

FM 501-800 Tandem

SmartMotion DC chain actuators



Made in Germany

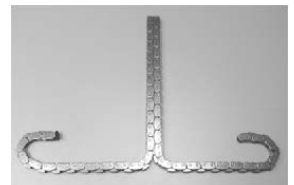
Functional Fenestration Inc (FFI) is an expert and leader in the American motorized actuator market, with a broad range of motors for windows, vents, and skylights. FFI has been providing motorized operators for natural ventilation since 1987, for institutional, commercial and residential applications.

Benefits of motorized actuators

- Automated operation of multiple awning windows, hopper windows, casement windows, curtain wall vents, and skylights.
- Ideal for smart buildings; integrate with building and home automation systems.
- FM actuators are certified for Smoke and Heat Extraction (SHE).
- Natural ventilation enables lower energy consumption, lets in fresh air and daylight, enables LEED credit.
- Low voltage DC motors are energy efficient.

Features

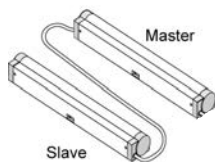
- Tandem is 2 actuators (master and slave) connected by a cable, designed for wide vents.
- The actuators can be mounted at any distance apart from each other on the vent.
- FM series is the strongest chain drive actuator offered in North America.
- Push/Pull Force up to 700 N (158 lb) for each actuator to operate 501mm chain version.
- Opening distance ranges from 501 mm to 800 mm approx., according to version.
- Multiple windows may be linked for simultaneous operation.
- Has stainless steel double zipper chain for rigidity and durability.
- Low-noise operation.
- Tight vent closure using electronic power cut-off.
- UL Recognized.
- Chain must be manually adjusted at installation.
- Sash connectors/hinge brackets for FM are included with the actuator. Mounting brackets are optional; FM actuators can be mounted direct to frame or sill without mounting bracket kit, depending on the application. See FM Brackets & Accessories DataSheet for optional bracket kits.
- Actuators are available in standard grey, white, or black color.
- UL cable 1 meter included, black color.
- Tested to 10,000 cycles.
- 3-year manufacturer's warranty; requires use according to Installation Guide recommendations.



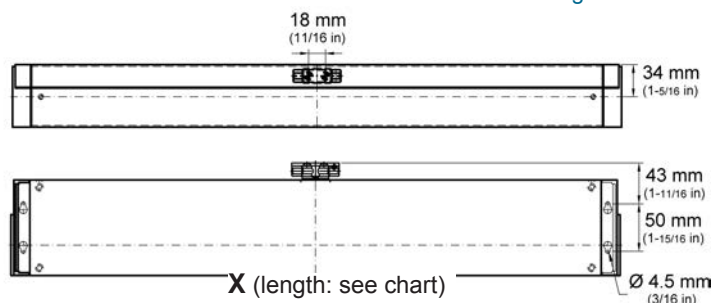
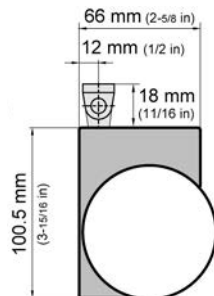
double zipper SST chain



sash connector/hinge bracket



X = length (tolerance +/- 1mm)	
at stroke	length
at 501 mm stroke	643 mm (25-5/16 in)
at 600 mm stroke	744 mm (29-5/16 in)
at 700 mm stroke	846 mm (33-5/16 in)
at 800 mm stroke	948 mm (37-5/16 in)

