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CATALOGUE

Door Automation
Window Automation



AFC20

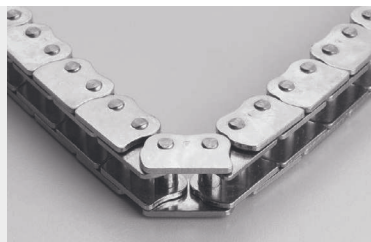
Chain actuator

Thrust force 300 N

Max stroke 360 mm

PRODUCT DESCRIPTION

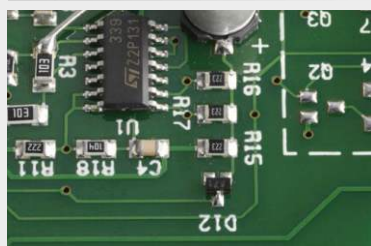
Electric AFC20 actuator with double link articulated chain, enclosed in a suitable casing, with different mounting accessories for top and bottom hung windows. Operation at 230V 50Hz or, as an alternative, at 24V DC. Maximum applicable load 300N. Fast hooking and unhooking system of the chain to the window. Adjustment of the force and of the stroke at 240 or 360mm by external knobs (for AFC20 tandem 360mm fixed stroke, special stroke optional on request). Electronic end of stroke in closing by current absorption control. CE marked device.



Double link chain with very high resistance on heavy loads.



Long stroke, together with a slim and attractive housing, to allow applications that require minimum size (International patent on the chain path).



Stroke-end by amperometric absorption in closing to avoid chain adjustments in closing and any possible installation mistake.



TECHNICAL SPECIFICATIONS

AFC20 230V

AFC20 24V

Power supply voltage	230V ~ 50Hz	min 21V ~ max 28V d.c.
Max applicable load in thrust	300 N	300 N
Max applicable load in traction	200N	200 N
Stroke	240 and 360 mm	240 and 360 mm
Absorbed current	0,12 A	0,43 A
Idle translation speed	8 mm/s	7,5 mm/s
Duration of the idle stroke	46 s	48s
Double insulated	YES YES	
Service type	S2 of 4 min	S2 of 4 min
Operating temperature	- 5°C + 50°C	- 5°C + 50°C
Protection Class	IP 30	IP 30
Stroke end regulation in closing	not necessary	not necessary
Parallel connection option	YES YES	
Stroke end Dimensions Weight	Electronic in opening, by amperometric absorption in closing	
	362 x 34 x 48 mm	362 x 34 x 48 mm
	0,970 kg	0,940 kg

AFC50

Chain actuator
Thrust force 500N
Stroke 600mm - 800mm - 1000mm

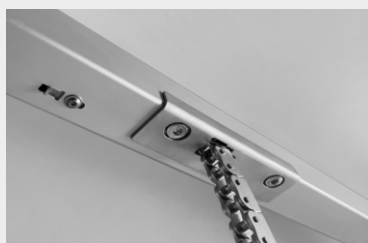
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PRODUCT DESCRIPTION

Alu forme electric actuator model AFC50 with double-link chain, in an aluminium profile, available with brackets and accessories for skylights, bottom hung or top hung windows. Operation at 230V 50Hz. Max. thrust force 500N. Stroke 600 - 800 - 1000 mm. Patented chain terminal, attachment to the frame and chain load adjustment to ensure maximum resistance to high loads with long strokes. Preset for the synchronous operation of two actuators on the same window. CE marked device.



Double-link chain and die-cast aluminium gearbox with shaft supported by ball bearings for higher resistance to heavy loads.



Patented chain load adjustment system to allow the maximum resistance to high loads with long strokes.



Patented chain terminal with double lateral fixing and swivelling range of two degrees to ensure a greater resistance to heavy loads.



