

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.



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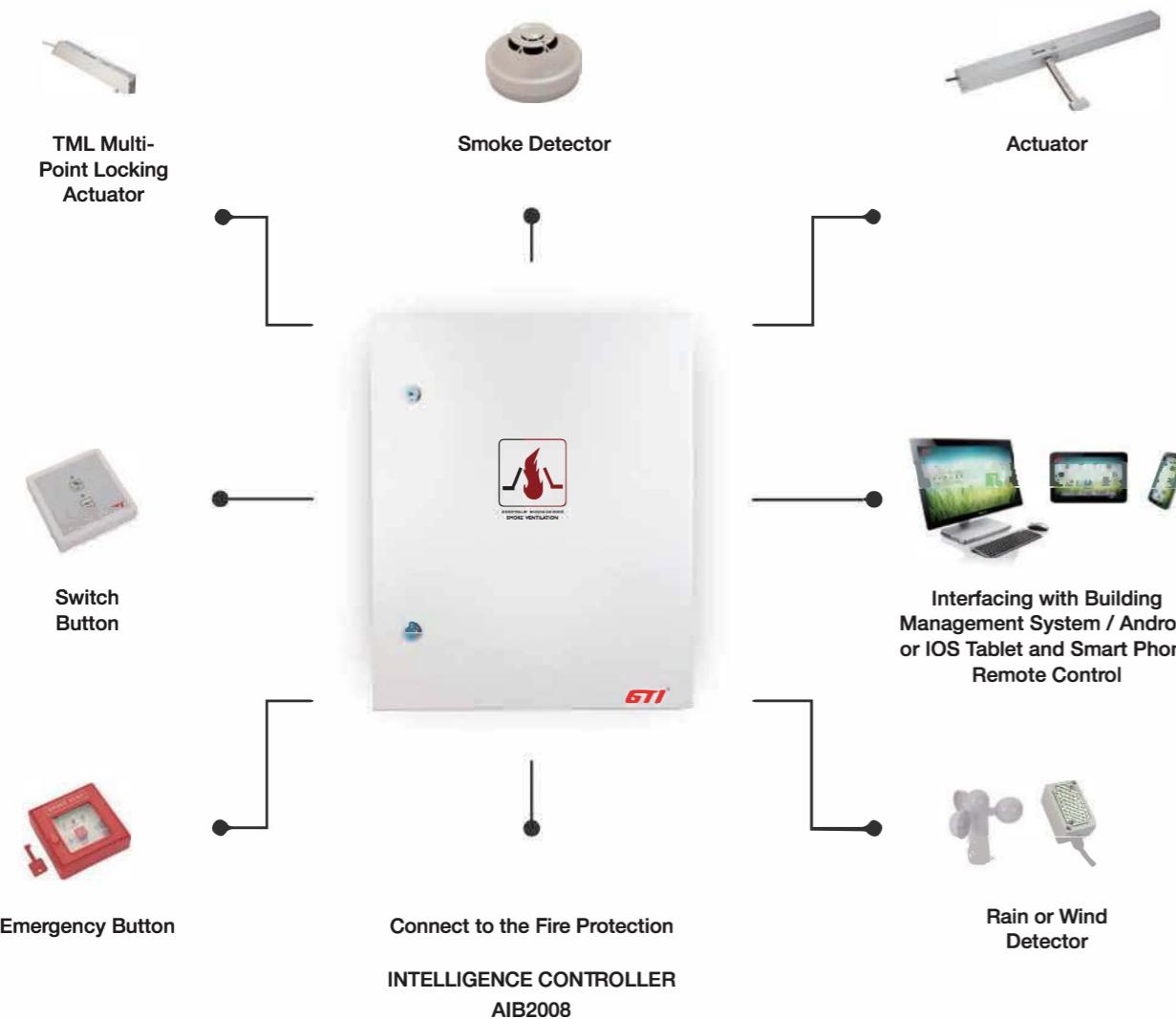
INTELLIGENT CONTROLLER SERIES

- Smoke Ventilation System
- Ventilation System



SMOKE VENTILATION SYSTEM

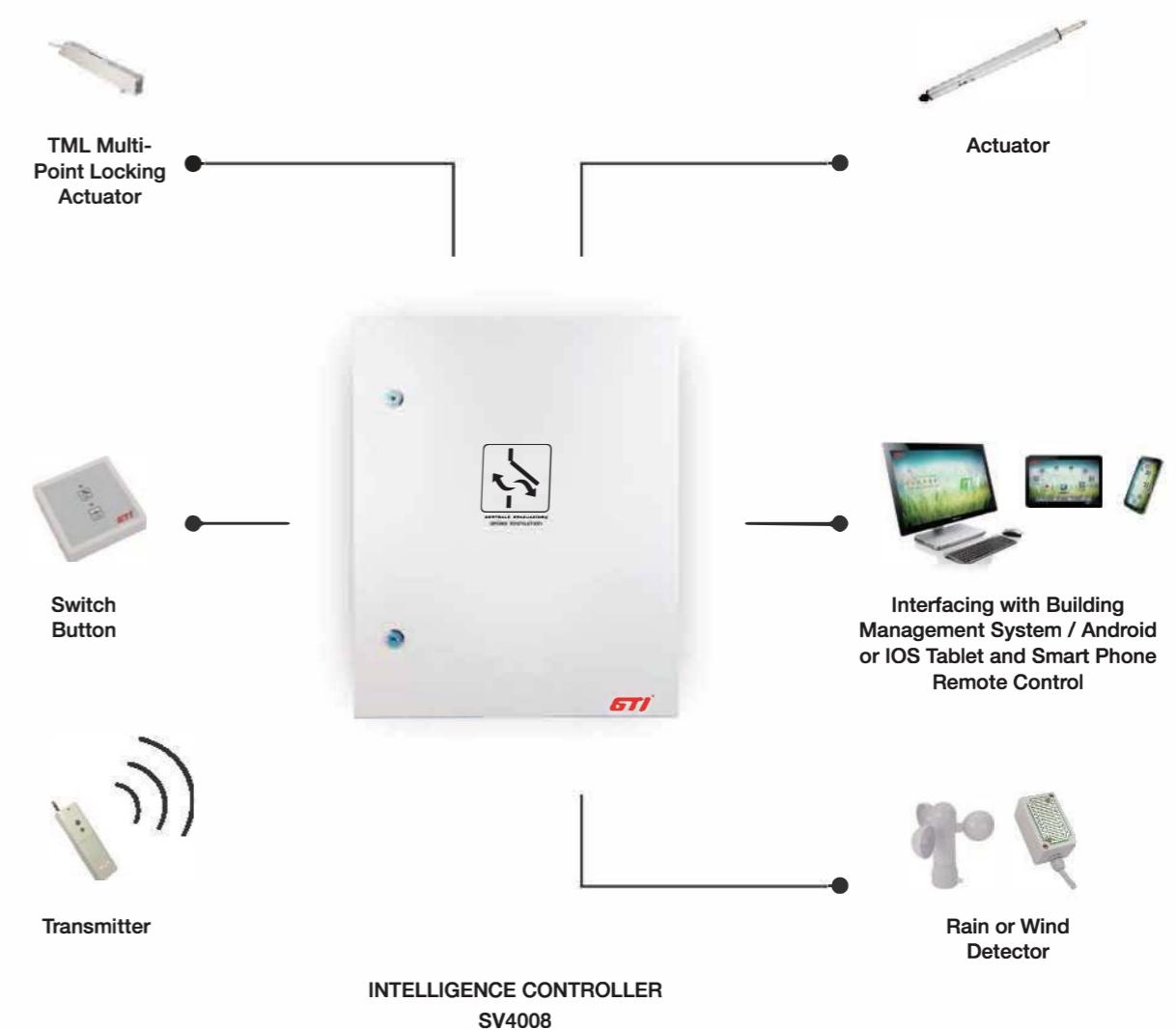
Specification
P90



- 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

VENTILATION SYSTEM

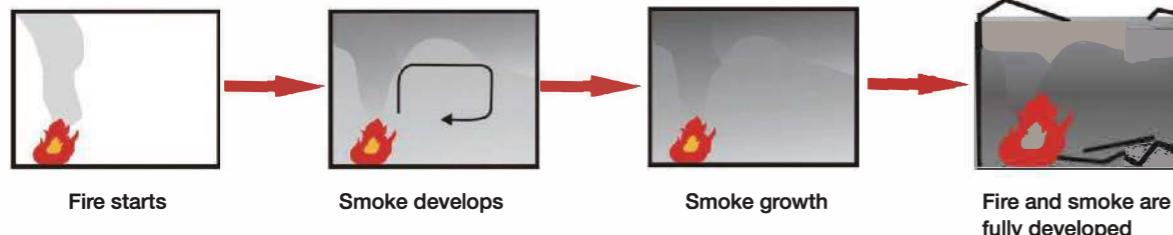
Specification
P90



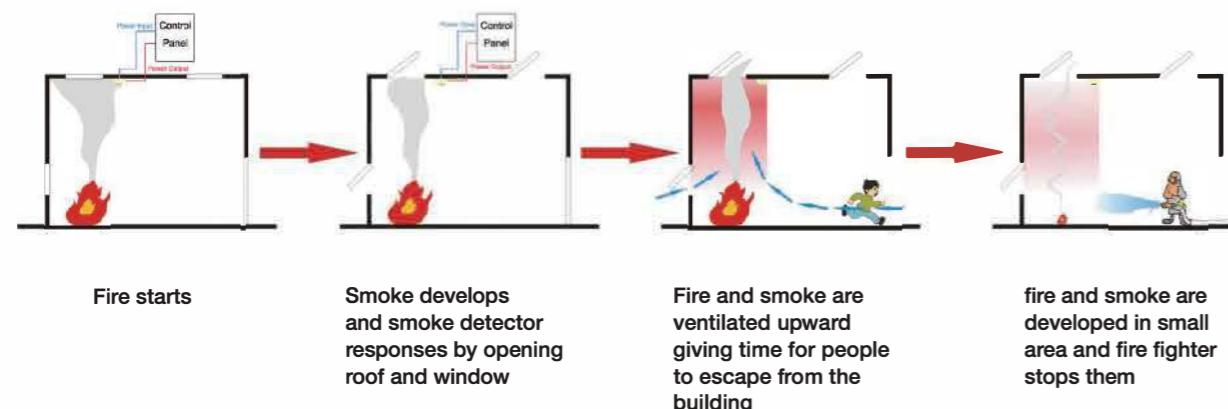
- Micro processor controlled and electronic chips improved reliability
- Various model and more larger capability are available
- Self-diagnosis function indicating the failure position
- Customization for unique control requirements is available
- Open or close the window by the optional wireless remote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

UNDERSTANDING THE FIRE SEQUENCE

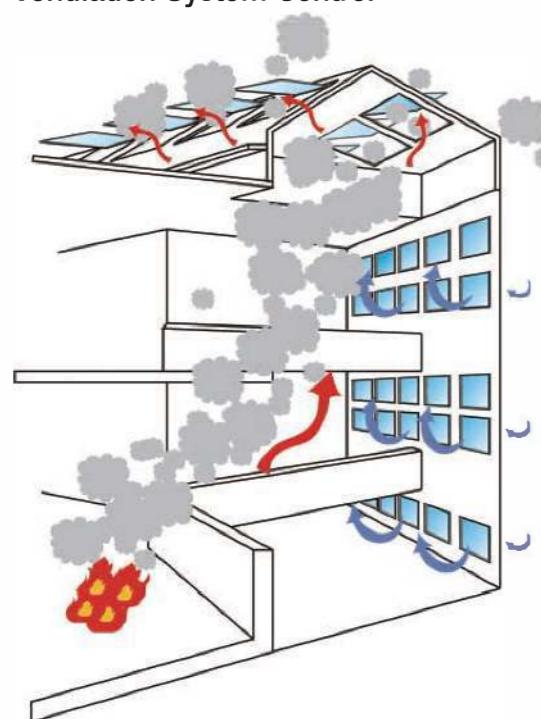
Fire Development without Ventilation



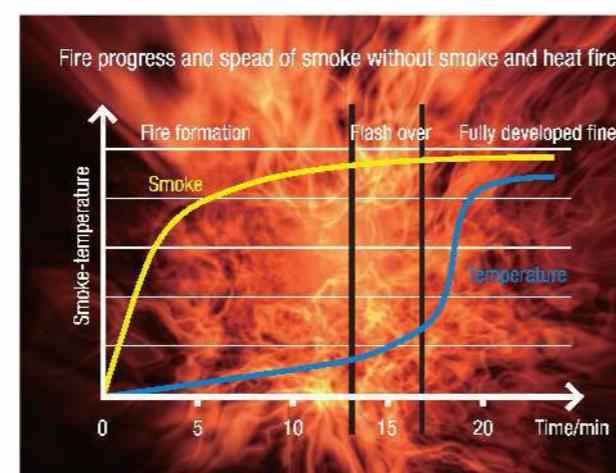
Fire Development with Ventilation



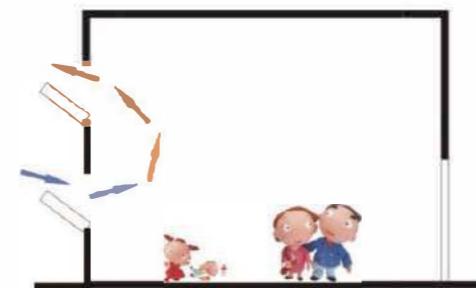
Fire and Smoke Development with Ventilation System Control



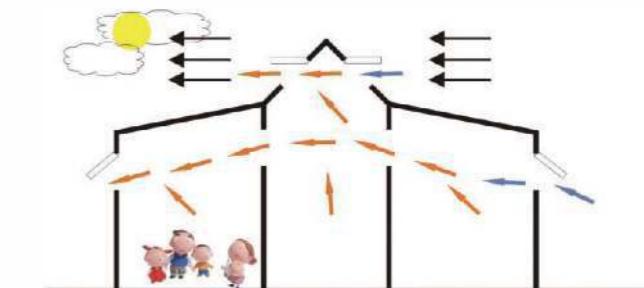
Fire Progress and Spread of Smoke VS Time



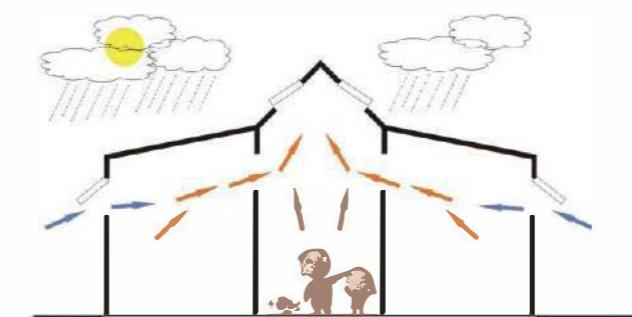
DIFFERENT NATURAL VENTILATION ILLUSTRATION



Single Side



Cross Ventilation

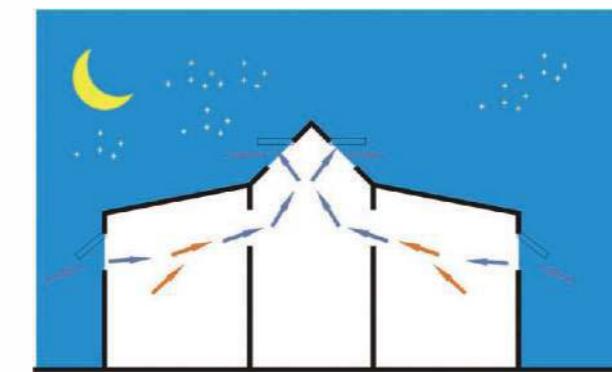


Trickle Ventilation

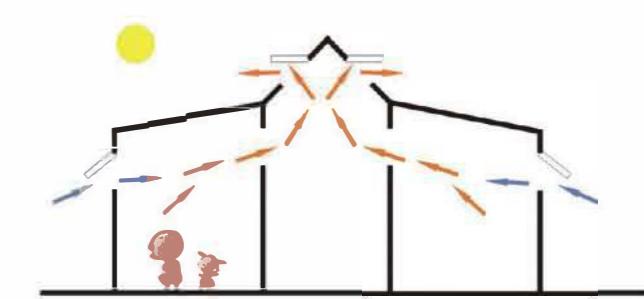


Cold & Hot Air Circulation

Winter (5°C)
Open air conditioner to convey warm breeze at meeting room.
Summer (day 30°C, at night 18°C)
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.

