2 ~ 1.8
Push and pull force	N	300 ~ 600
Lock force in static motion	N	6,000
Stroke	mm	≥ 200
Speed of opening and closing the window (Daily ventilation)	mm/s	5 ~ 7
Working temperature	°C	-15 ~ +75
Protection class	IP	55
Time to open the window ("fail safe")	s	< 2

G2 ELECTRIC DOUBLE LINK CHAIN ACTUATOR

Specification	Unit	Technical Data
Voltage	V	24V DC ± 10%
Push and pull force	N	250 / 300
Max current absorption	A	0.6 / 0.7
Stroke	mm	300 / 500
Speed	mm/sec	6
Working temperature	°C	-15 ~ +75
Protection class	IP	32

G2-EX ELECTRIC DOUBLE LINK CHAIN ACTUATOR

Specification	Unit	Technical Data
Voltage	V	24V DC ± 10%
Push and pull force	N	250 / 300
Max current absorption	A	0.6 / 0.7
Stroke	mm	200 ~ 500
Speed	mm/sec	6
Working temperature	°C	-15 ~ +75
Protection class	IP	32

G2-EXT ELECTRIC DUAL CHAIN ACTUATOR

Specification	Unit	Technical Data
Voltage	V	24V DC ± 10%
Push and pull force	N	500 / 600
Max current absorption	A	1.2 / 1.4
Stroke	mm	200 ~ 500
Speed	mm/sec	6
Working temperature	°C	-15 ~ +75
Protection class	IP	32

G5-X ELECTRIC DOUBLE LINK CHAIN ACTUATOR

Specification	Unit	Technical Data
Voltage	V	24V DC ± 10%
Push and pull force	N	200 / 300 / 400
Max current absorption	A	0.7 / 1.0 / 1.2
Stroke	mm	200 ~ 800
Speed	mm/sec	7
Working temperature	°C	-15 ~ +75
Protection class	IP	32/55(optional)

G5-XS ELECTRIC DOUBLE LINK CHAIN ACTUATOR

Specification	Unit	Technical Data
Voltage	V	24V DC ± 10%
Push and pull force	N	500 / 600 / 700
Max current absorption	A	1.4 / 1.5 / 1.8
Stroke	mm	200 ~ 800
Speed	mm/sec	7
Working temperature	°C	-15 ~ +75
Protection class	IP	32/55(optional)

G5-X-GS ELECTRIC INCLINE DUAL CHAIN ACTUATOR

Specification	Unit	Technical Data
Voltage	V	24V DC ± 10%
Push and pull force	N	200 / 300
Max current absorption	A	0.7 / 1.0
Stroke	mm	200 ~ 400
Speed	mm/sec	7
Working temperature	°C	-15 ~ +75
Protection class	IP	32/55(optional)

G5-XT ELECTRIC DUAL CHAIN ACTUATOR

Specification	Unit	Technical Data
Voltage	V	24V DC ± 10%
Push and pull force	N	400 / 600 / 800
Max current absorption	A	1.4 / 2.0 / 2.4
Stroke	mm	300 ~ 800
Speed	mm/sec	7
Working temperature	°C	-15 ~ +75
Protection class	IP	32/55(optional)

G5-XST ELECTRIC DUAL CHAIN ACTUATOR

Specification	Unit	Technical Data
Voltage	V	24V DC ± 10%
Push and pull force	N	1000 / 1200 / 1400
Max current absorption	A	2.8 / 3.0 / 3.6
Stroke	mm	300 ~ 800
Speed	mm/sec	7
Working temperature	°C	-15 ~ +75
Protection class	IP	32/55(optional)

G5-XT-DN ELECTRIC DUAL CHAIN ACTUATOR

Specification	Unit	Technical Data
Voltage	V	24V DC ± 10%
Push and pull force	N	400 / 500 / 600
Max current absorption	A	1.4/1.6/1.8
Stroke	mm	200 ~ 800
Speed	mm/sec	7
Working temperature	°C	-15 ~ +75
Protection class	IP	32/55(optional)

TE368S ELECTRIC RACK AND PINION ACTUATOR

Specification	Unit	Technical Data
Voltage	V	24V DC \pm 10%
Push and pull force	N	400 / 600 / 800
Max current absorption	A	0.7 / 0.9 / 1.1
Stroke	mm	150 ~ 1500
Speed	mm/sec	8
Working temperature	°C	-15 ~ +75
Protection class	IP	65

TE368DN ELECTRIC RACK AND PINION DRIVE TANDEM

Specification	Unit	Technical Data
Voltage	V	24V DC \pm 10%
Push and pull force	N	400 / 600 / 800
Max current absorption	A	0.7/0.9/1.1
Stroke	mm	350 ~ 1500
Speed	mm/sec	8
Working temperature	°C	-15 ~ +75
Protection class	IP	65

TE368DR ELECTRIC RACK AND PINION DRIVE TANDEM

Specification	Unit	Technical Data
Voltage	V	24V DC \pm 10%
Push and pull force	N	800 / 1200 / 1600 /
Max current absorption	A	1.4 / 1.8 / 2.2
Stroke	mm	350 ~ 1500
Speed	mm/sec	8
Working temperature	°C	-15 ~ +75
Protection class	IP	65

K10 SPINDLE ACTUATOR

Specification	Unit	Technical Data
Voltage	V	24V DC \pm 10%
Push and pull force	N	600 / 800 / 1000 / 1200/ 1500
Max current absorption	A	1.1 / 1.1 / 1.3 / 1.5 / 1.8
Stroke	mm	150 ~ 1500
Speed	mm/sec	2.5 ~ 5
Working temperature	°C	-15 ~ +75
Protection class	IP	65

TML MULTI-POINT LOCKING ACTUATOR

Specification	Technical Data
Power supply	24V DC \pm 10%
Stroke	32mm
Pull force	200N
Push force	200N
Speed	4.8mm/s
Max current absorption	0.6A

TML-300 MULTI-POINT LOCKING ACTUATOR

Specification	Technical Data
Power supply	24V DC \pm 10%
Stroke	32mm
Pull force	600N
Push force	600N
Speed	5mm/s
Max current absorption	0.9A

JOB REFERENCE

- Asia
- Europe
- North America
- Oceania

OVERSEA PROJECTS

2006

Vietnam National Convention Center, Vietnam
Algeria National Indoor Stadium, Algeria

2007

Milan Airport Logistics Center, Italy

2008

Bukit Tunku Bungalow Project, Malaysia
HL23 Condos at 515 West 23rd Street
Manhattan, USA

2009

The University of Nottingham, UK

2010

Can Tho International Airport, Vietnam
Heathrow Airport, UK
Raha Gardens Community Retail Center, UAE
The independent State of Samoa Government
Building, Vietnam

2012

Central Market, UAE

2014

Algeria International Convention and Exhibition
Center, Algeria
Vinh Airport, Vietnam

2015

Alawwal Bank, Kingdom of Saudi Arabia
Algeria Sport Centr

.....