TECHNICAL SPECIFICATIONS

	AFC50 stroke 600 mm		AFC50 stroke 800 mm		AFC50 stroke 1000 mm
	Top hung	Bottom hung	Top hung	Bottom hung	Bottom hung
Power voltage	230V ~ 50Hz		230V ~ 50Hz		230V ~ 50Hz
Max applicable load in thrust	500 N		300 N		-
Max applicable load in traction	500 N		500 N		500 N
Stroke (+/-20mm)	600 mm		800 mm		1000 mm
Absorbed current	0.2 A		0.2 A		0.2 A
Idle translation speed opening	10,3 mm/s		12.7 mm/s	13.2 mm/s	13.2 mm/s
Idle translation speed closing	10.3 mm/s		8 mm/s	8 mm/s	8 mm/s
Duration of the idle stroke	60 s		67 s	60 s	75 s
Service type	S2 of 4 min		S2 of 4 min		S2 of 4 min
Operating temperature	-5°C + 50°C		-5°C + 50°C		-5°C +50°C
Protection Class	IP 30		IP 30		IP 30
Synchronous operation of 2 actuators on the same window	YES		YES		YES
Parallel connection option	YES		YES		YES
Overlap from 0 to 50 mm with self-learning	YES		YES		YES
Dimensions	811 x 43 x 55 mm		911 x 43 x 55 mm		1011 x 43 x 55 mm





AFC50 RWA

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Chain actuator thrust force 500N
Stroke 600mm - 800mm - 1000mm

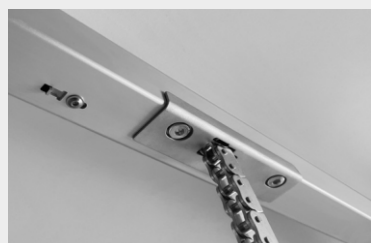
PRODUCT DESCRIPTION

Alu forme electric actuator model AFC50 RWA with double-link chain, in an aluminium profile, available with brackets and accessories for skylights, bottom hung or top hung windows. Operation at 24V DC. Max. thrust force 500N. Stroke 600 - 800 - 1000 mm. Patented chain terminal, attachment to the frame and chain load adjustment to ensure maximum resistance to high loads with long strokes. Preset for the synchronous operation of two actuators on the same window.

CE marked device, 600mm and 800mm strokes tested in accordance with the EN12101-2 Standard for smoke ventilation applications.



Double-link chain and die-cast aluminum gearbox with shaft supported by ball bearings for higher resistance to heavy loads.



Patented chain load adjustment system to allow the maximum resistance to high loads with long strokes.



Patented chain terminal with double lateral fixing and swivelling range of two degrees to ensure a greater resistance to heavy loads.



TECHNICAL SPECIFICATIONS

	AFC50 RWA stroke 600 mm		AFC50 RWA stroke 800 mm		AFC50 stroke 1000 mm
	Top hung	Bottom hung	Top hung	Bottom hung	Bottom hung
Power voltage	24V d.c.		24V d.c.		24V d.c.
Max applicable load in thrust	500 N		300 N		-
Max applicable load in traction	500 N		500 N		500 N
Stroke (+/-20mm)	600 mm		800 mm		1000 mm
Absorbed current	1A		1 A		
Idle translation speed opening	10,3 mm/s		12.7 mm/s	13.3 mm/s	13.2 mm/s
Idle translation speed closing	10.3 mm/s		8 mm/s	8 mm/s	8 mm/s
Duration of the idle stroke*	60 s		63 s	60 s	75 s
Service type	S2 of 4 min		S2 of 4 min		S2 of 4 min
Operating temperature	-5°C + 50°C		-5°C + 50°C		-5°C +50°C
Protection Class	IP 30		IP 30		IP 30
Synchronous operation of 2 actuators on the same window	YES		YES		YES
Parallel connection option	YES		YES		YES
Overlap from 0 to 50 mm with self-learning	YES		YES		YES
Dimensions	811 x 43 x 55 mm		911 x 43 x 55 mm		1011 x 43 x 55 mm

* For RWA application: required max opening time 60s.

