UCS

WINDOW AUTOMATION
for Green Building
ULTRAFLEX GROUP

Ultraflex Group has over 80 years of experience in manufacturing and distributing the highest quality and most innovative products. The Ultraflex Group affiliate companies design and produce widely known equipments in the Marine, Industrial, Architectural, Led technology and alternative energy fields.

ULTRAFLEX CONTROL SYSTEMS S.r.l.
Window Automation for Green Building

ULTRAFLEX S.p.a.
Steering and control systems for pleasure boats.

UFLEX S.r.l.
World wide distribution of marine accessories. Systems and accessories for alternative energy applications.

INDUSTRIA di LEIVI S.r.l.
Mechanical remote controls in the industrial field.

UFLEX USA Inc.
Manufacturing the world finest marine products.

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## ELECTRIC SYSTEMS FOR VENTILATION AND SMOKE/HEAT EXTRACTION

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## RED LINE

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Evolution

1970s
Manual solutions
Reliable and economical manual control for remote controlled windows. Basic natural ventilation without automatic environmental control.

1990s
Electric solutions
Introducing electrical window actuators and automatic meteorological control. Substantial improvement in comfort and ventilation creating the basis for today's integrated solution.

Today
Integrated solutions
New generation of compact actuators with integrated programmable circuit board, providing two-way communication with computer system. All actuator functions are totally programmable and the actuators provide 100% real-time feedback on their status. Integrating window automation with the BMS Building Management System will enable interaction with other systems in building (HVAC, lighting...)

Besides capital cost savings worth 15% as compared to air conditioning, naturally ventilated buildings also substantially save on energy due to lower costs for operating the natural ventilation solution (70 – 90% less), in addition to the qualitative, psychological effects on the building’s occupants.

With the mixed ventilation mode, integration and total communication is essential between the ventilation system and mechanical/air conditioning system, in order to reduce the power consumed by fans which could represent up to 25% of total power consumed by the building.

Latest surveys report that 90% of people are more satisfied with their indoor environment in naturally ventilated and mixed mode buildings than in buildings with mechanical ventilation and air conditioning; this preference is mainly due to the fact that occupants have easy access, can regulate their indoor environment and are not entirely cut off from the outside environment. A higher ventilation rate implies curbing the concentration of CO2 which can negatively affect people going about their daily tasks, and, in general, reducing cases of illness: 25% to 67% less sick building syndrome symptoms, to the advantage of productivity by 3-18%.

Dedicated Control Panels and actuators, tested in fire conditions, operate windows, skylights and louvres to extract smoke.

- Smoke is the principal cause of death in a building on fire
- Emergency exits, escape routes must be free of smoke
- Firemen are able to enter, save lives and extinguish the fire
SMOKE VENTILATION

for the safety in the building in case of fire

Dedicated Control Panels, actuators tested in fire conditions able to operate windows, skylights and louvres for smoke extraction.

- Smoke is the first cause of death during a fire in a building
- Emergency exits, escape routes must be free of smoke
- Firemen can enter, save lives and extinguish fire

NATURAL VENTILATION

for healthy indoor environment

The widest choice of solutions for window remote control: manual, electric, pneumatic

- Improving indoor air quality
- Reducing CO2 level
- Reducing Air Conditioning

GREEN BUILDING

for energy saving, comfort and safety in building

By the Integration in Building Management Systems (BMS) the window automation allows:

- **Energy saving** automatic switch-off or reduced use of Air conditioning, heating, lights
- **Comfort in the building** Easy control of window automation through computer or other devices, Quiet operation, Wellbeing that becomes health, then productivity at job place or school

... Granting at the same time safety by smoke ventilation in case of emergency
Integrating window automation into Building Management Systems

**BMSline programmable and addressable chain actuators**

New generation of compact actuators with integrated programmable circuit board, providing two-way communication with computer system. All actuator functions are totally programmable and the actuators provide 100% real-time feedback on their status. Integrating window automation with the BMS Building Management System will enable interaction with other systems in building (HVAC, lighting...) granting considerable energy saving, improving comfort and wellbeing, becoming health and productivity. At the same time the building’s safety is assured by smoke ventilation in emergencies.

- Compatible with all existing building management systems
- Continual, totally controlled window with real-time feedback. Not just an ON/OFF operation (open/close)
- Addressable actuators in order to control the environment of each room in a building

**OPEN COMMUNICATION PROTOCOL**

- No need for external modules/control panels: the actuator has built-in intelligence
- Window controlled locally by a standard wall switch, even with a centralized Building Management System
- Smoke Ventilation Control Panels with back-up batteries can be directly and safely connected.

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Energy Saving & Wellbeing
Reduced installation & setup cost
Integration in existing BMS
100% safety condition
The BMSline smart features are available for the QUASAR, VEGA and NANO actuator series (Twin Quasar and Twin Vega included) with 24 Vdc voltage supply.

**Programmable parameters**
- Stroke
- Percentage of opening and closing action
- Speed, in opening and closing action
- Force, in opening and closing action
- Real close position of the window
- Closing position tolerance
- Soft stop length and speed

**Feedback**
- Full opening or closing
- Percentage of opening and position of the chain
- Current setting of parameters and scenarios
- Location in the building and address in the network
- Statistics
- Command state
- Eventual Failures

**Scenarios**
- Reduction of entrapment risk
- Speed synchronization for multiple actuators on the same window
- “Soft” closing of the window
- Quiet operation in case of ventilation and full speed and force for Smoke and Heat Extraction
- Local control of the window even with centralized management

BMSline programmable versions of following actuators are available on request:
- QUASAR L 24 Vdc (600 - 750 - 1000 mm)
- TWIN QUASAR 24 Vdc (500 mm)
- TWIN VEGA 24 Vdc (300 mm)
- E-LOCK, see page E-LOCK
- NANO, see page NANO
BMSLine programmable and addressable chain actuators - Accessories

BMSLine Setup Kit  Part No. 41587H
User friendly Configuration Software including cable for fast connection between PC (USB connector) and actuators
- Parameters, Scenarios, Setup, Network, Address Assignment
- Actuator Control and Closing Position Adjustment
- Information feedback and diagnostic
- Statistic
- Setup data recording

The UCS BMSLine Configuration Software works on any computer with Windows XP and following versions
On request, actuators can be configurated in the factory, according to the customer requirements

BMSLine Gateway
The BMSLine Gateway allows the translation of BMSLine communication BUS protocol (Modbus RTU) to other standard BUS languages (BACnet, KNX, Lonworks …).

The gateway behaves like a Modbus master towards the actuators, cyclically polling them and making the information accessible to the target technology (other languages). The process also works in the reverse direction: when the data points of the target technology are changed, the gateway will automatically update the corresponding Modbus registers of the actuators concerned.

The gateway provides a web-type interface that allow to perform configuration and diagnostic operations from any machine provided with network interface and a web browser.

The standards currently supported are:
- BACnet MS/TP - BACnet on RS-485 serial line
- BACnet/IP - BACnet on Ethernet/IP
- KNX TP1 - Konnex protocol on proprietary serial line
- KNXnet/IP - Konnex protocol on Ethernet/IP
- LON TP/FT-10 - CEA-709 standard protocol on TP/FT-10 type interface
- LON/IP - CEA-852 standard protocol on Ethernet/IP

UCS supplies the gateway already equipped with four possible configurations corresponding to 4 different product codes:

GATEWAY MODBUS RTU - LON (both LON TP/FT-10 and LON/IP) – Part No. 41648Q
GATEWAY MODBUS RTU – BACnet (both BACnet MS/TP and BACnet/IP) – Part No. 41649R
GATEWAY MODBUS RTU - KNXnet/IP – Part No. 41650S
GATEWAY MODBUS RTU - KNX TP1 – Part No. 41651T
(To be used with Interface module KNX TP1 - Part No. 41652U)

These devices allow interfacing up to 30 BMSLine actuators with Building Management Systems based on protocols other than Modbus RTU

GATEWAY MODBUS RTU – BACnet/IP – Part No. 41888V
This device allows interfacing up to 20 BMSLine actuators with Building Management systems based on BACnet/IP

K107A Modbus repeater for RS-485 transmission – Part No. 41624S
The K107A Modbus repeater for RS-485 transmission allows to:
- Extend the network maximum length
- Increase the actuator number on the same line (install one repeater for every group of 30 actuators)
- Create network branches

Moreover:
- The LED lights on the repeater supply a first diagnostic test regarding the network communication state.
- The repeater divides the network in two sections, protecting from communication disturbance, or voltage dispersion that may damage the network.

NOTE: it is always advisable to use a repeater between the master (PC, Server, Gateway etc.) and the remaining part of the network.
The MY-VENT system represents the most complete and user-friendly solution to provide a building with natural ventilation. By monitoring the changing indoor and outdoor conditions and exploiting the cool air outside, MY-VENT controls any increase in the degree of temperature or CO2 level indoors. With sudden changes in weather, showers or gusts of wind, the windows will automatically close to protect the building and interior from damage. In case of emergency all controls are ignored and windows are immediately opened, eventually through UCS Smoke Ventilation Control Panels with battery back-up.
BMSline MY-VENT
Natural Ventilation Management System

MY-VENT is made by:
- user friendly software
- simple hardware connected via WI-FI to computer, smartphones and tablets
- addressable sensors (internal temperature and humidity, CO2 level)
- addressable weather station (external temperature and humidity, wind and rain)
- BMSline window actuators

Windows easy to control from remote by computer, tablet or smartphone, also distant from the building
Working quietly in daily scenarios, at full speed in emergencies
Total, continual window control with real-time feedback. Not just an on/off operation (open/close)
Addressable system totally compatible with all existing building management systems
Air conditioning or heating automatically switched off if windows are opened
Safety always ensured

Working quietly in daily scenarios, at full speed in emergencies
Addressable system totally compatible with all existing building management systems
Safety always ensured

Smoke Ventilation
Existing BMS
Smoke Ventilation

Outdoor Sensors
Room n Sensors
Window Group n
Room 1 Sensors
Window Group 1

GREEN LINE 9
The windows can be organized into groups to customer requirements. DIFFERENT SCENARIOS can be selected for each single group for total automation or local and/or remote control. Input and outputs from and to other systems are managed for a complete integration in the building.

**Remote control**
For groups of windows in rooms, zones, etc.

**Daily comfort ventilation**
With continued monitored indoor and outdoor temperature and CO2 concentration, windows are controlled to provide first class living comfort and to save energy.

**Local control**
The actuator can be manually operated only by the local push button. Continual real-time feedback to MY-VENT.

**Night cooling**
To avoid or cut down on air conditioning during the day. With continually monitored indoor and outdoor temperatures, windows are partly opened at night to exploit the cool air from outside, reduce indoor temperature and limit the use of air conditioning.

**Micro ventilation**
To recycle air and regulate humidity. For a healthy environment, windows are opened a little for air to circulate and to regulate humidity indoors.

**Sun blade actuator control**
To reduce sun radiation and subsequently regulate light.

All scenarios can be SET ON A TIME AND DAILY BASIS, but the system can always be used for any temporary need.

Windows will be closed in bad weather conditions, ignoring all other commands. (Apart smoke ventilation).

Safety always ensured
The user friendly interface, based on web HTML5, allows the management of the Natural Ventilation, always providing a real feedback of the status of the windows and values from indoor sensors and weather station.

**BMSline MY-VENT Winserver part No. 41772K**

This Control unit offers a direct Wi-Fi access point for PCs, smartphones and tablets, or can be connected with the LAN installed in the building. BMSline actuators and sensors are connected by means of a special bus line (Modbus RTU). The web based (HTML5) user-interface is accessible in three different levels:

- Installer
- System Administrator
- End user

The Winserver interacts with existing Building Management Systems provided by third parts via Modbus TCP/IP.

Winserver is a DIN rail module, voltage supply 24 Vdc. Always install 41625S repeater between the Winserver and the Modbus line.

**Modbus sensors**

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<td>Modbus Indoor sensor (Temperature and Humidity)</td>
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<td>41815B</td>
<td>Modbus Indoor sensor (Temperature and CO2)</td>
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<td>41816C</td>
<td>Modbus Indoor sensor (Temperature, CO2 and Humidity)</td>
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NANO
Chain actuator - Force in push action 400 N - Maximum stroke 800 mm

MAIN FEATURES
- The highest performance (400 N) in the smallest case (24 x 35 mm)
- Very silent operation
- Chain in double stainless steel links.
- Aluminum extrusion
- Electronic stop in the intermediate positions in case of overload.

- The SYNCHRO NANO versions are equipped with an integrated speed synchronization control board for the installation of more than one actuator on the same vent, avoiding any external control panel (max 4 actuators).
- The quiet operation is ensured by the slow speed for natural ventilation; the maximum speed for smoke ventilation is activated by UCS C-SV Control Panels. SYNCHRO NANO versions provide also open/close feedback. Cable connection possible on both sides.
- The SYNCHRO NANO F-SIGNAL versions provide free potential opening and closing feedback signal (maintained contact), activated by the current limit.
- NANO DC is provided with 1.5 m cable without selectable features (synchronization, feedback signal and speed selection).
- The quiet operation is ensured by the slow speed (4 mm/s) for natural ventilation.
- Available on request NANO DC actuators with maximum speed for smoke ventilation systems.
- Suitable for combined installation with the additional locking device E-LOCK (see related data sheet).

OTHER VERSIONS UPON REQUEST:
- NANO versions with IP42 protection class, for a higher resistance against atmospheric agents.

INSTALLATION REMARKS
- In case of vents with four-bar hinges, please contact our Technical Dept.
- If installed on PVC windows, the profile has to be reinforced.
- In case of Building Management System control, avoid repetitive commands in the same direction.

For further information contact our Tech. Dept.

Suitable for installation on Smoke and Heat Exhaust Ventilators (SHEV) in conformity to European Standard EN 12101-2 (pending test).

The BMSline version is fully programmable (stroke, speed, force, ...); different scenarios are selectable with a connection to a computer through dedicated software. See BMSline section.
NOTE: brackets, electrical connector and cable not included - to be ordered separately
Front bracket kit:
GREY part no. 41935Q
BLACK part no. 41936R
WHITE part no. 41937S

Back bracket kit:
GREY part no. 41932N
BLACK part no. 41933O
WHITE part no. 41934P

Side bracket kit:
GREY part no. 41938T
BLACK part no. 41939U
WHITE part no. 41940V

Aluminum bracket for bottom hinged windows:
GREY part no. 41941W
BLACK part no. 41942X
WHITE part no. 41943Y

Accessories - Electrical connectors and cables

42016T Electrical Connector with 1,5 m cable (white) for SYNCHRO NANO DC
42017U Electrical Connector with 1,5 m cable (black) for SYNCHRO NANO DC
42020X Electrical Connector with 1,5 m cable (white) for SYNCHRO NANO DC F-SIGNAL

42021Y Electrical Connector (without cable) for SYNCHRO NANO DC and SYNCHRO NANO DC F-SIGNAL
42018V Cable with 2 connectors (1m, white) for installations of 2 x SYNCHRO NANO DC actuators.
42019W Cable with 2 connectors (1m, black) for installations of 2 x SYNCHRO NANO DC actuators.
The instructions for a safe installation are included in the section “SECURITY WARNINGS”

**SPECIFICATION PROSPECTS**

QUASAR

Chain actuator - Force in push action 300 N - Maximum stroke 500 mm

• High performance in small die-cast aluminum casing (47 x 32 mm), powder painted.
• Chain in double stainless steel links.
• Chain exit in central position.
• Quick and easy installation: the manual closing position regulation is not required. The stop in closing position is regulated by an electronic limit switch control.
• Electronic stop in the intermediate positions in case of overload.