MACAU

2006

Macau School of the Nations Education Center

2008

Joint Country School of Taipa Island

2009

The Praia Residential Project

2012

Macao Polytechnic Institute
.....

HONG KONG

2003

City Bus (Hong Kong) Headquarters
Kowloon Hospital
Oriental Press Group
Shatin Sewage Treatment Works
St. Paul's College
Tin Shui Wai Fire Station

2004

Home Affair Department Lik Yuen Community Hall
Hong Kong Disneyland
Hong Kong Movie City
La Salle College
Tai Kok Tsui Government Complex

2005

Bishop Hall Jubilee School
Buddhist Compassion Relief Tzuchi Foundation
Greenvale Mount Davis
Holy Trinity College
Sheung Shui Shek Wu Hi Cooked Food Center
South China Athletic Association

2006

Diocesan Girl's School
Hong Kong Baptist University Shen Mun School
Hong Kong Wetland Park Crocodile River
Hong Kong-Shenzhen Western Corridor
Law Wu Immigration Bridge
Lok Ma Chau, Hong Kong-Huanggang China
Passenger Bridge
Saint Pual's Co-Educational College
Sha Tin Swimming Pool Phase II
Sheung Shui KCR Station
The Hong Kong Polytechnic University
Tsuen Wan Chinese YMCA of Hong Kong

2007

DHL Logistics Extension Hub
Fanling North District Park
HKSAR Building Information Center
HKSAR Buildings Department
ICAC, West Kowloon Office
Nam Cheong MTR Station Toilet
New Television Center
Pamela Youde Nethersole Eastern Hospital
Regal Hong Kong Hotel, Causeway Bay
Sam Shui Natives Association
Tsuen Wan District Park
Tung Chung Caribbean Coast
Tung Chung Country Park



United Kingdom
Heathrow Airport



United States
HL23 Condos at 515 West 23rd
Street Manhattan



Vietnam
Can Tho International Airport



Australia
St.Oliver Plunkett School

2008

Delia (Hip Wo) Memorial School
Greenhouse of Kadoorie Farm & Botanic
Garden
Hong Kong Red Cross Princess
Alexandra School
Po Leung Kuk Ma Kam Ming College
Restaurant of Pacific Place Mall, Central

2009

Alliance Primary School
Caritas Lok Kan School
Po Leung Kuk Celine Ho Yam Tong
College
Po Leung Kuk Choi Kai Yau School
Pooi To Middle School
Portofino Villa
Sheung Shui Government Secondary
School
SKH Mung Yan Primary School
Sun Tin Work Camp

2010

110 Repluse Bay Road
Australian International School
Choi Wan Complex
Good Hope Kindergarden
Good Hope School
Ma Hang Park
School Project in Wylie Road
Shatin Tsung Tsin Secondary School
Sheung Shui Stadium
St. Francis' Canossian School
Tak Oi Secondary School
The Cameron Road
The Hong Kong Polytechnic University
Victoria Shanghai Academy
Ylpmsaa Tang Siu Tong Secondary
School

2011

Choi Tak Estate Youth Centre
Diocesan Girls' Junior School
Good Hope School
Hai Bun Road 133
Ma On Shan Area 86B
St. Rose of Lima's Kindergarden
School A in So Kwun Wat, Area 55
School B in So Kwuh.Wat, Area 55
Sing Yin Secondary School
St. Paul's Co-educational College
The ISF Academy
TKO Complex Area 44

TKO Exhibition Services & Logistics
Center
TT9 -Tung Tau Estate Community
Complex
Tuen Mun Indoor Swimming Pool
Yuen Long Car Service Center

2012

Tuen Mun North West Swimming Pool
Hong Kong Sport Institute
House 21, Middle Gap Road
Tung Tau Estate Phase 9
Shek Kip Mei Estate Phase 5
No. 36 Hoi Shing Road
Un Chau Estate Phase 5
Lam Tin Complex
The Portofino
Mount Kellett Road
Hong Kong Polytechnic University
Student Halls
Hollywood Road
V City
Victoria Park Swimming Pool

2013

Innovation Tower of Hong Kong
Polytechnic University
Grandview Terrace
Hong Kong Baptist University
Kai Tak Kindergarten
Kai Tak Site 1A
MTR (Shatin To Central Link)
Mei Foo Sun Chuen Phase 1
Sai Chuen Road
The Portofino 167
Science Park Phase 3
Ling Kiang Church Primary School

2014

40 Chung Hom Kok
442 Tsing Lung Road
Hong Kong International Airport
LKF Redevelopment
Mei Foo Sun Chuen Phase 1 - Louvre
Project
Ocean Park Waterfront Plaza
Performance Venue
Pharmaceutical Factory of Tai Po
Industrial Estate
Repulse Bay Road 73
Shatin Area 52 Phase 1
Tai Lam Centre for Women
Urban Renewal Project (H21) at Shau



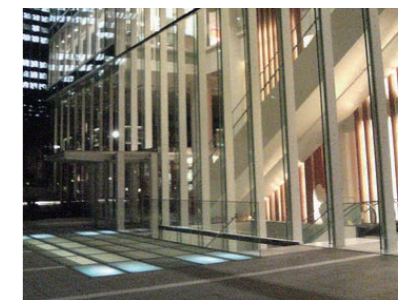
Hong Kong
Hong Kong Sports Institute



Vietnam
National Convention Center



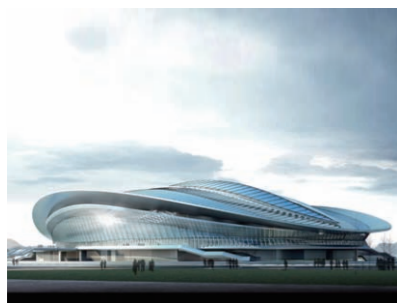
Macau
School of the Nations Education
Center