AFC160 RWA

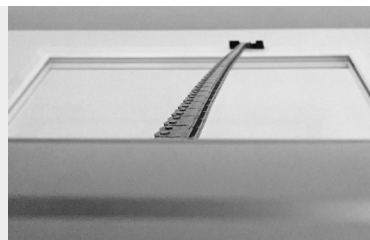
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Chain actuator
Thrust force 300N

Stroke 360mm - 600mm - 1000mm

PRODUCT DESCRIPTION

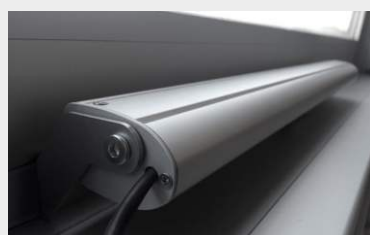
Electric actuator Alu forme model AFC160 RWA with double-link chain, in an elegant die-cast aluminium profile, complete with brackets and accessories for bottom hung windows outward opening for smoke evacuation application. Operation at 24V DC. Max. thrust force 300N. Stroke 360 - 600 - 1000 mm.



Elegant and attractive aluminium profile with swivel brackets for large openings.



Available also for installation on side hung windows.



Long chain up to 1 meter enclosed in a slim housing.



TECHNICAL SPECIFICATIONS

	AFC160 RWA stroke 360 mm	AFC160 RWA stroke 600 mm	AFC160 stroke 1000 mm
Power voltage	24V d.c.	24V d.c.	24V d.c.
Max applicable load in thrust	300 N	250 N	50 N
Max applicable load in traction	200 N	200 N	200 N
Stroke for top-hung application	360 mm	600 mm	1000 mm
Stroke for bottom-hung application	322 mm	562 mm	962 mm
Absorbed current	0,43 A	0,60 A	0,60 A
Idle translation speed	7,5 mm/s	10 mm/s	10 mm/s
Duration of the idle stroke *	48 s	60 s	100 s
Service type	S2 of 4 min	S2 of 4 min	S2 of 4 min
Operating temperature	-15°C + 50°C	-15°C + 50°C	-15°C + 50°C
Protection Class	IP 30	IP 30	IP 30
Stroke end regulation in closure	not necessary	not necessary	not necessary
Parallel connection option	YES	YES	YES
Possibility of installing double push point on the same window Stroke end	YES	NO	NO

Electronic in opening, by amperometric absorption in closing

* For RWA application: max opening time required 60s.

AFC160 RWA DOUBLE CHAIN

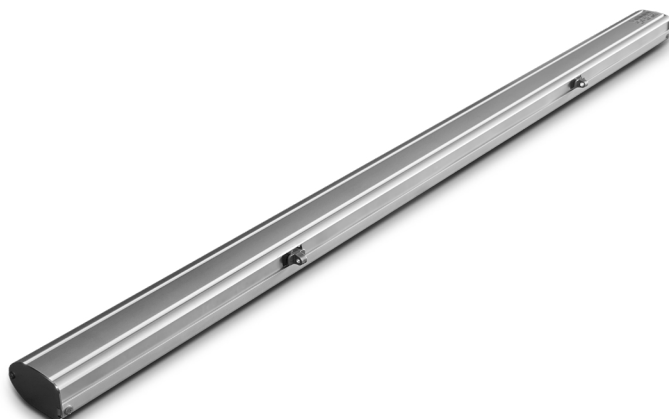
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Dual push points chain
actuator Thrust force max.
600N

Stroke 360mm - 600mm

PRODUCT DESCRIPTION

Electric actuator Alu forme model AFC160 RWA with 2 double-link chains, in an elegant die-cast aluminium profile, complete with brackets and accessories for bottom hung windows outward opening for smoke evacuation application. Operation at 24V DC. Max. thrust force 300N. Stroke 360 - 600 mm. Electronic end of stroke in closing by current absorption control. CE marked device, tested in accordance with the EN12101-2 Standard for smoke ventilation applications.



Tailored profile lengths according to the window frame width. (International patent)



Special hooking of chain to window to guarantee very high resistance with a long stroke even on top hung windows.