QUASAR Chain actuator - Force in push action 300 N - Maximum stroke 500 mm

 MAIN FEATURES

• SYNCHRO versions are equipped with an integrated speed synchronization control board for the installation of more than one actuator on the same vent, avoiding any external control panel.
  AC version: 1 Synchro Quasar AC + 1 Synchro Quasar DC (max 2 couples), DC version: max 4 Synchro Quasar DC.
• F-SIGNAL versions provide opening and closing feedback signal (free potential, maintained contact), activated by the current limit.
• Suitable for combined installation with the additional locking device E-LOCK or PLUSULTRA (see related data sheet).
• DRAWBRIDGE version is suitable for installation on bottom hinged windows, opening outwards 90°, for Smoke Ventilation.

 OTHER VERSIONS UPON REQUEST:

• QUASAR DC version with IP42 protection class, for a higher resistance against atmospheric agents.

 INSTALLATION REMARKS

• The installation without brackets is possible for windows with pivoting hinges only if the vent height is at least 1500 mm.
• In case of vents with four-bar hinges, please contact our Technical Dept.
• If installed on PVC windows, the profile has to be reinforced.
• In case of Building Management System control, avoid repetitive commands in the same direction.

For further information contact our Tech. Dept.

24 Vdc version is suitable for installation on Smoke and Heat Exhaust Ventilators (SHEV) in conformity to European Standard EN 12101-2, tested by Istituto Giordano.

The Quasar BMSline version is fully programmable (stroke, speed, force, ...); different scenarios are selectable with a connection to a computer through dedicated software. See BMSline section.
### TECHNICAL DATA

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<th>DC VERSION</th>
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<tr>
<td><strong>VOLTAGE SUPPLY</strong></td>
<td>100 Vac - 240 Vac</td>
<td>24 Vdc ± 10%</td>
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<tr>
<td><strong>CURRENT ABSORPTION (max load)</strong></td>
<td>0.4 A - 0.2 A</td>
<td>0.9 A</td>
</tr>
<tr>
<td><strong>OPERATION</strong></td>
<td>-</td>
<td>polarity inversion</td>
</tr>
<tr>
<td><strong>MAX FORCE</strong></td>
<td>300 N</td>
<td>300 N</td>
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<tr>
<td><strong>SPEED</strong></td>
<td>~15 mm/s</td>
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<td><strong>LOCKING FORCE</strong></td>
<td>2500 N</td>
<td>2500 N</td>
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<td><strong>DUTY CYCLE</strong></td>
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<td><strong>LIMIT STOP</strong></td>
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### Part No. for AC VERSIONS (100 Vac - 240 Vac)

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<th>CABLE</th>
<th>COLOUR</th>
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<tr>
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### Part No. for DC VERSIONS (24 Vdc ±10%)

<table>
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<tr>
<th>MODEL</th>
<th>STROKE</th>
<th>SYNCHRO</th>
<th>FEEDBACK</th>
<th>CABLE</th>
<th>COLOUR</th>
<th>PART No.</th>
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<td>WHITE RAL 9010</td>
<td>41930L</td>
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**NOTE**: brackets not included - to be ordered separately
SYNCHRO QUASAR DC DRAWBRIDGE
Installation on bottom hinged window, opening outwards 90°:
The actuators are equipped with a special guide for the chain.
Contact our Technical Department for the installation limits (size and weight of window) and brackets for actuator installation (depending on type of profile).

Actuator dimensions

Accessories

Long bracket kit
GREY RAL 9006 part no. 40941H
BLACK RAL 9005 part no. 40942I
WHITE RAL 9010 part no. 40943J

Short slim bracket kit
GREY RAL 9006 part no. 41901I
BLACK RAL 9005 part no. 41902J
WHITE RAL 9010 part no. 41903K

Die-cast bracket kit
GREY RAL 9006 part no. 40843F
BLACK RAL 9005 part no. 40844G
WHITE RAL 9010 part no. 40845H

Long slim bracket kit
GREY RAL 9006 part no. 41898F
BLACK RAL 9005 part no. 41899G
WHITE RAL 9010 part no. 41900H

Flat connector (alternative)
GREY part no. 84793Z

Aluminum adjustable “Z” bracket
for bottom hinged windows
GREY part no. 41710A
BLACK part no. 41710B
WHITE part no. 41711B

Connector included
SPECIFICATION PROSPECTS

Electric chain actuator Ultraflex Control Systems named Quasar with chain in double stainless steel links.
Voltage supply: from 100 to 240 Vac or 24 Vdc – Electronic limit stop; electronic stop in the intermediate positions in case of overload. Casing in painted die-cast aluminium with very small section (47x32 mm).

Electric chain actuator Ultraflex Control Systems named Synchro-Quasar with chain in double stainless steel links. Suitable for mounting more than one actuators (max 4 actuators) on the same vent: integrated speed synchronization
Voltage supply: from 100 to 240 Vac or 24 Vdc – Electronic limit stop; speed control; electronic stop in the intermediate positions in case of overload. Casing in painted die-cast aluminium with very small section (47x32 mm).
When “free potential open/close feedback” is required, indicate suffix “F-SIGNAL”

⚠️ The instructions for a safe installation are included in the section “SECURITY WARNINGS”
QUASAR L
Chain actuator - Force in push action 300-150-100 N - Stroke 600-750-1000 mm

MAIN FEATURES
• Available 3 different strokes: 600 mm - 750 mm - 1000 mm.
• Chain in double stainless steel links.
• Anodized (silver) or painted (white or black) aluminum casing.
• Quick and easy installation: the manual closing position regulation is not required. The stop in closing position is regulated by an electronic limit switch control.
• Electronic stop in the intermediate positions in case of overload.
• Easy replacement of the cable in case a different / longer cable or a different colour is required; upon request it is possible to supply actuators with cable exit by the opposite side.
• Supplied with 3 m cable and pivoting brackets for top hinged windows.

• SYNCHRO versions are equipped with an integrated speed synchronization control board for the installation of more than one actuator on the same vent, avoiding any external control panel.
  AC version: 1 Synchro Quasar L AC + 1 Synchro Quasar L DC (max 2 couples), DC version: max 4 Synchro Quasar L DC.
• F-SIGNAL versions provide opening and closing feedback signal (free potential, maintained contact), activated by the current limit.
• Suitable for combined installation with the additional locking device E-LOCK or PLUSULTRA (see related data sheet).

OTHER VERSIONS UPON REQUEST:
• QUASAR L DC version with IP42 protection class, for a higher resistance against atmospheric agents.
• UL, C-UL Versions for USA and Canada.

INSTALLATION REMARKS
• In case of vents with four-bar hinges, please contact our Technical Dept.
• If installed on PVC windows, the profile has to be reinforced.
• In case of Building Management System control, avoid repetitive commands in the same direction.
For further information contact our Tech. Dept.

24 Vdc version is suitable for installation on Smoke and Heat Exhaust Ventilators (SHEV) in conformity to European Standard EN 12101-2, tested by Istituto Giordano.

The Quasar BMSline version is fully programmable (stroke, speed, force, ...); different scenarios are selectable with a connection to a computer through dedicated software. See BMSline section.
# TECHNICAL DATA

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<thead>
<tr>
<th></th>
<th>AC VERSION</th>
<th>DC VERSION</th>
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<td><strong>VOLTAGE SUPPLY</strong></td>
<td>100 Vac - 240 Vac</td>
<td>24 Vdc ± 10%</td>
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<tr>
<td><strong>CURRENT ABSORPTION</strong></td>
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<td>0.9 A</td>
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<tr>
<td><strong>OPERATION</strong></td>
<td>polarity inversion</td>
<td></td>
</tr>
<tr>
<td><strong>FORCE IN PULL ACTION</strong></td>
<td>300 N</td>
<td>300 N</td>
</tr>
<tr>
<td><strong>FORCE IN PUSH ACTION</strong></td>
<td>300 N (600 mm)</td>
<td>300 N (600 mm)</td>
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<tr>
<td></td>
<td>150 N (750 mm)</td>
<td>150 N (750 mm)</td>
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<tr>
<td></td>
<td>100 N (1000 mm)</td>
<td>100 N (1000 mm)</td>
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<tr>
<td><strong>SPEED</strong></td>
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<td>~15 mm/s</td>
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<td>Yes</td>
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<tr>
<td><strong>LIMIT STOP</strong></td>
<td>Electronic</td>
<td>Electronic</td>
</tr>
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## Part No. for AC VERSIONS (100 Vac - 240 Vac)

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<th>COLOUR</th>
<th>PART No. (Stroke)</th>
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<td>-</td>
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<td></td>
<td>600 mm 750 mm 1000 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 wires + earth</td>
<td>SILVER ANODIZED</td>
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</tr>
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<td></td>
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<td>600 mm 750 mm 1000 mm</td>
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<tr>
<td></td>
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<td>3 wires + earth</td>
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## Part No. for DC VERSIONS (24 Vdc ±10%)

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<th>CABLE</th>
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<th>PART No. (Stroke)</th>
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<td>600 mm 750 mm 1000 mm</td>
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<td>3 m</td>
<td></td>
<td>600 mm 750 mm 1000 mm</td>
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<tr>
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<td>open/close</td>
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**NOTE**: brackets not included - to be ordered separately
Accessories

**“C” pivoting brackets (to be ordered separately):**
- GREY anodized aluminium: part No. 41197Z
- BLACK RAL 9005: part No. 41198A
- WHITE RAL 9010: part No. 41199B

**Aluminium adjustable “Z” bracket for bottom hinged window**
- GREY: part No. 41709Z
- BLACK: part No. 41710A
- WHITE: part No. 41711B

**Pivoting brackets (to be ordered separately)**
- GREY: part No. 41906N
- BLACK: part No. 41907A
- WHITE: part No. 41908P

**Kit for bottom hinged window with “C” pivoting brackets and aluminium adjustable “Z” bracket (to be ordered separately):**
- GREY anodized aluminium: part No. 41715F
- BLACK RAL 9005: part No. 41716G
- WHITE RAL 9010: part No. 41717H

**Actuator dimensions**

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<th>STROKE</th>
<th>A</th>
<th>L</th>
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<tbody>
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**Synchro Quasar L installation examples**

Connector included
The instructions for a safe installation are included in the section “SECURITY WARNINGS”

SPECIFICATION PROSPECTS

Electric chain actuator Ultraflex Control Systems named Quasar L with chain in double stainless steel links.
Voltage supply: from 100 to 240 Vac or 24 Vdc – Electronic limit stop; electronic stop in the intermediate positions in case of overload.
Casing in aluminium: Anodized (silver) or painted (white or black).

Electric chain actuator Ultraflex Control Systems named Synchro-Quasar L with chain in double stainless steel links. Suitable for mounting more than one actuator (max 4 actuators) on the same vent.
Voltage supply: from 100 to 240 Vac or 24 Vdc – Electronic limit stop; speed control; electronic stop in the intermediate positions in case of overload. Casing in aluminium: Anodized (silver) or painted (white or black).
VEGA
Chain actuator - Force in push action 300 N - Maximum stroke 300 mm

MAIN FEATURES
- High performance in small die-cast aluminum casing (45 x 32 mm), powder painted.
- Chain in double stainless steel links.
- Chain exit in central position.
- Quick and easy installation: the manual closing position regulation is not required. The stop in closing position is regulated by an electronic limit switch control.
- Electronic stop in the intermediate positions in case of overload.

- RF version has an integrated radio receiver and it is supplied with radio remote control; the transmitter controls simultaneously all actuators within its field of action. Available on request actuators and remote controls with different radio codes.
- SYNCHRO versions are equipped with an integrated speed synchronization control board for the installation of more than one actuator on the same vent, avoiding any external control panel: max 4 Synchro Vega DC.
- F-SIGNAL versions provide opening and closing feedback signal (free potential, maintained contact), activated by the current limit.
- Suitable for combined installation with the additional locking device E-LOCK or PLUSULTRA (see related data sheet).

OTHER VERSIONS UPON REQUEST:
- VEGA DC version with IP32 protection class, for a higher resistance against atmospheric agents.
- ULc USc and CULc Versions for USA and Canada.

INSTALLATION REMARKS
- The installation without brackets is possible for windows with pivoting hinges only if the vent height is at least 900 mm.
- In case of vents with four-bar hinges, please contact our Technical Dept.
- If installed on PVC windows, the profile has to be reinforced.
- In case of Building Management System control, avoid repetitive commands in the same direction.

For further information contact our Tech. Dept.

24 Vdc version is suitable for installation on Smoke and Heat Exhaust Ventilators (SHEV) in conformity to European Standard EN 12101-2, tested by Istituto Giordano.

The Vega BMSline version is fully programmable (stroke, speed, force, ...): different scenarios are selectable with a connection to a computer through dedicated software. See BMSline section.
### TECHNICAL DATA

<table>
<thead>
<tr>
<th></th>
<th>AC VERSION</th>
<th>DC VERSION</th>
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<tbody>
<tr>
<td>VOLTAGE SUPPLY</td>
<td>100 Vac - 240 Vac</td>
<td>24 Vdc ± 10%</td>
</tr>
<tr>
<td>CURRENT ABSORPTION</td>
<td>0,3 A - 0,15 A</td>
<td>0,7 A</td>
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<td>OPERATION</td>
<td>polarity inversion</td>
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<td>300 N</td>
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<td>LIMIT STOP</td>
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<td>Electronic</td>
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### Part No. for AC VERSIONS (100 Vac - 240 Vac)

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<th>FEEDBACK</th>
<th>CABLE</th>
<th>COLOUR</th>
<th>PART No.</th>
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<tr>
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<td>VEGA RF</td>
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### Part No. for DC VERSIONS (24 Vdc ±10%)

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<th>CABLE</th>
<th>COLOUR</th>
<th>PART No.</th>
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<tr>
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<td>VEGA DC F-SIGNAL</td>
<td>-</td>
<td>open/close</td>
<td>1,5 m</td>
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</table>

**NOTE:** brackets not included - to be ordered separately
Radio control supplied with VEGA RF and VEGA RF-RAIN ACTUATOR part No. 40956W

For a more detailed wiring layout see the manual of instructions

Accessories

Long slim bracket kit
GREY RAL 9006 part no. 41898F
BLACK RAL 9005 part no. 41899G
WHITE RAL 9010 part no. 41900H

Short slim bracket kit
GREY RAL 9006 part no. 41901I
BLACK RAL 9005 part no. 41902J
WHITE RAL 9010 part no. 41903K

Die-cast bracket kit
GREY RAL 9006 part no. 40843F
BLACK RAL 9005 part no. 40844G
WHITE RAL 9010 part no. 40845H

Long bracket kit
GREY RAL 9006 part no. 40941H
BLACK RAL 9005 part no. 40942I
WHITE RAL 9010 part no. 40943J

Aluminum adjustable “Z” bracket for bottom hinged windows
GREY part no. 41710A
BLACK part no. 41711A
WHITE part no. 41711B

Flat connector (alternative)
GREY part no. 84793Z
The instructions for a safe installation are included in the section “SECURITY WARNINGS”

**SPECIFICATION PROSPECTS**

Electric chain actuator Ultraflex Control Systems named Vega with chain in double stainless steel links.
Voltage supply: from 100 to 240 Vac or 24 Vdc – Electronic limit stop; electronic stop in the intermediate positions in case of overload. Casing in painted die-cast aluminium with very small section (45x32 mm).

Electric chain actuator Ultraflex Control Systems named Synchro-Vega with chain in double stainless steel links. Suitable for mounting more than one actuators (max 4 actuators) on the same vent.
Voltage supply: 24 Vdc – Electronic limit stop; speed control; electronic stop in the intermediate positions in case of overload. Casing in painted die-cast aluminium with very small section (45x32 mm).
It is conform to 2004/108/CE directive.
When “free potential open/close feedback” is required, indicate suffix “F-SIGNAL”
MAIN FEATURES
• The strongest chain actuator: 600 N
• Chains in double stainless steel links.
• Equipped with an integrated speed synchronization control board.
• Quick and easy installation: the manual closing position regulation is not required. The stop in closing position is regulated by an electronic limit switch control.
• Electronic stop in the intermediate positions in case of overload.

