**WINDOW master®**
Fresh Air. Fresh People.

Black anodized aluminium ▪
Bronze, RAL 8019 ▪
Natural anodized aluminium ▪

WMX 814 E1 UL - Actuator with entrapment connection via the extra short cable.

WMX 814 UL
Chain actuator

Natural ventilation | 24V ±24V control | MotorLink® | TrueSpeed™ | UL certification – Actuators

Description
- designed for surface mounting
- for comfort ventilation
- to be used with tophung, bottomhung and turning windows
- to be used together with ±24V control units or control units with MotorLink®
- can be used together with espagnolette WMB
- external safety edge can be connected directly to the actuator (actuator version 'E')
- UL listed product
- synchronization of up to four window actuators – no need for an external synchronization module
- genuine position feedback and three speeds when using control unit with MotorLink®
- soft close function
- the electronics in this actuator can be programmed to suit specific requirements – i.e. pressure- and traction force, stroke, speed/sound level
- built-in electronic load switch-off/end stop
- electronic actuator with micro controller
- the actuator has an integrated reverse function to ensure a prolonged life span of the window gaskets

Actuator variants
The actuator is available in four different versions:
single actuator (-1), double actuator (-2), triple actuator (-3) and quad actuator (-4).
The synchro actuators (-2, -3 and -4) are equipped with a synchronization function, in which the actuators communicate directly with each other, which ensures the actuators operate

at exactly the same speed and position.
On large windows up to four actuators can be mounted on the same window – with no need for an external synchronization module.

Pressure safety function
The risk of entrapment is reduced as the actuators are programmed to reverse if they encounter obstacles when closing.
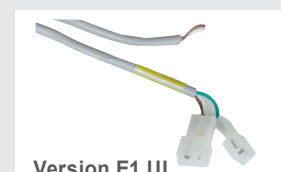
Opening speed
Actuators connected to ±24 VDC control units (e.g. WUC) can run with one speed.
Actuators connected to control units with MotorLink® (e.g. WCC) can run with three different speeds:
- automatically control speed – actuators run slowly and almost soundlessly.
- manual control speed – actuators run faster and more audibly.
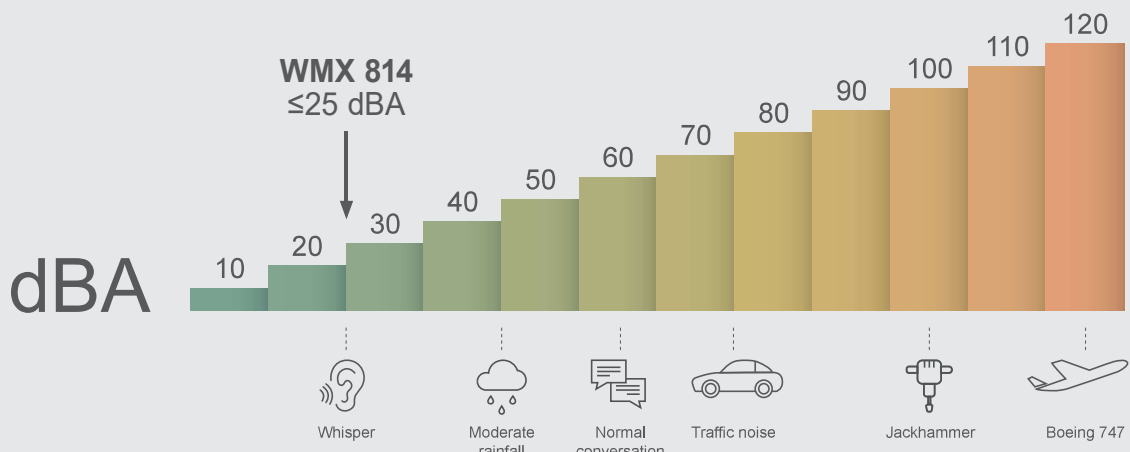- H&S and safety control speed – actuators run fastest. H&S control always has highest priority.