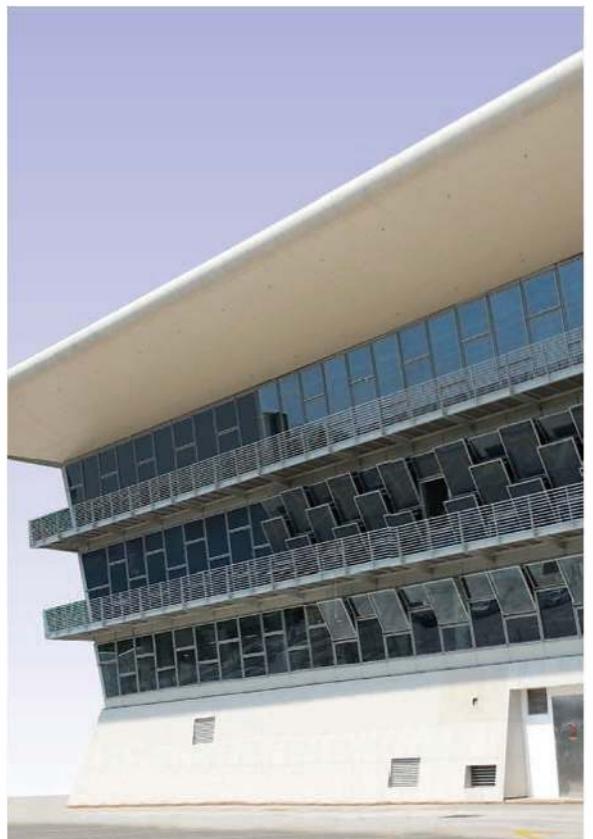


*A pair of gas spring is fixed on window to implement "Fail Safe"

GTI® 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



Macao The Venetian Macao- Resort-Hotel




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 ± 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
G2-EX ELECTRIC DOUBLE LINK CHAIN ACTUATOR

- 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 ± 10%
- Endurance tests (50,000 cycles) are carried out
- Lock force in static motion is 4,500N
- Max push and pull force: 300N



or



Wing Bracket



Fixed Bracket



GTI® CHAIN ACTUATOR

G2-EXT ELECTRIC DUAL CHAIN ACTUATOR

Dimension	Specification
P70-04	P91



Sill Bracket



Wing Bracket

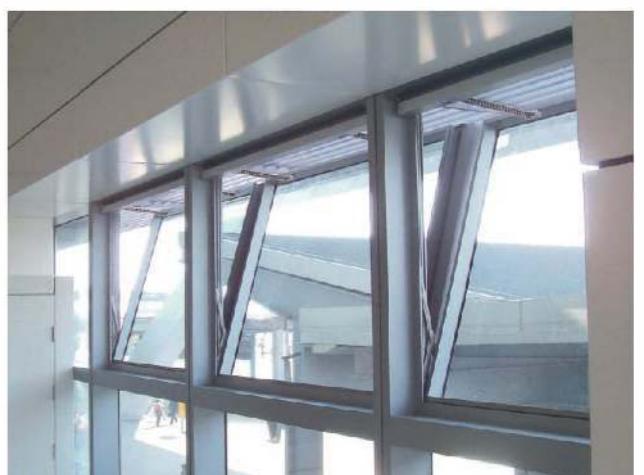
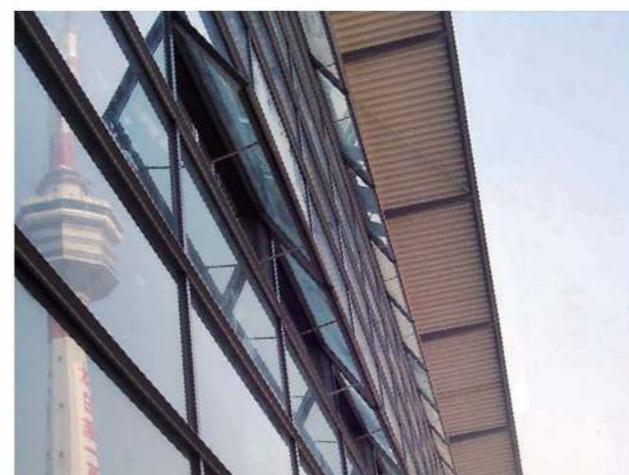


Fixed Bracket



Tianjin
TEDA Plaza

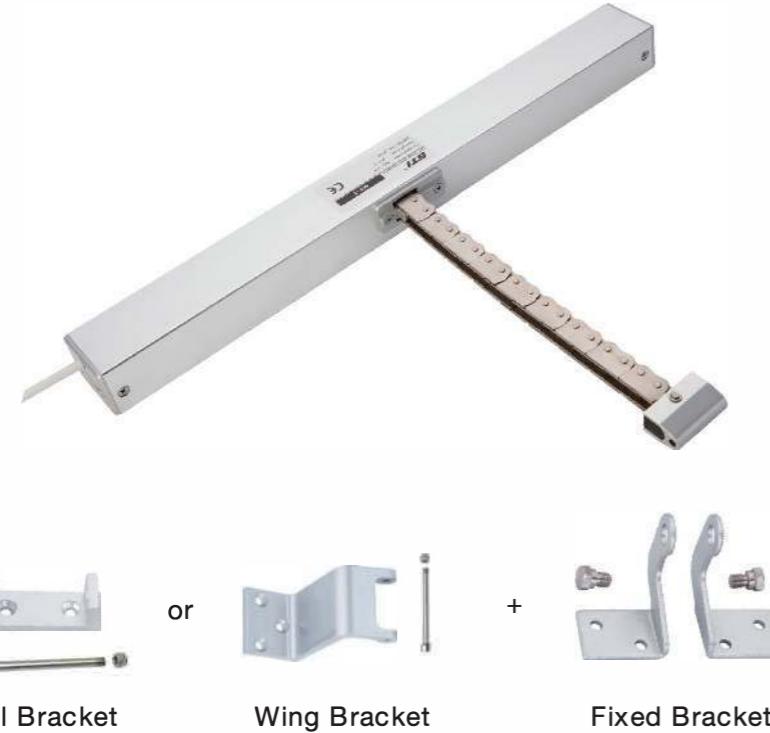
- 2 Motors and 2 chains design for wide (more than 1,500mm) and heavy windows
- Electronic overload cutoff, limit stop and low noise operation
- Standard with Stainless chain
- There have the rebound function to mitigate the aluminum frame become deformed and to increase the adhesive tape life time
-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



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 ± 10%
- Endurance tests (50,000 cycles) are carried out
- Lock force in static motion is 6,000N
- Max push and pull force: 400N




CHAIN ACTUATOR
G5-XS ELECTRIC DOUBLE LINK CHAIN ACTUATOR

Dimension P72-06	Specification P92
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- 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 ± 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



+

Fixed Bracket



Suzhou

Gate to the East



CHAIN ACTUATOR
G5-X-GS ELECTRIC INCLINE DOUBLE LINK CHAIN ACTUATOR

Dimension	Specification
P73-07	P92

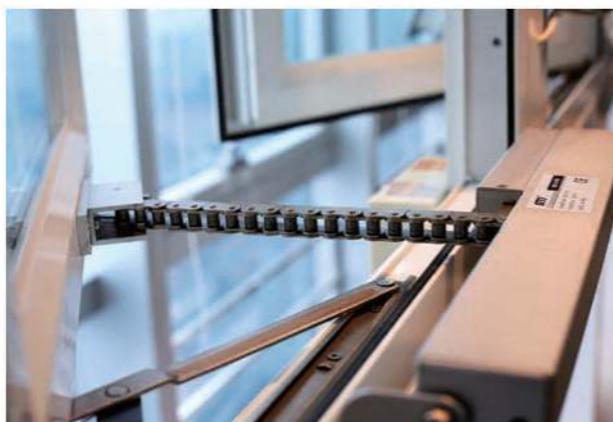
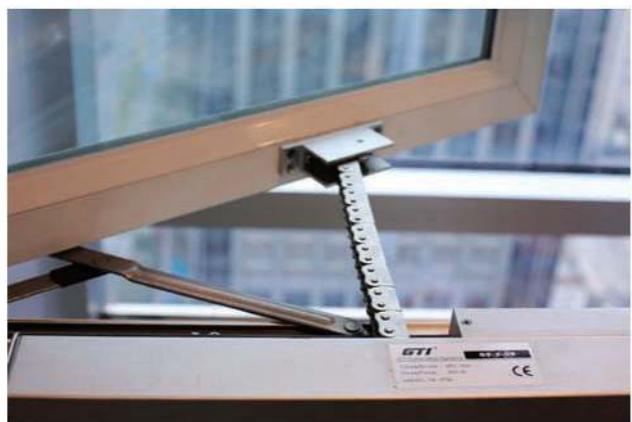


(Application of Side Hung Window)

- 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 ± 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 P73-08	Specification P93
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Sill Bracket

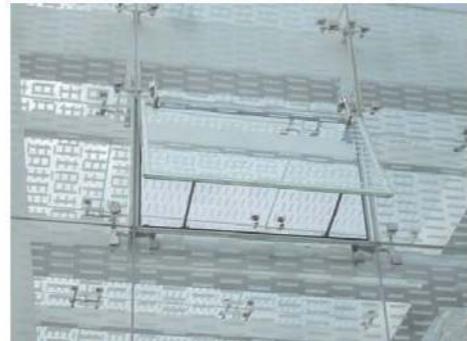


Wing Bracket



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 ± 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


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 ± 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

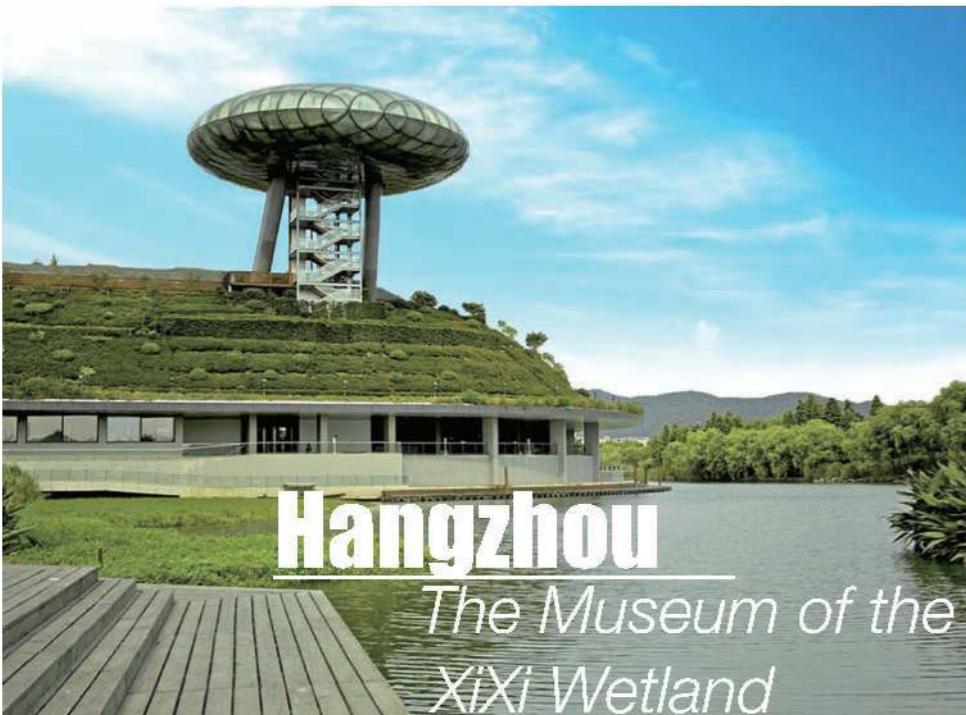


Wing Bracket

+



Fixed Bracket



CHAIN ACTUATOR
G5-XT-DN ELECTRIC DUAL CHAIN ACTUATOR

Dimension	Specification
P75-10	P93



or



Wing Bracket



Fixed Bracket

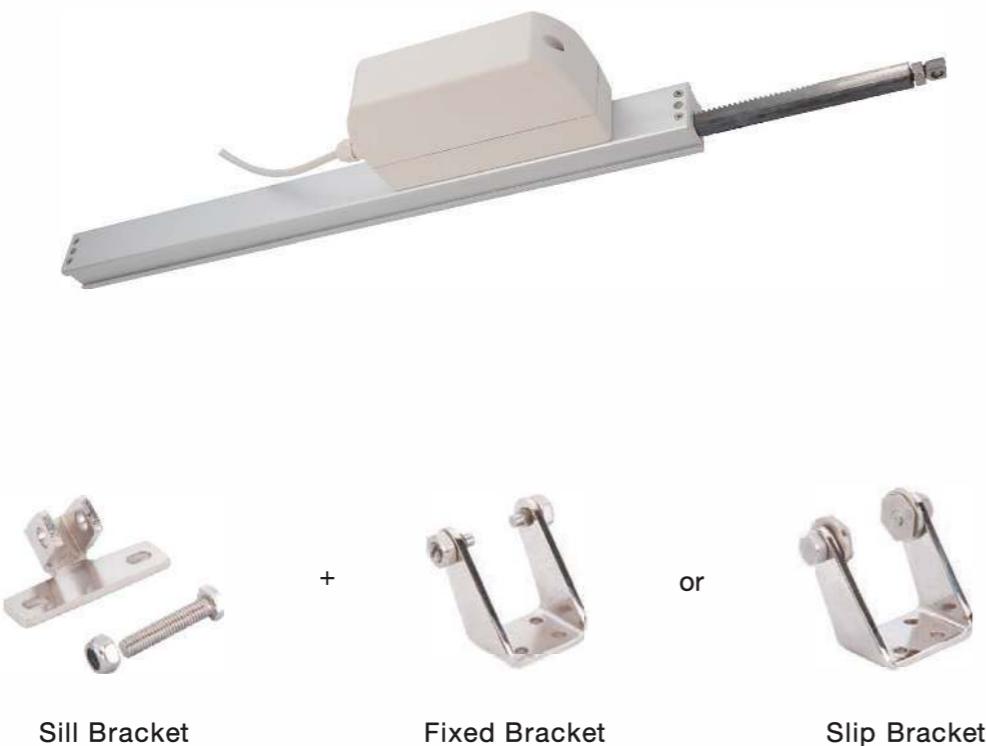
- Tested to BS EN12101-2:2003 Part 2 Smoke Ventilation Annex G
- 1 Motors and 2 chains design for wide (more than 1,500mm) and heavy windows
- Electronic overload cutoff, limit stop and low noise operation
- Standard with Stainless chain
- There have the rebound function to mitigate the aluminum frame 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 ± 10%
- Endurance tests (50,000 cycles) are carried out
- Lock force in static motion is 6,000N
- Max push and pull force: 700N



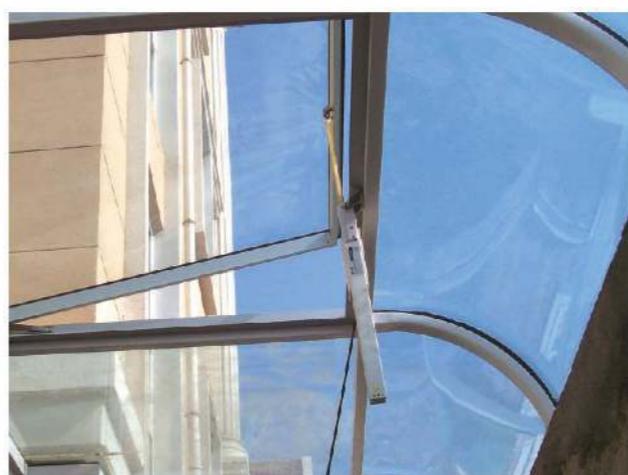
GTI® R&P ACTUATOR

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 ± 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



Rod Ring



Sill Bracket



Fixed Bracket

- 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 ± 10%
- Lock force in static motion is 2,500N
- Protection class: IP65

Suzhou

Suzhou Train Station




R&P ACTUATOR

TE368DR ELECTRIC RACK AND PINION DRIVE TANDEM

Dimension P78-13	Specification P94
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Rod Ring



Sill Bracket

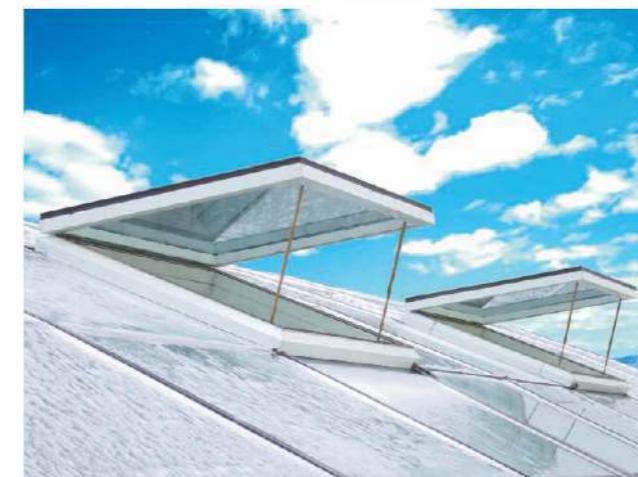


Fixed Bracket

- Rack and pinion drive tandem design
- 2 Rack and pinon 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 ± 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

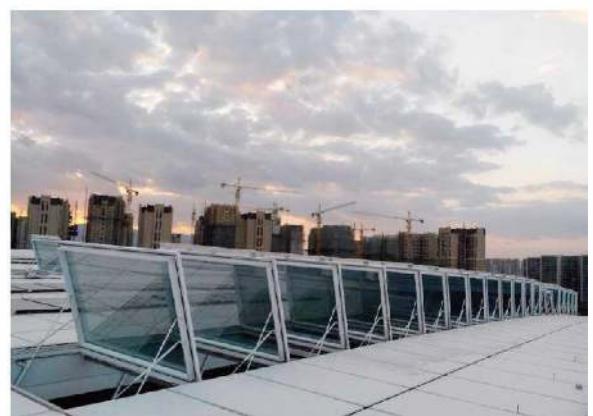
Back Bracket

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 ± 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

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.