• **F-SIGNAL** versions provide opening and closing feedback signal (free potential, maintained contact), activated by the current limit.
• Suitable for combined installation with the additional locking device **E-LOCK** (see related data sheet).

INSTALLATION REMARKS
• In case of vents with four-bar hinges, please contact our Technical Dept.
• If installed on PVC windows, the profile has to be reinforced.
• In case of Building Management System control, avoid repetitive commands in the same direction.

For further information contact our Tech. Dept.

24 Vdc version is suitable for installation on Smoke and Heat Exhaust Ventilators (SHEV) in conformity to European Standard EN 12101-2, tested by Istituto Giordano.

The BMSline versions are fully programmable (stroke, speed, force, ...): different scenarios are selectable with a connection to a computer through dedicated software. See BMSline section.
## TECHNICAL DATA

<table>
<thead>
<tr>
<th></th>
<th>TWIN QUASAR AC VERSION</th>
<th>TWIN QUASAR DC VERSION</th>
<th>TWIN VEGA DC VERSION</th>
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<td><strong>VOLTAGE SUPPLY</strong></td>
<td>100 Vac - 240 Vac</td>
<td>24 Vdc ± 10%</td>
<td>24 Vdc ± 10%</td>
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<td><strong>CURRENT ABSORPTION</strong> (max load)</td>
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<td>1.4 A</td>
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<td><strong>OPERATION</strong></td>
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<td>polarity inversion</td>
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<td><strong>MAX FORCE</strong></td>
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<td>600 N</td>
<td>600 N</td>
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<td><strong>SPEED</strong></td>
<td>~15 mm/s</td>
<td>~15 mm/s</td>
<td>~9 mm/s</td>
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<td><strong>LOCKING FORCE</strong></td>
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<td><strong>DUTY CYCLE</strong></td>
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<td><strong>LIMIT STOP</strong></td>
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### Part No. for AC VERSIONS (100 Vac - 240 Vac)

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<th>FEEDBACK</th>
<th>CABLE</th>
<th>COLOUR</th>
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</thead>
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<td>3 m</td>
<td>SILVER ANODIZED</td>
<td>409989D</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>3 wires + earth</td>
<td>BLACK RAL 9005</td>
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<th>CABLE</th>
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<th>PART No.</th>
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<td>WHITE RAL 9010</td>
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<td>free potential open/close</td>
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<td></td>
<td></td>
<td>5 wires</td>
<td>BLACK RAL 9005</td>
<td>41311D</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>WHITE RAL 9010</td>
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<tr>
<td>TWIN VEGA DC</td>
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<td>3 m</td>
<td>SILVER ANODIZED</td>
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<td></td>
<td></td>
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<td>free potential open/close</td>
<td>3 m</td>
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<td></td>
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<td>5 wires</td>
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<td></td>
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<td>WHITE RAL 9010</td>
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</table>

**NOTE:** brackets not included - to be ordered separately
TWIN QUASAR AND TWIN VEGA

Twin Quasar dimensions

Twin Vega dimensions

Accessories

Pivoting brackets (to be ordered separately)
- GREY: part No. 41908N
- BLACK: part No. 41907O
- WHITE: part No. 41908P

Brackets kit for bottom hinged windows:
- GREY anodized aluminium: part No. 41712C
- BLACK RAL 9005: part No. 41713D
- WHITE RAL 9010: part No. 41714E
The instructions for a safe installation are included in the section “SECURITY WARNINGS”

**SPECIFICATION PROSPECT**

Electric chain actuator Ultraflex Control Systems named Twin Quasar with two chains in double stainless steel links and electronic circuit for the two internal motors control. Force 600 N. Stroke 500 mm. Voltage supply 100-240 Vac or 24 Vdc. Electronic limit stop and electronic stop in the intermediate positions in case of overload. Parallel connection. Aluminium casing anodized or painted.

MAIN FEATURES

- Double link chain for a better load resistance in case of top hinged windows, heavy windows or roof windows.
- Glass strengthened nylon casing.
- Double electric insulation actuator (no electric connection to earth is needed).
- The special removable plug allows a very quick and easy connection. It is ideal for the final test of the actuators on the building site.
- Provided with closing feedback signal.

- **STILE** with selectable stroke 230/400 mm
- **STILE R** with a maximum stroke of 400 mm, adjustable from 0 to 300 mm, by positioning a magnet on the chain during installation.
- **STILE RF** with a selectable stroke 230/400 mm and integrated Radio Receiver. Radio Transmitter to be ordered separately.

INSTALLATION REMARKS

- Exclusive system for a quick and safe installation.
- Quick release system for an easy window cleaning.
- Supplied with pivoting brackets and spacer for chain connector to be used on windows with a high overlap.
- In case of vents with four-bar hinges, please contact our Technical Dept.
- For installation of two **STILE** on the same vent it is available the Coupling Control Unit CP230, part No. 41089V. (See CONTROL ACCESSORIES section)
<table>
<thead>
<tr>
<th></th>
<th>STILE</th>
<th>STILE R</th>
<th>STILE RF</th>
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<tbody>
<tr>
<td><strong>VOLTAGE SUPPLY</strong></td>
<td>230 Vac 50/80 Hz</td>
<td>230 Vac 50/80 Hz</td>
<td>230 Vac 50/80 Hz</td>
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<td><strong>ELECTRIC CONNECTION</strong></td>
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<tr>
<td><strong>MAXIMUM STROKE</strong></td>
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<td>400 mm: adjustable from 0 to 300 mm</td>
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<td><strong>FORCE</strong></td>
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<td>300 N (***)</td>
<td>300 N (***)</td>
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<td><strong>SPEED</strong></td>
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<td>~30 mm/s</td>
<td>~30 mm/s</td>
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<tr>
<td><strong>CURRENT ABSORPTION (max load)</strong></td>
<td>0,8 A</td>
<td>0,8 A</td>
<td>0,8 A</td>
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<tr>
<td><strong>PARALLEL CONNECTION</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>LIMIT STOP</strong></td>
<td>Micro switches</td>
<td>Micro switches/Hall sensor</td>
<td>Micro switches</td>
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<tr>
<td><strong>PROTECTION</strong></td>
<td>Thermic</td>
<td>Thermic</td>
<td>Thermic</td>
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<td><strong>FEEDBACK SIGNAL</strong></td>
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<td>Close</td>
<td>Close</td>
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<td><strong>PROTECTION CLASS</strong></td>
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<td>IP20</td>
<td>IP20</td>
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<tr>
<td><strong>RADIO RECEIVER (integrated)</strong></td>
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<td>No</td>
<td>Yes</td>
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<td><strong>PART No.</strong></td>
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<td>GRAY</td>
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<td>41558E</td>
<td>41730U</td>
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<td>41731V</td>
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<td>WHITE</td>
<td>41556C</td>
<td>41560G</td>
<td>41732W</td>
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</table>

(*) Double electric insulation actuator: no electric connection to earth is needed.
(**) In case of push action and full stroke, maximum force is intended for short period only
**Accessories**

- **Pivoting brackets (included)**
- **11 mm chain connector spacer (included)**
- **Electrical connector included (no cable)**

**Bottom hinged window plastic bracket (to be ordered separately)**

- **GREY**: Part No. 41582C
- **BLACK**: Part No. 41583D
- **WHITE**: Part No. 41584E

**Chain connector for concealed vent (to be ordered separately)**

- **GREY**: Part No. 41590K
- **BLACK**: Part No. 41591L
- **WHITE**: Part No. 41592M

**Radio Transmitter**

- **part No. 41729T**
- Compatible with Stile-RF and Radio Receiver 230 Vac and 24 Vdc.
- 6 CH (open-stop-close) can operate up to 6 CH simultaneously and/or independently.

**Actuator dimensions**

- **Connector included**
Installation examples

The instructions for a safe installation are included in the section "SECURITY WARNINGS".

SPECIFICATION PROSPECT

Class 2 electric insulation chain actuator Ultraflex Control Systems named Stile with double link chain in two versions: selectable stroke 230/400 mm or adjustable stroke from 0 to 300 mm. Voltage supply: 230 Vac. Parallel connection. Limit stop by micro switches and thermal protection. Plastic scratch resistant finish.
SINTESI
Chain actuator - Force in pull action 300 N - Stroke 250-380 mm

MAIN FEATURES
• Possibility of selecting two different strokes: 250 mm or 380 mm.
• Three dovetail slides for an easy installation; the sliding fixing bracket is included in the package.
• SINTESI 2000: exclusive system for electrical connection. The special removable plug allows a very quick and easy connection. It is ideal for the final test of the actuators on the building site.

INSTALLATION REMARKS
• For installation on top hinged windows select the 250 mm stroke in order to better resist to the wind load.
• In case of vents with four-bar hinges, please contact our Technical Dept.
• Minimum window height: 500 mm with 250 mm stroke, 800 mm with 380 mm stroke. In case of lower windows install the pivoting bracket part No. 40560T.
• A longer eyelet is available on request in case of wooden or PVC windows.
• For installation of two SINTESI 2000 on the same vent it is available Coupling Control Unit CP230, part No. 41089V. (See CONTROL ACCESSORIES section)

24 Vdc version is suitable for installation on Smoke and Heat Exhaust Ventilators (SHEV) in conformity to European Standard EN 12101-2, tested by Istituto Giordano.

<table>
<thead>
<tr>
<th>SINTESI 2000</th>
<th>SINTESI 24 V DC</th>
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</thead>
<tbody>
<tr>
<td>VOLTAGE SUPPLY</td>
<td>230 Vac ± 10%</td>
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<tr>
<td>ELECTRIC CONNECTION</td>
<td>3 wires + earth</td>
</tr>
<tr>
<td>OPERATION</td>
<td>-</td>
</tr>
<tr>
<td>STROKE</td>
<td>selectable 250 mm/380 mm</td>
</tr>
<tr>
<td>FORCE (in push action)</td>
<td>180 N (stroke 250 mm)</td>
</tr>
<tr>
<td>FORCE (in pull action)</td>
<td>90 N (stroke 380 mm)</td>
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<td>SPEED</td>
<td>~40 mm/s</td>
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<td>ABSORPTION (with max load)</td>
<td>0.65 A</td>
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<td>PARALLEL CONNECTION</td>
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</tr>
<tr>
<td>LIMIT STOP</td>
<td>Micro switches</td>
</tr>
<tr>
<td>SAFETY STOP</td>
<td>Thermic</td>
</tr>
<tr>
<td>FEEDBACK SIGNAL</td>
<td>Close</td>
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<tr>
<td>PROTECTION CLASS</td>
<td>IP20</td>
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<tr>
<td>PART No.</td>
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</tr>
<tr>
<td>SILVER ANODIZED</td>
<td>40314D</td>
</tr>
<tr>
<td>DARK BROWN ANODIZED</td>
<td>40316F</td>
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<tr>
<td>WHITE PAINTED RAL 9010</td>
<td>40317G</td>
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</table>
**SPECIFICATION PROSPECTS**

Electric chain actuator Ultraflex Control Systems named Sintesi with selectable stroke 250 mm or 380 mm. Voltage supply 230 Vac or 24 Vdc. Removable plug for electrical connection (230 Vac version). Parallel connection. Limit stop by micro switches, thermal protection in case of overload (230 Vac version) or electronic safety stop (24 Vdc version). Casing in silver anodized, dark brown anodized, white painted RAL 9010. The 230 Vac version and the 24 Vdc version are conform to 2004/108/CE directive, the 230 Vac version is conform also to 2006/95/CE.

**Accessories**

| Sliding plastic fixing bracket (included) | Bottom hinged window plastic bracket part No. 36665E | Long sliding aluminum bracket part No. 37021U for heavy windows and smoke and heat extraction installation |
The instructions for a safe installation are included in the section “SECURITY WARNINGS”

**Accessories**

- Bottom hinged window bracket part No. 40157I for smoke extraction installation and heavy windows
- Adjustable aluminium bracket for bottom hinged window part No. 37493H
- Aluminium dovetail pivoting bracket part No. 40560T
- Chain tie-rod for special installation (for example wood or PVC window frame) part No. 81222C

**Installation examples**

- On the frame with the sliding fixing bracket included
- On the frame with the sliding fixing brackets included and the bottom hinged window bracket part No. 36665E
- On the frame with the bottom hinged window brackets part No. 36665E and pivoting brackets part No. 40560T
- With sliding fixing bracket included
MAIN FEATURES
- The longest stroke (800 mm) and the highest force (400 N): it solves the problems to operate very heavy vents and the necessity of wide opening without taking up space inside the room (800 mm only for bottom hinged windows).
- Double link chain.
- Red led light placed on the actuator to signal the close position.

INSTALLATION REMARKS
- Minimum window height: 900 mm for 450 mm stroke, 1200 mm for 600 mm stroke, 1600 mm for 800 mm stroke.
- For windows without windowsill a fixing bracket (sliding within the dovetail slide) is available for an easy installation.
- In case of vents with four-bar hinges, please contact our Technical Dept.
- Supplied with 2 m cable (450-600 mm), 3 m cable (800 mm).
- For installation of two SUPERMASTER AC on the same vent it is available the Coupling Control unit CP230, part No. 41089V. (See CONTROL ACCESSORIES section)

24 Vdc version is suitable for installation on Smoke and Heat Exhaust Ventilators (SHEV) in conformity to European Standard EN 12101-2, tested by Istituto Giordano.
### SUPERMASTER 230 V AC

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<tbody>
<tr>
<td>VOLTAGE SUPPLY</td>
<td>230 Vac ± 10%</td>
</tr>
<tr>
<td>ELECTRIC CONNECTION</td>
<td>3 wires + earth</td>
</tr>
<tr>
<td>OPERATION</td>
<td>-</td>
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<tr>
<td>FORCE (in push action)</td>
<td>400 N (300 N for 800 mm stroke)</td>
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<td>FORCE (in pull action)</td>
<td>400 N</td>
</tr>
<tr>
<td>SPEED</td>
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</tr>
<tr>
<td>CURRENT ABSORPTION</td>
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<td>PARALLEL CONNECTION</td>
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</tr>
<tr>
<td>LIMIT STOP</td>
<td>Micro switches</td>
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<tr>
<td>SAFETY STOP</td>
<td>Thermic</td>
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<tr>
<td>FEEDBACK SIGNAL</td>
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### SUPERMASTER 24 V DC

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<td>24 Vdc ± 10%</td>
</tr>
<tr>
<td>ELECTRIC CONNECTION</td>
<td>2 wires + signaling</td>
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<tr>
<td>OPERATION</td>
<td>by polarity inversion</td>
</tr>
<tr>
<td>FORCE (in push action)</td>
<td>400 N (300 N for 800 mm stroke)</td>
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</tr>
<tr>
<td>LIMIT STOP</td>
<td>Micro switches</td>
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<tr>
<td>SAFETY STOP</td>
<td>Electronic</td>
</tr>
<tr>
<td>FEEDBACK SIGNAL</td>
<td>Open/Close</td>
</tr>
<tr>
<td>PROTECTION CLASS</td>
<td>IP20</td>
</tr>
<tr>
<td>PART No.</td>
<td>40465Z 40464X 40753T 40509T 40467D 40470S</td>
</tr>
</tbody>
</table>

### Stroke/force diagram

---

**Diagram:**

- **Pull force**
- **Push force**

---

### Part Numbers

<table>
<thead>
<tr>
<th>STROKE</th>
<th>450 mm</th>
<th>600 mm</th>
<th>800 mm</th>
<th>450 mm</th>
<th>600 mm</th>
<th>800 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILVER ANODIZED</td>
<td>40462T</td>
<td>40452P</td>
<td>40518U</td>
<td>40506L</td>
<td>40461R</td>
<td>40469H</td>
</tr>
<tr>
<td>DARK BROWN ANODIZED</td>
<td>40465Z</td>
<td>40464X</td>
<td>40753T</td>
<td>40509T</td>
<td>40467D</td>
<td>40470S</td>
</tr>
<tr>
<td>WHITE PAINTED RAL 9010</td>
<td>40466B</td>
<td>40454U</td>
<td>40774O</td>
<td>40507N</td>
<td>40468F</td>
<td>40471U</td>
</tr>
</tbody>
</table>
SUPERMASTER

SPECIFICATION PROSPECTS
Electric chain actuator Ultraflex Control Systems named Supermaster with double link chain. Force 400 N.
Strokes: 450-600-800 mm. Voltage supply 230 Vac or 24 Vdc. Limit stop by micro switches and thermal protection (230 Vac version) or electronic safety stop (24 Vdc version).
Parallel connection. Casing in silver anodized or painted aluminium.
The 230 Vac version and the 24 Vdc version are conform to 2004/108/CE directive, the 230 Vac version is also conform to 2006/95/CE.