Version S

Version E1 UL

Technical specifications

Pressure force	See diagram.
Traction force	See diagram.
Locking force	2000N
Chain stroke	1 15/16'' – 3' 3 3/8'' in increments of 25/64'' Special version up to 3' 3 3/8'' possible (only for bottom hung windows) – contact WindowMaster for further information.
Opening Speed	0.04-0.67 in/s (TrueSpeed™)
Sound pressure level	≤25 dBA (operational speed: 1/16 in/s), ≤42 dBA (operational speed: 3/8 in/s)
Window type	Tophung, bottomhung and turning windows.
Power consumption	24V DC (max. 10% ripple)
Voltage	20-36V DC
Open-circuit voltage	Max. 36V DC
Current consumption	Max. 1A
Operating conditions	+23°F – +165°F, Max. 90% relative humidity (not condensing)
Switch-on-duration	ED 40% (max. 4min. per 10min). If speed < 20% ED 100%
Material	Anodized aluminium housing with steel chain.
Colour	Standard colors: Black anodized aluminium, E6/EV1; Natural anodized aluminium, EV1; Bronze, RAL 8019. Other RAL colours available at additional price.
Size	63/64'' x 2 29/32'' (H x D), length (L) depending on chain stroke – see table.
Weight	1' 3 3/4'' stroke: 3.00lbs; 1' 11 5/8'' stroke: 3.48lbs; 2' 7 1/2'' stroke: 3.96 lbs; 3' 3 3/8'' stroke: 4.34lbs
IP rating	Surface mounted: IP 20, concealed: IP 32

Certification	Actuators with 'U' in the article no. are UL certified accordingly to UL 325 and CAN/CSA-22.2 No. 247-14 and is supplied with UL approved cables UL STYLE 2464
	
	Actuators intended to comply with UL Standard 325 paragraph 34A.3 should satisfy one of the following criteria:
	  a) Be intended for mounting at least 8 ft above the floor;
	  b) Require constant contact on a control within view of the window to cause movement of the window;
	  c) Have a maximum chain length of 2' 7 1/2'';
	  d) Be provided with external entrapment protection device. External entrapment protection device can be supplied by an alternative supplier;
	  e) The actuators are used in a heat and smoke system.

SHE test	Approved according to EN 12101-2 with selected profiles – please contact WindowMaster for further information B300 tested according to EN 12101-2
Delivery	**WMX 814 S UL**: Actuator with 16' 4 7/8'' connection cable (3-core cables, 22AWG) with fast-in/fast-on connector for WLL cable. **WMX 814 E1 UL**: Actuator with 16' 4 7/8'' connection cable (3-core cables, 22AWG)with fast-in/fast-on connector for WLL cable, and 6' 6 3/4'' cable (2-core cables, 22AWG) with connection to external entrapment protection device. External entrapment protection device not included. It can be supplied by an alternative supplier. All cables on the WMX 813 U version are UL listed/recognized.
To be ordered separately	Brackets and standard extension cables type WLL.
Note	We reserve the right to make technical changes and correct typing errors.

The sound pressure level was measured externally by The Danish Technological Institute. The measurements have been carried out in a large regular room size 7 x 14 x 2.4 m (W x L x H) with the ceiling covered with a standard sound absorbent material. The A-weighted sound pressure levels have been measured at a distance of 1 meter away from the surface of the actuators and at the height of 1.6 meters from the floor. The actuators were not installed on any window profile nor added any load. The full opening and full closing sound of the actuators have been measured and the result represents the average of the measurements.

dBA

WMX 814
≤25 dBA

10 20 30 40 50 60 70 80 90 100 110 120

Whisper Moderate rainfall Normal conversation Traffic noise Jackhammer Boeing 747