Hong Kong
Restaurant of Pacific Place Mall,
Central



Hangzhou
Country Water Conservation
Museum



Guangxi
Guangxi Stadium



Hangzhou
National Hydraulic Engineering
Museum



Kunming
Kunming Airport



Ningbo
Bin Jiang Leisure



Shanghai
International Financial Center



Shenzhen
International Airport



Zhejiang
Wenzhou train station

Kei Wan
Wan Chai Sports Ground

2015

Hong Lok Yuen Glass House
17/F to R/F, Block C, Harbour City
WGHs David Trench Home For the Elderly
Hung Fuk Estate (Phase 1 & 3)
Lower Ngau Tau Kok Estate Phase 2
Lower Ngau Tau Kok Estate Phase 6
Lower Ngau Tau Kok Estate Phase 7
Wan Chai Swimming Pool (Phase 1)
Kennedy Town Swimming Pool
MTR Yuen Long Station
Fire Services Training School Cum Diving School
Tai Lam Centre for Women(MPFB)
Yuwn Chau Kok Sports Centre

2016

Gateway, Tsing Yi
The Shanghai Commercial Bank HQ 10 & 12
Queens Road Central
Lei Yue Mun Estate Phase 3 Bus Station
Shui Chuen O Phase 2
Tai Lam Centre for Women (Remand Block)
Tai Lam Centre for Women (Dog Kennel)
Tsing Yi South West Sport Centre
.....

CHINA MAINLAND

2003

Changzhou LEONI Cable (Changzhou) Factory
Shanghai An Ting Used Car Center
Shanghai Chemical City Administration Building,
Recreation Unit, Tennis Stadium
Shanghai Thyssen Krupp Nirosta GmbH Factory
Administration Building
Shanghai Tropical Botanical Garden
Suzhou Gold Mantis Project Demo Building
Tianjin TEDA Public Library
Zhejiang Hangzhou IRS

2004

Hangzhou the Westlake Exposition
Hangzhou UT Stakan
IKEA Shanghai Store
Jiangsu Lian Yun Gang City Government
KAO Chemical Corporation Shanghai Factory
Nanjing Lukou and International Airport
Nanjing Olympia Stadium & Sport Center
Shanghai City Property Bureau
Shanghai Natural Gas Dispatch Center
Shanghai New International EXPO Center (E Hall)



Qingyuan
Lions Golf Resort



Shanghai
Shanghai Port International Center



Suzhou
Wuzhong District Cultural Center



Ningxia
Mast International Commerce
Center



Shanxi
Taiyuan Museum



Hebei
Economic Circle around Beijing
Service Center



Suzhou
Wu Xi Wei Na International
Creative Park



Yuxi
Gaoxin District Science &
Technology Park

Shanghai Oriental Art Center
Shanghai Property Bui I ding
Shanghai Siemens Office
Shanghai Zhangjiang Hi-Tech Park-German
Center and Pharmaceutical
Shanghai Zhongchao Print Machinery Factory
Shenzhen Furniture Design Institute
Shenzhen Longgang Cultural & Recreation Center
Tianjin Nankai University
Wuhan Commercial Bank Phraise II
Zhenjiang Hangzhou Xiaoshan International
Airport

2005

Beijing JiuXian Qiao Hospital
Changchun Taxation College
Chengdu Jinsha Museum Phraise I
Dongguan Science & Technology Museum
Foshan Jianmei Aluminium Factory Company
Guangdong Industrial University Library
Guangzhou China Import and Export Fair Pazhou
Complex
Guangzhou Higher Education Mega Center
Guangzhou Jinhai Commercial Building
Guangzhou University of TCM Library
Hainan Petrochemical Factory
Hubei Xisaishan Power Station Office
Jilin Natural Museum
Kunming EXPO Garden Center
Meilan International Airport, Hainan Phraise I, II , &
III
Nanjing Callan Science and Technology Center
Shanghai 101 Aviation Testing Center
Shanghai Immigration Department Control Center
Shanghai Pudong Rehabilitation Centre
Shanghai Tongji University Campus
Shanghai Universal Garden
Shanghai Xintiandi Capital Land Building
Shanghai Zhangjiang Semiconductor Industry
Park
Shanghai Zhongguancu Technology
Shanxin Chinese Medicine College
Suzhou Taicang Civil Engineering
Suzhou Police Department
Suzhou Transportation Department
Tianjin Ruihuaxing Museum
Tianjin University of Sport
Xiamen Tan Kah Kee Stadium
Xian Electronic & Technology University
Xingtai City Technique College Family Residence
Xinjiang Petroleum Administer Bureau Recreation
Zhejiang College of Life Sciences
Zhengzhou Geological Museum
Zhengzhou U-Town City



Beijing
China ICBC Business Center



Zhejiang
Hangzhou Modern Building



Hong Kong
The Cameron Road



Hong Kong
Ylpmasaa Tang Siu Tong
Secondary School



Chengdu
Borui Chuangyi Technology
Breeding Building



Shandong
Linyi Airport



Hong Kong
Ma Hang Park



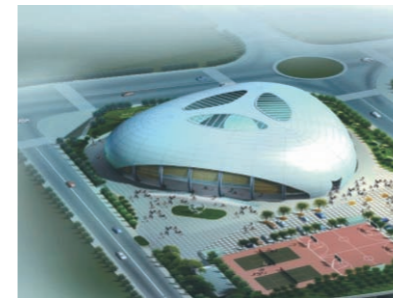
Dalian
State Guest House of STX
(Dalian) Shock Absorber