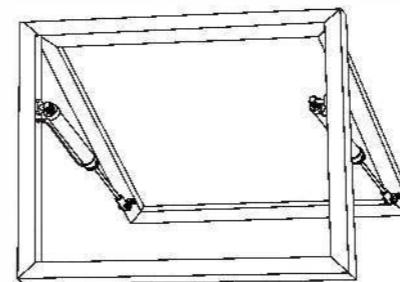
The installation of Pneumatic smoke ventilation system is very simple that some of components can be installed inside the window profile. Large opening space, easy maintenance and its sophisticated design gives Pneumatic window actuator good at durability and sustainability under severe environments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

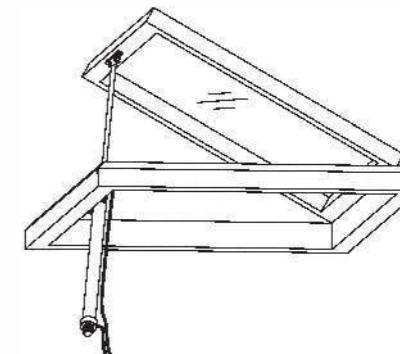
Pneumatic smoke ventilation system is vastly applicable in different building projects including large-scale public service utility structure projects, offices and commercial buildings. It fits any type of windows, such as top hung windows, bottom hung windows, side hung windows, skylight windows and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



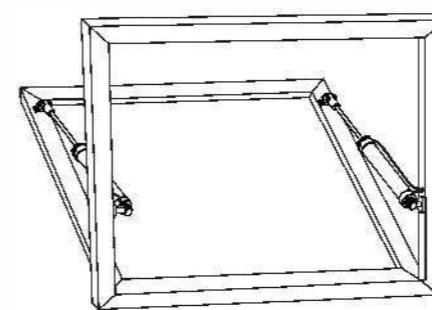
Pneumatic cylinder installation diagram on different type window:



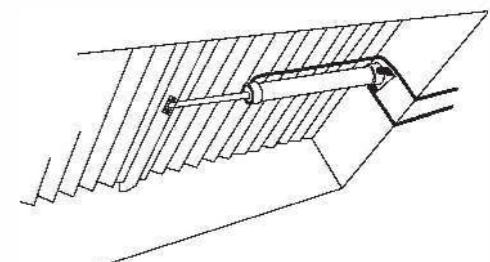
Top Hung Window Installation



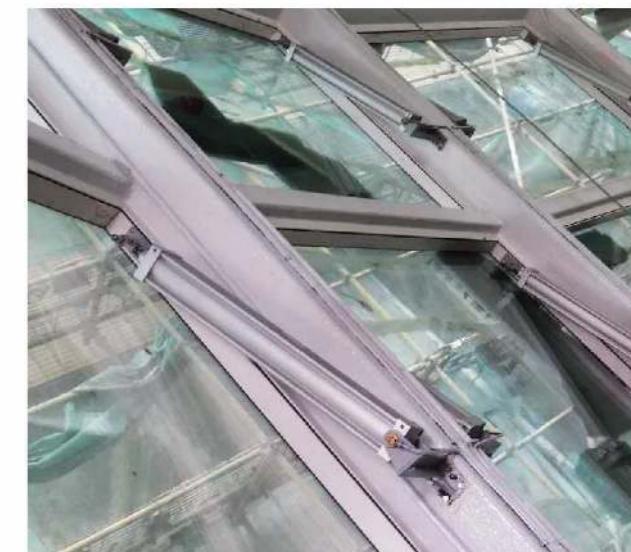
Skylight Installation



Bottom Hung Windows Installation

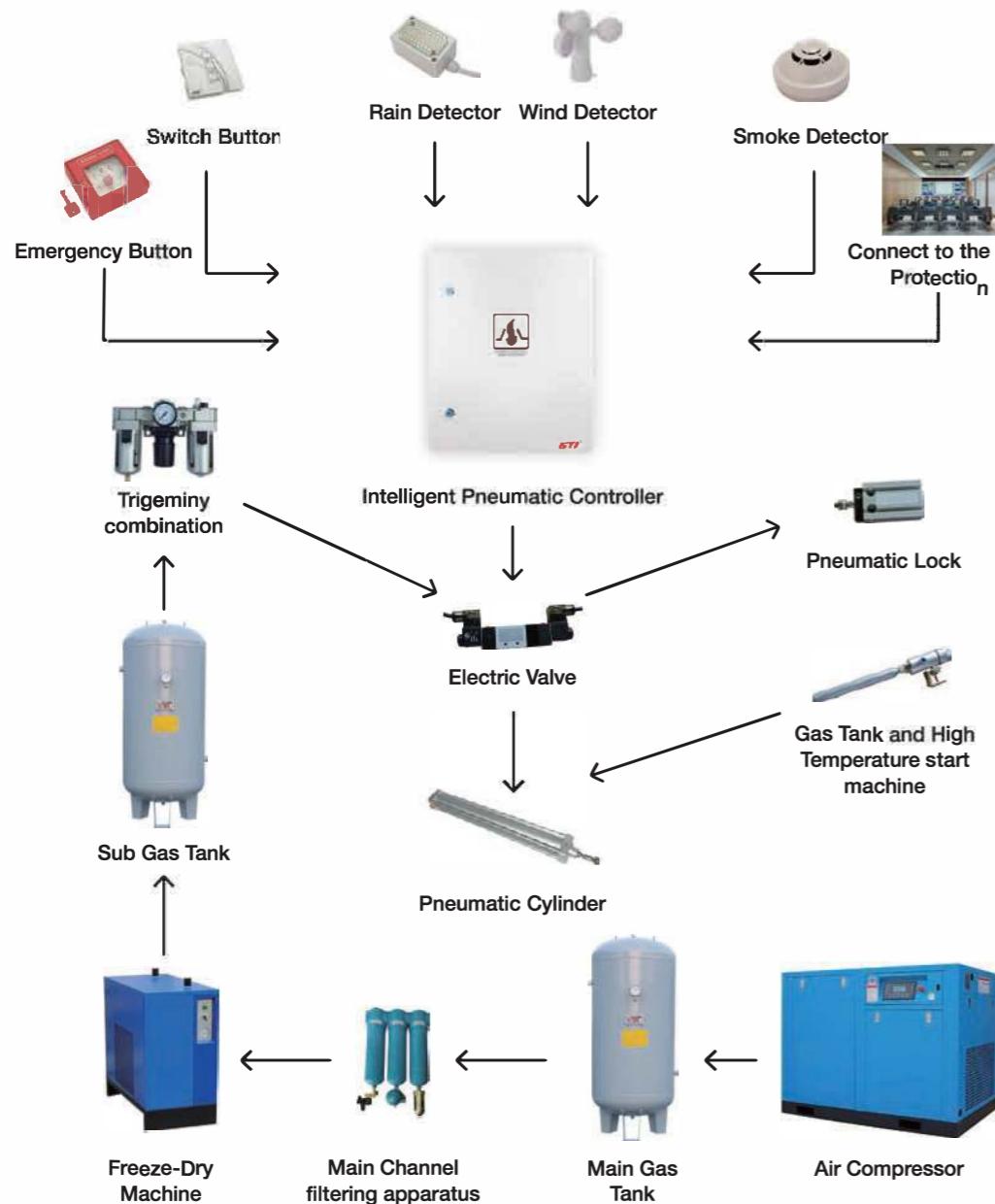


Louver Windows Installation

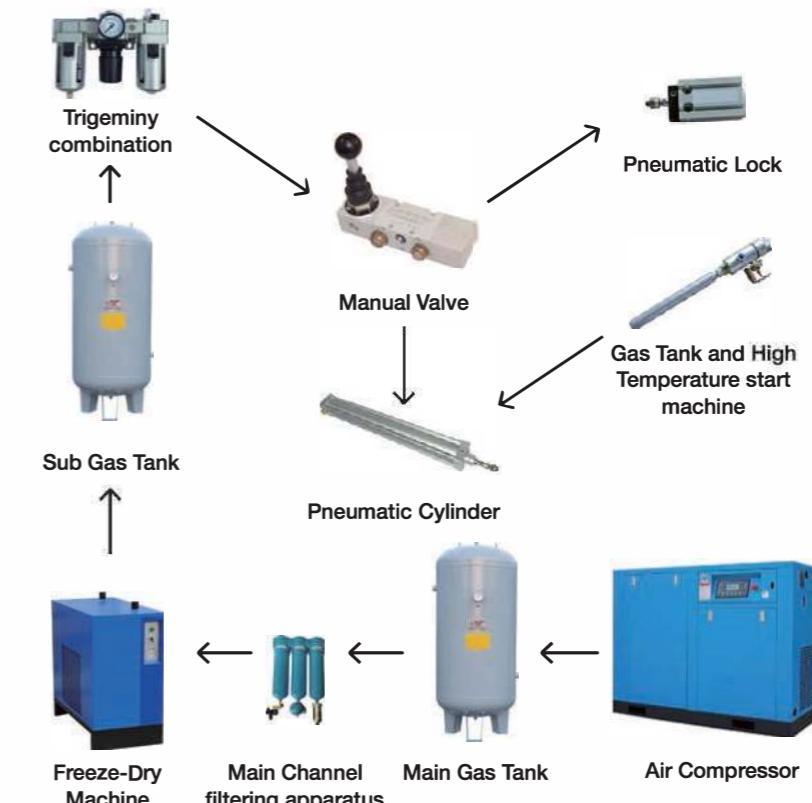


PNEUMATIC SMOKE VENTILATION SYSTEM

Intelligent Pneumatic Control Circuit Diagram:



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.

- #### **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.

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 Lover - Waterproof and windproof level can be improved.

Chengdu

Borui Chuangyi Technology
Breeding Building

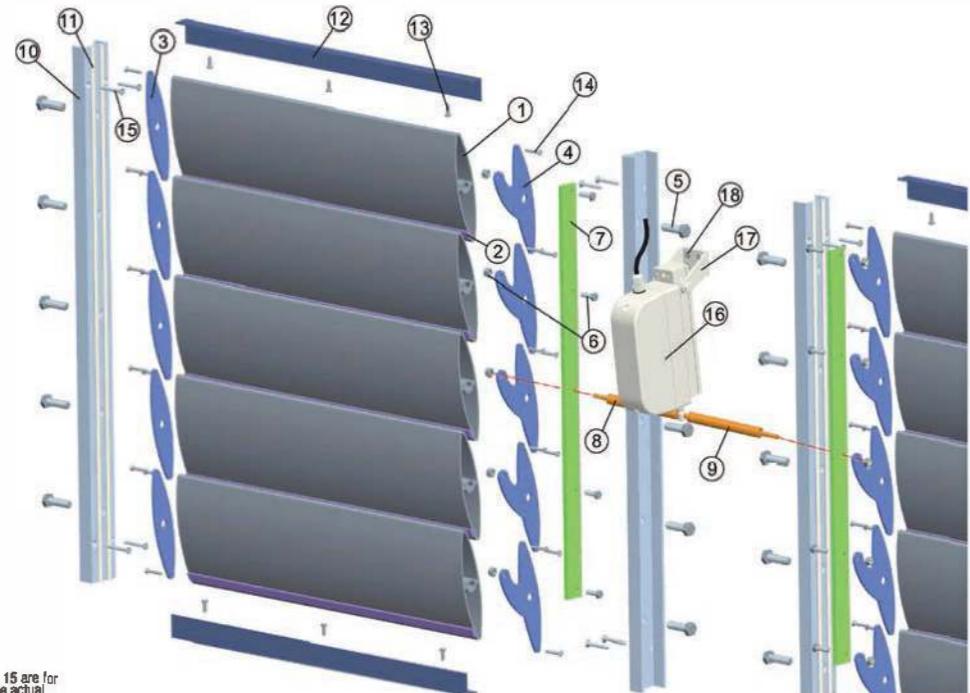


- Extruded glass profiles up to 2m long
- Fixed or movable version (to 90°)
- Choice of blade widths (100mm to 350mm)
- Horizontal or vertical installation
- Manual or electric operation for selection
- Gear wheel control



GTI® SUN SHADING LOUVER

AL Series Aluminium Louver

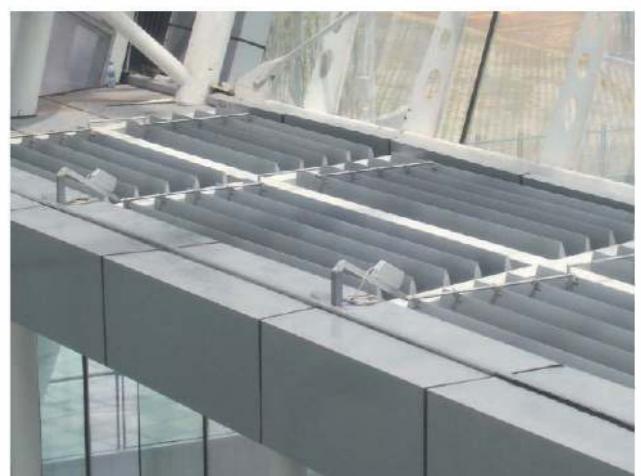
 Dimension
P81-19


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 Aluminium Connecting Rod	8	Double Connection Screw	9	Shaft Liner	10	Aluminum Pillar	11	Waterproof Rubber Strip	12	Water Retaining Aluminum 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, shiny 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



GTI® MANUAL CHAIN - TYPE HANDLE

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


MANUAL CHAIN - TYPE HANDLE **GTI®**

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, shiny 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, shiny 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.



GTI® MANUAL SPINDLE ACTUATOR

SH-15 MANUAL WINDOW OPERATING SYSTEM

HS Gear-type handle

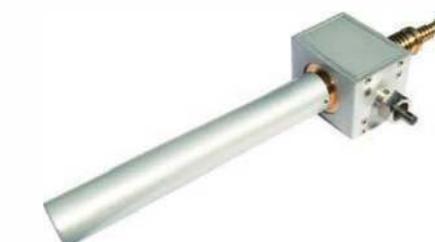
Dimension
P86-23



+

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



MANUAL GEAR - TYPE HANDLE

GH-360 MANUAL GEAR - TYPE HANDLE

GTI®

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

 **ACCESSORIES**


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



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



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



Synchronized Control
Model: GW0312Q
Voltage Supply: 24V DC



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



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

ACCESSORIES 

APPENDIX

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

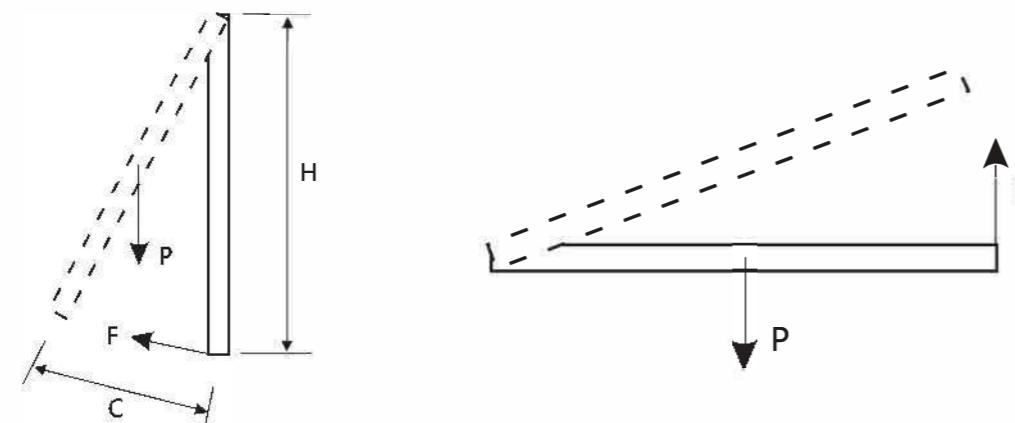
GTI® A QUICK GUIDE TO SELECT THE PROPER ACTUATOR

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):

Where

$F = \text{Force (N) required to open the window}$

$P = \text{Window force (N)}$

$C = \text{Open distance (m) of the window}$

$H = \text{Height (m) of the window}$

$\text{Window force (N)} = \text{Window weight (kg)} \times 9.8 (\text{N/kg})$

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

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

Where

$F = \text{Force (N) required to open the window}$

$P = \text{Window force (N)}$

$$F = P/2$$

A QUICK GUIDE TO SELECT THE PROPER ACTUATOR GTI®

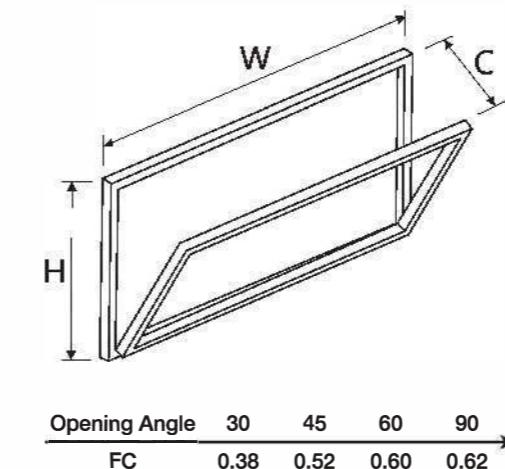
Project manager shall also consider the geometric and aerodynamic areas for the ventilation project. The following calculation formula can be taken as a rough guideline:

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

Where

$W = \text{Width (m) of the window}$

$C = \text{Open distance (m) of the window}$



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

Where

$W = \text{Width (m) of the window}$

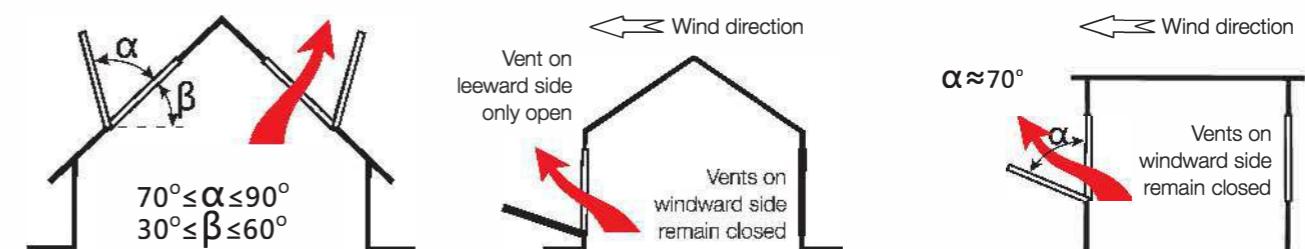
$H = \text{Height (m) of the window}$

$FC = \text{Flow co-efficient}$

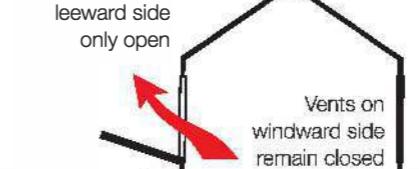
*Calculated area must not over the window area

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.