Item code composition

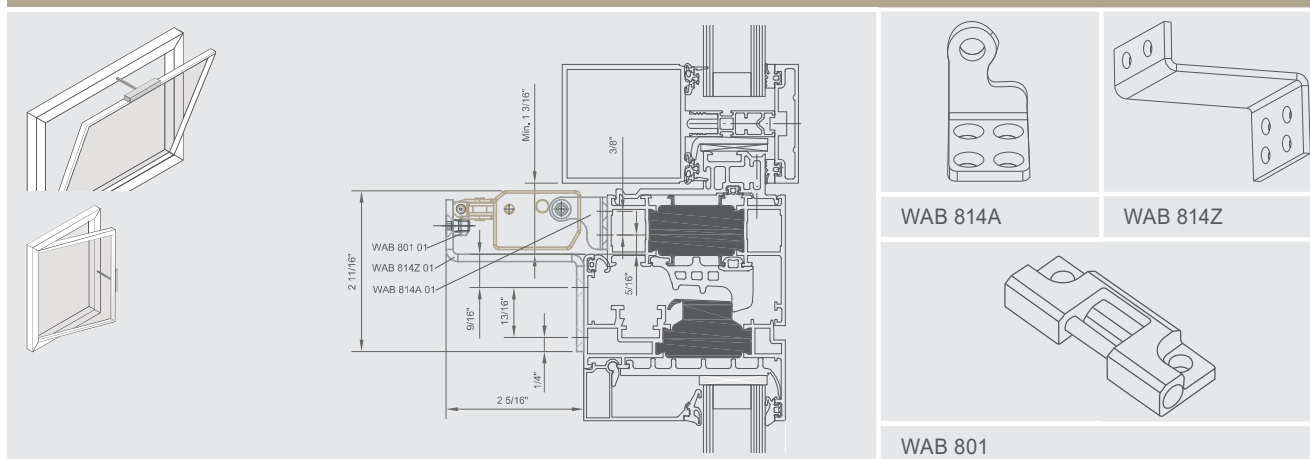| WMX 814	n	x	xxxx	zz	v	1
						Product version: 1
					Certification: U = CE + UL	
				Actuator hardware version: 0 = CE, S = standard, E1 = with connection for safety device		
			Chain opening: 1 15/16'' – 9 13/16'' increments of 25/64'' (050 = 25/64'')			
		Colour: B = Black anodized aluminium, **G** = Natural anodized aluminium, **K** = Bronze, RAL 8019				
	Actuator variant: 1= single, 2 = double, 3 = triple, 4 = quad					

Explanation of product code structure

WMX 814-2B0170S U1 — WMX 814 actuator, double synchronisation, black, 6 11/16'' chain stroke, standard, with CE and UL certification, product version 1

WMX 814-2B0170E1 U1 — WMX 814 actuator, double synchronisation, black, 6 11/16'' chain stroke, with connection for safety device, with CE and UL certification, product version 1