Accessories

Sliding aluminium bracket with shim part No. 40460N
Pivoting brackets kit part No. 40560T
Installation examples

Accessories

Sliding aluminium steel bracket with shim and bottom hinged painted steel bracket part No. 40472W

⚠️ The instructions for a safe installation are included in the section “SECURITY WARNINGS”
ADDITIONAL LOCKING DEVICES

for automated windows with multiple locking points

In accordance with the standards related to energy saving, water- and airtightness of the windows has become even more important, requiring hardware systems with multiple locking points.

In case of window automation it is necessary to complement the chain actuator with a further actuator, able to operate in a transversal way the window hardware, in order to engage multiple locking points on the frame.

UCS provides two solutions for this purpose: E-LOCK and Plusultra

**E-LOCK**

electric actuator to be installed inside the frame of the window

E-LOCK is a linear drive designed to lock the window hardware and ensure, in combination with a chain actuator, the best window closing tightness.

E-LOCK can be integrated into the window profile or on the profile, connected to the window hardware through a slot (please, contact our Technical Department). It has been designed to be used in combination with electric chain actuators series QUASAR, VEGA and NANO 24 Vdc.

- Stainless steel case.
- The locking plate can be mounted on both side of the drive.
- Provided with an emergency unlocking mechanism.
- Different strokes and directions can be selected by internal switches.
- Available a version to be used with BMSline actuators for the direct connection to a Building Management System network.
- Available on request E-LOCK F-SIGNAL version that provides lock/unlock feedback signal
- It is possible to install two E-LOCK drives (in F-SIGNAL version) on one window: contact our Technical Department for the special configuration

Suitable for installation on **Smoke and Heat Exhaust Ventilators (SHEV)** in conformity to European Standard **EN 12101-2**, tested by Istituto Giordano.

<table>
<thead>
<tr>
<th></th>
<th>E-LOCK</th>
<th>E-LOCK BMS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>POWER SUPPLY</strong></td>
<td>24 Vdc ± 10%</td>
<td>24 Vdc ± 10%</td>
</tr>
<tr>
<td><strong>OPERATION</strong></td>
<td>polarity inversion</td>
<td>via BUS line</td>
</tr>
<tr>
<td><strong>STROKE</strong></td>
<td>19 mm - 38 mm</td>
<td>19 mm - 38 mm</td>
</tr>
<tr>
<td><strong>FORCE (push and pull)</strong></td>
<td>600 N</td>
<td>600 N</td>
</tr>
<tr>
<td><strong>SPEED</strong></td>
<td>-1,6 mm/s</td>
<td>-1,6 mm/s</td>
</tr>
<tr>
<td><strong>CURRENT ABSORPTION (max load)</strong></td>
<td>0,3 A</td>
<td>0,3 A</td>
</tr>
<tr>
<td><strong>PARALLEL CONNECTION</strong></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>LIMIT STOP</strong></td>
<td>Hall sensor</td>
<td>Hall sensor</td>
</tr>
<tr>
<td><strong>SAFETY STOP</strong></td>
<td>Electronic</td>
<td>Electronic</td>
</tr>
<tr>
<td><strong>PROTECTION CLASS</strong></td>
<td>IP32</td>
<td>IP32</td>
</tr>
<tr>
<td><strong>BMS Compatible</strong></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>PART No.</strong></td>
<td>41588I</td>
<td>41589J</td>
</tr>
</tbody>
</table>

Suitable for installation on Smoke and Heat Exhaust Ventilators (SHEV) in conformity to European Standard EN 12101-2, tested by Istituto Giordano.
Installation examples

Operating logic
E-LOCK
Opening: the E-Lock actuator unlocks the hardware and, only after the complete release, the power is supplied to the chain actuator for the window opening.
Closing: the E-lock actuator remains in the unlock position until the fully closing operation of the chain actuator, and then locks the window hardware.
The sequence of the operations happens in two ways:
a) delay, selectable by dip switches
b) feedback signal, from microswitches or magnetic contacts installed on the window or signal coming from UCS chain actuators in “F-Signal” versions.
E-LOCK BMS
E-LOCK BMS communicates via BUS line with chain actuators BMSline, whose electronic board manages the feedback information and checks the locking or unlocking status of the hardware.

Accessories
Emergency unlocking tool part.
No. 41596Q

Actuator dimensions
PlusUltra is an easy inexpensive solution for the automation of windows with multiple locking points, avoiding the installation of additional electric actuators (or electronic locks).

- It is suitable for outward opening windows.
- PlusUltra has to be installed together with chain actuators series QUASAR and VEGA. A version for manual opening mechanism is also available.
- The force to release the locking points (before opening) and engage them again (after complete closing) is supplied by the chain of the electric actuator during the first part of its travel.
- The transmission of the movement is provided by 90° rotation of the standard pin for internal gear (7x7 mm) included in PlusUltra. The gearbox integrated in the profile operates the bars of the multiple docking hardware.
- PlusUltra provides max torque of 0.34 Nm, usually suitable for operation of max 4 locking points.
- According to the actuator to which it is connected, different fixing systems are necessary.
- Available two versions: PLUSULTRA LEFT for gearbox with clockwise closing rotation
  PLUSULTRA RIGHT for gearbox with counterclockwise closing rotation

POSSIBLE CONFIGURATIONS
PLUSULTRA RIGHT/LEFT + QUASAR (electric actuator) + specific brackets
PLUSULTRA RIGHT/LEFT + VEGA (electric actuator) + specific brackets

<table>
<thead>
<tr>
<th>PART No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLUSULTRA RIGHT GREY RAL 9006</td>
<td>41428TRN</td>
</tr>
<tr>
<td>PLUSULTRA RIGHT BLACK RAL 9005</td>
<td>41429TRN</td>
</tr>
<tr>
<td>PLUSULTRA RIGHT WHITE RAL 9010</td>
<td>41430TRN</td>
</tr>
<tr>
<td>PLUSULTRA LEFT GREY RAL 9006</td>
<td>41431TRN</td>
</tr>
<tr>
<td>PLUSULTRA LEFT BLACK RAL 9005</td>
<td>41432TRN</td>
</tr>
<tr>
<td>PLUSULTRA LEFT WHITE RAL 9010</td>
<td>41433TRN</td>
</tr>
</tbody>
</table>
Installation examples

Opening: PlusUltra system releases the locking points before the window opening
Closing: PlusUltra system engages the locking points after the complete window closing

Actuator dimensions

<table>
<thead>
<tr>
<th>Top hinged window</th>
<th>Side hinged windows</th>
<th>Roof windows</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>12.5 mm</th>
<th>300 N</th>
<th>0.34 N·m</th>
</tr>
</thead>
<tbody>
<tr>
<td>35.5</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>43</td>
<td>33</td>
</tr>
<tr>
<td>90°</td>
<td></td>
<td>0.34 N·m</td>
</tr>
<tr>
<td>48.5</td>
<td>109</td>
<td>88.5</td>
</tr>
</tbody>
</table>
**MAX**

Linear spindle actuator - Force in push action 450 N with stroke 180 mm and 300 mm and 350 N with stroke 500 mm

- Load transmission by rigid spindle.
- Supplied with 1 m cable.
- Not suitable for outdoor application. In this case, a special version is available on request: Max WP-specific installation guide to follow.

**VERSIONS**
- With end bracket and adjustable eyelet for an easier installation.
- With sliding bracket and fixed eyelet: for easier installation also on window with windowsills or other internal obstacles, the sliding bracket can be fixed on the whole length of actuator, provided with two dovetail guides.

<table>
<thead>
<tr>
<th>VOLTAGE SUPPLY</th>
<th>230 Vac ± 10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELECTRIC CONNECTION</td>
<td>3 wires + earth</td>
</tr>
<tr>
<td>STROKE</td>
<td>180/300/500 mm</td>
</tr>
<tr>
<td>FORCE (push and pull action)</td>
<td>450 N (180 - 300 mm) / 350 N (500 mm*)</td>
</tr>
<tr>
<td>SPEED</td>
<td>~20 mm/s</td>
</tr>
<tr>
<td>CURRENT ABSORPTION (with max load)</td>
<td>0.7 A</td>
</tr>
<tr>
<td>PARALLEL CONNECTION</td>
<td>Yes</td>
</tr>
<tr>
<td>LIMIT STOP</td>
<td>Micro switches</td>
</tr>
<tr>
<td>SAFETY STOP</td>
<td>Thermic</td>
</tr>
<tr>
<td>IP PROTECTION</td>
<td>IP65</td>
</tr>
</tbody>
</table>

* if installed on top hinged windows the maximum force on push action is reduced to 300 N (for 180 and 300 mm stroke) and 230 N (for 500 mm). In case of installation on heavy top hinged windows, contact our Tech. Dept.

<table>
<thead>
<tr>
<th>PART No.</th>
<th>Stroke 180 mm</th>
<th>Stroke 300 mm</th>
<th>Stroke 500 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILVER ANODIZED WITH END BRACKETS</td>
<td>41325R</td>
<td>40541N</td>
<td>40614P</td>
</tr>
<tr>
<td>SILVER ANODIZED WITH SLIDING BRACKETS (with fixed terminal)</td>
<td>-</td>
<td>40915Z</td>
<td>40929V</td>
</tr>
</tbody>
</table>

**SPECIFICATION PROSPECTS**

Electric Linear actuator Ultraflex Control Systems named Max with load transmission by rigid spindle, stroke 180, 300 or 500 mm fixing end bracket included. Force 450 N (350 N for stroke 500). Protection class IP65, Voltage supply 230 Vac. Limit stop by micro switches and thermal protection. Parallel connection. Casing in silver anodized, dark brown anodized.
Installation examples

- Installation on top hinged window with windowsill with fixing end bracket
- Installation on dome with fixing end bracket
- Installation on top hinged window without windowsill with fixing end bracket or with sliding bracket
- Installation on top hinged window with windowsill with sliding bracket
- Installation on dome with fixing end brackets

⚠️ The instructions for a safe installation are included in the section “SECURITY WARNINGS”

Actuator dimensions

Accessories (can be ordered also separately)

- Sliding steel brackets part No. 40536W
- Fixing steel end bracket part No. 81559R
**ULYSSES**

Linear spindle actuator - Force in push action 650 N - Stroke 180 and 300 mm

**MAIN FEATURES**

- Minimum size: external diameter 34 mm
- Load transmission by rigid spindle
- Particularly indicated to operate sun blades
- High protection from atmospheric agents (IP65)
- Supplied with steel end bracket and connector. Front or back fixing possibility.
- Aluminium back bracket to be ordered separately part No. 35697P
- A kit to reduce the stroke is available part No. 40735V
- Special triangular brackets and magnetic locking device available for installation on SHEV

Special version Ulysses RWA with all external parts in aluminum suitable for installation on Smoke and Heat Exhaust Ventilators (SHEV) in conformity to standard EN 12101-2 and tested by Istituto Giordano.

### VOLTAGE SUPPLY
24 Vdc ± 10%

### ELECTRIC CONNECTION
2 wires

### OPERATION
by polarity inversion

### STROKE
180/300 mm

### FORCE (in push and pull action)
650 N

### SPEED
6 mm/s

### CURRENT ABSORPTION (with max load)
~1 A

### PARALLEL CONNECTION
Yes

### LIMIT STOP
Electronic

### PROTECTION CLASS
IP65

<table>
<thead>
<tr>
<th>PART No.</th>
<th>Stroke 180 mm</th>
<th>Stroke 300 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILVER ANODIZED</td>
<td>40759Z</td>
<td>40760A</td>
</tr>
<tr>
<td>ULYSSES RWA</td>
<td>41767F</td>
<td>41718I</td>
</tr>
</tbody>
</table>
SPECIFICATION PROSPECTS

Electric linear actuator Ultraflex Control Systems named Ulysses - Load transmission by rigid spindle, stroke 180 mm or 300 mm, external diameter 34 mm, fixing bracket included. Force 650 N. Protection class IP 65. Voltage supply 24 Vdc. Parallel connection. Electronic safety limit stop.

Casing in silver anodized.

Accessories

The instructions for a safe installation are included in the section “SECURITY WARNINGS”
**T-RACK**

Linear rack actuators - Force in push action 1000/2000 N - Stroke 350, 550, 750 and 1000 mm

- 12 mm square rack transmission.
- Supplied with 1.5 m cable.
- Available end brackets or sliding brackets (to be ordered separately); the dovetail slide allows the fixing on the whole length of the T-Rack actuator.
- Available on request:
  - 1200 mm stroke
  - F-SIGNAL versions with opening and closing feedback signal (free potential, maintained contact), activated by the current limit.

**MULTIPLE SYSTEMS**

- For large domes/top hinged windows or to provide more stability, the T-Rack actuator can be used in the Dual T-Rack version, providing two push points on the same vent. For each system assembly are necessary 1 T-Rack actuator, 1 T-Rack group, 1 connecting rod and 2 end fix brackets (part No. 41760Y).
- For large domes/top hinged windows that require double pushing force, coupled by connecting rods, Double T-Rack system is available. Please contact our Commercial Department.
- For special multiple application when speed synchronization or more power is required, max 4 actuators Synchro T-Rack can be used, each one providing 1000 N force. Synchro T-Rack version is equipped with an integrated speed synchronization control board, avoiding the installation of an external control box and metallic rod between the actuators.

**CONNECTING ROD:**

Diameter 12 mm in stainless steel. Quick clutch: fixing accessories are not necessary. Available different lengths for following distance between racks:

<table>
<thead>
<tr>
<th>PART No.</th>
<th>1050 mm</th>
<th>1550 mm</th>
<th>2050 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40231B</td>
<td>40232C</td>
<td>40233D</td>
</tr>
</tbody>
</table>

24 Vdc version is suitable for installation on Smoke and Heat Exhaust Ventilators (SHEV) in conformity to European Standard EN 12101-2 and tested by Istituto Giordano.