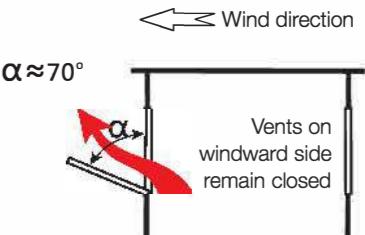
The following common practice of opening angle recommendation should also be considered:



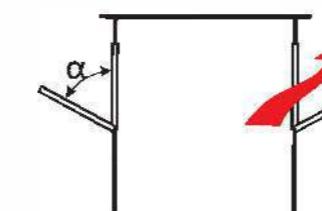
Sash in glass pyramids, dome lights,
row of windows



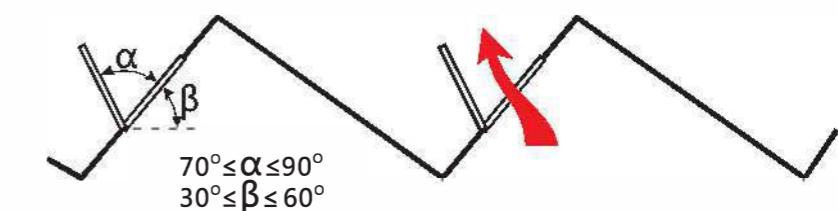
Vent on
leeward side
only open
Vents on
windward side
remain closed



Sash in vertical wall



Sash in vertical wall

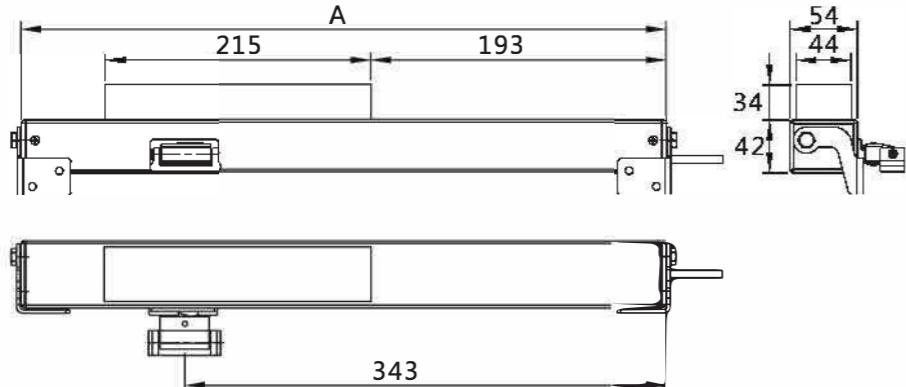


Sash in shed roof

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

GTI® DIMENSION AND INSTALLATION
01

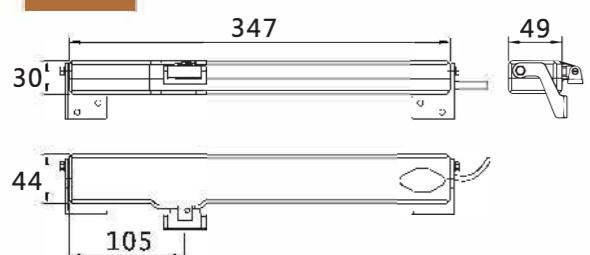
G5-X-FS NATURAL AND SMOKE VENTILATION SYSTEM FEATURING "FAIL SAFE" FUNCTION



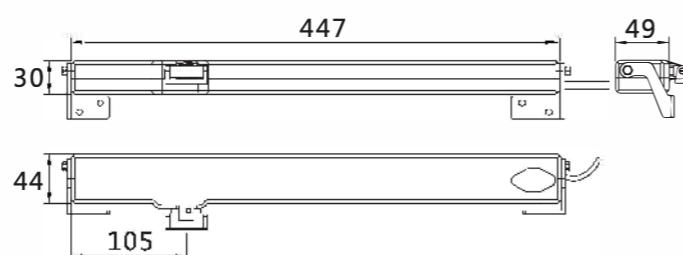
Stroke (mm)	Length A (mm)
200	527
300	579
500	683
550	709
600	735
650	761
800	839

02

G2 ELECTRIC DOUBLE LINK CHAIN ACTUATOR

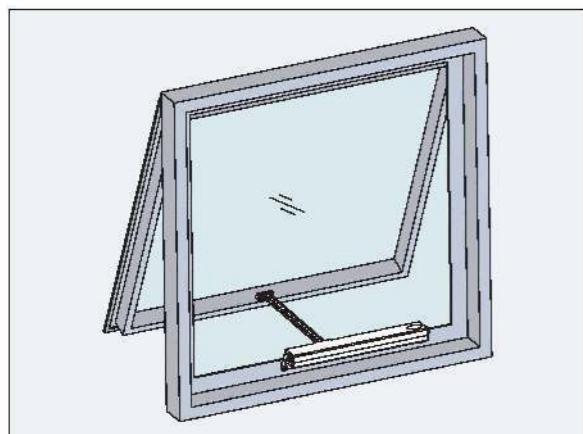


Stroke 300mm

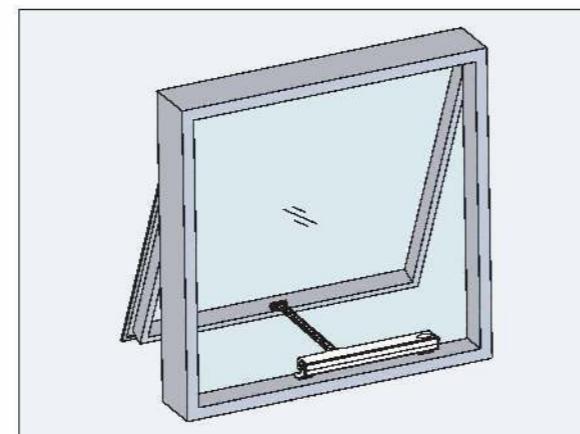


Stroke 500mm

- 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)



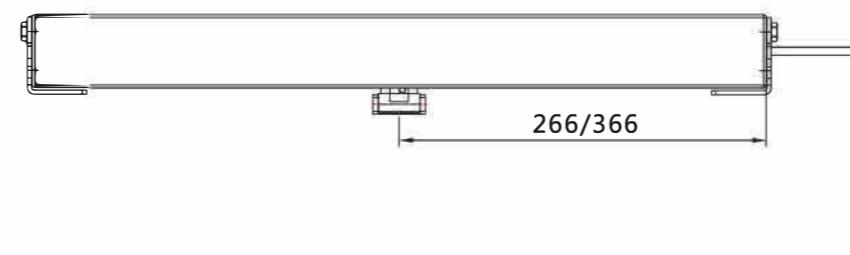
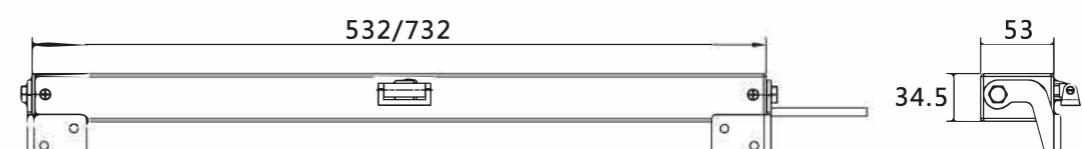
Top Hung Window Installation
(Without Window Sill)

03

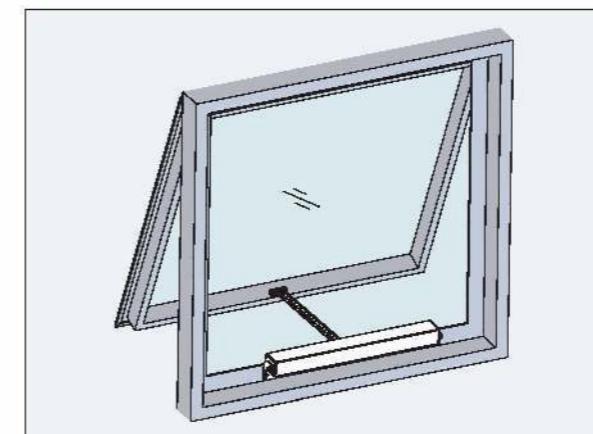
DIMENSION AND INSTALLATION

GTI®

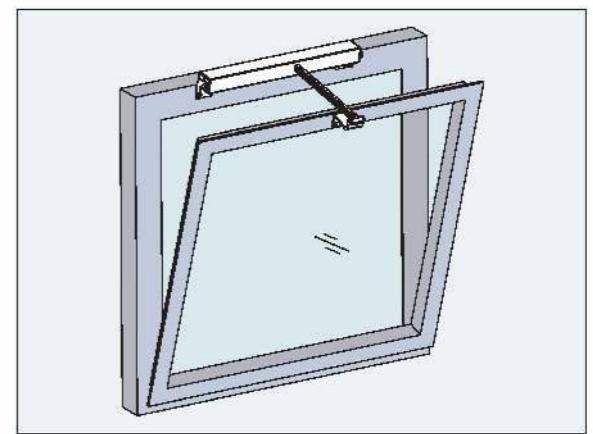
G2-EX ELECTRIC DOUBLE LINK CHAIN ACTUATOR



- 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

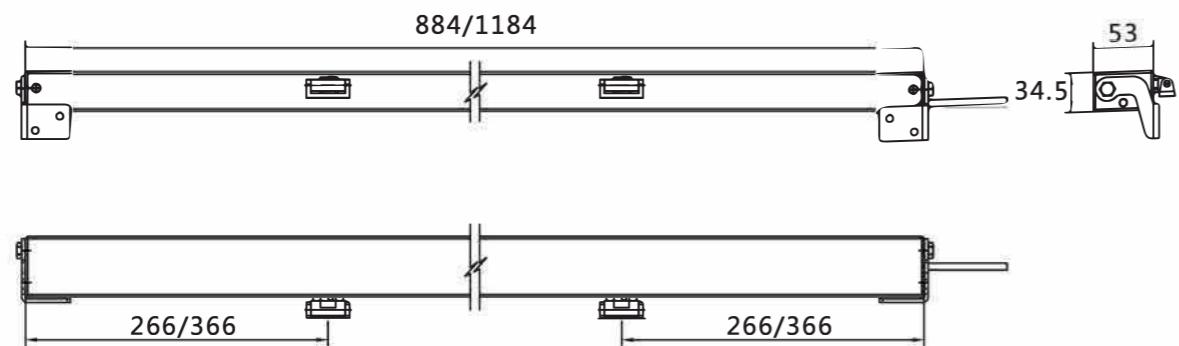


Bottom Hung Inward Tilt-turn
Window Installation

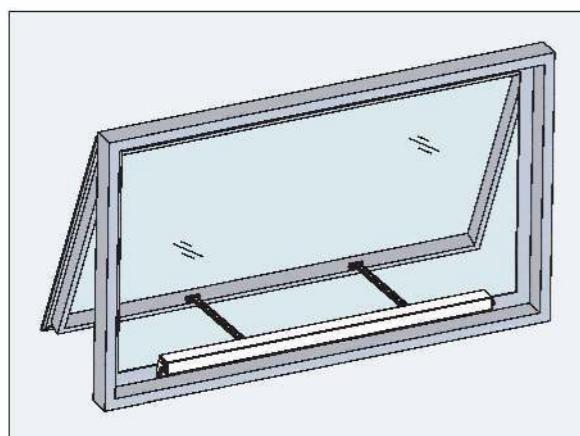
GTI® DIMENSION AND INSTALLATION

04

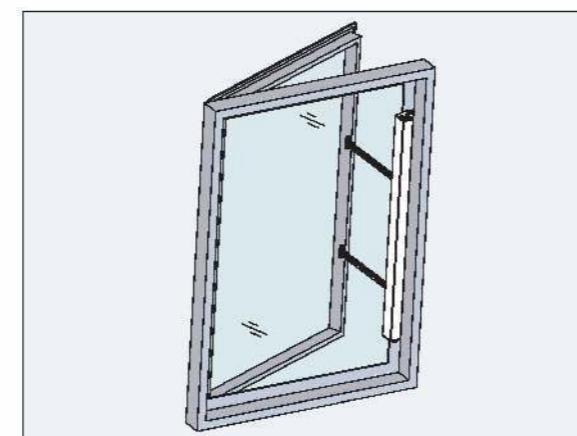
G2-EXT ELECTRIC DUAL CHAIN ACTUATOR



- 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
Installation

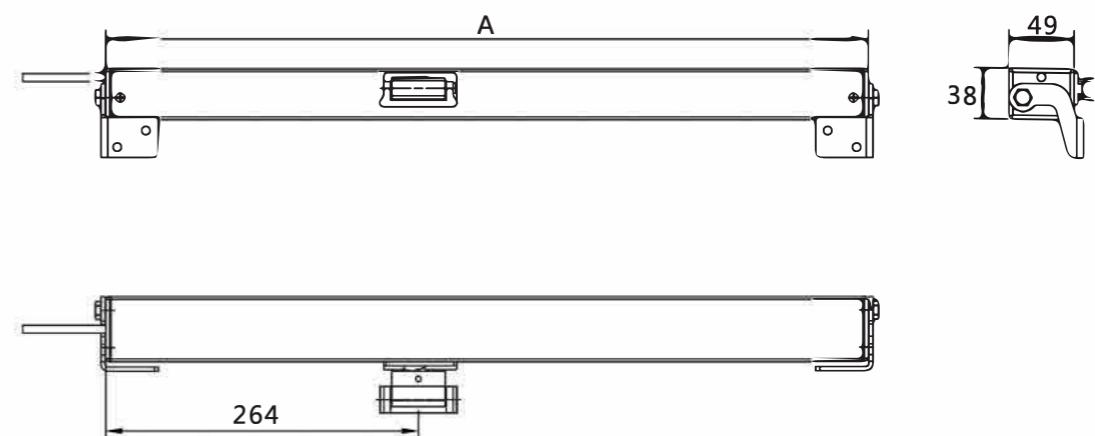


Side Hung Window
Installation

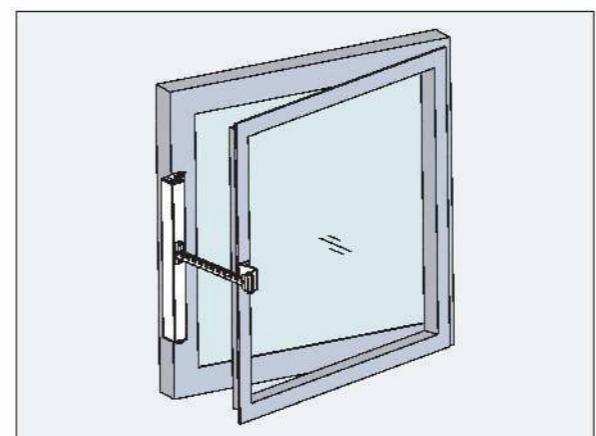
05

G5-X ELECTRIC DOUBLE LINK
CHAIN ACTUATOR

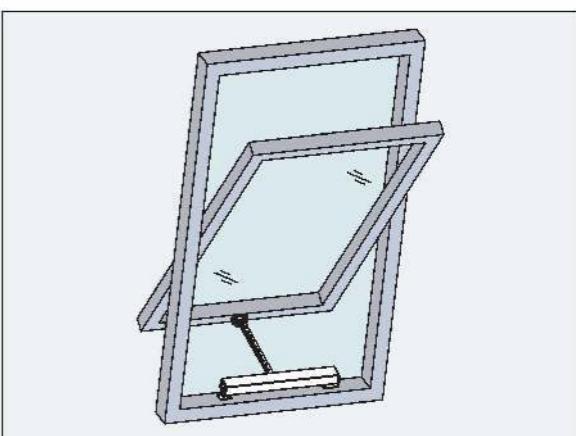
Stroke (mm)	24V DC A (mm)
200	446
300	498
400	550
600	654
800	758



- 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
Installation



Horizontal Pivot Window
Installation

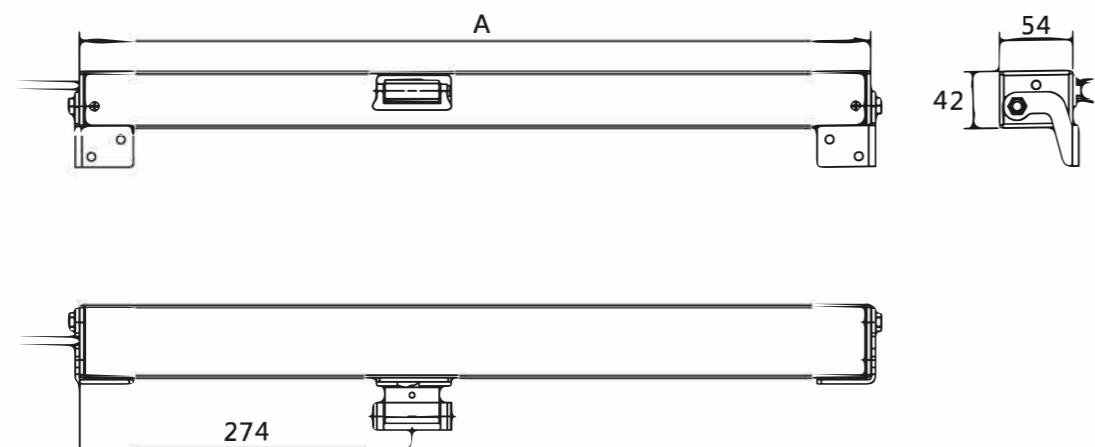
DIMENSION AND INSTALLATION
GTI®

GTI® DIMENSION AND INSTALLATION

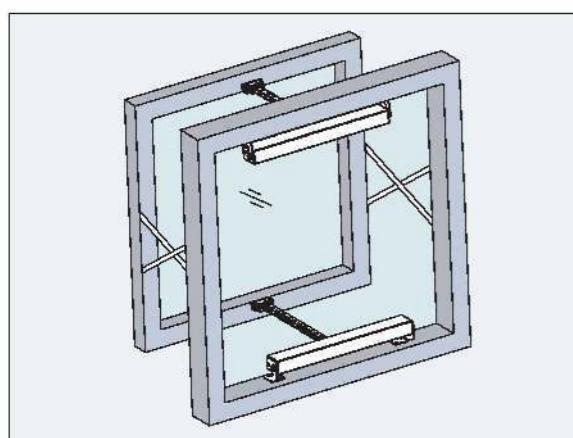
06

G5-XS ELECTRIC DOUBLE LINK CHAIN ACTUATOR

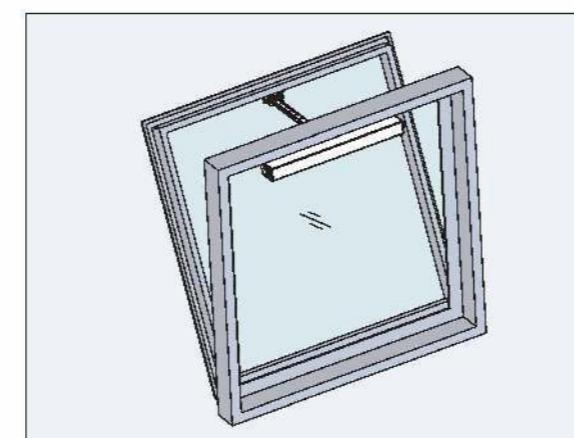
Stroke (mm)	24V DC A (mm)
200	456
300	508
400	560
600	664
800	768



- 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



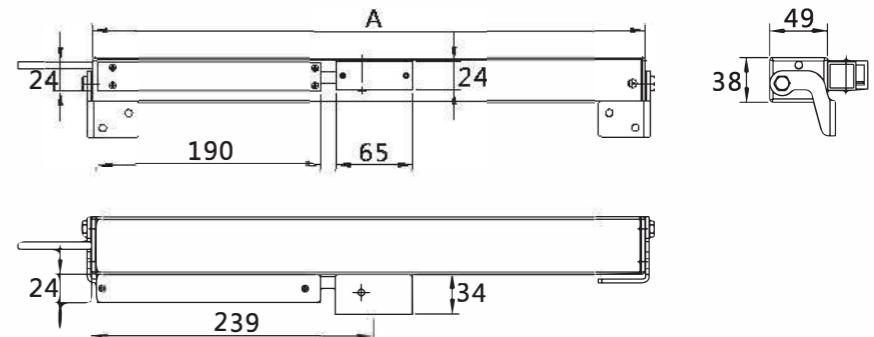
Bottom Hung Outward Window Installation

07

G5-X-GS ELECTRIC INCLINE DOUBLE LINK CHAIN ACTUATOR

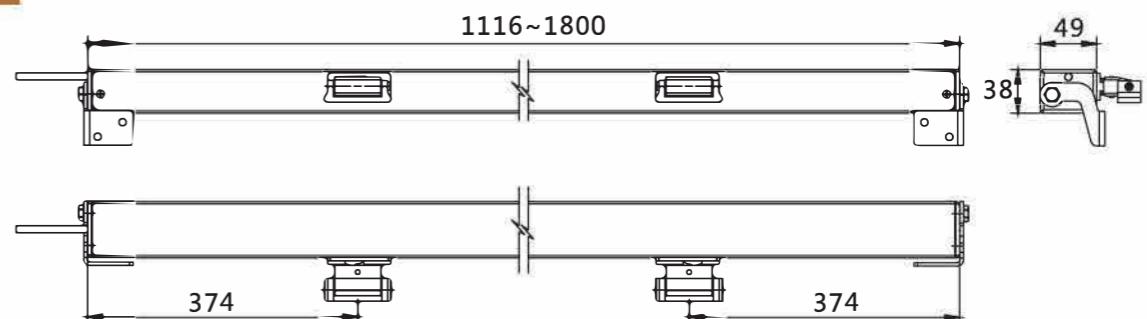
Stroke (mm)	24V DC A (mm)
200	417
300	469
400	521