2006

Anhui Huainan City Sports Culture Facilities
Beijing Beihang University Science & Research Center
Beijing Olympia Facility (Arrow & Shooting)
Changchun City Government Building
Chengdu Jinsha Museum Phase II
Chongqing Yu Huai Railway Hua i hua Station
Ericsson Beijing Building
Guangzhou Baiyun International Convention Center
Guangzhou Yuexiu District Public Recreation Center
Heilongjiang Institute of Technology Library
Henan Acupuncture Massage School New Building
Henan Geological Museum Main Building
Kunshan Bank Note Paper Mill
Ningbo International Expo
Shandong Qingdao Traditional Handcraft & Embroidery
Shandong Weichai Power Office
Shandong Yantai World Trade Center
Shanghai Airport Authority Cargo Warehouse
Shanghai China Union Pay Office
Shanghai Diamond Gas
Shanghai Greenlang Group Building
Shanghai Liu Chong Hing Financial Center
Shanghai Long hua Menorial Chapel
Shanghai National Accounting College
Shanghai National Astronomical Observatories
Shanghai Okura Garden Hotel
Shanghai Railway South Station
Shanghai Synchrotron Radiation Facility
Shanghai Tongji University Lecture and Main Hall
Shanghai ZhangJiang Catholic Church
Shangxi Taiyuan Military Guest Room
Shenzhen Huanggang Immigration Building
Shenzhen huanggang Lok Ma Chau Passenger Bridge
Shenzhen Muratra Technology Office
Suzhou University Library
Xiamen Hayatt Hotel
Xian Qujiang International Convention and Exhibition Center

2007

Agricultural and Farmers Boyuan
Anhui Ma'anshan City Park
Anhui Wan Investment Commercial Building
Beijing Aerospace University
Beijing Experimental Primary School Buildings
Beijing Hou Feng Technology Limited-Sun Island



Chongqing
Yubei Sport Stadium



Hong Kong
The Hong Kong Polytechnic
University



Hong Kong
Po Leung Kuk Celine Ho Yam
Tong College



Hubei
Hubei Provincial Library



Italy
Milan Linate International Airport



Malaysia
Bukit Tunku Bungalow Project



Hong Kong-Shenzhen
Futian Port



Shanxi
Taiyuan Railway Station

Beij ing Laoshan Recycling Field
Beijing Mingda Waiyip Building Technology Co., Ltd.
Changchun CITIC Changchun
CPC Tennis Committee
Chongqing Radio and Television Buildings
Country Garden, Guangzhou
Dalian Maternity Hospital
Dalian Neusoft, International Software Park
Guangzhou Rhythm and Southern Guangzhou
Golf Member House
Guangzhou Vessels Ya r d Bay Guangzhou
Rhythm and Southern
Guangzhou Golf Member House
Henan Geological Museum Complex Building
Hohhot in Inner Mongolia Jinchuan Development
Zone Tennis Club
Hubei Telecom Customer Center
Nanjing University of Technology Pukou Campus
Stadium
Qingdao International Convention and Exhibition
Center
Shenzhen COCO Park Shopping Mall
Shenzhen Kengzi Bus Terminal
Suzhou University Press, Storage and
Transportation Center
The General Office of Hubei Provincial
The New Guangzhou Stadium

2008

Bei-Hang Scientific Research Building, Beijing
Beijing Guo Mie Shopping Arcade
Beijing Industrial and Commercial Bank Data
Center
Beijing Raffles City
DaLian Neusoft Corporation
DaLian Rome Electronics
Dalian ZizHu Dialogue
Electron (ChangZhou) Fuel Injection System
Limited
Fencing Hall of Tsinghua University
Fujitsu General Central Air Conditioning Project
GanSu Tianshui Airport
Gate of the Xi'an Metropolitan
Guangzhou Baiyun International Airport
HangZhou China Auspicious Plaza
HangZhou Di Kai International Project
HangZhou State Yuan Building
HangZhou Yin Passenger Transportation Center
JiangNing Land-Tax Complex Building
JiaXing China Hong Kong City
Jinan Olympics Center
Joint Country School of Taipa Island, Macau
LanZhou Nakaga Airport



Harbin
European Bar



Hong Kong
Tai Kok Tsui Government
Complex



Hong Kong - Shenzhen
Law Wu Immigration Bridge



Hong Kong
Oriental Press Center



Hong Kong-Shenzhen
Western Corridor



Shanghai
World Expo Center



Guangzhou
Zhujiang New City



Hefei
Science and Technology Rural
Commerce Bank Center

Ningbo New Beach #5 Engineering Maintenance Project
QingDao Complex Building
QingDao Laoshan Human Resources Building
QingDao Phrase # 29
QingDao Stadium
QuanZhou SeaView Villa
Shanghai Building
Shanghai Electricity Demonstration Hall
Shanghai Harbor Affairs Building
Shanghai Xiang Mei Clubhouse
Shantou University Library
ShanXi Province Government Official Building
Sheng Shi tian Jiao Residential Area, QuanZhou
Shenzhen China South City
Shenzhen Youth Library
Solar Printing Ink (SuZhou) Warehouse
Sun Island Hotel, Beijing
Suzhou CAAC Lei Yuan Production's Base
The Chinese Big Tomb Manufactures Drugs Warehouses Phrase II, TianJin
The HangZhou Literary Center Phrase II
TianJin Hong Steel Phrase IV
TianJin Sai Xing Hotel
Toyota Logistics ,ChangShu
Urumqi Airport
Xi'an Gold Cerise Chinese Garden
Xiao Ping Island Carpark, DaLian
Xin Xing Lu Cheng Clubhouse, DaLian
Yi Zhuang economy Development Zone, (Beijing Technical Garden)
YingShan Train Station Extension Project
YunNan Yuxi Nie Er Theater
ZheJiang # 2 Building, HangZhou
ZheJiang Jiasha County Civil Air Defense 0501 Projects
ZheJiang New China Press
ZheJiang Vocational College of E&M Technology of Complex Building

2009

Beijing CEIBS Commerce Institute
Beijing Happy Villages III
Beijing Police Hospital
Beijing Supervise Institute
BOS Automotive System (Taicang) Co., Ltd.
Changxing Media Center
China Agri-Industries Holdings Ltd Rice Ware house
China ICBC Business Center
Chongqing Sedi Building
Clue House of Sunstar River - Shanghai
Dalian Convention Center
Dalian Gan Jingzi Court