24 Vdc version is suitable for installation on Smoke and Heat Exhaust Ventilators (SHEV) in conformity to European Standard EN 12101-2 and tested by Istituto Giordano.
<table>
<thead>
<tr>
<th></th>
<th>T-RACK 230 V AC</th>
<th>T-RACK 24 V DC</th>
<th>SYNCHRO T-RACK 24 V DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLTAGE SUPPLY</td>
<td>230 Vca ± 10%</td>
<td>24 Vdc ± 10%</td>
<td>24 Vdc ± 10%</td>
</tr>
<tr>
<td>ELECTRIC CONNECTION</td>
<td>3 wires + earth</td>
<td>2 wires + signalling</td>
<td>5 wires</td>
</tr>
<tr>
<td>OPERATION</td>
<td>-</td>
<td>by polarity inversion</td>
<td>by polarity inversion</td>
</tr>
<tr>
<td>FORCE IN PUSH ACTION</td>
<td>1000 N</td>
<td>1000 N</td>
<td>1000 N</td>
</tr>
<tr>
<td>FORCE IN PULL ACTION</td>
<td>1000 N</td>
<td>1000 N</td>
<td>1000 N</td>
</tr>
<tr>
<td>SPEED</td>
<td>-12,5 mm/s</td>
<td>-12,5 mm/s</td>
<td>-12,5 mm/s</td>
</tr>
<tr>
<td>CURRENT ABSORPTION (with max load)</td>
<td>0,22 A</td>
<td>1,5 A</td>
<td>1,5 A</td>
</tr>
<tr>
<td>PARALLEL CONNECTION</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>LIMIT STOP</td>
<td>Electronic</td>
<td>Electronic</td>
<td>Electronic</td>
</tr>
<tr>
<td>SAFETY STOP</td>
<td>Electronic</td>
<td>Electronic</td>
<td>Electronic</td>
</tr>
<tr>
<td>FEEDBACK SIGNAL</td>
<td>-</td>
<td>Open/Close</td>
<td>-</td>
</tr>
<tr>
<td>PROTECTION CLASS</td>
<td>IP65</td>
<td>IP65</td>
<td>IP65</td>
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<tr>
<td>COLOUR</td>
<td>Silver anodized</td>
<td>Silver anodized</td>
<td>Silver anodized</td>
</tr>
</tbody>
</table>

**NOTE**: brackets not included - to be ordered separately

<table>
<thead>
<tr>
<th>PART No.</th>
<th>T-RACK GROUP</th>
</tr>
</thead>
<tbody>
<tr>
<td>STROKE 350 mm</td>
<td>41740E</td>
</tr>
<tr>
<td>STROKE 550 mm</td>
<td>41741F</td>
</tr>
<tr>
<td>STROKE 750 mm</td>
<td>41742G</td>
</tr>
<tr>
<td>STROKE 1000 mm</td>
<td>41743H</td>
</tr>
</tbody>
</table>
Connect to the vent (included)

Connector kit to fix the rack to the vent (included)

End bracket part No. 41760Y

Sliding bracket part No. 41761Z

Accessories

STROKE  L
350  523
550  723
750  923
1000  1173

Actuator dimensions

T-Rack actuator with sliding bracket part No. 41761Z

T-Rack actuator with end bracket part No. 41760Y
Installation examples

The instructions for a safe installation are included in the section “SECURITY WARNINGS”

SPECIFICATION PROSPECTS

T-RACK

DUAL T-RACK
System assembly with two push points composed by one T-Rack Actuator, one T-Rack Group and a connecting rod. Force 1000 N

DOUBLE T-RACK
System assembly with two push points composed by one T-RACK Actuator, one AUX T-RACK Actuator and a connecting rod. Force 2000N.

SYNCHRO T-RACK
Electric linear actuator Ultraflex Control Systems with integrated speed synchronization control board up to four push points on the same structure without connecting rod. Force 1000 N each actuator.
Multiple Systems

- For large domes/top hinged windows or to provide more stability, the Rack actuator can be used either in the Dual Rack or in the Double Rack version, providing two or more push points on the same vent. Double Rack provides the double of the force.
- Dual Rack: push force 650 N (230 Vac) - 750 N (24 Vdc). For each system assembly are necessary 1 Rack actuator, 1 Rack group, 1 connecting rod and 2 end brackets (part No. 40234E see next page).
- Double Rack: push force 1300 N (230 Vac) - 1500 N (24 Vdc) For each system assembly are necessary 1 Rack actuator, 1 Auxiliary Rack actuator in parallel connection, 1 connecting rod and 2 end brackets (part No. 40234E see next page).

Other Multiple Systems:

- It is also available a Rack Group Double Pivot for system assembly providing 3 or more push points.
### RACK 230 V AC vs. RACK 24 V DC

<table>
<thead>
<tr>
<th>Feature</th>
<th>RACK 230 V AC</th>
<th>RACK 24 V DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage Supply</td>
<td>230 Vac ± 10%</td>
<td>24 Vdc ± 10%</td>
</tr>
<tr>
<td>Electronic Connection</td>
<td>3 wires + earth</td>
<td>2 wires + signalling</td>
</tr>
<tr>
<td>Operation</td>
<td>-</td>
<td>by polarity inversion</td>
</tr>
<tr>
<td>Force in Push Action</td>
<td>650 N</td>
<td>750 N</td>
</tr>
<tr>
<td>Force in Pull Action</td>
<td>350 N</td>
<td>650 N</td>
</tr>
<tr>
<td>Speed</td>
<td>~8 mm/s</td>
<td>~8 mm/s</td>
</tr>
<tr>
<td>Current Absorption</td>
<td>0.1 A</td>
<td>1 A</td>
</tr>
<tr>
<td>Parallel Connection</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Limit Stop</td>
<td>Electronic</td>
<td>Electronic</td>
</tr>
<tr>
<td>Safety Stop</td>
<td>Electronic</td>
<td>Electronic</td>
</tr>
<tr>
<td>Feedback Signal</td>
<td>-</td>
<td>Open/Close</td>
</tr>
<tr>
<td>Protection Class</td>
<td>IP55</td>
<td>IP55</td>
</tr>
<tr>
<td>Colour</td>
<td>Silver anodized</td>
<td>Silver anodized</td>
</tr>
</tbody>
</table>

### PART No.

<table>
<thead>
<tr>
<th>Stroke Length</th>
<th>230 V AC</th>
<th>24 V DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>180 mm</td>
<td>40209F</td>
<td>40400A</td>
</tr>
<tr>
<td>350 mm</td>
<td>40211T</td>
<td>40217D</td>
</tr>
<tr>
<td>550 mm</td>
<td>40213V</td>
<td>40219H</td>
</tr>
<tr>
<td>750 mm</td>
<td>40789D</td>
<td>40791F</td>
</tr>
<tr>
<td>1000 mm</td>
<td>40790E</td>
<td>40792G</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stroke Length</th>
<th>Rack Group</th>
<th>Double Pivot</th>
<th>Auxiliary Rack 230 V AC</th>
<th>Auxiliary Rack 24 V DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>180 mm</td>
<td>40223B</td>
<td>40379W</td>
<td>40631P</td>
<td>40636A</td>
</tr>
<tr>
<td>350 mm</td>
<td>40225D</td>
<td>40380U</td>
<td>40632S</td>
<td>40637C</td>
</tr>
<tr>
<td>550 mm</td>
<td>40227F</td>
<td>40381V</td>
<td>40633U</td>
<td>40638E</td>
</tr>
<tr>
<td>750 mm</td>
<td>40754U</td>
<td>40851N</td>
<td>40847J</td>
<td>40849L</td>
</tr>
<tr>
<td>1000 mm</td>
<td>40755V</td>
<td>408520</td>
<td>40848K</td>
<td>40850M</td>
</tr>
</tbody>
</table>

### CONNECTING ROD:
Diameter 12 mm in stainless steel. Quick clutch: fixing accessories are not necessary. Available different lengths for following distance between racks:

<table>
<thead>
<tr>
<th>PART No.</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000 mm</td>
<td>40231B</td>
</tr>
<tr>
<td>1500 mm</td>
<td>40232C</td>
</tr>
<tr>
<td>2000 mm</td>
<td>40233D</td>
</tr>
</tbody>
</table>

**NOTE:** brackets not included - to be ordered separately.
Rack actuator with sliding bracket part No. 40235F

Accessories

Sliding bracket part No. 40235F. It allows the fixing for the whole length of the actuator. To use only for single Rack.

Connector kit to fix the rack on the vent (included)

End bracket part No. 40234E. To use for Dual Rack and Double Rack system or single Rack.

# Actuator dimensions

<table>
<thead>
<tr>
<th>STROKE</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>180</td>
<td>400</td>
</tr>
<tr>
<td>350</td>
<td>570</td>
</tr>
<tr>
<td>550</td>
<td>770</td>
</tr>
<tr>
<td>750</td>
<td>970</td>
</tr>
<tr>
<td>1000</td>
<td>1220</td>
</tr>
</tbody>
</table>

RACK, DUAL RACK and DOUBLE-RACK

58 GREEN LINE
The instructions for a safe installation are included in the section “SECURITY WARNINGS”

SPECIFICATION PROSPECTS

RACK

DUAL RACK
System assembly with two push points composed by one Rack Actuator, one Rack Group and a connecting rod. Force 650 N/750 N

DOUBBLE RACK
System assembly with two push points composed by one Rack Actuator, one auxiliary Rack and a connecting rod. Force 1300 N/1500 N.
Systems with more than two push points can be obtained with a Rack Group double pivot.
**ENTRAPMENT PROTECTION SYSTEMS EPS**

*Power actuated window protection system*

**EPS Entrapment Protection System** provides protection to people close to the automated window area, also for children or people with reduced attention and response capacity, above all in case of accessible windows or with automatic control without visual contact.

The infra-red active sensor, or other presence sensor, gives a signal to the control unit in case of foreign presence; the EPS system reverses the closing movement for 3 seconds to release possible objects or body parts entrapped in the window, then stops the power to the actuator.

EPS can also provide the visual and acoustic signal in case of intervention of the presence sensor; moreover it is possible to continue the closing action as soon as the foreign presence disappears. It is possible to connect more than one actuator and/or sensor to the control unit.
EPS 24 Vdc
PART No. 41342I
Control unit for 24 Vdc actuators. Inputs: feeder; EFC control panel; push button or BMS system.
Dimensions: 115 x 155 x 75 mm

EPS 230 Vac
PART No. 41341H
Control unit for 230 Vac actuators. Inputs: line – push button or BMS system.
Dimensions: 115 x 155 x 75 mm

PRESENCE SENSOR
PART No. 41343J
The infra-red presence sensor gives a signal to the EPS control unit in case of foreign presence
Dimensions: 221 X 63 X 30 mm

⚠️ The instructions for a safe installation are included in the section “SECURITY WARNINGS”

For information about C-SV control panels and CRM control panels, see the related sections; for power supply and push button, see CONTROL ACCESSORIES section.
CONTROL PANEL CRM
Control unit and meteorological detection system

The meteorological CRM control panel, controls up to four actuators or group of actuators independently and, allows the automatic closing of the windows in case of rain or wind alarm conditions detected by the sensors or by the intervention of the thermostat.

INPUT VOLTAGE SUPPLY
OUTPUT VOLTAGE SUPPLY
OUTPUT (max load each output)

Technical features of the connected actuators:
ELECTRIC CONNECTION
OPERATION
ABSORPTION (with max load)

PART NO.

CRM1
230 Vac
24 Vdc
4 for 1 A
2 wires
by polarity inversion
4 A

CRM2
230 Vac
230 Vac
4 for 1,5 A
3 wires + earth

PART NO.
40769J
40820I

The instructions for a safe installation are included in the section “SECURITY WARNINGS”
The control panel is arranged for the connection of three sensors that control the weather events:

**KP PUSH BUTTON**
PART No. 40770K
Using this push button it is possible to select and drive separately the four actuators or groups of actuators, or operate the four lines contemporary.

**RC REMOTE CONTROL**
PART No. 40771L
On the KP push button there is an infra-red receiver that allows the use of the RC remote control having the same functions of the push button. The remote control is supplied with a proper wall support.

**PUSH BUTTON**
PART No. 41013B
It is possible to operate manually all the actuators contemporary, connecting to the CRM a standard double push button with return spring. The closing and opening inputs are memorized for three minutes in order to allow also at the actuators with very long stroke to complete their movement.

The control panel is arranged for the connection of three sensors that control the weather events:

**TN THERMOSTAT**
PART No. 40675K
The thermostat, if present, has the priority on the manual control: if the temperature is superior to the set one, the windows open, if inferior the windows close; to disable the thermostat act on its selector.
Particularly suitable for conservatories and mansards. Built in on/off switch.

**RS RAIN SENSOR**
PART No. 40450K
In case of rain, the rain sensor sends the signal for window automatic closing that is indicated by a red LED in front of the control panel; it is possible to disconnect this sensor acting on the on/off switch on the front of the control panel.
Further to the sensor intervention it is not possible, without disabling this sensor, to control the actuators until 8 min. after the end of the event.
A heating element prevents dew formation on the surface. Particularly suitable for roof windows and sloping top hinged windows.

**WS WIND DETECTOR**
PART No. 37185V
It emits a variable signal according to the wind intensity and acts on the control panel as the rain sensors do. With reference to the anemometer, it is possible to choose, using a rotating selector with 10 positions, at which wind speed the control panel operates the closing. Selecting 0 the anemometer is disabled while positions from 1 to 9 correspond to Beaufort wind force scale.

**SOLAR POWER SYSTEM ULTRA 24 VDC**
Compact solar charging and power unit for 24Vdc motors, equipped with batteries and Radio Receiver; no need to run wires down to power supplies or wall switch

- Very convenient solution for installations:
  - where it is difficult to run wires (renovation in residential houses or ancient buildings, roof windows, replacement of actuators with different electrical connection/voltage supply …)
  - without power sources (conservatories, sunrooms, greenhouses, pergolas, sun blades).

Dimensions: 535 x 87 x 37 mm
2 mounting clips for quick and easy installation
Cable length: 300 mm
Output: 24 Vdc/2A
2.5 Watt Solar panel, Multichristaline
1500 mAh LiFePO4 Battery

<table>
<thead>
<tr>
<th>Model</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOLAR ULTRA 24 Vdc</td>
<td>41870D</td>
</tr>
<tr>
<td>RADIO REMOTE CONTROL 1 channel</td>
<td>41871E</td>
</tr>
<tr>
<td>RADIO REMOTE CONTROL 9 channels</td>
<td>41872F</td>
</tr>
</tbody>
</table>
A very versatile range of smoke ventilation control panels, provided of back-up batteries: they operate 24 Vdc actuators for smoke and heat extraction in case of fire, and control the automation of single or multiple windows for natural ventilation even in a multi-storey building.

The opening command for smoke extraction is controlled by smoke detectors, emergency push buttons, fire alarm systems or Building Management Systems (BMS) by “free potential – normally closed” inputs. Fire alarm conditions and control panel faults are signalled on the emergency push button.

To provide comfort and energy saving, natural ventilation is granted operating automatically the windows according to the environmental conditions detected by the sensors. In addition, for natural ventilation, windows can be manually controlled by zones through local push-buttons.

C-SV and C-SV IB control panels have been designed, tested and certified according to EN 12101 part 10 and prEN 12101 part 9 by IFT Rosenheim (pending test).