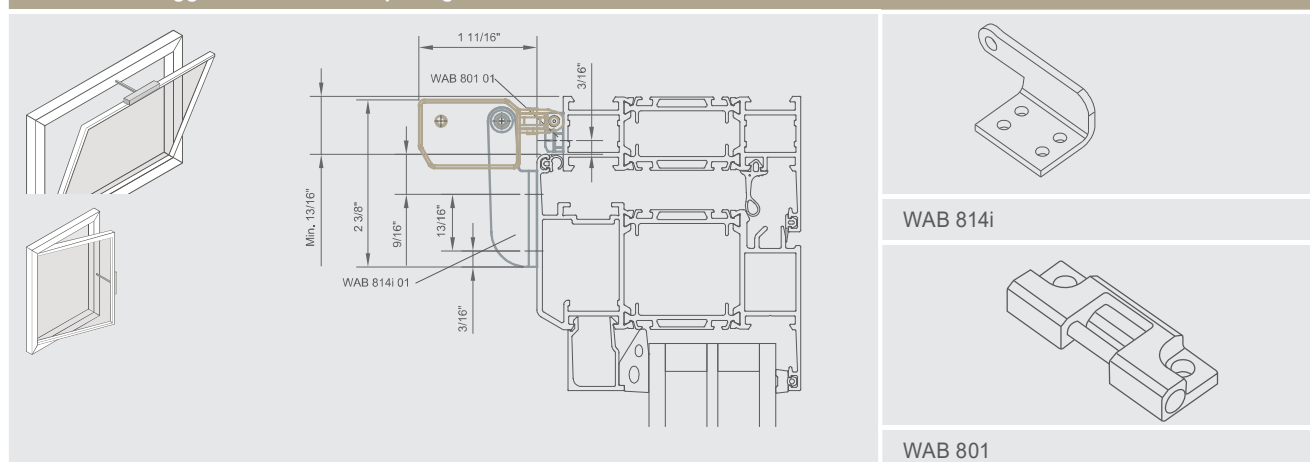| Items	Chain stroke [ft. and in.]	Length (L) [ft. and in.] (incl. screws = 11/16")	Standard Item	Item with entrapment connection via the extra short cable
Single actuator	1' 3 3/4"	1' 10 3/16"	WMX 814-1*0199S U1	WMX 814-1*0199E1 U1
	1' 3 3/4"	1' 10 3/16"	WMX 814-1*0400S U1	WMX 814-1*0400E1 U1
	1' 11 5/8"	2' 2 1/8"	WMX 814-1*0600S U1	WMX 814-1*0600E1 U1
	2' 7 1/2"	2' 6 1/16"	WMX 814-1*0800S U1	WMX 814-1*0800E1 U1
Double actuator	1' 3 3/4"	1' 10 3/16"	WMX 814-2*0199S U1	WMX 814-2*0199E1 U1
	1' 3 3/4"	1' 10 3/16"	WMX 814-2*0400S U1	WMX 814-2*0400E1 U1
	1' 11 5/8"	2' 2 1/8"	WMU 814-2*0600S U1	WMU 814-2*0600E1 U1
	2' 7 1/2"	2' 6 1/16"	WMX 814-2*0800S U1	WMX 814-2*0800E1 U1
Triple actuator	1' 3 3/4"	1' 10 3/16"	WMX 814-3*0199S U1	WMX 814-3*0199E1 U1
	1' 3 3/4"	1' 10 3/16"	WMX 814-3*0400S U1	WMX 814-3*0400E1 U1
	1' 11 5/8"	2' 2 1/8"	WMX 814-3*0600S U1	WMX 814-3*0600E1 U1
	2' 7 1/2"	2' 6 1/16"	WMX 814-3*0800S U1	WMX 814-3*0800E1 U1
Quad actuator	1' 3 3/4"	1' 10 3/16"	WMX 814-4*0199S U1	WMX 814-4*0199E1 U1
	1' 3 3/4"	1' 10 3/16"	WMX 814-4*0400S U1	WMX 814-4*0400E1 U1
	1' 11 5/8"	2' 2 1/8"	WMX 814-4*0600S U1	WMX 814-4*0600E1 U1
	2' 7 1/2"	2' 6 1/16"	WMX 814-4*0800S U1	WMX 814-4*0800E1 U1

* **B** = Black anodized aluminium, E6/EV1; **G** = Natural anodized aluminium, EV1; **K** = Bronze, RAL 8019.