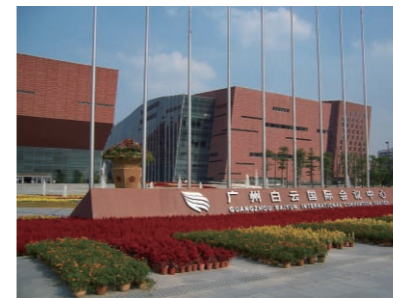
Beijing
Ericsson Beijing Building



Shanghai
IKEA Store



Shenzhen
COCO Park Shopping Mall



Guangzhou
Baiyun International
Convention Center



Beijing
Raffles City



Shanghai
Nature Gas Dispatch Center



Shenzhen
Futian Traffic Control Center

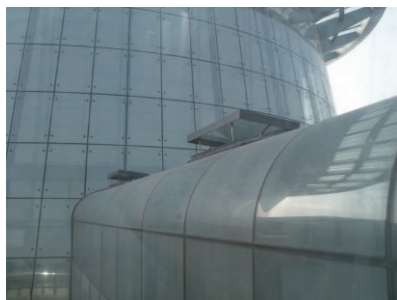


Guangzhou
Baiyun International Airport

Dalian Modelling Hall
Deqing Administration Center
Emperor Solar Energy Group Apartment No.2 & 3
Emperor Solar Energy Group Technical Institute
Gansu Yushu Airport
Guangzhou Peninsula Garden
Guangzhou Tanzania Station
Hangzhou Country Water Conservation Museum
Hangzhou Country Wetland Museum
Harbin Development Building
Hefei Science and Technology Rural Commerce Bank
Hei Long Jiang Lopei River International Hotel Swimming Pool
Hongde Germany School Library
Huai Anguo Hotel
Hubei Xianning Train Station
Jilin Province Saint Germany Spring Stadium
Jincheng Mining Bureau
Kiamusu Stadium
Kunming East Airline Building
Mansion Aluminium
Nanjing Health School
Nanjing Newly Developed Area A11 & A17
Nanjing North of the Changjiang River Port Complex
Ningbo Bin Jiang Leisure
Ningxia Mast International Commerce Center
Quanzhou Seascape Villa Phrase I
Shanghai International Financial Center
Shanghai Port International Center
Shanghai World Expo Village B
Shanghai World Expo Center
Shanghai World Expo, Japan Hall
Shanghai World Expo, Wan Kague Hall
Shantou East Printing Factory
Shanxi Building
Shanxi Tongda Building
Shenzhen Industrial District Stadium
Suzhou Elegant Factory
Suzhou Jing Huayuan
Tailao Train Station
Tai zhou Train Station
Tianjin Automobile Tire Assembly Building
Tianjin Rainbow Hillock Stage 4
Turfan Airport
Wenling Train Station
Wenzhou New Train Station
West Hangzhou the Flood Gate Scientific
Wuhan Central Financial Center
Wuhan Hankou Train Station
Wuzhou Train Station



Dongguan
Youth Recreation Center



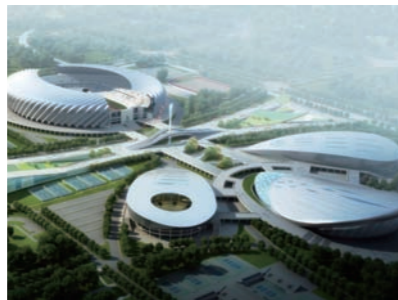
Hangzhou
UT Stakan



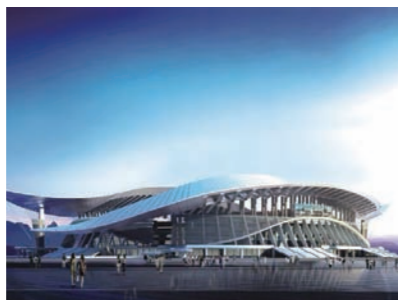
Zhengzhou
Geological Museum



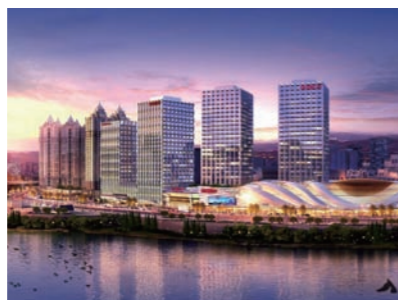
Anhui
Investment Commercial Building



Fuzhou
Olympia Stadium & Sport Center



Guangxi
Guangxi Sports Center



Guangyuan
Wanda Plaza



Hainan
Boao Forum

Xia men University International Conference Center
Yang Kou Gang Retirement Center
Yangpu Police Station Science and Technology Training Center
Yinchuan Discovery City
Yuexi Administration Business Center
Yunnan First People's Hospital
Zhejiang Nature Electric Appliance Ltd
Zhuhai Green Village Tennis Hall

2010

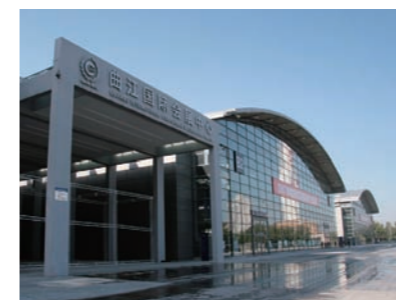
Beichuan Sport Stadium
Beijing Botanical Garden Greenhouse Skylight
Beijing LiShan Building
Beijing Post Office
Beijing Traffic Control Center
Chengdu Unit 611 #1 Complex Testing Center
Chongqing Yubei Sport Stadium
Dalian China Resources
Dezhou Holiday Goden Bay Hotel
Fujian Paralympics Games Stadium
Fujian Province Police Headquarters
Fuji an Rongqiao Villa
Gansu Jinchang Airport
Ganzhou China Airline City Area A
Guangzhou Inner Harbour Phase II
Guangzhou Jiangnan Xinyuan
Guangzhou Zhujiang New City
Hangzhou Gold Mile Free City
Hangzhou Modern Building
Hangzhou Sanli Time Square
Hangzhou Shaoxing Baohui Building
Hangzhou XinYaDa Plaza
Hebei Kai Yuan International Center
Jiangyin Sanfang Lane Technology Building
Jiayuguan Airport
Kunming Airport
Kunming Power Plant
Kunming Ruiheng Villa
Nanjing Pharmaceutical Testing Building
Nanjing Political College Shanghai Branch
Ningbo New Port 5# Area
Qingdao WMH Herlon Antriebstechnik GmbH
Quanzhou SeaView Villa
Shandong Jinan Chinese Railway Exhibition
Shandong LINYI Airport
Shanghai East Sport Stadium
Shanghai Green Garden Square
Shanghai Meteorological Building
Shanghai Oceanographic Engineering
Science and Technology Office Building
Shanghai Port Waigaoqiao Phase VI Project
Shanghai World Trade Commercial City
Shenzhen Airport Logistics Center