Innovatory and original design.



TECHNICAL SPECIFICATIONS

	AFC160 RWA double chain stroke 360 mm	AFC160 RWA double chain stroke 600 mm
Power supply voltage	24V d.c.	24V d.c.
Max applicable load in thrust	400N	600N
Max applicable load in traction	300N	600N
Stroke	360mm	600mm
Absorbed current	0,75A	2,10A
Idle translation speed	7,5 mm/sec	13 mm/sec
Duration of the idle stroke	48s	45s
Service type	S2 of 4min	S2 of 4min
Operating temperature	-15°C + 50°C	-15° + 50°C
Protection Class	IP30	IP30
Stroke end regulation in closure	not necessary	not necessary
Parallel connection option	YES	YES
Stroke end	Electronic in opening, by amperometric absorption in closing	

RWA Control units

RWZ control units for smoke and heat evacuation systems.

PRODUCT DESCRIPTION

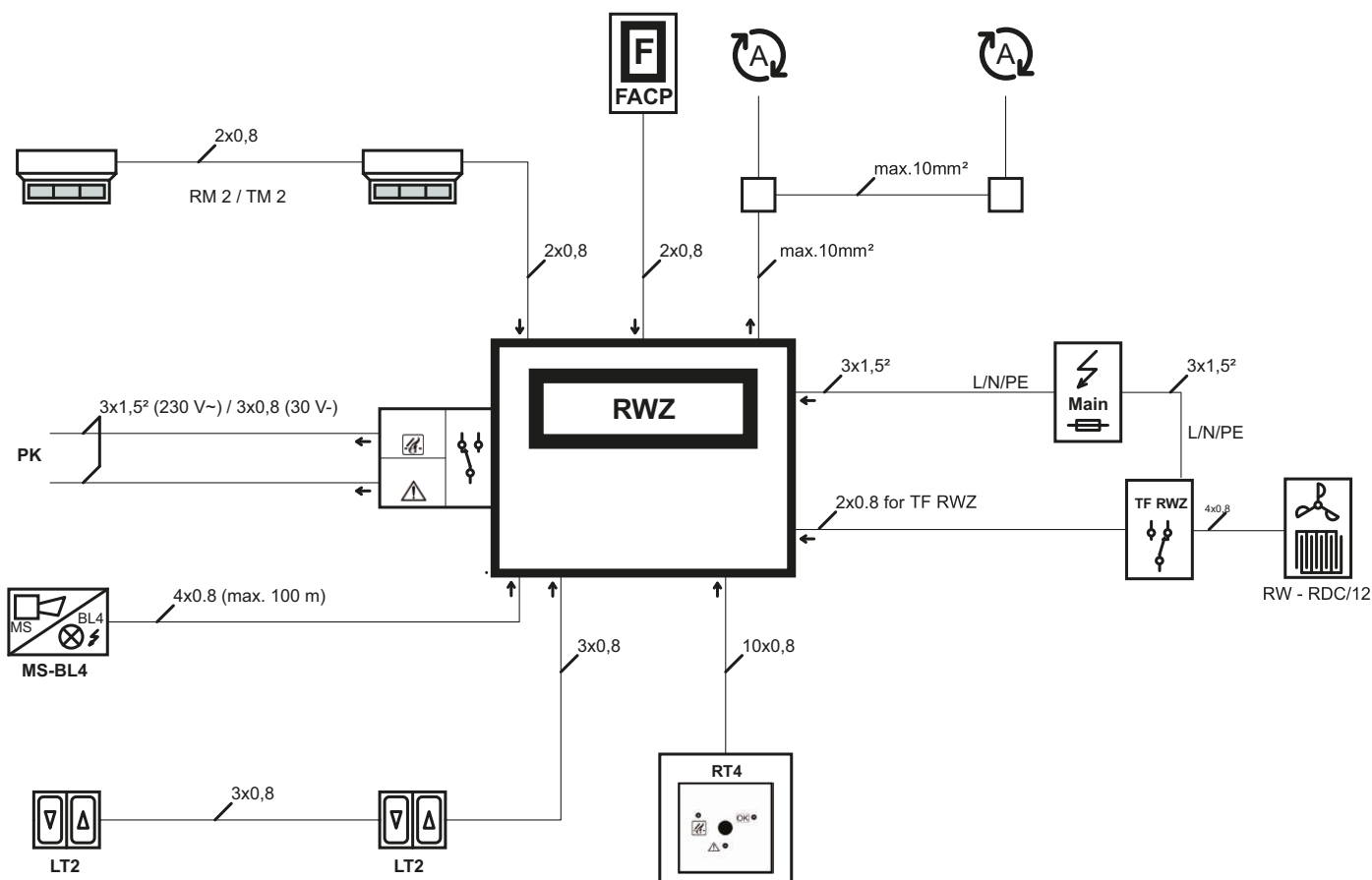
The control units for smoke and heat evacuation have the following specifications and meet the following requirements (some technical characteristics may vary according to the RWZ control unit model):