**POWER**

- **VOLTAGE SUPPLY INPUT**: 100-250 Vac, 50-60 Hz
- **VOLTAGE SUPPLY OUTPUT**: 24 Vdc (±25%)
- **VOLTAGE OUTPUT OPERATION**: Polarity inversion
- **AUX VOLTAGE OUTPUT**: 24 Vdc
- **NOMINAL CURRENT**: 4 A / 8 A / 13 A / 20 A
- **BACK UP BATTERY**: 2x 12 Vdc (sealed lead-acid batteries)

**FEATURES**

- **SMOKE VENT ZONE**: Max 10 (integrated push button on the front of the control panel on IB version only)
- **NATURAL VENT ZONE**: Max 10 (normally open contact)
- **SMOKE/HEAT DETECTOR**: Max 10 (integrated push button on the front of the control panel on IB version only)
- **EMERGENCY CLOSING BUTTON**: Clean contact (e.g.: acoustic alarm)
- **EMERGENCY OUTPUT**: External (integrated push button on the front of the control panel on IB version only)
- **NATURAL VENT PUSH BUTTON**: Max 1
- **RAIN SENSOR**: Max 1
- **WIND SENSOR**: Max 1
- **CO2 SENSOR**: Max 1
- **THERMOSTAT**: Max 1

**NOTE**: the summarized values on the above table might be varied according to the final installation. For any further information please contact our sales department.
SMOKE VENTILATION CONTROL PANELS
Control unit for smoke and heat exhaust ventilators including meteorological detection and comfort ventilation

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>NOMINAL CURRENT</th>
<th>DIMENSIONS (mm)</th>
<th>PUSH BUTTON</th>
<th>BATTERIES</th>
<th>PART No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-SV 4A</td>
<td>4A</td>
<td>300 x 300 x 150</td>
<td>Not included</td>
<td>Included</td>
<td>41736A</td>
</tr>
<tr>
<td>C-SV 8A</td>
<td>8A</td>
<td>300 x 300 x 150</td>
<td>Not included</td>
<td>Included</td>
<td>41737B</td>
</tr>
<tr>
<td>C-SV 13A</td>
<td>13A</td>
<td>400 x 400 x 150</td>
<td>Not included</td>
<td>Included</td>
<td>41918Z</td>
</tr>
<tr>
<td>C-SV 20A</td>
<td>20A</td>
<td>400 x 400 x 150</td>
<td>Not included</td>
<td>Included</td>
<td>41874H</td>
</tr>
<tr>
<td>C-SV IB 4A</td>
<td>4A</td>
<td>300 x 300 x 150</td>
<td>Integrated on the front of the control panel</td>
<td>Included</td>
<td>41738C</td>
</tr>
<tr>
<td>C-SV IB 8A</td>
<td>8A</td>
<td>300 x 300 x 150</td>
<td>Integrated on the front of the control panel</td>
<td>Included</td>
<td>41739D</td>
</tr>
<tr>
<td>C-SV IB 13A</td>
<td>13A</td>
<td>400 x 400 x 150</td>
<td>Integrated on the front of the control panel</td>
<td>Included</td>
<td>41919A</td>
</tr>
<tr>
<td>C-SV IB 20A</td>
<td>20A</td>
<td>400 x 400 x 150</td>
<td>Integrated on the front of the control panel</td>
<td>Included</td>
<td>41875I</td>
</tr>
</tbody>
</table>
ACCESSORIES FOR SMOKE VENT CONTROL

OPTICAL SMOKE DETECTOR
PART NO. 36418Q
Smoke detection by infrared light diffusion for Tyndall effect. It is certified according to the UNI EN 54 - 7/9 regulations. Alarm signal through the red led.
RESPONSE TIME 3 sec approx.
VOLTAGE SUPPLY 24 V (min. 10 V, max. 30 V) TEMPERATURE RANGE -10° + 80° C
DEGREE OF HUMIDITY < 95% MAX AIR SPEED 10 m/s DETECTED SURFACE 40 m²
A frequent cleaning, especially in dusty environments, is recommended.

EMERGENCY PUSH BUTTON
PART NO. 41912T
It’s necessary to break the safety strip to open the glass and operate it. Emergency push button allow to control by LEDs the status of the system, reset the control panels and close the window at the end of the emergency.

FLUSH MOUNT DOUBLE PUSH BUTTON
PART No. 41019H
Once connected to control panel allows to operate all window for natural ventilation.

ACOUSTIC ALARM DEVICE
PART NO. 40892C
Outward self-fed siren 24 V, stainless steel box with polycarbonate cover, sonorous power 115 dB, voltage supply 24 V - 2 A, battery 12 V, 2 Ah.
Dimensions: 236x280x99 mm

WS WIND DETECTOR
PART No. 37185V
It emits a variable signal according to the wind intensity and acts on the control panel as the rain sensors do.

CO₂
PART No. 41773L
The CO₂ sensor, if present, has the priority on the manual control. Suitable for conference and meeting rooms, offices, schools/nurseries, passive and low-energy housing. 2 switch outputs CO₂ controlled for 2 stage control, with manual and automatic mode as well as display of switching status. 3x 0–10 V outputs for CO₂, temperature and relative humidity. Compatible C-SV, IB-SV only.

RS RAIN SENSOR
PART No. 40450K
In case of rain, the rain sensor sends the signal for window automatic closing.

TH THERMOSTAT
PART No. 40675K
The thermostat opens or closes windows when temperature settings are exceeded. Built in on/off switch.

DIAGNOSTIC KIT (CABLE + SOFTWARE)
PART No. 41853M
In the event of anomalies or installation problems, it is possible to interrogate the C-SV control panels using a special diagnostic USB cable connected to a simple computer. A dedicated software allows you to monitor in real time the operating parameters of the control panel (primary power supply, battery voltage, etc.) and to trace the origin of any faults by reading the associated error code.

BATTERIES FOR C-SV and C-SV IB
PART NO. 40911V
Spare part for C-SV and C-SV IB control panel 4A or 8A, formed by two pieces of 12 V, 4.5 Ah batteries.

PART NO. 41921C
Spare part for C-SV and C-SV IB control panel 13A or 20A, formed by two pieces of 12 V, 9 Ah batteries.
CONTROL ACCESSORIES

Accessories for electric actuators

- **FLUSH MOUNT DOUBLE PUSH BUTTON**
  
  PART No. 41013B
  
  Once connected to control panel allows to operate all window for natural ventilation.

- **WALL PUSH BUTTON WITH TWO BUTTONS**
  
  PART No. 41019H
  
  For all the actuators with 3 wires operation.
  
  Dimensions: mm 80x80x30

- **COUPLING CONTROL UNIT CP230**
  
  PART No. 41089V
  
  It permits to control a couple of 230 Vac actuators (STILE, SINTESI 2000, SUPERMASTER 230 Vac, MAX), In case of sudden failure, or blockage of any of the two actuators the other will also be stopped. In case of automatic control (BMS-Building Management System) avoid repetitive commands.

- **FLUSH MOUNT BIPOLAR PUSH BUTTON**
  
  PART No. 41014C
  
  For the actuators with polarity inversion operation.
  
  Max current 5 A.

- **BOX FOR FLUSH MOUNT PUSH BUTTON**
  
  PART No. 83475J
  
  For flush mount push button.

- **RELAIS BOX (RB24-E)**
  
  PART No. 40995J
  
  It allows to control 24 Vdc actuators (at polarity inversion) through a standard 3 wires operation (open-close-common) and a voltage supply up to 20 A in two outputs current absorption.
  
  It can also be connected to control units UCS-CRM1 to expand the output load.
  
  Dimensions: mm 154x113x75

- **SWITCHING POWER SUPPLY 24 Vdc**
  
  ITEM CODE 40775P
  
  INPUT VOLTAGE 85 - 264 Vac
  
  OUTPUT VOLTAGE 24 Vdc
  
  OUTPUT CURRENT 3A (nominal current)
  
  DIMENSIONS 199x99x50 mm

- **WEATHER CONTROL UNIT FOR 230 Vac ACTUATORS**
  
  PART No. 40490Y
  
  The kit includes the operating device with anemometer and rain sensor that operates automatically in case of high wind intensity or rain. It controls the closing of one or more 230 Vac actuators, with a maximum total current absorption inferior to 2.25 A. A register permits to determine the wind sensibility.
  
  Dimensions: ø 150 mm x 40 h

- **RADIO RECEIVER 230 Vac**
  
  PART No. 41735Z
  
  Radio receiver for 230Vac actuator.
  
  Includes two inputs for open and close button.
  
  Power supply: 230Vac
  
  Power: 350W
  
  Dimension: 125 x 38 x 20 mm
  
  IP44

- **RADIO RECEIVER 24 Vdc**
  
  PART No. 41734Y
  
  Radio receiver for 24Vdc actuator.
  
  Includes two inputs for open and close button.
  
  Power Supply: 24Vdc
  
  Nominal current: 4.0A
  
  Dimension: 125 x 38 x 20
  
  IP44

- **RADIO TRANSMITTER 6 CH**
  
  PART No. 41729T
  
  Compatible with Stile-RF and Radio Receiver 230 Vac and 24 Vdc.
  
  6 CH (open-stop-close) can operate up to 6 CH simultaneously and/or independently.

⚠️ The instructions for a safe installation are included in the section “SECURITY WARNINGS”
PNEUMATIC CYLINDERS
Pneumatic systems for smoke and heat extraction

• The Redline cylinders are manufactured using corrosion-resistant materials.
• Suitable for smoke and heat exhaust systems according to the UNI EN 12101-2 standard.
• Double action cylinders, they can open and close.
• Provided with a mechanical locking device in the end stroke positions. It can be pneumatically or manually (pressing the corresponding end button) unlocked.
• On request (min. 50 pieces):
  - any intermediate stroke
  - rear feeding
  - cylinders without locking device
• Fixing brackets, accessories and connectors must be ordered separately
• The Redline cylinders can be used for ventilation where a compressed air system is available
• The installation of two cylinders on the same vent requires the version without locking device (stroke 500mm part No.40344H – stroke 700mm part No.40610F)

BORE 35 mm
ROD Ø 12 stainless steel
MAX WORKING PRESSURE 20 bar
TEMPERATURE RANGE -30°+ 120°C
FEED front
THRUST 1900 N a 20 bar
LOCK RESISTANCE 3000 N up to 300°C

PART No. 40083L 40085N 40087P 40090K

Accessories

PIVOT NIPPLE WITH FLOW LIMITING DEVICE
PART NO. 40424I
It is necessary for the cylinder assembly with the bracket.
The flow limiting device allows to reduce the speed during the window opening.

SYNTERIZED FLOW LIMITING DEVICE
PART NO. 41225V
More effective than the standard device, where a more smooth opening is required. It can be installed on opening or closing side.

ROTATING NIPPLE
PART NO. 40356N
It allows the ø 6x4 mm copper tube connection and is necessary for the cylinder assembly with the bracket.

NIPPLE WITH FLOW LIMITING DEVICE
PART NO. 36924K
The same as part No. 40356N but with flow limiting device.
Installation examples

Installation on top hinged window with connection to compressed air system

On dome with thermal valve

SPECIFICATION PROSPECTS
Pneumatic cylinder Ultraflex Control Systems - Red Line, used in smoke and heat extraction systems according to UNI EN 12101-2 standard. Aluminium casing. The standard version is provided with mechanical locking device in the end stroke positions in order to keep the windows or domes open even without air pressure. It is possible the direct installation of the thermal valve.

⚠️ The instructions for a safe installation are included in the section “SECURITY WARNINGS”

Actuators dimensions

Aluminium front bracket part No. 35696O
It allows the fixing of the cylinder to the frame and the cylinder rotation during the opening phase. The bracket is connected to the cylinder by pivot or nipples.

Galvanized steel connector (cylinder-vent) for ventilation part No. 40252G

Aluminium connector (cylinder-vent) part No. 35697P
The valves pierce the CO₂ cartridge in response to a thermal or electric (when the pyrotechnic device is installed) signal. The CO₂ flows into the cylinder and causes the window opening. Ultraflex Control Systems was in 1985 the first company in Italy starting the production of these emergency systems, contributing operatively and technically to carry on the experimental tests coordinated by the “National Center for Fire Prevention”. The Ultraflex Control Systems valves grant a safe operation in case of fire and have been tested by an authorized Institute according to the UNI EN 12101-2 standard. The valves are supplied with the 68°C (180°F) thermal bulb. Available on request other temperatures calibrated thermal bulb. CO₂ cartridge are to be ordered separately.

⚠️ The instructions for a safe installation are included in the section “SECURITY WARNINGS”

**THERMAL VALVE WITH THERMAL BULB**

PART No. 36751B
It is screwed directly to the cylinder (instead of the opening nipple). The pin pierces the CO₂ cartridge when the temperature reaches the fusible link set value (68°C). The thermal valve is arranged for the pyrotechnic device application, also successively.

**THERMAL VALVE WITH THERMAL BULB WITH 1/8” THREAD**

PART No. 40242E
Same features as thermal valve part No. 36751B: the 1/8” thread allows a direct connection to copper tubes by standard nipples (not supplied).
**THERMAL VALVE WITH SELECTOR**  
PART NO. 36756G  
It has the possibility to operate the cylinder by another energy supply such as a manual valves control box or a compressed air system.  
It is supplied with connectors for the direct installation to cylinders and for connection to copper tubes.

**SELECTING VALVE**  
PART NO. 36753D  
It can be installed in any point of the system and allows to feed the cylinder by different energy supplies such as a manual valves control box or a compressed air system.  
It is supplied with nipples for the copper tube connection.

**MICRO CYLINDER**  
PART NO. 40932Y  
It can be used for additional lock on the vent in case of installation of cylinders without lock.  
1/8" input and output attacks. Box in alluminium and stainless steel rod ø 14  
Dimensions: ø 38x126 mm.

**MANUAL VALVE FOR VENTILATION**  
PART NO. 37878Y  
Connected to a compressed air line, it allows the window opening and closing for daily ventilation.  
The five ways valve with exhaust centres leaves the feeding ways free to enable the automatic operation in case of emergency.  
It has 1/8" attacks and standard connectors are supplied for the 6x8 mm Rilsan tube.

**MANUAL VALVE CONTROL BOX**  
It is the opening manual remote control. In case of fire for the operation it is necessary to break the glass and pull the lever down in order to obtain the punching of the CO₂ cartridge internally installed.  
It is in red painted metal and provided with a sealable lock to prevent possible tamperings. The cartridges are to be ordered separately, according to the needs.  
Available versions  
for cartridges up to 500g PART No. 40389F

**CO₂ CARTRIDGES**  
Standard sizes available.  
(coupling to thermal bulbs 68°C)  
20g PART NO. 41031V  
30g PART NO. 56071L  
50g PART NO. 56876X  
75g PART NO. 56878B  
100g PART NO. 57021C

**THERMAL BULBS**  
Red: 68°C PART NO. 56901H  
Green: 93°C PART NO. 58002C  
Blue: 141°C PART NO. 59501R
The instructions for a safe installation are included in the section “SECURITY WARNINGS”
SPECIFICATION PROSPECTS

The system for smoke and heat extraction with pneumatic cylinders must be completed with the following component according to the different kinds of installation:

Single System with automatic opening at 68°C:
- Thermal valve with CO₂ cartridge and thermal bulb set at 68°C
- Manual valve for ventilation to be connected to a compressed air system.

System with automatic opening at 68°C and smoke detector:
- Thermal valve with CO₂ cartridge and thermal bulb set at 68°C
- Pyrotechnic device for breaking the thermal bulb.
- Single zone electronic control panel with floating batteries and lock, suitable to be connected to optical smoke detectors, push buttons and sirens, emergency push buttons.

Installation Examples

Single system with automatic opening at 68°C

System with automatic opening at 68°C and smoke detection

System with automatic opening at 68°C smoke detection and ventilation control

⚠️ The instructions for a safe installation are included in the section “SECURITY WARNINGS”
The Mec Line mechanical systems for the window remote control are super-tested, reliable, economical, easy and quick to install. The products are constantly improved thanks to the greatest experience in the window manual controls field. The movement transmission from the control operator to the opening mechanism is effected by a steel helical cable which runs inside a steel conduit. The installation must be carried out in order to allow the cable working in pull action during the load operation (ex. in the closing phase for bottom hinged windows and in the opening phase for top hinged windows).

Every system has to be provided with the following items:

- CONTROL OPERATOR, flat, mini, simple, concealed and geared operator.
- TRANSMISSION ELEMENTS: cable, conduit, connectors, saddles, lock springs, end plugs.
- OPENING MECHANISM, chain openers, forks and locking openers for bottom hinged windows.

To open no more than one window with one control operator, the previous items are also contained all together in the “BRAVO” or in the “KIt for BOTTOM or TOP HINGED WINDOWS”.

In case of installations with more than one locking opener or fork, rotary junction boxes are required (see TRANSMISSION ELEMENTS section).

For a right installation the tool for conduit preparation and the conduit bender are very useful (see TRANSMISSION ELEMENTS section).