Yantai
International Convention Center



Hainan
Meilan International Airport



Xi'an
Qujiang International Convention and Exhibition Center



Dalian
Dalian Sport Stadium



Hangzhou
Xinyada Plaza



Hainan
Chinese PLA General Hospital



Qingdao
International Convention and Exhibition Center



Shanghai
Pudong Airport

Shenzhen Baoan Center District NS Primary School
Shenzhen Binhai Hospital
Shenzhen Daya Bay Nuclear Power Plant
Shenzhen Grand Skylight Garden Hotel
Shenzhen Longgang Sport Stadium
Shenzhen MTR Line 5 Tanglang Station
Shenzhen University Town
Shenzhen Wanke Reporting Center
Shenzhen Yantian Sport Stadium
State Guest House of STX (Dalian) Shock Absorber
Suizhou Yongsheng Industrial Park
Suzhou Industrial Park Management Center
Suzhou Northern Train Station
Suzhou Wuzhong District Cultural Center
The First Affiliated Hospital of Guangxi Medical University, Emergency Department
Toyota Gosei (Zhangjiagang) Plastics Products Factory
Urumqi Korla Oil Field Sport Stadium
Urumqi Xinjiang International Exhibition Center
Wuxi the People's Hospital Phase II Project
Wuxi Teacher Training School Library
Wuxi Xishan Software Park
Xian Hongtian Unit 618
Xian MTR Line 2 Administration Center
Xianning Nuclear Power Plant Reception
Yanan Airport
Yantai Laishan Highway Technology Breeding Center
Yuxi Gaoxin District Science and Technology Park
Zhanxin Market Complex Curtain Wall Project
Zhuhai Leisure Hotel

2011

Beijing Lishan Building Phase I Appendix
Beijing Lishan Building Swimming Pool
Beijing Union Hospital
Beijing Unit 699 Factory
Changzhou Denso Fuel Injection System Co., Ltd.
Chengdu Borui Chuangyi Technology Breeding Building
China Eastern Airlines Corp., Ltd. Conference Room
Daikin Device (Suzhou) Co., Ltd.
Dezhou Wai Hai Golden Bay Hotel (Water world)
Economic Circle around Beijing Service Center
Golden Tanglang Skylight Engineering Project
Guangdong Golden Glass Technologies Ltd.
Guangzhou Baiyun International Convention Center
Hainan Wit-Time Trading Co., Ltd.
Hebei Beidaihe Health Center
Hefei Xuhui Garden Utilities Center
Hong Kong Universal Aluminium Engineering Ltd.

2003-2016 JOB REFERENCE



Nanjing
Olympia Stadium & Sport Center



Dandong
Langtou International Airport



Chengdu
Jinsha Meseum



Suzhou
Suzhou University Library



Beijing
National Astronomical
Observatories



Hebei Kai
Yuan International Centre



Guangzhou
Pazhou Convention and
Exhibition Center



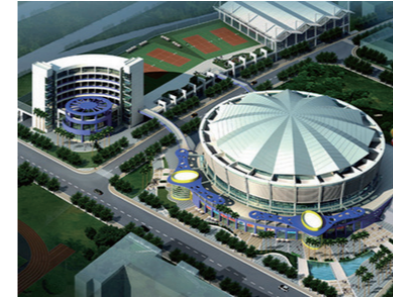
Shenzhen
Industry Lakeside Villa

Hubei Library
Inner Mongolia Kangba the Third Center
Inner Mongolia Ordos Municipal Party Committee
School
Inner Mongolia Ordos Municipality Wild life Park
Flamingo Section
Inner Mongolia Ordos Municipality Wildlife Park
Macaque Section
Liaoning Danton Airport Passenger Building
Nanjing Political College Shanghai Branch
Attachment
Ningbo International Financial Service Centre
Qingyuan Lions Golf Resort
Qujiang Cultural & Art Building
Shanghai Port Waigaoqiao Phrase VI
Management Office
Shantou Lafayette 148 Ne w York Ltd.
Shenzhen Bay Hotel
Shenzhen CITIC Green Golf Hotel
Suzhou Sucheng District Cultural Center
Tianjin Cultural Centre Library
Tianjin Development Zone Shenfei Windows &
Doors Co., Ltd.
Tianjin Library
Wuxi Municipality Primary School Sport Stadium
Xiamen Le'ster Curtain-Wall Tech Co., Ltd.
Xiamen Shiney Hope Windows & Doors
Yantai Longkou Arboretum
Yuxi Gaoxin District Science & Technology Park
Zhongshan Yuchang Aluminium Windows &
Doors
Zhuhai Ronghong Junior High School

2012

Airport Terminal 3 of Shenzhen Airport
Beijing CNR Mall
Beijing Lishan Builing Swimming Pool
China Merchants Tower, Shenzhen
Cigarette Produce Line, Hefei
Dali landscape Phase 2
Dalian Intel
Dalian Sport Institute
Fujian School
Guangxi Stadium Phase 2
Guangxi Stadium Phase 2 - Diving Centre
Hangzhou Jinhua Stadium
Hangzhou Morning Glory Material Company
Limited
Harbin Innovation of Science and Technology
Building
Hebei Huang Huagangning Coal Office
Huangshan's Boutique Produce Line of Hefei
Cigarette Factory
Inner Mongolia Ordos Zoo