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

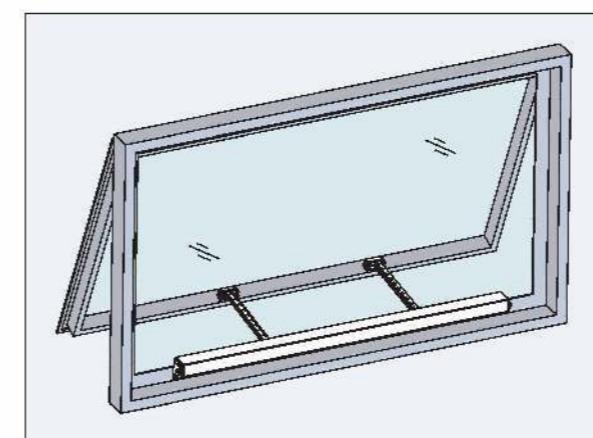


08

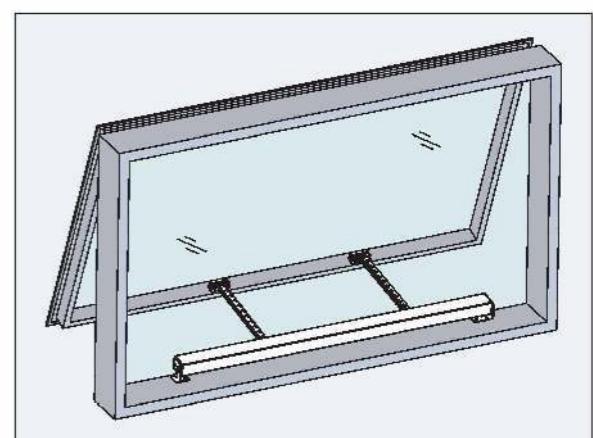
G5-XT ELECTRIC DUAL CHAIN ACTUATOR



- 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)

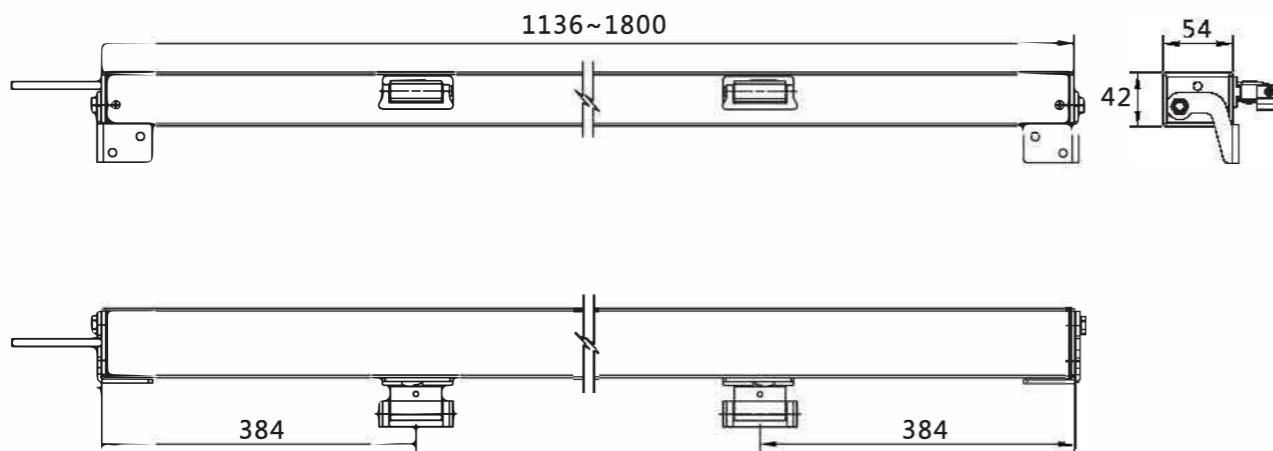
DIMENSION AND INSTALLATION

GTI®

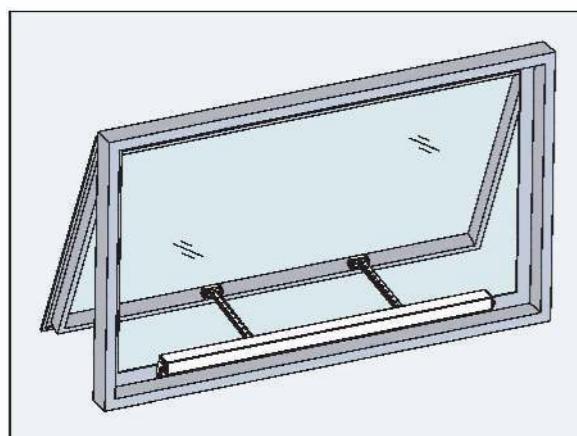
GTI® DIMENSION AND INSTALLATION

09

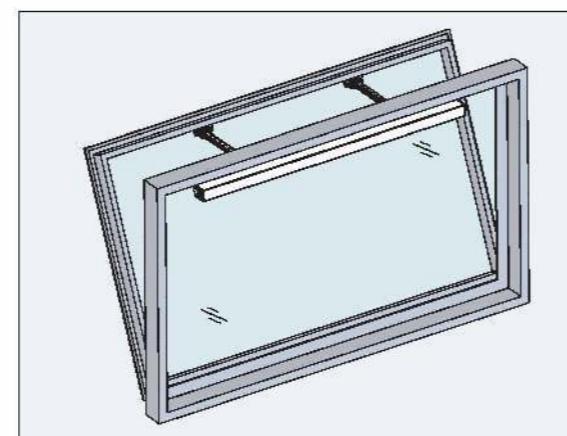
G5-XST ELECTRIC DUAL CHAIN ACTUATOR



- 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 Installation



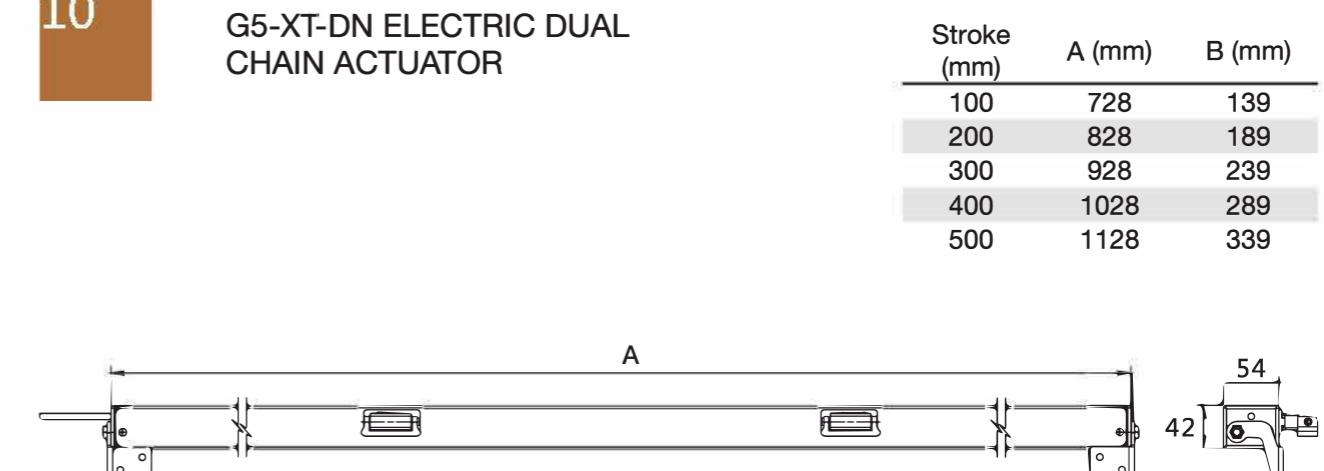
Bottom Hung Outward Window Installation

10

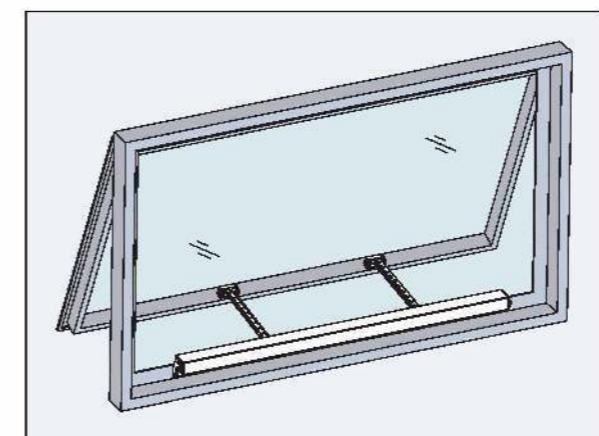
DIMENSION AND INSTALLATION

GTI®

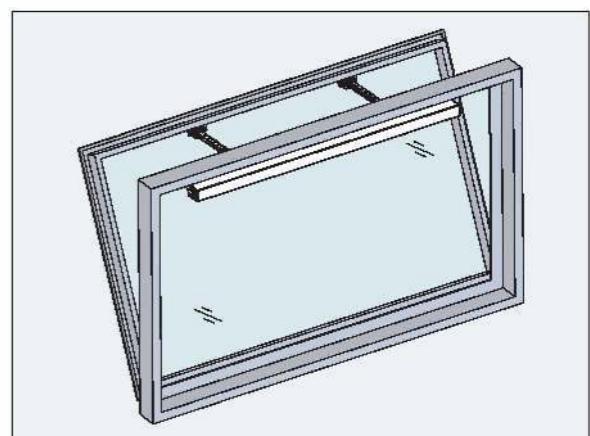
G5-XT-DN ELECTRIC DUAL CHAIN ACTUATOR



- 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 Installation



Bottom Hung Outward Window Installation

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

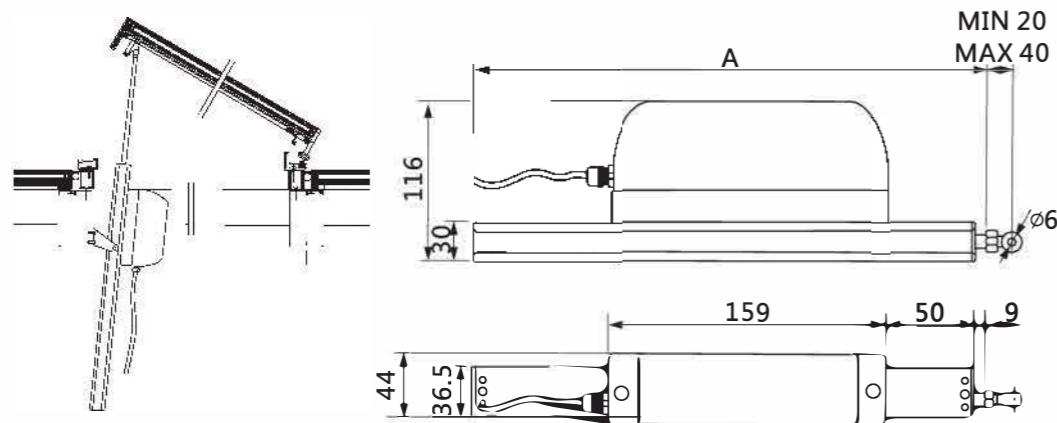


DIMENSION AND INSTALLATION

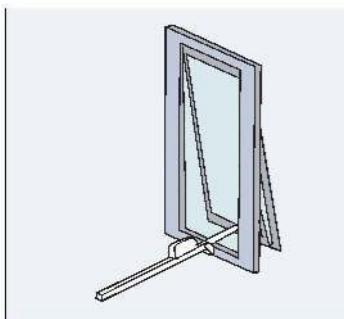
11

TE368S ELECTRIC RACK AND PINION ACTUATOR

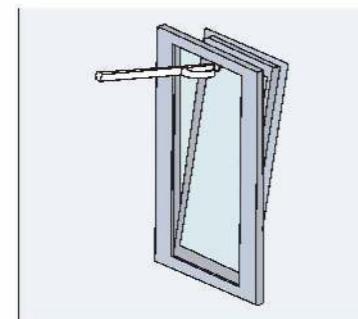
Stroke (mm)	Length A (mm)
300	460
500	660
1000	1160
1200	1360
1500	1660



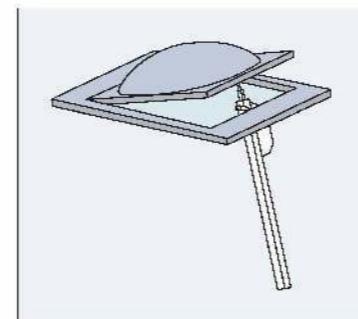
- TE368S Electric Rack and Pinion Actuator can be applied to the top and bottom hung window, central and horizontal opening, skylight and alike.
- Installation of TE368S is flexible. Fixed or sliding bracket is available for Installation.



Top Hung Windows
Installation



Bottom Hung Windows
Installation

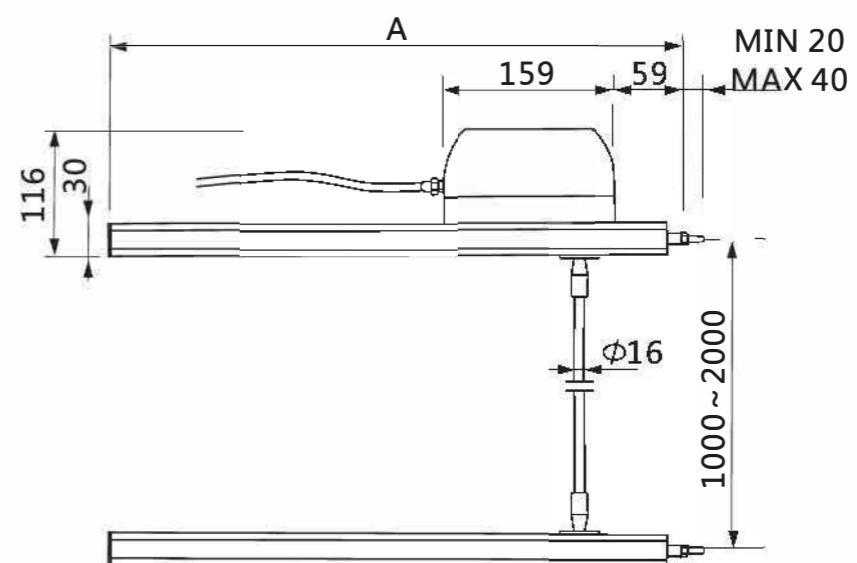


Skylight
Installation

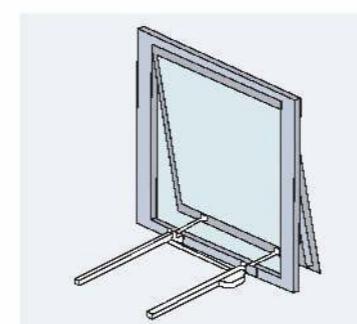
12

TE368DN ELECTRIC RACK AND PINION DRIVE TANDEM

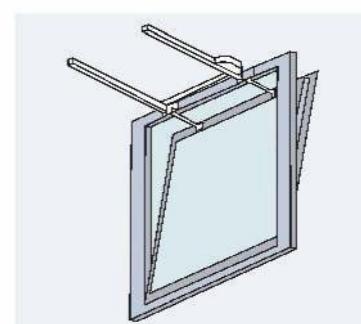
Stroke (mm)	Length A (mm)
300	460
500	660
1000	1160
1200	1360
1500	1660



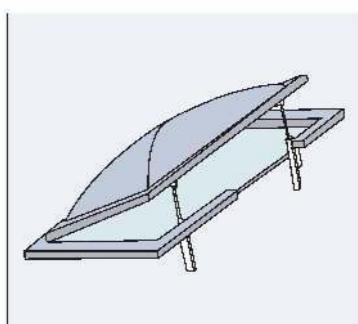
- TE368DN Electric Rack and Pinion Drive Tandem can be applied to the top and bottom hung window, central and horizontal opening, skylight and alike.
- Installation of TE368DN is flexible. Fixed bracket is available for Installation.



Top Hung Windows
Installation



Bottom Hung Windows
Installation



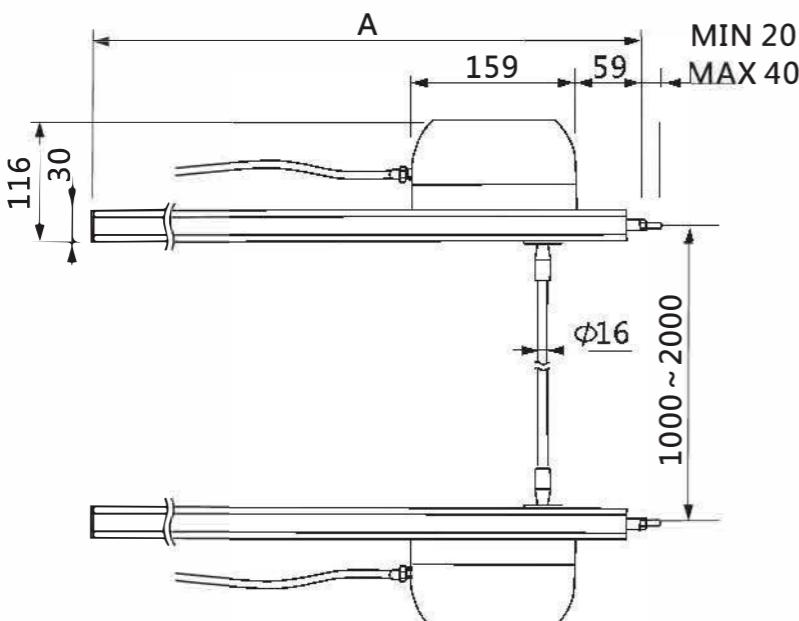
Skylight
Installation



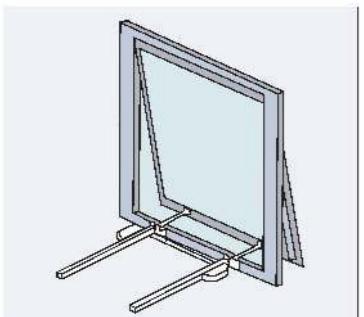
DIMENSION AND INSTALLATION

GTI® DIMENSION AND INSTALLATION
13**TE368DR ELECTRIC RACK AND PINION DRIVE TANDEM**

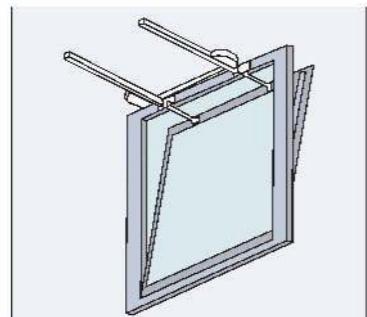
Stroke (mm)	Length A (mm)
300	460
500	660
1000	1160
1200	1360
1500	1660



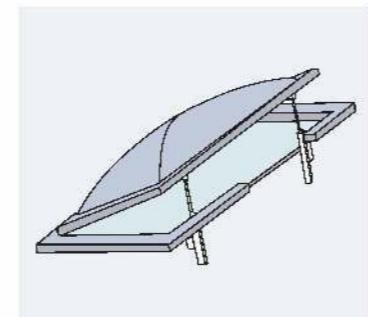
- TE368DR Electric Rack and Pinion Drive Tandem can be applied to the top and bottom hung window, central and horizontal opening, skylight and alike.
- Installation of TE368DR is flexible. Fixed bracket is available for Installation.