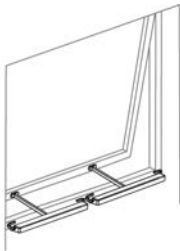


FM
501-800
Tandem

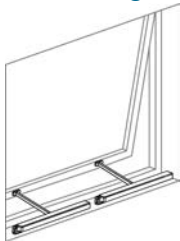


Applications

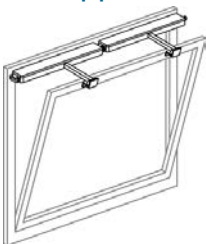
On Wall or Frame



Awning



Hopper



Skylight



Specifications

Supply voltage: 24 V DC (-10 % / +25 %)
 Normal current amp draw*: 300 N (68 lbf +/- 3%) = approx. 2 x 1.2 amp
 500 N (113 lbf +/- 3%) = approx. 2 x 1.6 amp
 600 N (135 lbf +/- 3%) = approx. 2 x 1.8 amp
 700 N (158 lbf +/- 3%) = approx. 2 x 2.0 amp
 Limit stop: integrated limit switch (Open and Closed), with additional overload protection
 Chain stroke length (approx): 501 mm (19-3/4 inch) 600 mm (23-5/8 inch)
 700 mm (27-9/16 inch) 800 mm (31-1/2 inch)
 Chain installation adjustment: manual adjustment
 Push/pull force (max): 2 x 700 N (158 lbf +/- 3%) for 501 mm chain (700N version)
 2 x 600 N (135 lbf +/- 3%) for 600 mm chain (600N version)
 2 x 300 N (68 lbf +/- 3%) for 700 mm chain
 2 x 300 N (68 lbf +/- 3%) for 800 mm chain
 2 x 3000 N (675 lbf +/- 3%) force needed to rip chain out of actuator case
 Nominal clamping force (max): chain stroke without bracket with bracket SBFM5
 Min. sash height at stroke length* *: 501 mm 800mm (31-1/2 in) sash ht 600mm (23-5/8 in) sash ht
 600 mm 1000mm (39-3/8 in) sash ht 800mm (31-1/2 in) sash ht
 700 mm 1100mm (43-5/16 in) sash ht 900mm (35-7/16 in) sash ht
 800 mm 1300mm (51-3/16 in) sash ht 1100mm (43-5/16 in) sash ht
 Chain speed: approx. 10 mm/sec (0.393 in/sec) at rating load and nominal load
 Actuator Dimensions (l x h x d): 501 mm chain = 643 x 100.5 x 66 mm (25-5/16 x 3-15/16 x 2-5/8 in)
 600 mm chain = 744 x 100.5 x 66 mm (29-5/16 x 3-15/16 x 2-5/8 in)
 700 mm chain = 846 x 100.5 x 66 mm (33-5/16 x 3-15/16 x 2-5/8 in)
 800 mm chain = 948 x 100.5 x 66 mm (37-5/16 x 3-15/16 x 2-5/8 in)
 Power cable: UL cable 1 meter included, black color
 Connection cable: 4-pole cable; length approx. 1.8 meter
 Run/Rest cycle: For every 60 seconds running (ON), must then rest (OFF) for 120 seconds.
 Ambient operating temperature: -10 °C to +60 °C (14 °F to 140 °F)
 Safety marks: ANSI / UL Recognized : E 306715 , manufacturer STG Beikirch
 Protection class: IP 20
 Case: aluminum profile
 Colors (standard): powder-coated: silver grey (RAL 9006), white (RAL 9016), or black (RAL 9005)
 Special colors: other RAL colors on request, see accessory data sheet
 Opening mechanism: stainless steel double zipper-type chain, chains are centered in the cases

* Calculate power supplies and control boxes needed based on peak draw of 2 times normal amp draw.

** If sash height is very low, order an SBFM swivel bracket.

FFI FM UL 501-800 Tandem Actuators

Stroke (and push/pull Force)	Part Numbers		
	Silver Grey	White	Black
2 x 501 mm (500 N) 19-3/4 in (113 lbf +/- 3%)	2409833	2409825	13324598332
2 x 501 mm (700 N) 19-3/4 in (158 lbf +/- 3%)	2409866	2409858	13324598662
2 x 600 mm (500 N) 23-5/8 in (113 lbf +/- 3%)	2409890	2409882	13324598902
2 x 600 mm (600 N) 23-5/8 in (135 lbf +/- 3%)	2409924	2409916	13324599242
2 x 700 mm (300 N) 27-9/16 in (68 lbf +/- 3%)	2409957	2409940	13324599572
2 x 800 mm (300 N) 31-1/2 in (68 lbf +/- 3%)	2409981	2409973	13324599812

FM Accessory Parts



FM Status Signal closed (added at factory)	part # 50000824
FM brackets	see FM Brackets & Accessories DataSheet

Recommendations for FFI Actuators & Controls: FFI only recommends UL compliant systems. FFI is a UL registered firm. Read FFI data sheets & installation guides before specifying project details. Project-specific needs vary depending on the number of actuators, electrical layouts, building management systems, distance between power supplies & actuators, and other details. Project specifications to comply with electric & building codes—for wire gauge, wire connections and run distance, conduits, junction boxes—must be arranged by the project electrical contractors. Distribute this guide to all project parties, including electrical contractors, architects, and building management personnel.