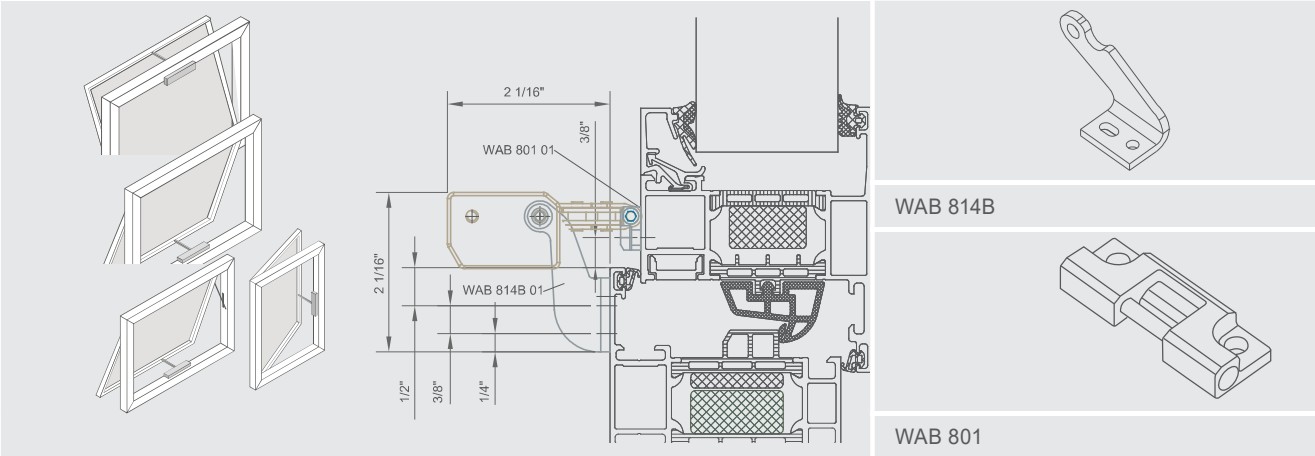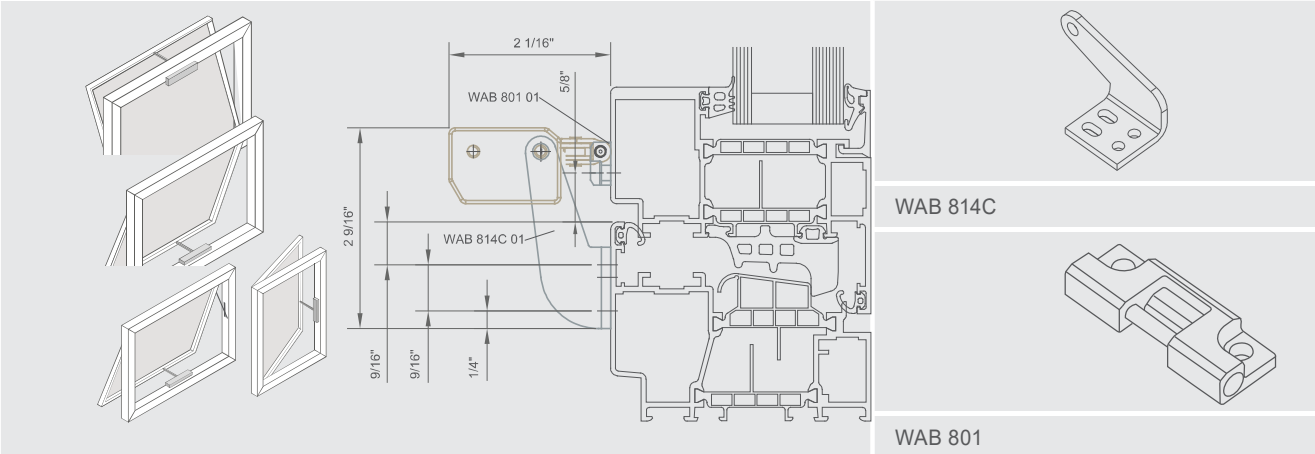| Accessories	Item no.
Chain bracket with tight-fitting bolt, WMX, for sash or frame	WAB 801
Actuator bracket, matt finish stainless steel	WAB 814A 0101
Actuator bracket, black RAL 9005	WAB 814A 2101
Actuator bracket, matt finish stainless steel	WAB 814B 0101
Actuator bracket, black RAL 9005	WAB 814B 2101
Actuator bracket, matt finish stainless steel	WAB 814C 0101
Actuator bracket, black RAL 9005	WAB 814C 2101
Actuator bracket for inwards opening windows, matt finish stainless steel	WAB 814I 0101
Actuator bracket for inwards opening windows, black RAL 9005	WAB 814I 2101
Z bracket for sash, matt finish stainless steel	WAB 814Z 0101
Z bracket for sash, black RAL 9005	WAB 814Z 2101
See separate product sheets for further information.	

Installation suggestion 1 - Inward Opening

WAB 801 01
WAB 814Z 01
WAB 814A 01

Min. 1 3/16"
3/8"
2 11/16"
9/16"
13/16"
1/4"
2 5/16"
5/16"

WAB 814A

WAB 814Z

WAB 801

Installation suggestion 2 - Inward opening

1 11/16"
WAB 801 01
3/16"
Min. 13/16"
2 3/8"
9/16"
13/16"
WAB 814i 01
3/16"

WAB 814i

WAB 801

Installation suggestion 3 - Outward opening

2 1/16"
3/8"
WAB 801 01
2 1/16"
WAB 814B 01
1/2"
3/8"
1/4"

WAB 814B

WAB 801

Installation suggestion 4 - Outward opening

2 1/16"
5/8"
WAB 801 01
2 9/16"
WAB 814C 01
9/16"
9/16"
1/4"