2003-2016 JOB REFERENCE



Shenzhen
Yantian Sport Stadium



Shanghai
Pudong Wanda Plaza



Beijing
Wanliu Mall



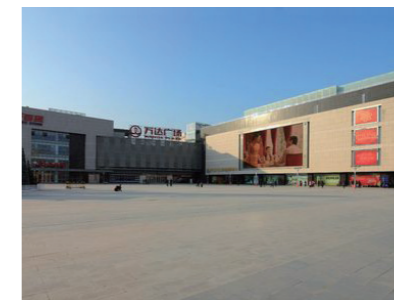
Hohhot
East Railway Station Plaza



Shanghai
Overseas Chinese Town



Urumqi
Korla Airport



Nanjin
Wanda Plaza



Harbin
Eontime Plaza

Jiangsu Nantong Long Xin Park Club
Jinfu Garden Phase 3
Nanjing Jiangsu Yishang Therma
Nanjing Yancheng Culture and Art Center
Ordos Youth Park
Parkview
Peking University International Hospital
Phoenix City, Shenyang
Playground of Hefei Teachers College
Qingdao Taibo Office
Qiqihar Convention and Exhibition Centre
Shek Pai Wan of Hainan Public Housing CN5a
Shennan Circuit, Shenzhen
Shenyang Agricultural University Library
Shenyang Beihai TESCO
Shenyang Mi Qilin Auto Tyre Factory
Shenzhen One City
Shi Mei Bay of Hainan Yacht Club
Suzhou Train Station
Taicang Wanda Commercial Hotel
Tianjin Fengtong Auto Tyre Assembly Line
Wisdom Apartment
Wuxi Cultural Palace
Wuxi lihu Xincheng Xiangge View
Wuxi Seine Manor
Xinjiang Karamay Convention and Exhibition
Centre Phase 1
Yantai Laishan Procuratorate
Zhejiang Fenghua Xiangshan Villa

2013

Agricultural Station, Yinchuan
Akzo International Fruit Exhibition Center
Area 1C of Industrial Park, Wuxi
Automobile Industry R & D Base, Beijing
Bank Insurance Office Building, Ningbo
Beijing State Grid Economic Institute
Beijing Wanliu Mall
Changjiang International 72 Project
China Bohai Bank, Tianjin
Factory of Fuanna Housewares Limited,
Shenzhen
Factory of Jin Xinda Fiber New Material Co., Ltd,
Changzhou
Foshan Gaoming Stadium
Gas Services Centre, Suzhou
Grass Ring Station, Yinchuan
Guilian Shenxin Apartment, Wuxi
Hainan Lingshui Exhibition Centre
Hangzhou Dahua Xixi Flavor Villa
Hilton Hotels & Resorts, Xian
Hong Jian International 119#
Hongxiao Electronic, Shanghai
Huadu Garden, Changsha



Tianjin
China Bohai Bank



Wuxi
Guilian Shenxin Apartment



Jiangbei
Central Park Headquarters Building



Shenyang
Kaisa Group



Xinjiang
Horgos Port



Southern Jiangsu
Shuofang International Airport



Jiangmen
Wanda Plaza



Hainan
Shi Mei Bay Yacht Club

Jian fa Mid Levels Garden, Xiamen
Jiangsu Province Pports Bureau
Jilin Siping Dayou Project
Kai Lin Hui Villa, Zhengzhou
Lin Zhai, Wuchuan
Linyi 32 College
Linyi NO.1 High School of Shandong Province
Red Star Macalline Showroom, Changzhou
Science and Technology Information Industrial Park, Taicang
Shangri-la Project, Hefei
Shenzhen Euease Automotive Co., Ltd
ShenzhenKexing Science Park Phase 2
Surveillance Technology Building, Taicang
Swimming Pool of Xiamen University at Xiangan Area
Symphony Orchestra, Shanghai
Taibo Office, The East China Sea
The Sales Department of Vanke Meili Zhicheng, Kunming
Wanda of Daming Palace, Xian
Wanda Plaza, Nanjing
Wanda Plaza, Pudong, Shanghai
Wanda Plaza, Zhengzhou
Wanda Plaza, Zhenjiang
Wolonghu Lake 85#, Shenyang
Xinghua Shaoyang Lake
Xinjiang Horgos Port
Ya-Jie Office Building
Yuanyang Garden Bo 21
Zhongao Power Building, Zhoushan, Zhejiang

2014

Administrative Center Station of Xi'an Metro Line Two
Angsana Xi'an Lintong, Xian
China Everbright Bank
China National Offshore Oil Corporation Building
CITIC City Plaza Phase 2, Changsha
Cultural Activities Center for University Students of Heilongjiang Institute of Technology
Cultural Activities Center for University Students of Heilongjiang Institute of Technology
Dalian Library
Dalian Sports Center
Fuhuali, Zhuhai
Fusion of Nankai Center Plaza, Jiefang N Rd, Tianjin
Fuzhou Olympic Sports Center
Gansu Provincial Maternity and Child- care Hospital
Genzon Glof Culb
Hohhot East Railway Station Plaza
Hohhot Eontime City, Harbin



Shenzhen
Mini MIXC



Hubei
Hubei Library



Xian
Wanda of Daming Palace



Zhengzhou
Wanda Plaza



Shenzhen
One City



Xian
Wanda Hilton hotel



Xiamen
Gaoqi International Airport T4Terminal



Jinchang
Jinchuan Airport

Huangsha Station of Guangzhou Railway
Jiangbei Central Park Headquarters Building
Jiangsu Wuxi Software Park
Kaisa Group, Shenyang
Mini MIXC, Shenzhen
Overseas Chinese Town, Shanghai
Research and Development Building of Yantai
Modern Automobile Factory
Sales Department of Lu'an Hengda
Sales Department of Tongling Hengda
Sanya Haitang Bay
Shanghai International Port Building
Shaoxing Keqiao Civil Defense Project
Shenzhen Kexing Science Park Phase 7
Southern Decorative Materials Trading Company of Zhanggong District of Ganzhou City
Starting Zone 03-26 of Jiabao's Financial District, Tianjin
Sunan Shuofang International Airport
Suzhou Science and Technology Park
Taizhou Villa
Terminal 4 of Xiamen Gaoqi International Airport
The Construction of Ecological Forest
Command Cente, Neosaurusr
Wanda Plaza, Changzhou
Wanda Plaza, Jiangmen
Wanda Plaza, Wuxi
Xiangmi Lake Villa
Xinyihong, Quanzhou
Xuhui Court, Shanghai
Yimeng Revolutionary History Memorial Hall
Yu Lebeibei Yingyou'er Natatorium, Beijing
Zhonghao International, Xingcheng