Top Hung Windows Installation



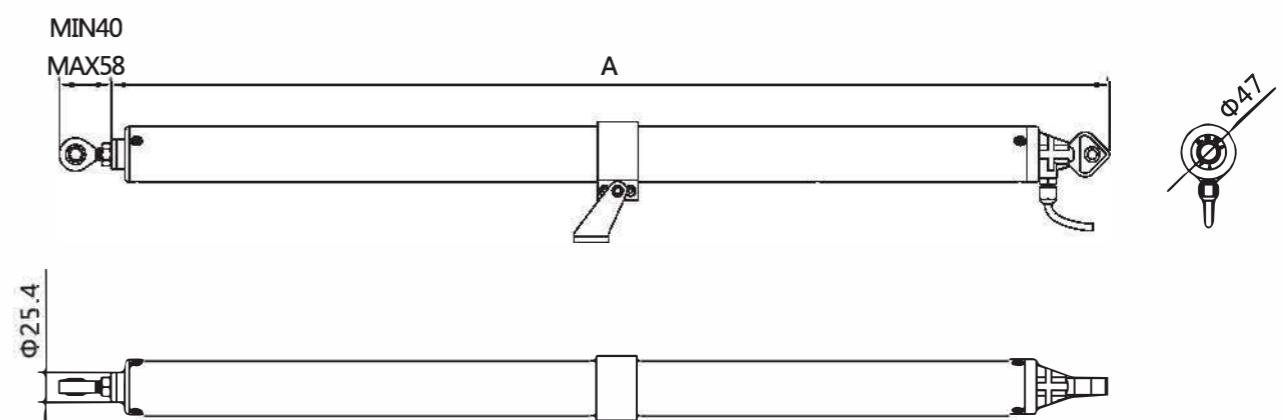
Bottom Hung Windows Installation



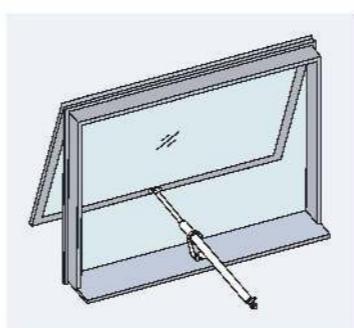
Skylight Installation

DIMENSION AND INSTALLATION GTI®
14**K10 SPINDLE ACTUATOR**

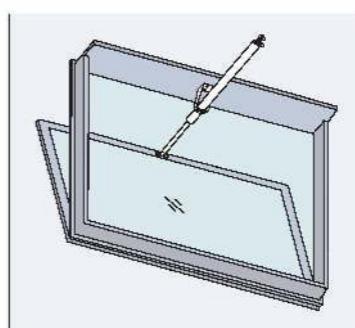
Stroke (mm)	Length A (mm)
150	509
200	559
350	709
550	909
750	1109
1000	1359



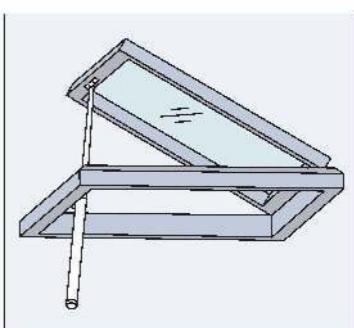
- K10 Spindle Actuator can be applied to the top and bottom hung window, horizontal opening, skylight and alike.
- Installation of K10 is flexible. Slip bracket or back bracket is available for Installation.



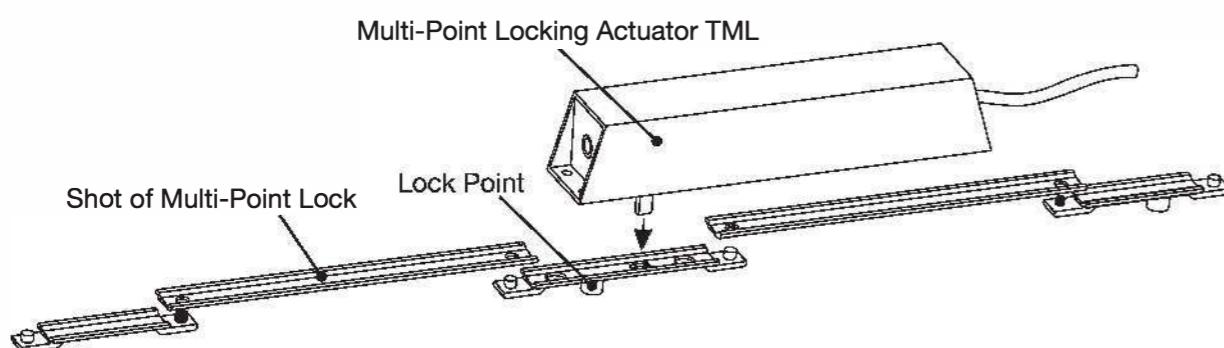
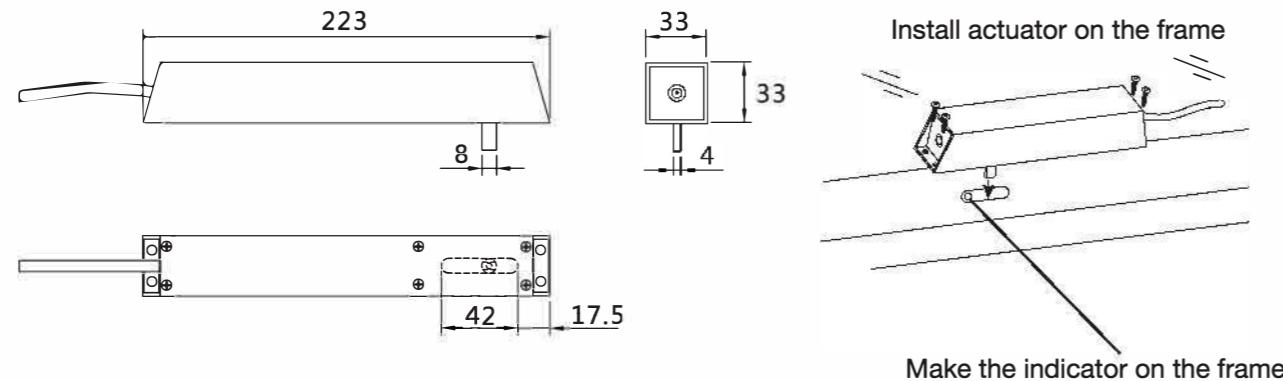
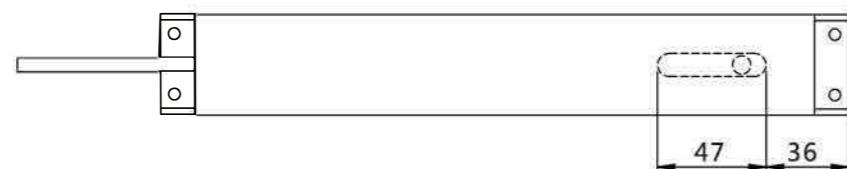
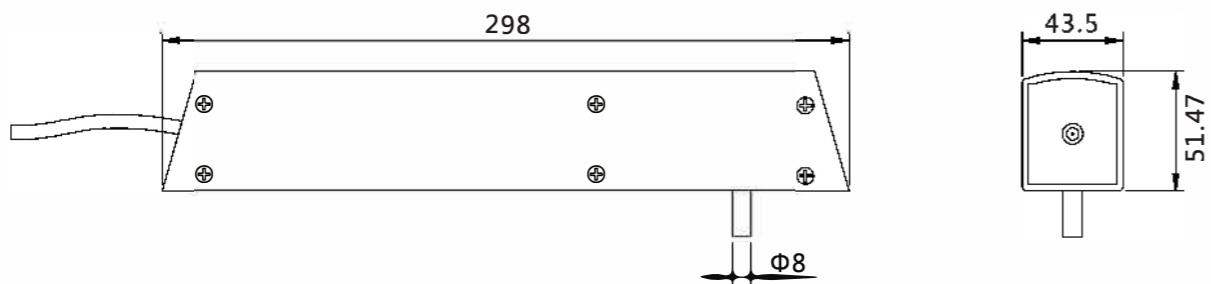
Top Hung Windows Installation



Bottom Hung Windows Installation



Skylight Installation

GTI® 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

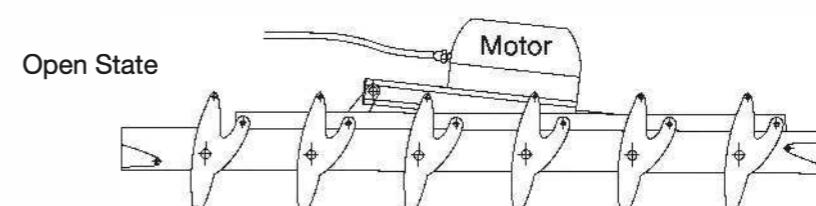
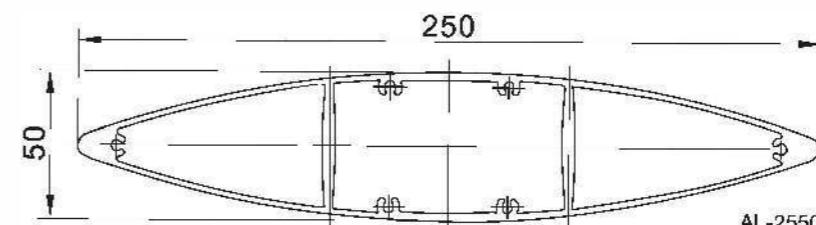
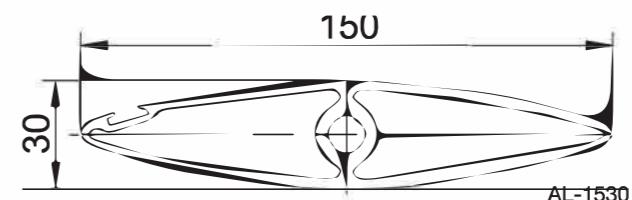
Glass blade width: 100 - 350mm

Glass blade length: 500 - 2000mm

Current of External electrical actuator: 0.6-0.8A

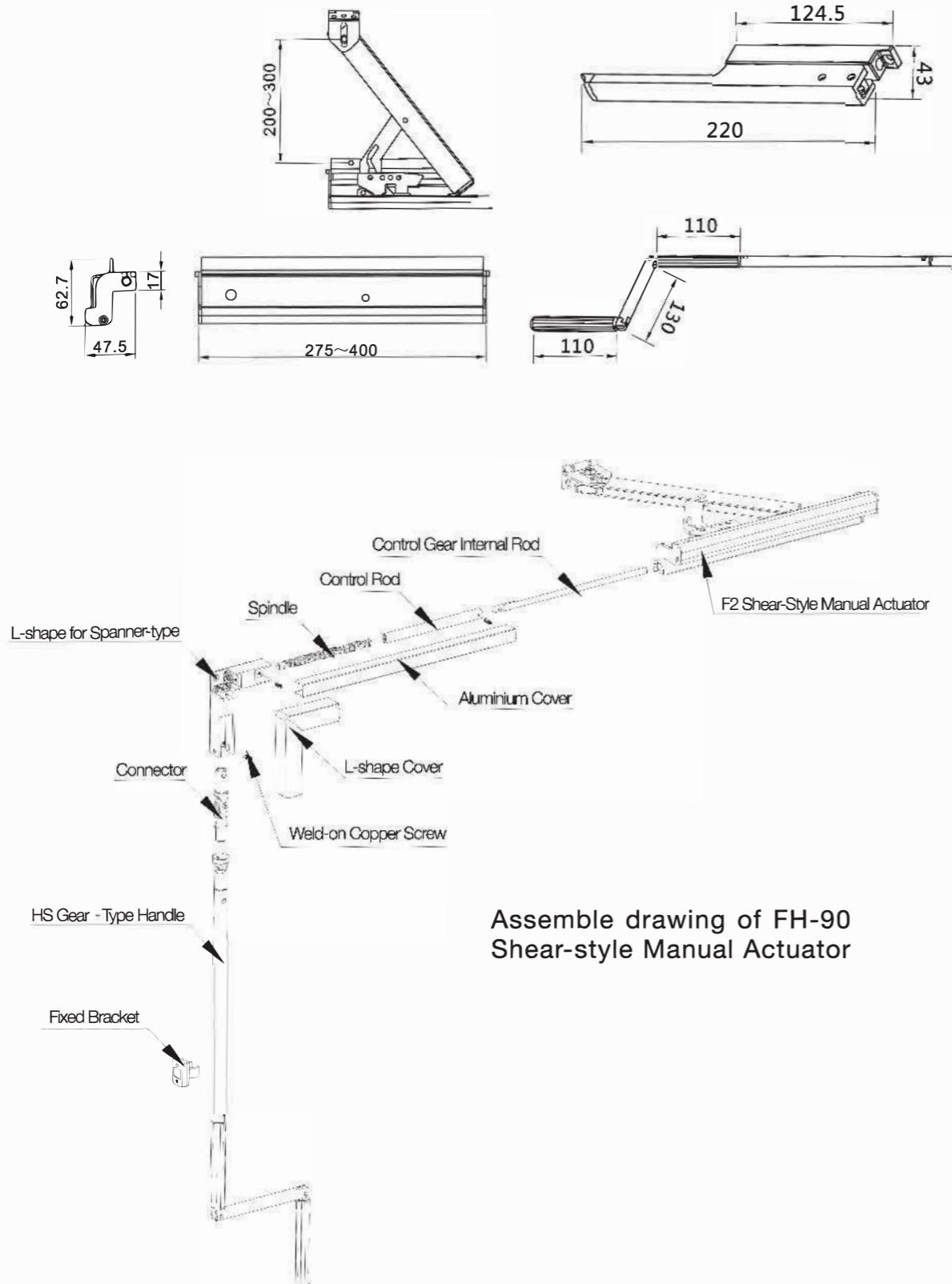
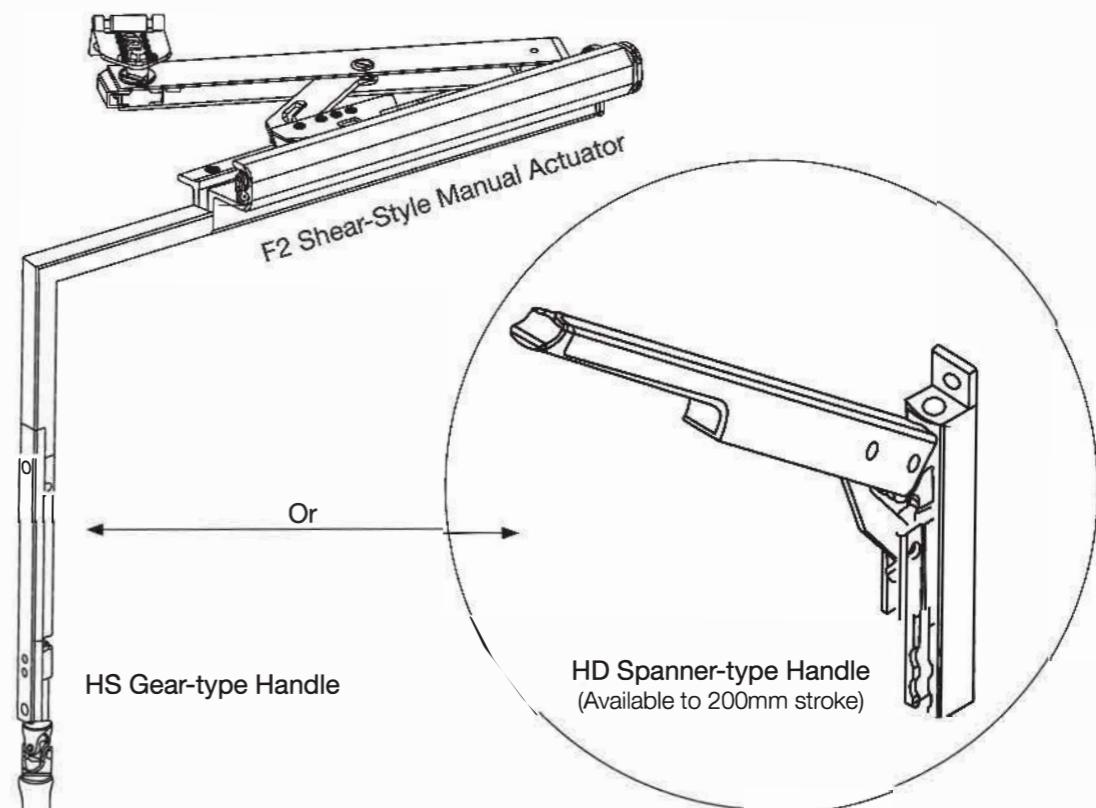
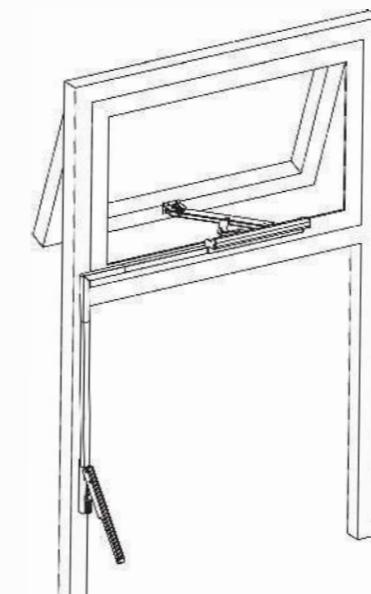
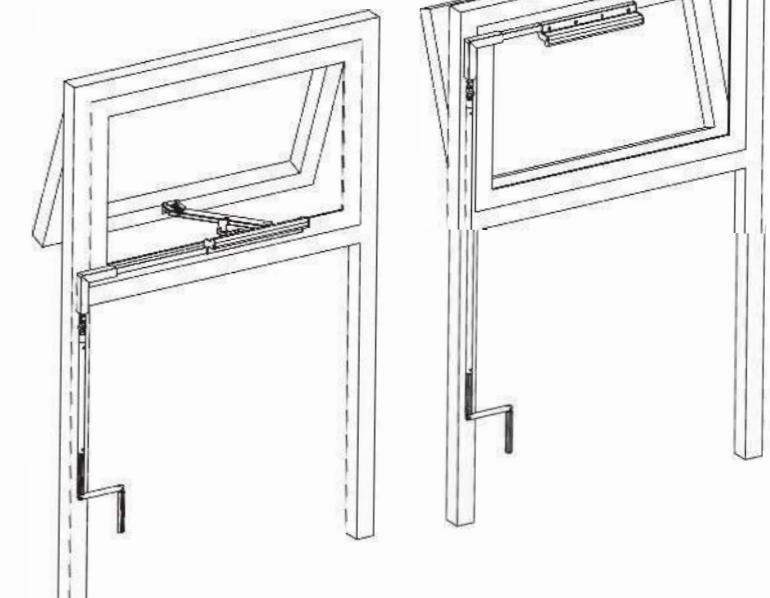
1 External motor to operate up to 12 blades