For further information regarding the installation of the Mec Line product, please ask for the installation manual.

⚠️ The instructions for a safe installation are included in the section “SECURITY WARNINGS”

**SPECIFICATION PROSPECTS**

The Mec Line mechanical systems for the windows remote control made by Ultraflex Control Systems is composed by the following items:

- Control operators with painted steel handle named: FLAT, CONCEALED, MINI, SIMPLE AND GEARED OPERATOR.
- Transmission line formed by a steel helical cable running inside a steel conduit externally coated in PVC with an internal antifriction polyethylene tube. Other accessories allow a correct installation.
- Chain opening mechanisms both for top and bottom hinged windows with painted or anodized aluminium casing; available stroke 250 and 380 mm.
- Steel forks and swivel 250 mm stroke for sun louvre blades.
- Painted aluminium locking openers for bottom hinged windows, maximum stroke 250 mm.
It's possible to find the most appropriate opening mechanism and handle operator for the required system, referring to the following charts.

**OPENING MECHANISM SELECTION**

<table>
<thead>
<tr>
<th>WINDOW TYPE</th>
<th>ADVISED MECHANISM</th>
<th>WINDOW TYPE</th>
<th>ADVISED MECHANISM</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Image 1]</td>
<td>Chain mechanism</td>
<td>![Image 2]</td>
<td>Telescopic spindle</td>
</tr>
<tr>
<td>![Image 3]</td>
<td>Chain mechanism</td>
<td>![Image 4]</td>
<td>Cat</td>
</tr>
<tr>
<td>![Image 5]</td>
<td>Chain mechanism</td>
<td>![Image 6]</td>
<td>Fork</td>
</tr>
<tr>
<td>![Image 7]</td>
<td>Locking opener</td>
<td>![Image 8]</td>
<td>Cat</td>
</tr>
</tbody>
</table>

**CONTROL OPERATOR SELECTION**

Following charts refer to accurate installation, executed with our tools, with only one 90° bend of the conduit and with no rotary junction box included; the wind load has not been considered. Every additional bend or rotary junction box has to be counted as an additional window. For intermediate window heights refer to the directly lower height; in case of window lower than 750 mm it is necessary to reduce the actuator stroke to 1/3 of the window height. For windows with four-bar hinges the calculation of the necessary force depends on the hinge model. Please contact our Technical Dpt. for any specific application.

THESE SELECTION GUIDES HAVE TO BE CONSIDERED AS A GENERAL DIRECTION AND MUST BE CHECKED BY THE INSTALLER. FOR ANY SPECIFIC APPLICATION, PLEASE CONTACT OUR TECHNICAL DEPT.

S = Stroke 250 mm

<table>
<thead>
<tr>
<th>H WINDOWS</th>
<th>No.</th>
<th>WEIGHT OF THE WINDOW (Kg)</th>
</tr>
</thead>
<tbody>
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</table>

S = Stroke 380 mm

<table>
<thead>
<tr>
<th>H WINDOWS</th>
<th>No.</th>
<th>WEIGHT OF THE WINDOW (Kg)</th>
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</thead>
<tbody>
<tr>
<td>1150 - 1400</td>
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<table>
<thead>
<tr>
<th>H WINDOWS</th>
<th>No.</th>
<th>WEIGHT OF THE WINDOW (Kg)</th>
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</thead>
<tbody>
<tr>
<td>1401 - 1600</td>
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<td>7</td>
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</tbody>
</table>

No.=No.windows+No.rotary junction boxes+No.bends (over 1)

- FLAT OPERATOR
- SIMPLE, MINI, CONCEALED OPERATOR
- GEARED OPERATOR

GREEN LINE 75
CONTROL OPERATORS TRANSMISSION

FLAT OPERATOR
PART No. White 31560R
         Black 37161J
         Grey 40133A

- It can be used with the 25 cm and 38 cm chain openers and
  with the locking opener for single bottom hinged windows.
- The inside mechanism and the handle are made in metal and
  the cover in plastic.
- Maximum cable length: 6 m. The spent travel tube is external.

CONCEALED OPERATOR
PART No. 30745X

- It can be used with all opening mechanisms.
- It can be concealed into the wall or into the aluminium frame
  together with the spent travel tube.
- Completely made in metal with painted handle and aluminium
  anodized cover.

MINI OPERATOR
PART No. White RAL 9010 30748C
         Black RAL 9005 36964S
         Grey RAL 9006 36813E

- It can be used with all opening mechanisms.
- Completely made in metal. The spent travel tube is external.

SIMPLE OPERATOR - EXTENDED SIMPLE OPERATOR
PART No. STROKE 250 mm
         STROKE 380 mm
         White RAL 9010 30750U 41344K
         Black RAL 9005 32594G 41345L
         Grey RAL 9006 37035E 41346M

- Style and efficiency are the main features of this operator.
- It incorporates the antitorque spent travel tube which allows
  a maximum stroke of 25 cm or 38 cm.
- Completely made in metal.

GEARED OPERATOR
PART No. White RAL 9010 40517S
         Black RAL 9005 40543T
         Grey RAL 9006 40544V

- Ratio: 5:1
- It can be used with all opening mechanisms.
- Particularly suitable for operating many windows
  simultaneously and moving heavy windows.
- The inside mechanism and the handle are made in metal.
  The front cover is made in plastic. The spent travel tube is
  external.

GEARED OPERATOR WITH LONG METALLIC COVER
PART No. White RAL 9010 40777R
         Black RAL 9005 40778S
         Grey RAL 9006 40779T

- Version of geared operator with inner anti-torque spent travel
  tube and metal cover
In the manual window remote control systems MEC LINE, the transmission elements are the connection between the control operator, a manually moved mechanism through which it is possible to transmit the motion, and the opening mechanism which is directly connected to the window frame and it allows the opening. The transmission elements and accessories required for a correct application are the following:

**HELICAL CABLE**
PART No. 30764A
It runs inside the conduit and it is the real transmission element. It is supplied in 50 meters reels.

**CONDUIT**
PART No. White 40205V
Black 40206A
Grey 36383B
It is supplied in 3 meters steel rods externally coated in white, black or grey PVC. The internal tube is in polyethylene to make the cable sliding easier.

**CONNECTOR**
Part. no. White metal 41079W
Black metal 41078Z
Grey metal 41080A
The junction between two conduit rods.

**LOCK SPRING**
PART No. 30770Y
It has to be screwed at the end of the helical cable, near the control operator.

**TOOL FOR CONDUIT PREPARATION**
PART No. 40097R
Necessary to prepare conduit ends.

**END PLUG**
PART No. White 40139I
Black 40174J
Grey 40191O
It fixes the spent travel tube to the wall.

**FIXING SADDLE**
PART No. White 30767D
Black 35446R
Grey 40134B
It is the element used to fix the conduit to the wall. It has to be placed one every meter and anyway one before and one after every bend.

**ROTARY JUNCTION BOX**
PART No. White 30768G
Black 37040B
Grey 40135C
It is used to transfer the movement of the cable from the main line to the auxiliary ones; it is essential for systems with more than one locking opener, forks or chain openers (only if installed on windows placed upon others).

**CONDUIT BENDER**
PART No. 30790G
Bending radius 100 mm. To form the conduit in such an even radius allowing regular operation of the cable.

**CONDUIT BENDER FOR KIT WITH ROPE**
PART No. 40153E
Bending radius 50 mm.
CHAIN OPENERS
Opening mechanisms for top and bottom hinged windows

• Available with 250 mm or 380 mm stroke.
• Suitable for bottom hinged, top hinged and centre hinged windows.
• Versatility and simplicity of installation.
• Quick connection of the conduit to the chain opener: it’s not necessary to work the conduit.
• Provided with quick release connector for an easy window cleaning.
• Minimum size: the minimum space for the mounting is 16 mm for top hinged windows and 36 mm for bottom hinged windows.
• The window opening stroke cannot exceed 1/3 of the window height. The chain stroke can be adjusted acting on the lock spring.
• The installation must be carried out in order to allow the cable working in pull action during the load operation (ex. in closing phase for bottom hinged windows and the opening phase for top hinged windows).
• In installations with two or more windows placed side by side, rotary junction boxes mechanism are not required.
• On windows wider than 1,5 m or anyway with a large area, for better stability to wind, it is suggested to install two or more chain openers.

PART No. Stroke 250 mm Stroke 380 mm
WHITE RAL 9010 37566D 37569I
BLACK ANODIZED 37565C 37568H
SILVER ANODIZED 37564B 37567E

⚠️ The instructions for a safe installation are included in the section “SECURITY WARNINGS”. On bottom hinged windows for safety reasons always install side checks.

Bracket for top hinged window (included)

Mechanism dimensions

Bracket for bottom hinged part No. 37616T
**FORKS**

Opening mechanisms for louvres

---

**FORK AND SWIVEL - HEAVY DUTY**

*(travel 250 mm)*

PART No. 30758E

- Suitable for horizontal or vertical sun louvre blades, both for one or more windows.
- Made in stainless steel, it’s suitable both for internal and external installations.
- A geared operator should be used for sun-blades and vertical louvres with more than 10 blades or for horizontal louvres with more than 14 blades.
- For installation with more than one window, rotary junction boxes have to be used.
LOCKING OPENERS
Opening mechanisms for bottom hinged windows

- It can only open bottom hinged windows which do not require pushing force for the opening.
- Minimum size; the needed space for the installation is 20 mm from the vent external limit.
- Maximum opening stroke: 25 cm; it can be adjusted on the end stroke spring placed in correspondence of the control operator.
- For windows with height inferior to 50 cm it is necessary to reduce the stroke to 1/3 of the window height.
- It is not necessary to work the conduit.
- In systems with more windows it is necessary to use rotary junction boxes to transmit the cable movement from the main line to the auxiliary ones.
- For windows wider than 1,5 m it is necessary to apply two or more thrust points.

Examples of single installation
Examples of multiple installation
The dimension are measured from the external limits of the vent and show the minimum necessary space.

⚠️ The instructions for a safe installation are included in the section “SECURITY WARNINGS”. On bottom hinged windows for safety reasons always install side checks.
BRAVO
Fast assembly kit for single bottom-hinged windows

- BRAVO is a fast assembly kit for single bottom-hinged window whose width does not exceed 1,5 m.
- Minimum space required: 20 mm from the vent upper profile.
- The conduit is supplied in 0.6 m bars, drawn at one end: speed of assembly is ensured thanks to its insertion, with no need of joints.
- One bar of the conduit is already bended (50 mm radius), there is no need of any tool.
- Maximum opening: 250 mm; the kit is supplied complete with a pre-cut spent travel tube.
- For vents lower than 500 mm, reduce the stroke to 1/3 of the height by adjusting the end stroke spring, located by the control operator.

NOTE: to open more than one window, loose elements must be ordered.

PART No.

<table>
<thead>
<tr>
<th>Conduit length</th>
<th>3,05 m</th>
<th>4,25 m</th>
<th>6,05 m</th>
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</thead>
<tbody>
<tr>
<td>Color</td>
<td>WHITE</td>
<td>40649K</td>
<td>40650U</td>
</tr>
<tr>
<td></td>
<td>BLACK</td>
<td>40652Y</td>
<td>40653A</td>
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<tr>
<td></td>
<td>GREY</td>
<td>40655E</td>
<td>40656G</td>
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</table>

Items contained in BRAVO

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Description</th>
<th>Q.ty</th>
<th>Q.ty</th>
<th>Q.ty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Flat operator</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<td>2</td>
<td>Locking opener</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Cable</td>
<td>3,5 m</td>
<td>4,7 m</td>
<td>6,5 m</td>
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<tr>
<td>4</td>
<td>Conduit</td>
<td>4</td>
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<td>9</td>
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<td>4A</td>
<td>Bent conduit</td>
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<td>5</td>
<td>Saddle</td>
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<td>6</td>
<td>8</td>
</tr>
<tr>
<td>6</td>
<td>Lock spring</td>
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<td>7</td>
<td>Spent travel tube</td>
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<tr>
<td>8</td>
<td>End plug</td>
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<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

The instructions for a safe installation are included in the section “SECURITY WARNINGS”. On bottom hinged windows for safety reasons always install side checks.
**KIT for single bottom hinged windows with rope**

- Suitable for single bottom hinged windows with less than 1.5 m width.
- To have less friction, in order to reduce the effort, a rope has substituted the helical cable which is present just in correspondence of the control operator.
- Quick and easy installation. The conduit preparation tool is not required.
- The small section of the conduit allows an only 50 mm radius bend: it is usually possible to install the conduit on the window frame.
- Maximum opening 250 mm; the kit is provided with already cut spent travel tube.
- The conduit, coated in PVC, is supplied in 3 m pieces.

**NOTE:** to open more than one window, loose elements must be ordered.

⚠️ The instructions for a safe installation are included in the section “SECURITY WARNINGS”. On bottom hinged windows for safety reasons always install side checks.

---

**PART No.**

<table>
<thead>
<tr>
<th>Conduit length</th>
<th>Color</th>
<th>3.00 m</th>
<th>4.50 m</th>
<th>6.00 m</th>
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<tbody>
<tr>
<td></td>
<td>WHITE</td>
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<td>40171G</td>
<td>40172H</td>
<td>40173I</td>
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<td>GREY</td>
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**Items contained into the KIT**

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<tr>
<td>2</td>
<td>Locking opener</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Cable</td>
<td>3 m</td>
<td>4.5 m</td>
<td>6 m</td>
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<tr>
<td>4</td>
<td>Conduit</td>
<td>3 m</td>
<td>4.5 m</td>
<td>6 m</td>
</tr>
<tr>
<td>5</td>
<td>Saddle</td>
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<td>8</td>
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<tr>
<td>6</td>
<td>Lock spring</td>
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<td>1</td>
<td>1</td>
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<tr>
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<td>Connector</td>
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<td>1</td>
<td>1</td>
</tr>
<tr>
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<td>1</td>
</tr>
<tr>
<td>9</td>
<td>End plug</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
KIT for single top hinged windows

- Suitable for top hinged windows with less than 15 m width
- Maximum opening: 250 mm; the kit is provided with two already cut spent travel tube.
- The conduit is supplied in 3 m pieces.
- Available version: 3 m.
- Suitable for bottom hinged windows adding the bracket part No. 37616T.

⚠️ The instructions for a safe installation are included in the section “SECURITY WARNINGS”

PART No.

<table>
<thead>
<tr>
<th>PART No.</th>
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<td>Conduit</td>
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<tr>
<td></td>
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<td>End plug</td>
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<tr>
<td></td>
<td>Spent travel tube</td>
<td>2</td>
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</tbody>
</table>

MINIMUM RADIUS 100 mm
TELESCOPIC SPINDLE

- Suitable for operating skylights, domes and roof windows up to 2000 N weight.
- Opening stroke: 310 mm.
- Chrome-plated surface, spindle in brass.
- Complete bracket set included.
- Operation by crank handle.

PART No.

<table>
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<tr>
<th>Part Description</th>
<th>Length</th>
<th>Part No.</th>
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</thead>
<tbody>
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<td>TELESCOPIC SPINDLE</td>
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<td>37243K</td>
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<tr>
<td>CRANK HANDLE</td>
<td>1500 mm</td>
<td>37244L</td>
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<tr>
<td></td>
<td>2000 mm</td>
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<td>2500 mm</td>
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<tr>
<td></td>
<td>3000 mm</td>
<td>40003N</td>
</tr>
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</table>

SPECIFICATION PROSPECTS

Ultraflex Control Systems telescopic spindle for operating skylights and domes up to 2000 N weight. Maximum stroke 310 mm.