WAB 814C

WAB 801

Installation suggestion 5 - Outward opening

2 1/16"
WAB 814A 01
WAB 801 01
1/2"
1 1/16"
1 5/16"
3/8"

WAB 814A

WAB 801

WMX 814 UL
Chain actuator

Pressure force   Traction force

L = Length (incl. screws) – see table of items
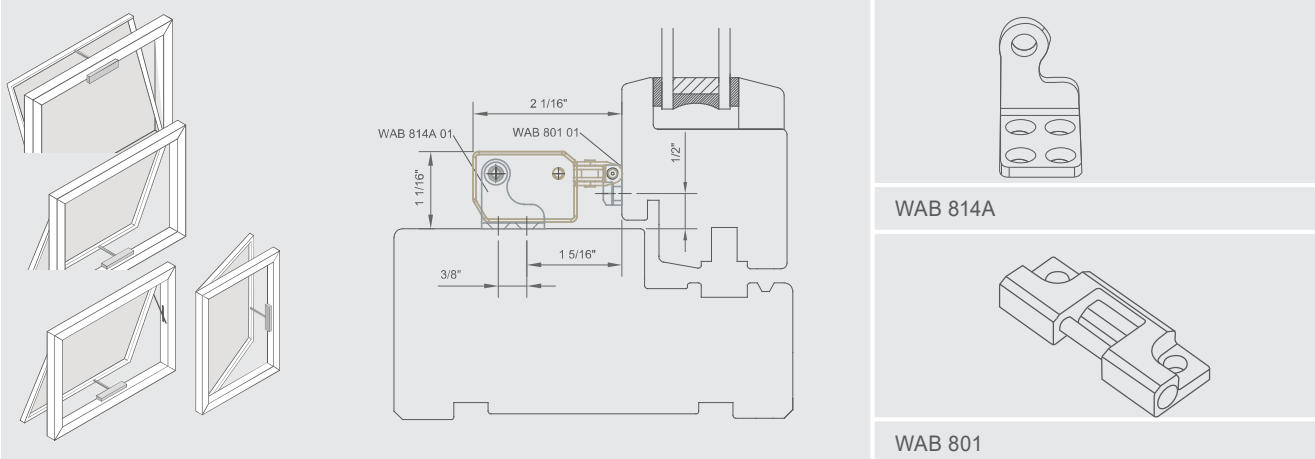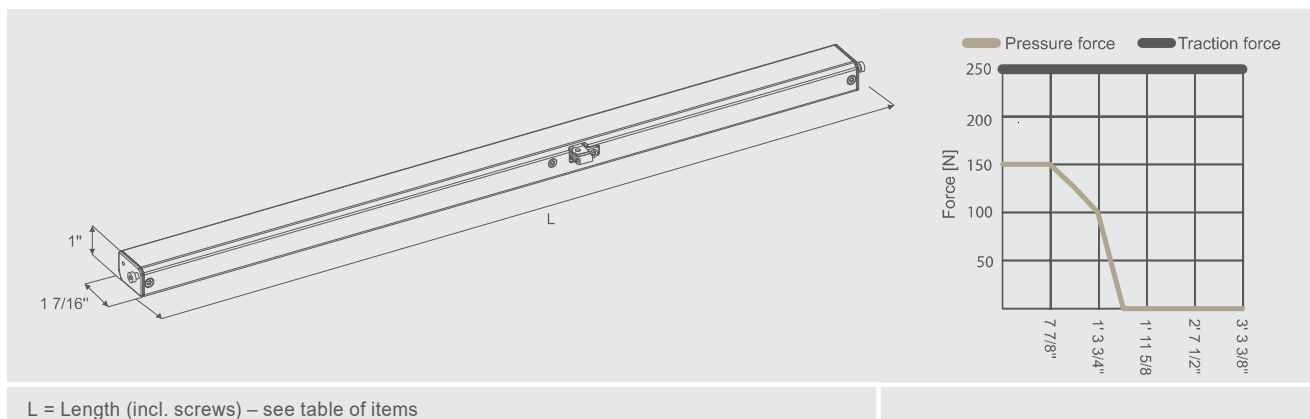
All dimensions are originally in metric units and converted into imperial units.
For exact measurements please refer to documentation with metric values.

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