- Output for the connection of 24V actuators.
- VdS approved according to the VdS 2581 and VdS 2593 directives.
- Internal power supply certified according to DIN EN 12101-10.
- Control unit tested according to ISO 21927-9.
- 3 signal lines:
 - Automatic fire detector
 - RT2 manual emergency push button with indicators for operation, alarm, malfunction and reset button
 - Connection to a fire alarm control panel or additional automation fire detectors
- Alarm Reset using the RT2 button or in the control centre.
- Selectable functions:
 - "Auto-close" (automatic closure after resetting an alarm)
 - "Malfunction = Alarm" (alarm upon malfunction of a signal line)
 - "Automatic OFF" (the automatic commands - apart from the alarm - are disabled)
 - "Thermal alarm" (alarm on exceeding temperature of 70 °C inside the enclosure)
- Possibility of connecting ventilation buttons
- Adjustable ventilation and time positions
- Possibility of connecting an external wind and rain control
- Normal operation, alarm and malfunction displayed on the emergency push button
 - Internal service display showing detailed status information for installation and maintenance.
- Plug-in connection terminals (apart from actuator output).
- Upon direct reverse of travel, actuators are briefly stopped before changing the sense.



TECHNICAL SPECIFICATIONS	RWZ 1-4b	RWZ 4-8d	RWZ 5-20f	RWZ 5-40f
Power supply voltage	230V~50Hz.			
Output voltage	24 v			
Max absorbed current	0,7 A	1,1 A	2,5 A	5,0 A
Max output current Battery	4 A		20 A	40 A
Service type	2 x	2 x 7Ah/12V	2 x 12Ah/12 V	2 x 17Ah/12V
Pre-set for	2Ah/12V	S1 - continuous		
Operating temperature	wind sensor, rain detector, push button			
Dimensions (mm)	- 5°C + 40°C			
Connectable number of actuators:	337x337x113	400x400x135	430x525x185	430x525x185
C50 RWA				
C160 RWA stroke 360mm	3	6	16	32
C160 RWA stroke 600mm	8	16	40	80
C160 RWA double chain stroke	6	12	30	60
360mm C160 RWA double chain	5	10	25	50
stroke 600mm ACK4 RWA	1	3	9	18
ACK4S RWA	2	5	12	24
S80 RWA A90	2	4	10	20
	3	6	16	32
	3	6	16	32