⚠️ The instructions for a safe installation are included in the section "SECURITY WARNINGS"
**C A T**

**Manual chain opener**

- Manual chain operator for skylights, roof windows and top hinged windows.
- Easy and quick installation on wood, metal and PVC windows.
- Maximum opening approx. 260 mm. It is possible to stop the sash in any position.
- Allows window operation without remove any insect screen.
- When closed it is not possible to open the window from outside.
- Smooth and easy operation.
- Quick release system for easy window cleaning.
- Corrosion protected chain. Suitable for windows with more than 300 mm height.*
- The CAT chain actuator is supplied with a handle for installation on windowsill or eyelet for operation by crank handle for skylights or roof windows.

### SPECIFICATION PROSPECTS

Ultraflex Control Systems manual actuator with chain for operating top hinged windows by handle or skylights by eyelet and crank handle. Maximum stroke 260 mm.

<table>
<thead>
<tr>
<th>PART No.</th>
<th>WHITE RAL 9010</th>
<th>BLACK RAL 9005</th>
<th>GREY RAL 9006</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAT CHAIN OPENER WITH HANDLE</td>
<td>40761WIN</td>
<td>40807WIN</td>
<td>40808WIN</td>
</tr>
<tr>
<td>CAT CHAIN OPENER WITH EYELET</td>
<td>40761SKY</td>
<td>40807SKY</td>
<td>40808SKY</td>
</tr>
</tbody>
</table>

CRANK HANDLE  
- Lenght  
  - 1500 mm  
  - 2000 mm  
  - 2500 mm  
  - 3000 mm  

Maximum load on the chain 180N  
The above value do not include any wind or snow load.

* For window less than 500 mm high, please refer to the user manual.

⚠️ The instructions for a safe installation are included in the section “SECURITY WARNINGS”
Ultraflex Control Systems proposes a complete line of electric chain and linear actuators, that allows the choice of the most suitable actuator for every kind of requirement. The following technical details are a valid support to this choice that must be effected considering the following elements:

**WINDOW TYPE**

**Bottom hinged windows** (hinges on the bottom side, inside opening): chain actuators installation is recommended because they do not take up space inside the room and are aesthetically discreet. Moreover, for these kind of installations, are not usually required special protection class for water or powder. The installation of linear actuators would need very long brackets (not available). For windows wider than 1.5 m we suggest to install actuators with two thrust points.

**Top hinged windows** (hinges on the top side, outside opening): it is recommended the installation of actuators with a special protection class and enough powerful to support with sufficient rigidity the maximum load that occurs when the window is completely opened. We suggest actuators like Nano, Quasar, Twin Quasar, Vega, Twin Vega, Supermaster or Stile with double link chains. It is possible to install also linear or rack actuators, considering their encumbrance, the rotation of actuator’s body and aesthetic effect. For window wider than 1.5 mm we suggest to install actuators with two thrust points, rack systems connected by connecting rod, or two actuators with control coupling unit.

**Roof windows** (skylights, domes, etc.): see the installation instructions for top hinged windows. The hinges can be on one of the two horizontal sides or on the two vertical sides (central rotation axis). In that case it has to be considered as height of the window, the distance between the hinges and the fixing point of the actuator; besides, consider weight as zero if window is not equipped with brakes.

**Horizontal pivoting windows**: see the installation instructions for top or bottom hinged windows and bottom hinged windows according to actuator fixing position on the pivoting window. In the calculation of the opening and closing effort it is necessary to consider the height of the window as a distance between the fixing position of the actuator and the rotation point of the window, in order to avoid an extreme bending of the chain. Besides, consider weight as zero if window is not equipped with brakes.

**Louvres or sun blades windows**: it is necessary to specify the control level stroke for their movement and the necessary force to apply on it. After this choose an adequate rack/spindle actuator (Ulysses, Max, Rack). In case the actuator is installed exposed to bad weather conditions we suggest to contact our technical department.

**Normal turn window** with hinges on the vertical sides and inside or outside opening: it is necessary to install a chain actuator on the vertical side (with the same kind of brackets for bottom and top application), considering the right installation way of the chain: it doesn’t have to be bent because of the gravity force to choose the adequate stroke and brackets. For choosing the adequate stroke and brackets consider as “height” of the window the distance between the hinges and the fixing point of the actuator.

**Parallel Windows** (outside parallel opening): it is required the installation of at least two chain actuators with speed synchronization, in order to keep the sash parallel to the frame. For window sides wider than 1.5 m we suggest to install two actuators per side or the installation of the locking drive E-Lock connected to the internal multilocking hardware. We suggest to install Synchro Vega chain actuators because of their small size, eventually integrated inside of the curtain wall profiles, having stroke suitable to the max opening of the parallel hinges.

### ACTUATOR STROKE

The necessity of a wide window opening contrasts with the following factors:

a) for a chain actuator, if it is not used the pivoting brackets kit, the stroke must not exceed 1/3 of the window height, otherwise the chain bending would cause a loss of rigidity and for this reason a loss of performance in the long run. **In case of vents with four-bar hinges please contact our Technical Dpt.**

b) for a linear actuator it is necessary to consider the actuator encumbrance inside the room; aesthetic effect apart, it grows as much as the required stroke increases, and it must be considered also the actuator rotation angle. In order to avoid interferences of the actuator with the elements in the room, it is necessary to evaluate carefully the position of the rotation axis opportunely choosing and positioning the fixing brackets. For this purpose, UCS proposes for all the linear actuators side fixing brackets, sliding within the proper dovetail slide on the actuator.
**ACTUATOR FORCE**

To calculate the window opening and closing force, please refer to the following simplified formula:

\[
F (kg) = \frac{W (kg)}{2} \times \frac{S (mm)}{H (mm)}
\]

\[
W_{\text{max}} (kg) = 2\times F (kg) \times \frac{H (mm)}{S (mm)}
\]

Where:
- \(W\) = window leaf weight
- \(W_{\text{max}}\) = max window leaf weight
- \(S\) = actuator stroke
- \(F\) = required force (in kg, 1kg ~ 10 N)
- \(H\) = window leaf height

Therefore, the required force is lower as higher is the window leaf and shorter is the required stroke.

**For vertical bottom or top hinged windows:**

For **horizontal windows** (roof windows, skylights, domes, etc.):

\[
F (kg) = \frac{W (kg)}{2} + \frac{S_{\text{load}} (kg)}{2}
\]

\[
W_{\text{max}} (kg) = [2\times F (kg)] - S_{\text{load}} (kg)
\]

Where:
- \(W\) = window leaf weight
- \(S_{\text{load}}\) = snow load
- \(W_{\text{max}}\) = max window leaf weight
- \(F\) = required force (in kg, 1kg ~ 10 N)

**For inclined windows** apply the formula for the horizontal windows; that is necessary if during the opening the window lies in horizontal position, and anyhow for higher safety margin.

**For windows with four bars (side arm) hinges**: the force needed depends on the hinge used; for any further information do not hesitate to contact our technical department.

**NOTE** In the above mentioned formulas the wind load has not being considered: it is necessarily to be considered above all for wide windows; if they are very high, for example, the greatest part of their weight is loaded on the hinges and the required opening force is very reduced, but in case of wind the effect on the large surface is considerable and the actuator must be chosen carefully.

**PROTECTION CLASS**

The chain actuators are less protected from water or solid bodies (dust, sand, etc.) than the linear actuators. Some linear actuators, with protection class IP 65, are practically watertight in static conditions. For this reason we suggest to install chain actuators on bottom hinged windows or, in connection with a rain sensor, on top hinged windows. Quasar and Vega actuators are available with Protection Class IP 32.

**LARGE WINDOWS**

For very large windows only one pushing point in the central position cannot be sufficient.

When the window is closed its corners cannot be watertight or airtight and, anyway, when it is opened the stability is compromised in case of wind.

We recommend to install two pushing points (or pulling points) if the window is larger than 1,5 m and also for an inferior width if the window leaf rigidity (profile + glass or polycar-bonate) is not sufficient.

The installation of two electric actuators on the same window leaf is not possible if it is not used a suitable electronic (coupling) control system, because it is not possible to guarantee the constancy in time of the actuators speed, with consequent probable break of one of them.

In this case if the actuators are not equipped with the electronic stop system, it results the break of one actuator or of the window.

The control panel for coupling actuators on the same vent controls only the current absorption of the connected motors, so it can be supplied only with couples of actuators selected during their production by UCS.

The best solution for big windows are Synchro Nano, Synchro Quasar, Synchro Quasar-L, Synchro Vega, Twin Quasar and Twin Vega. These actuators are equipped with integrated speed control sensor than enable the installation of more actuators on the same window without the usage of control panel to synchronize them.

Dual rack and double rack systems enable to have two, three or four pushing points mechanically synchronized with connection nods.

For any further information do not hesitate to contact our technical department.
SAFETY WARNINGS

- Before proceeding to install an actuator, verify the following:
  - the technical features of the actuator and its own fixing accessories are suitable to the advised application, to the type, weight and dimensions of the window; in case of actuator with available fixing brackets both in plastic and aluminium, use the aluminium ones if the performances required to the actuator are close to the nominal values;
  - window frame and accessories have to be correctly sized to stand the actuator load stress;
  - the window has to be free from any window hinge or other obstacle to open for the whole stroke of the actuator;
  - the electric system has to comply with current specifications;
  - power supply has to be the one indicated by the technical features of the actuator.
- The declared nominal values do not consider any wind stress: it is necessary to evaluate it correctly to avoid any failure of the actuator or of the window, particularly in case of large windows.
- The electric actuators have to be installed on windows out of range for people only. If the windows are within reach of people, provide systems of protection against squeezing.
- For safety reasons always install side checks on bottom hinged windows.
- It is advisable to install a maintained contact push-button.
- In case of actuator installed on the vent, verify the electric cable not to be stressed or cut or pinched during operation.
- During installation or release of the actuator, be careful to avoid accidental closing of the window causing damage to people (bruise-squeezing-cut).
- The installation of two actuators on the same window is possible, only with an adequate control system or using a Synchro versions actuators.
- The installation and the actuator’s connection to electrical net has to be done from qualified people only in accordance with the directives.
- Installations and/ or equipments using our products must be carried out by UCS.
- The power control and the actuators included in this catalogue are not to be considered “machinery” pointed out in the directive 2006/42/CE and following modification. In case they are included in systems that are part of the application field of these directives, it is responsibility of the installer the fulfilment of the safety requisites.

GENERAL INFORMATIONS

- The actuators are tested one by one and periodically endurance tests (10,000 cycles with maximum load) are carried out, in compliance with specifications for actuators used both for ventilation and for smoke and heat extraction.
- The technical data reported in this catalogue are referred to tests carried out in room temperature.
- The working temperature of actuators are: from -10°C to +60°C with maximum relative humidity 60%.
- Notes about actuators voltage supply:
  230 Vac actuators: voltage supply has to be 230 Vac ± 10% through pure sine wave;
  24 Vdc actuators: voltage supply has to be 24 Vdc ± 10%.
- In case of electric actuators connected to automatic control systems (BMS), an approval by our technical department has to be required.

QUALITY MANAGEMENT SYSTEM

The Ultraflex Control Systems Quality Management Systems has been certified by DNV-GL in conformity with the UNI EN ISO 9001:2015 rule and involves all the company resources and processes starting from the design, in order to:

- Define and comply with the customer requirements
- Set up the actions to maintain and improve the quality standards constantly
- Pursue a continuous improvement of the effectiveness and efficiency of the processes in order to meet the needs of the market and increase customer satisfaction.
**WARRANTY CONDITIONS**

The following warranty conditions contain the whole agreement between UCS and the buyer and substitute all the previous commitments and representation both written than verbal between the buyer and UCS. If any of the following clause results invalid or non-applicable for any reason, the remaining part of the warranty and its appliance will be not compromised. Any notification by the buyer must be sent to ULTRAFLEX CONTROL SYSTEMS, Via XXV Aprile, 45 – 16012 Busalla (GE), ITALIA.

**WARRANTY**

UCS products are guaranteed for a period of two years starting from the date of production identified by the serial number on the label. For substitution or repair of the products in warranty, the warranty period of the new or repaired product terminates on the date regarding the warranty period of the original product. Buyer/installer is no co-warrantor and is not authorized from UCS to modify or amend the present warranty terms in any way. If UCS confirms plain defects or non-compliance of goods, payment for indemnity or direct/indirect punitive damages in any amount and quality is excluded. Cost of labor and other costs related to the removal and reinstallation of the replaced products are excluded as well as components not produced by UCS, even if guaranteed by other manufacturers. In case of defective products due to materials, engineering and manufacturing, UCS will repair or substitute (to UCS own discretion) any defective part delivered by the customer. Shipping costs for the replaced or repaired items that fall within the terms of the present warranty, are at UCS charge. If the returned item results no defective due to materials, engineering or manufacturing, UCS will not deal with the restitution. After evaluation, UCS will inform the customer in writing about the status of the product and about the repairing costs if the product is not included in the term of the present warranty.

**TERMS OF WARRANTY EXCLUSION**

- Products not returned to UCS to allow direct verification of the defects and the ability to repair
- If the products cannot be identified by means of the Serial Number;
- If the warranty period, identified by means of the Serial Number, exceeds the terms or the present warranty.
- Damaged products due to wrong choice, installation and use that do not comply the specifications included in the technical manual supplied with the product;
- Damaged products due to modifications not formally approved by UCS
- Damaged products due to usage, climate conditions, improper use and maintenance, accident, fire or other occasional damages that cannot be related to the product;
- Electric actuators damaged or malfunctioned connected to building automation systems that have not been in advance and formally authorized, in writing, by UCS
- Products installed in combination with inappropriate components or components not manufactured by UCS

Besides, we underline that the present warranty does not cover costs related to removal and reinstallation of the products, routine maintenance activities and the payment of damages direct or indirect of any nature and entity. The customer is responsible for the choice and appropriate use of the product required.

**LAW AND JURISDICTION**

The Italian Civil Code shall apply and the Court of Genoa shall have jurisdiction in the event of any dispute.

**NOTE**

Descriptions and pictures in the catalogue, on the website and in all the information material are provided as a rough guide. Any partial or total reproduction is prohibited. For further detailed information please contact our Technical Department. UCS reserves the right to modify its products at any time, without notice.

**SALES CONDITIONS**

**ORDERS** - Orders sent to ULTRAFLEX CONTROL SYSTEMS (hereinafter referred to as UCS) means total and unconditional adherence to the present sales conditions and must be transmitted in writing. These sales conditions may be in any moment modified by UCS, giving notice to customers with sales contracts in progress. The sale contract is finalized with the submission by UCS of the order confirmation which includes all the terms of the negotiation; if the order confirmation is not returned to UCS by the customer indicating different observations within 2 days from the receiving, it is understood to be irrevocably accepted in any terms.

**DELIVERY** - The delivery date indicated on the confirmation order should not be considered binding being dependent by the supply of materials and other facts of force majeure. The delay on the agreed delivery terms does not permit request of damages.

**TRANSPORT** - The goods travel at the risk and peril of the customer even if sold free of carriage. In case of losses or damages to the goods, the customer must accept with reserve indicating the fact on the transport document that has to be signed by the transporter. Claims must be notified in writing, by UCS

**SALE PRICE** - UCS reserves the right to change sale prices present on the list price. The confirmation order sent to the customer brings the final price and without notice to the contrary by the customer it will be considered accepted.

**PAYMENT TERMS** - The confirmation order contains the terms of payment. In case of delay in the payment, interest shall be effective automatically by law. In case of default in payments, also in respect of previous orders, the fulfillment of order in progress will be suspended. The right of property will be reserved as per art. 1523 of the Italian Civil Code regarding the sale.

**CLAIMS** - Any claim related to plain defects or non-conformity, must be communicated to UCS within 7 days from the date of receipt of the goods; in case of hidden defects, the term starts from the proved date of discovery. The customer must transmit, in writing, information regarding the defects or the non-compliances found. Return of goods without written authorization by UCS is not accepted. Defective items must be sent at customer’s risk and expenses.