2015

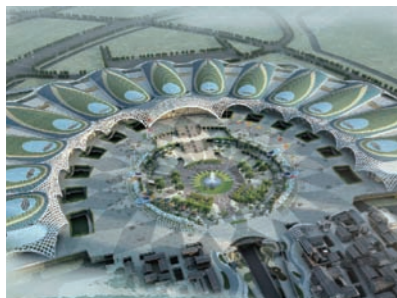
Sky Square Lot no. 2011-B-77
Audit 4S Shop
Beihang University Research Activities Building
Beijing China Machine Press
Beijing Jinhui Mansion
Beijing PAP Hospital
Changzhou Global-Harbor
Chengdu Jiu Xing Nan 192 Project
Gate of the Orient
Guangzhou GAC BYD New Energy Co., Ltd
Guangzhou Luogang Wanda Plaza
Guangzhou Nansha Wanda Plaza
Nanjing State Grid Customer Services Centre Phase 1
Hohhot Bus West Terminal
Mission Hills Town Centre – Business Street
Beijing hesheng desheng building
Changde Taohuayuan Airport
Jiangsu Life Science & Technology Innovation



Beijing
Jinhui Mansion



Chengdu
Qingyang Wanda Plaza



Kunming
Diarlake Convention &
Exhibition Centre



Hunan
Changde Taohuayuan Airport



Changzhou
Global-Harbor



Guangzhou
Nansha Wanda Plaza



Jiangsu
Life Science & Technology
Innovation Park



Yueqing
Headquarters economic park

Park
Changzhou Science Education City 5/F
Diarlake Convention & Exhibition Centre
Sky Square
Yueqing Headquarters economic park Phase 1,
Block 1-4
Yueqing Headquarters economic park Phase 1,
Block 5 & 7
Licang District Guangshui Road Primary School
Dangtu East Railway Station
Anji Wanda Plaza
Bank of Ningbo
Pula Valley Vineyards Cluster 6/F
Bank of Samba
Xiamen Pearl Plaza
Shanghai north bund transportation tower
Shanghai Tongji University
Shenyang New World Expo
Suzhou Science and Technology Town
Shanghai Vanke South Station CBD
Bank of Minfeng on Taixhou
Power Source New Energy (Jiangxi) Co., Ltd.,
Jinggang Mountains Office
Zhejiang Mintal Commercial Bank
The South Coast of Wulanmulun Lake
AVIC XI'AN Aircraft Industry - No. 634 Warehouse
Xian Golden Mansion
The court of Law, Xuzhou
Yujiapu China, World Financial District
Changsha Maglev Express- Airport Railway
Station
Changsha Maglev Express-Langli Railway Station
Changsha Maglev Express-South Railway Station
Changsha Railway station renovation project -
Wide Waiting Room
Changsha Railway station renovation project -
No. 3 Waiting Room
Changsha Railway station renovation project -
No. 4 Waiting Room
China International Service Waibao Xinshichang
Exchange Centre
China Mobile Call Centre (Huaian)- Customer
Room
China Mobile Call Centre (Luoyang) Phase 1,
Engineer, Customer and Production Block
Chimelong Penguin Hotel

2016

Baohuabojun Garden Baohwa
Beijing Willow Centre
Chengdu Qingyang Wanda Plaza
Changshanan Station to T2 Airport Station
Henan, Grand View
HaiKou Bus Terminal Phase 1



Guangzhou
Luogang Wanda Plaza



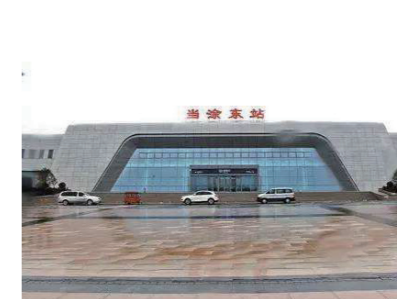
Nanning
Anji Wanda Plaza



Shanghai
Sincere Centre



Shanghai
Vanke South Station CBD



Maanshan
Dangtu East Railway
Station



Xiamen
Pearl Plaza



Suzhou
Science and Technology Town



Yichang
Olympic Centre

Wuzhen Internet Centre
China Resources Vanguard Building
Industrial Technology Research Institute
Nanjing Life Science Park
Nantian liuhe city phase ii landscape pavilion
Ningpo Intelligence City
Xiamen Flipport hotel
Xiamen Fuxing Building
Seaview Resort XiamenPhase 1B Tennis Court
Shanghai Ka Shui International Plaza
Shanghai Puijiang Hi-Tech Park A1
Shanghai Sunshine City
Shanghai Sincere Centre
Shenzhen Pinghu China South City
Shenzhen Ebonr Building
Su Di commercial office of plot 2003-b-42
Suzhou daikin
Taicang Biomedicine Innovations Industrial
Park
Tianjing Wuqing Sports Centre
China Vanke Dongguan Botanical Garden
WenlingMintai Commerical Bank
Xian Aircraft International phase 2
Star City International plaza shopping center
Yichang Olympic Centre
Changshan Airport Waiting Room
Changshan airport Waitroom No. 2
Zhejiang University
China National Tobacco Corporation Hefei
Design Institute
China Mobile Loyang Call Centre Phase 1
Stage 2
Chongqing Fortune Plaza
.....

2018.05



INTELLIGENT AUTOMATION WINDOW OPENING SYSTEMS

NATURAL AND SMOKE VENTILATION



Guangdong KIN LONG Hardware Products Co., Ltd. Joint Venture

KIN LONG Headquarters

Guangdong KIN LONG Hardware Products Co., Ltd.

Add: No.3, Jian Lang Rd., Daping, Tangxia Town, Dongguan City, Guangdong

Tel: 0086-769-82166666 82136666 Fax: 0086-769-82955269 82955268

E-Mail: mail@kinlong.com

Website: <http://www.kinlong.com>

China Headquarters

Guangdong Kinlong GTI Mechatronic Window Control System Co., Ltd.

Add: No. 77, Dongning Road, Jianghai District, Jiangmen City

Tel: 0750-3132832 0750-3132837

Fax: 0750-3132830

GTI GROUP LIMITED

8 Floor, Kin Ga Industrial Building 9 San On Street, Tuen Mun New Territories, Hong Kong

Tel: (852)2467 2823 (852)2615 2811 Fax: (852)2467 2608

E-Mail: web@gti-automation.com

Website: <http://www.gti-automation.com>

GUANGDONG KINLONG GTI MECHATRONIC WINDOW CONTROL SYSTEM CO., LTD.



(广东)省质量监督(092)号



(2005)量认(粤字)(20216)号



(2005)量认(粤字)(05)号