Choice of External motor: TE368M or K10

19**AL Series Aluminium Louver**

DIMENSION AND INSTALLATION

20

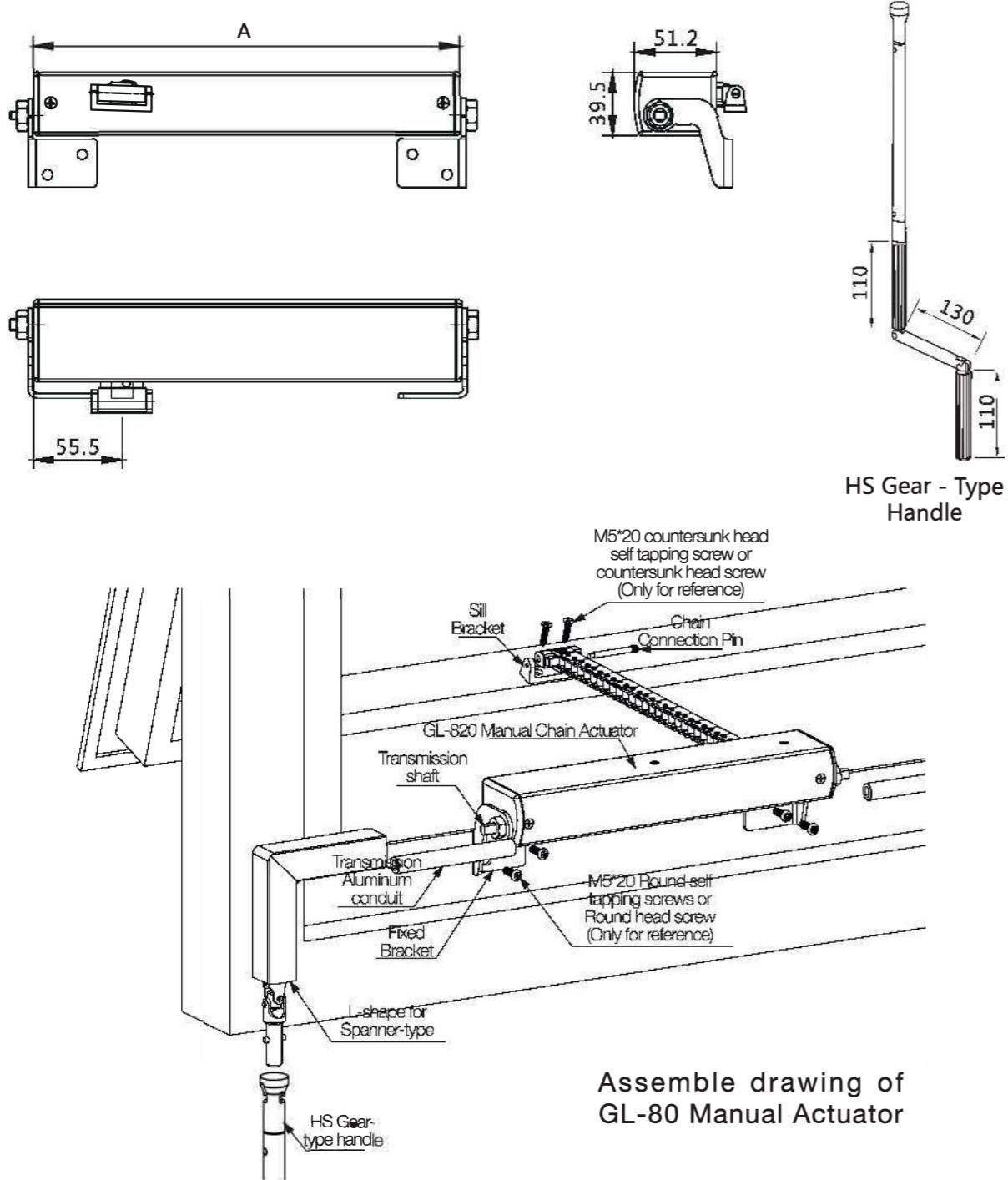
FH-90 SHEAR-STYLE MANUAL ACTUATOR**Assemble drawing of FH-90 Shear-style Manual Actuator****DIMENSION AND INSTALLATION****Example of HD Spanner-type Handle Installation:****Example of HS Gear-type Handle installation:**

GTI® DIMENSION AND INSTALLATION

21

GL-820 MANUAL CHAIN ACTUATOR

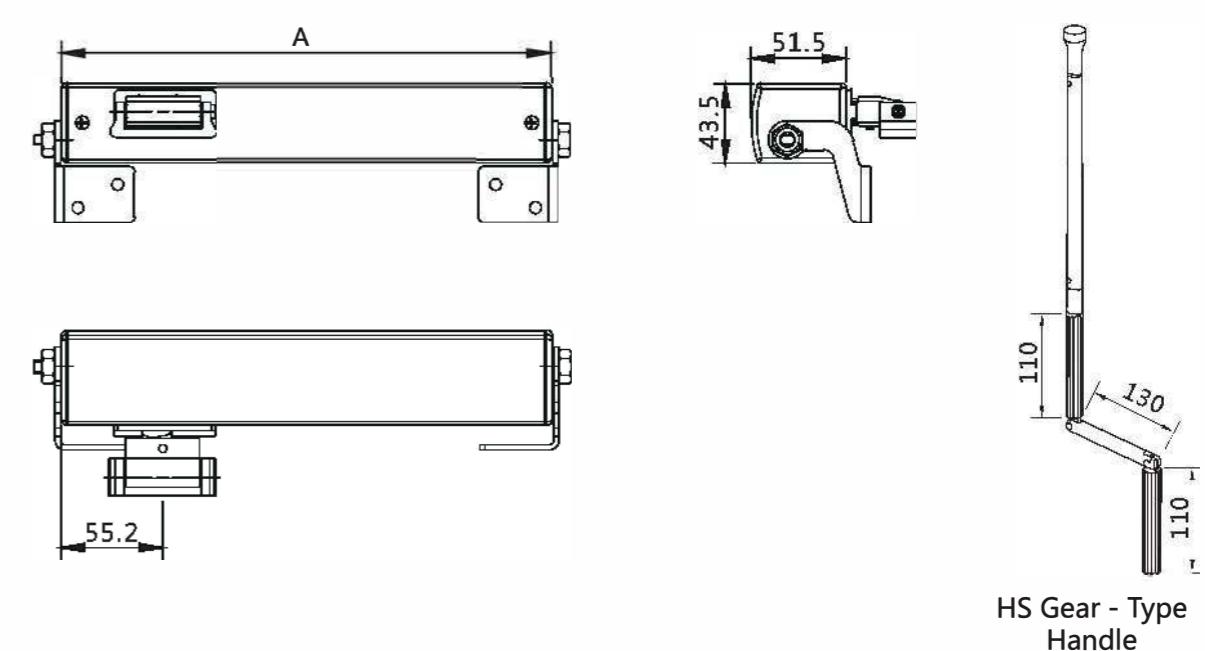
Stroke (mm)	Length A (mm)
400	318


DIMENSION AND INSTALLATION
GTI®

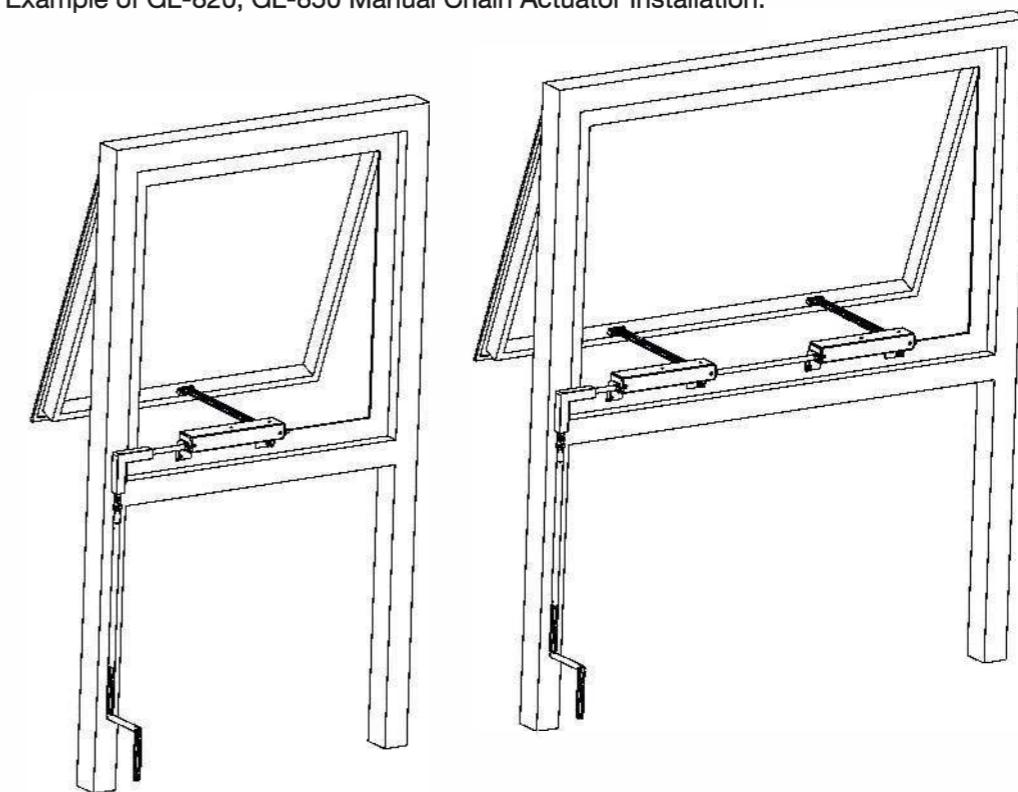
22

GL-850 MANUAL CHAIN ACTUATOR

Stroke (mm)	Length A (mm)
600	418



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

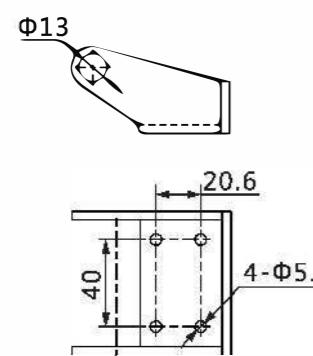
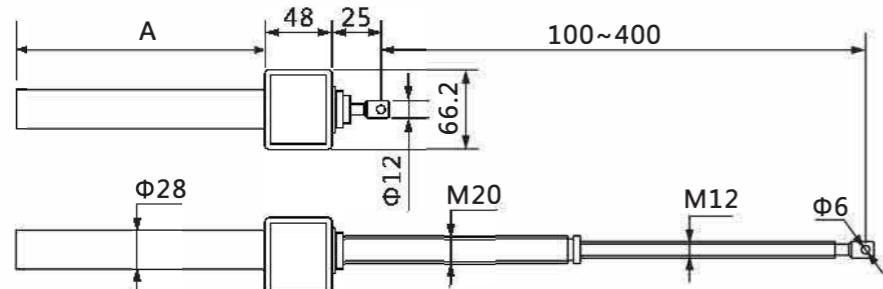
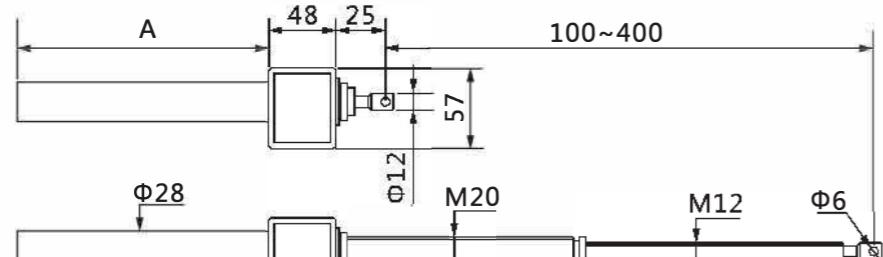


DIMENSION AND INSTALLATION

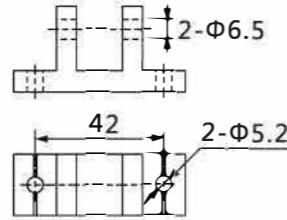
23

SH-15 MANUAL WINDOW OPERATING SYSTEM

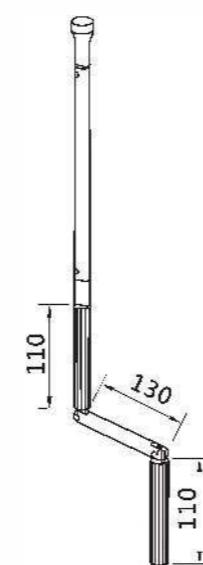
Stroke (mm)	Length A (mm)
200	105
250	130
300	155
350	180
400	205



Fixed Bracket



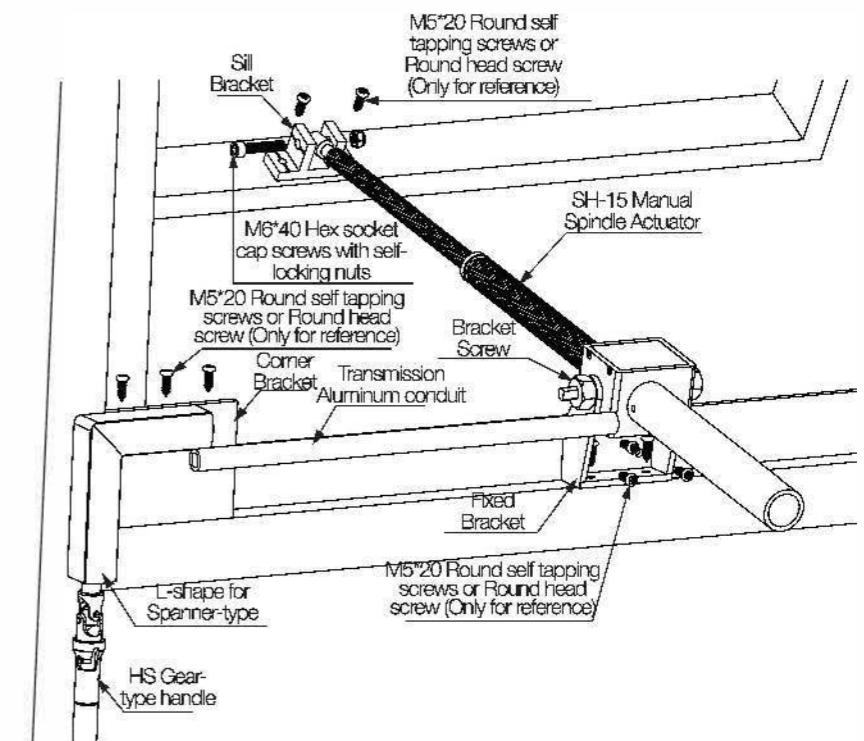
Sill Bracket



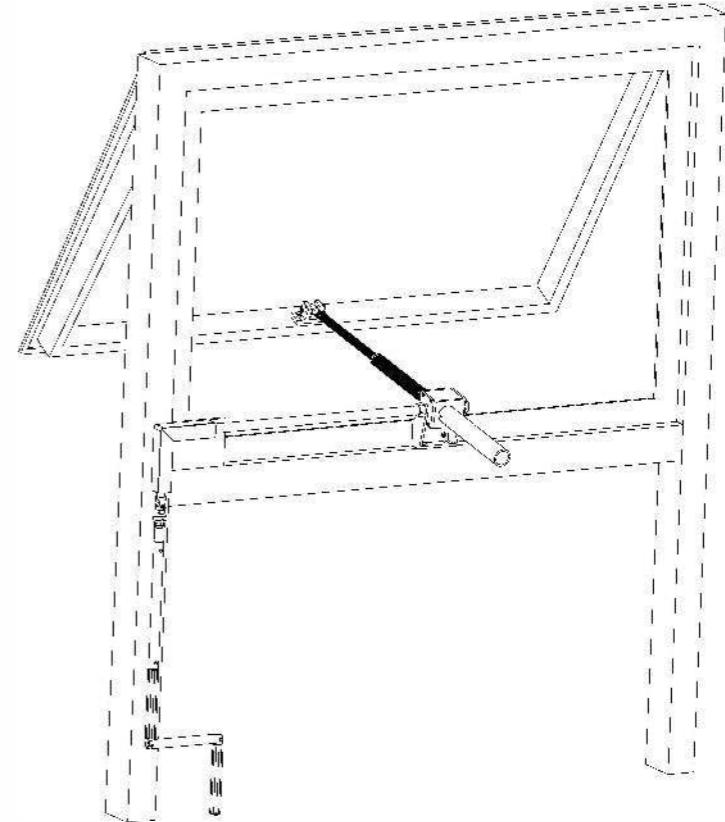
HS Gear-type handle

DIMENSION AND INSTALLATION

Assemble drawing of SH-15 Manual Actuator



Example of SH-15 Manual Chain Actuator Installation:

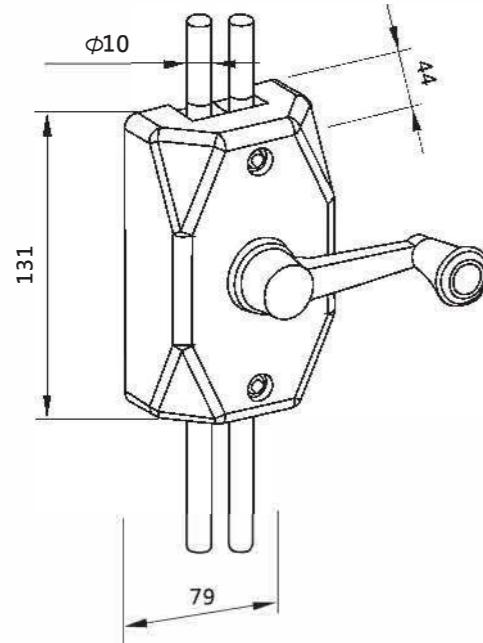




DIMENSION AND INSTALLATION

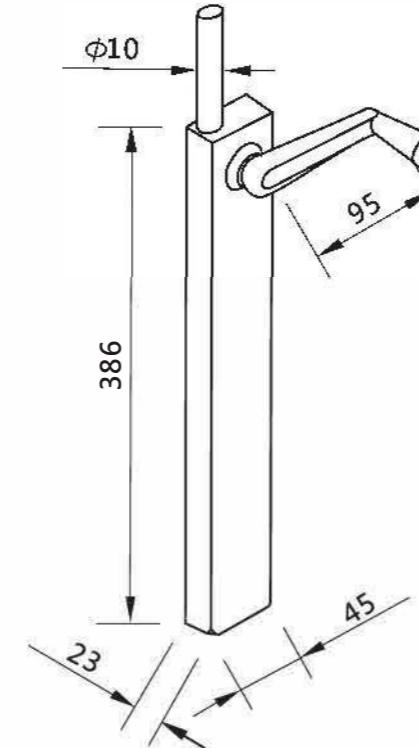
24

GH-388 CRANK HANDLE



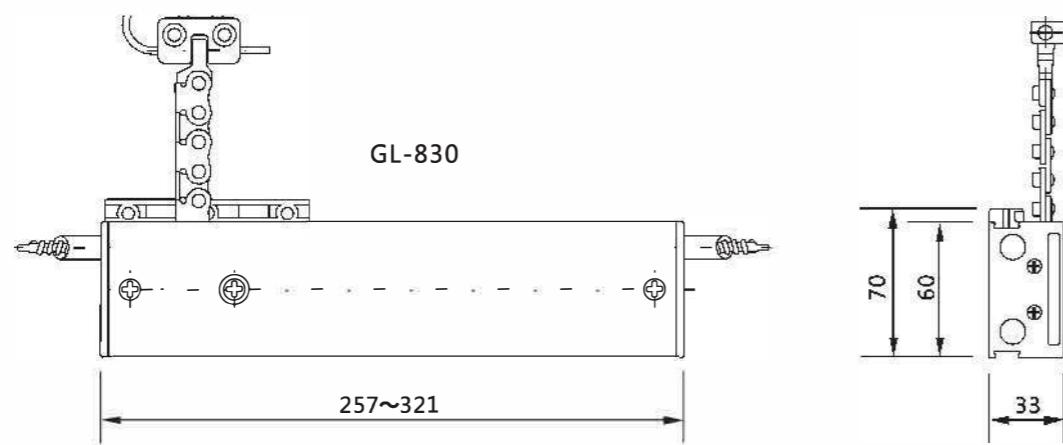
25

GH-386 CRANK HANDLE



26

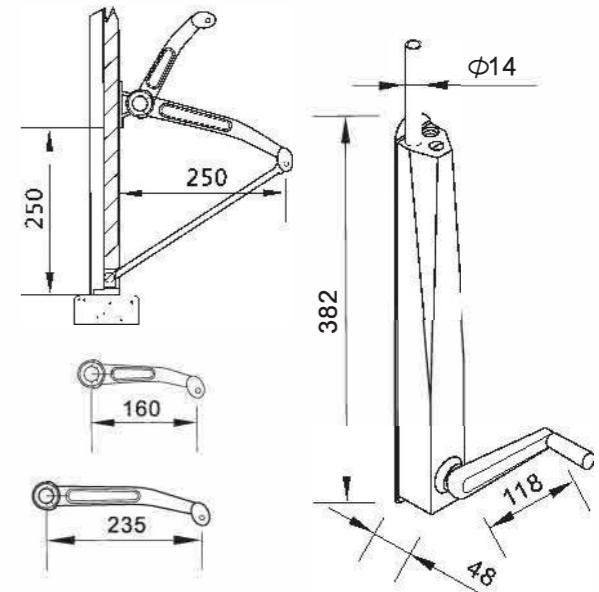
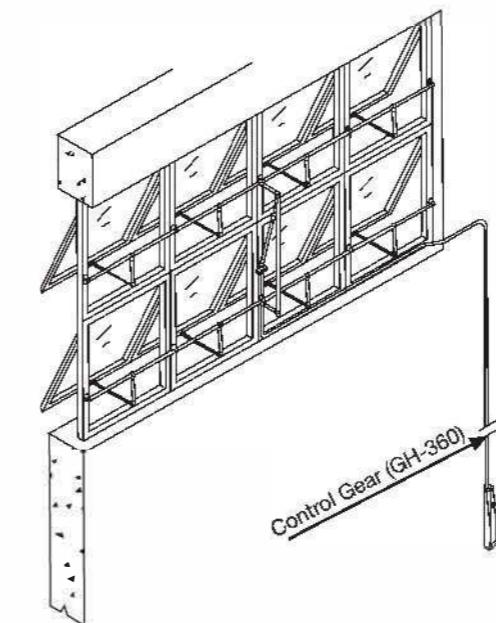
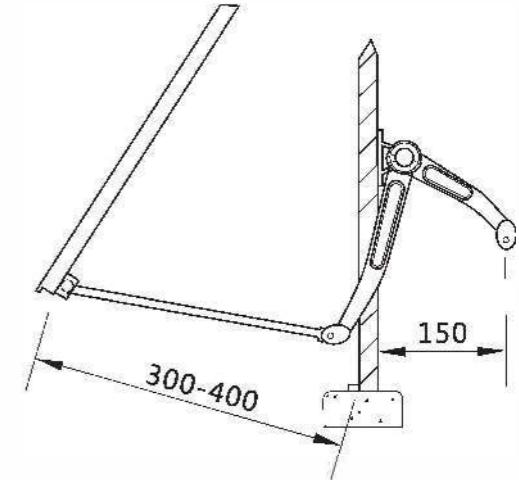
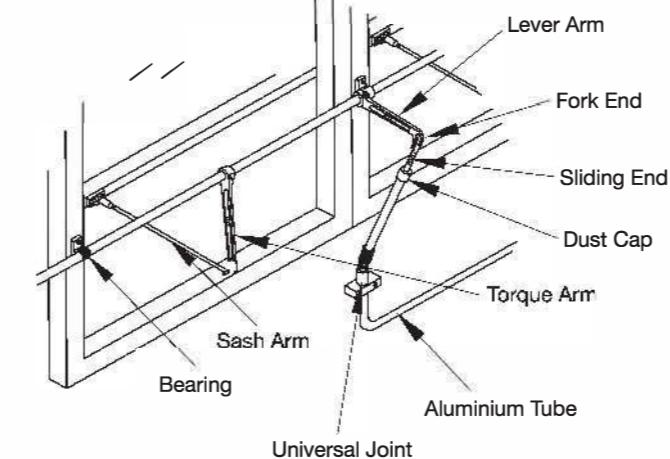
GL-830 CHAIN BOX



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-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-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-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-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-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 ± 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 ± 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 ± 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 ± 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 ± 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 ± 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 Rraia 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



United Kingdom
Heathrow Airport

2004

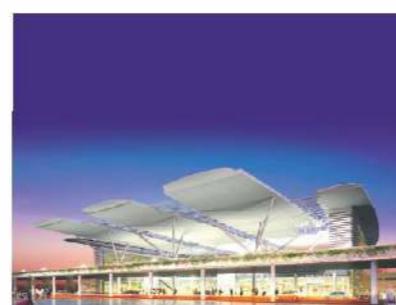
Home Affairs Department Lik Yuen Community Hall
Hong Kong Disneyland
Hong Kong Movie City
La Salle College
Tai Kok Tsui Government Complex



United States
HL23 Condos at 515 West 23rd Street Manhattan

2005

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



Vietnam
Can Tho International Airport

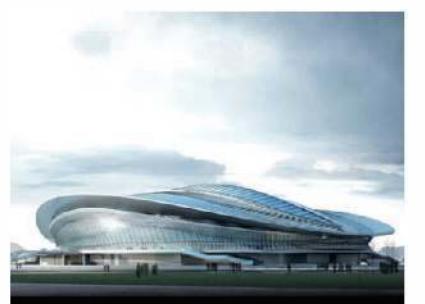
2007



Hangzhou
Country Water Conservation
Museum



Ningbo
Bin Jiang Leisure



Guangxi
Guangxi Stadium



Shanghai
International Financial Center



Hangzhou
National Hydraulic Engineering
Museum



Shenzhen
International Airport



Kunming
Kunming Airport

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)
Yuen 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



Shanxi
Taiyuan Museum



Shanghai
Shanghai Port International Center



Hebei
Economic Circle around Beijing
Service Center



Suzhou
Wuzhong District Cultural Center



Suzhou
Wu Xi Wei Na International
Creative Park



Ningxia
Mast International Commerce
Center



Yuxi
Gaoxin District Science &
Technology Park

Shanghai Oriental Art Center
Shanghai Property Building
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 Phrase II
Zhenjiang Hangzhou Xiaoshan International
Airport

2005

Beijing Jiuxian Qiao Hospital
Changchun Taxation College
Chengdu Jinsha Museum Phrase 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 Phrase 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



Chengdu
Borui Chuangyi Technology
Breeding Building



Zhejiang
Hangzhou Modern Building



Shandong
Linyi Airport



Hong Kong
The Cameron Road



Hong Kong
Ma Hang Park



Hong Kong
Yipmsaa Tang Siu Tong
Secondary School



Dalian
State Guest House of STX
(Dalian) Shock Absorber

2006

Anhwei Huainan City Sports Culture Facilities
Beijing Beihang University Science & Research
Center
Beijing Olympia Facility (Arrow & Shooting)
Changchun City Government Building
Chengdu Jinsha Meseum Phrase 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



Italy
Milan Linate International Airport



Hong Kong
The Hong Kong Polytechnic
University



Malaysia
Bukit Tunku Bungalow Project



Hong Kong
Po Leung Kuk Celine Ho Yam
Tong College



Hong Kong-Shenzhen
Futian Port



Hubei
Hubei Provincial Library



Shanxi
Taiyuan Railway Station

Beijing Laoshan Recycling Field
Beijing Mingda Waiyp 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
Hubel Telecom Customer Center
Nanjing University of Technology Pukou Campus
Stadium
Qingdao International Convention and Exhibition
Center
Shenzhen CO CO 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
BeiHang 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-Shenzhen
Western Corridor



Hong Kong
Tai Kok Tsui Government
Complex



Shanghai
World Expo Center



Hong Kong - Shenzhen
Law Wu Immigration Bridge



Guangzhou
Zhujiang New City



Hong Kong
Oriental Press Center



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



Beijing
Raffles City



Shanghai
IKEA Store



Shanghai
Nature Gas Dispatch Center



Shenzhen
COCO Park Shopping Mall



Shenzhen
Futian Traffic Control Center



Guangzhou
Baiyun International
Convention 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 Kuan Hall

Shantou East Printing Factory

Shanxi Building

Shanxi Tongda Building

Shenzhen Industrial District Stadium

Suzhou Elegant Factory

Suzhou Jing Huayan

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



Fuzhou
Olympia Stadium & Sport Center



Hangzhou
UT Stakan



Guangxi
Guangxi Sports Center



Zhengzhou
Geological Museum



Guangyuan
Wanda Plaza



Anhui
Investment Commercial Building

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
ZhejiangNature Electric Appliance Ltd
Zhuhai Green Village Tennis Hall

2010

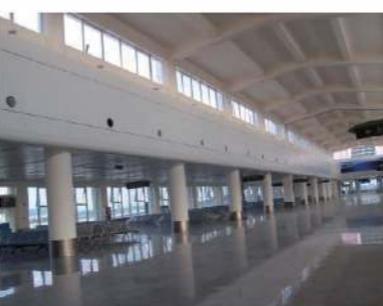
Beichuan Sport Stadium
Beijing Botanical Garden Greenhouse Skylight
Beijing LiShan Building
Beijing Post Office
Beijing Traffic Control Center
Chengdu Unit 611 #1 Complex Testing Center
Chongqing Yubei Sport Stadium
Dalian China Resources
Dezhou Holiday Goden Bay Hotel
Fujian Paralympics Games Stadium
Fujian Province Police Headquarters
Fuji an Rongqiao Villa
Gansu Jinchang Airport
Ganzhou China Airline City Area A
Guangzhou Inner Harbour Phrase 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 Techno logy Building
Jiayuguan Airport
Kunming Airport
Kunming Power Plant
Kunming Ruiheng Villa
Nanjing Pharmaceutical Testing Building
Nanjing Politica l College Shanghai Branch
Ningbo New Port 5# Area
Qingdao WMH Herlon Antriebstechnik GmbH
Quanzhou SeaView Villa
Shandong Ji 'nan 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 Phrase VI Project
Shanghai World Trade Commercial City
Shenzhen Airport Logistics Center



Yantai
International Convention Center



Hangzhou
Xinyada Plaza



Hainan
Meilan International Airport



Hainan
Chinese PLA General Hospital



Xi'an
Qujiang International Convention and Exhibition Center



Qingdao
International Convention and Exhibition Center



Dalian
Dalian Sport Stadium



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 Koria Oil Field Sport Stadium
Urumqi Xinjiang International Exhibition Center
Wuxi The People's Hospital Phrase II Project
Wuxi Teacher Training School Library
Wuxi Xishan Software Park
Xian Hongtian Unit 618
Xian MTR Line 2 Administration Center
Xianning Nuclear Power Pl ant Reception
Yanan Airport
Yantai Laishan Highway Techno logy Breeding Center
Yuxi Gaoxin District Science and Technology Park
Zhanxin Market Complex Curtain Wall Project
Zhuhai Leisure Hotel

2011

Beijing Lishan Building Phrase 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 Ba iyun International Convention Center
Hainan Wit-Time Trading Co., Ltd.
Hebei Beidaihe Health Center
Hefei Xuhui Garden Utilities Center
Hong Kong Universal Aluminium Engineering Ltd.



Nanjing
Olympia Stadium & Sport Center



Beijing
National Astronomical
Observatories



Dandong
Langtou International Airport



Hebei Kai
Yuan International Centre



Chengdu
Jinsha Museum



Guangzhou
Pazhou Convention and
Exhibition Center



Suzhou
Suzhou University Library

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 New 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 Bulling 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



Shenzhen
Yantian Sport Stadium



Shanghai
Overseas Chinese Town



Shanghai
Pudong Wanda Plaza



Urumqi
Korla Airport



Beijing
Wanliu Mall



Nanjing
Wanda Plaza



Hohhot
East Railway Station 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
Guilan 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



Xinjiang
Horgos Port



Wuxi
Guilian Shenxin Apartment



Southern Jiangsu
Shuofang International Airport



Jiangbei
Central Park Headquarters Building



Jiangmen
Wanda Plaza



Shenyang
Kaisa Group



Hainan
Shi Mei Bay Yacht Club

Jianfa Mid Levels Garden, Xiamen
Jiangsu Province Ports 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
Shenzhen Kexing Science Park Phase 2
Surveillance Technology Building, Taicang
Swimming Pool of Xiamen University at Xiang'an 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 Gloc Culb
Hohhot East Railway Station Plaza
Hohhot Eontime City, Harbin



Shenzhen
Mini MIXC



Shenzhen
One City



Hubei
Hubei Library



Xian
Wanda Hilton hotel



Xian
Wanda of Daming Palace



Xiamen
Gaoqi International Airport T4Terminal



Zhengzhou
Wanda Plaza



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, Neosaurus
Wanda Plaza, Changzhou

Wanda Plaza, Jiangmen
Wanda Plaza, Wuxi
Xiangmi Lake Villa
Xiyihong, Quanzhou
Xuhui Court, Shanghai
Yimeng Revolutionary History Memorial Hall
Yu Leibeibei 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 Jinhuai 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



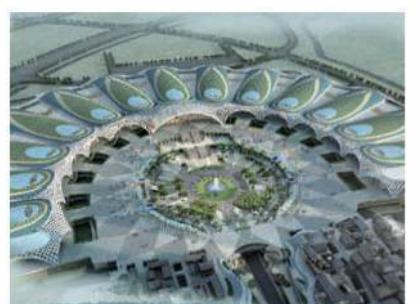
Changzhou
Global-Harbor



Chengdu
Qingyang Wanda Plaza



Guangzhou
Nansha Wanda Plaza



Kunming
Diarlake Convention &
Exhibition Centre



Jiangsu
Life Science & Technology
Innovation Park



Hunan
Changde Taohuayuan Airport



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 Mintai Commercial Bank

The South Coast of Wulanmulun Lake
AVIC XI'AN Aircraft Industry - No. 634 Warehouse
Xian Golden Mansion
The court of Law, Xuzhou
Yujiaju 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 (Huainan)- Customer
Room
China Mobile Call Centre (Luoyang) Phase 1,
Engineer, Customer and Production Block
Chimelong Penguin Hotel

2016

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



Guangzhou
Luogang Wanda Plaza



Maanshan
Dangtu East Railway
Station



Nanning
Anji Wanda Plaza



Xiamen
Pearl Plaza



Shanghai
Sincere Centre



Suzhou
Science and Technology Town



Shanghai
Vanke South Station CBD



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 Fliport hotel
Xiamen Fuxing Building
Seaview Resort XiamenPhase 1B Tennis Court
Shanghai Ka Shui International Plaza
Shanghai Pujiang 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
.....

NATURAL AND SMOKE VENTILATION

INTELLIGENT AUTOMATION WINDOW OPENING SYSTEMS



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

KIN LONG Headquarters

Guangdong KIN LONG Hardware Products Co., Ltd.

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