AF8C040	RWZ 1-4b Control and power unit for the connection of 24V actuators max 4A - 2,0Ah Batteries included EN 12101-10 / ISO 21927-9 certified
AF8C0041	RWZ 4-8d Control and power unit for the connection of 24V actuators max 8A - 7,0Ah Batteries included EN 12101-10 / ISO 21927-9 certified
AF8C0047	RWZ 5-20f Control and power unit for the connection of 24V actuators max 20A - 12,0Ah Batteries included EN 12101-10 / ISO 21927-9 certified
AF8C0048	RWZ 5-40f Control and power unit for the connection of 24V actuators max 40A - 17,0Ah Batteries included EN 12101-10 / ISO 21927-9 certified
AF8C0044	TF RWZ connection unit for wind and rain detectors.
AF8C0255	PK dry contact for alarm / malfunction forwarding
AF8C0258	PK-SA dry contact for open status forwarding (for RWZ control units except 1-4b and 4-8d)
AF8C0045	WTM Output for controlling external warning devices in case of alarm or malfunction (i.e. MS4 multi-tone sound alarm and BL4 strobe - for RWZ control units except 1-4b)



TECHNICAL REMARKS

How to choose the right actuator

The selection of the right window actuator is very important and should allow to get maximum results. The following technical details are to guide you in your final choice of actuator and should be considered before any decision is made.

There are mainly two types of actuators: linear / rack actuators (rigid rod) and chain actuators (flexible chain).

The linear / rack actuator can offer great performance and push high loads, but has a requirement both physical and aesthetic which is not always acceptable. The actuator body has to move in a pivoting motion from its brackets, therefore it is necessary to verify that there are no obstacles to its rotational movement.

If a rod actuator is unsuitable, a chain actuator must be used, subject to weight restrictions.

The chain actuator operates generally at lower thrust power and requires a limited space, as well as being aesthetically pleasing.

For windows having a width larger than 1500-2000 mm, a single actuator is not enough.

With this size the window and the safety of the installation require the application of more than one actuator, usually linked to a synchronization device.

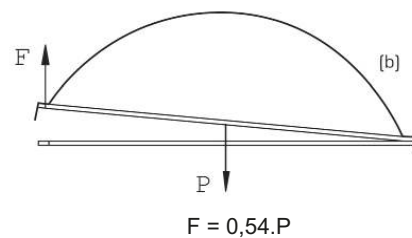




FORMULAS TO CALCULATE TRACTION AND THRUST FORCE (kg)

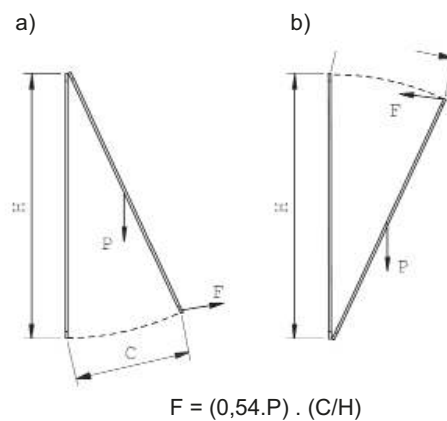
Horizontal windows

F = Required force for opening and closing (kg)
P = Window sash weight (kg)



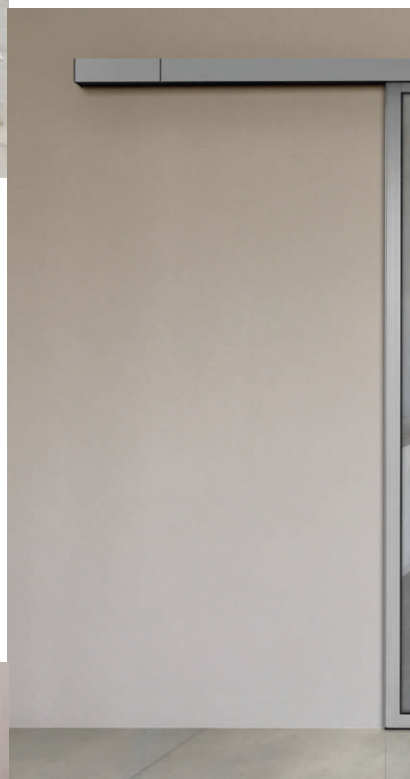
Top hug windows (a) or bottom hung windows (b)

F = Required force for opening and closing (kg)
P = Window sash weight (kg)
C = Window opening stroke (mm)
H = Window height (mm)









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