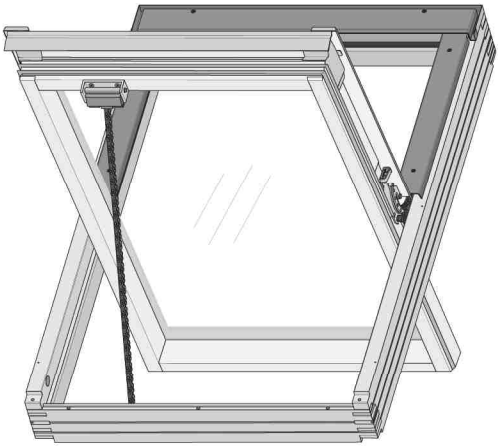
FAKRO®

GB

ORIGINAL USER MANUAL

Smoke Ventilation Window

FSR



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CE

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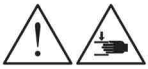
www.fakro.com

Dear Sir/Madam! Thank you for purchasing the product from FAKRO. We do hope that it will meet your expectations. To ensure appropriate functioning of the product, please peruse this User Manual.

SAFETY REQUIREMENTS

Please read carefully the instructions below before proceeding to the window installation so as to prevent electric shock, injury, etc.

- After unpacking, check the FSR window elements for any signs of mechanical damage. Plastic containers used for packing should be stored out of children reach as they may be a potential source of danger.
- Cables used: type, length and cross-section must be compliant with technical data. To enable inspection or repair of devices, the window must be disconnected from the power supply.
- The window must not be operated by minors without adult supervision.
- Any activities related to cleaning, adjustment or dismantling should be preceded with disconnecting the window from the power supply.
- Window parts must not be washed using solvent-based substances or open stream of water (do not immerse in water).
- When the window is closed / opened, actuators are stopped by activating integrated overload module. Warning! The actuator may cause serious injury / crush the body. During assembly and operation of actuators, do not interfere into the window gap. Potentially dangerous points between the window sash and the frame must be secured up to a height of 2.5m.
- When closing, the actuator features active protection of the main closing edge. In the event of an overload in the chain closing area from 23mm to the maximum extension, the actuator stops and retracts, i.e. it opens for 10 seconds and then try again to close. If there is no closure after three such attempts, the actuator stops in this position. In addition, the actuator is equipped with a passive protection function which consists in the fact that the speed in the closing area from 100mm to the minimum extension is reduced to 5mm/s.



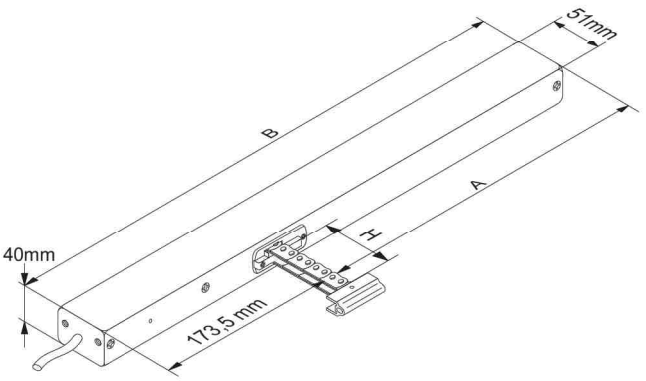
Warning!!! Danger of jamming and crushing! Window is closed automatically. Significantly greater forces may occur on the side closing edges.

USE

Always ensure that the actuator corresponds to applicable regulations. In particular, pay attention to opening range of the window, permissible sizes, opening time and opening speed, working temperature of the actuator and cables, cable cross-section in relation to its length and power consumption. Installed parts must be adapted to the particular window type and complemented if required.

ACTUATOR DIMENSIONS

WINDOW SIZE	Chain rated extension	Size A [mm]	Size B [mm]
78x78	510	472,5	646
78x98	640	472,5	646
78x118	775	472,5	646
78x140	800	472,5	646
94x78	510	472,5	646
94x98	640	472,5	646
94x118	775	472,5	646
94x140	890	514,5	688
94x160 114x78	890 510	514,5 472,5	688 646
114x98	640	472,5	646
114x118	775	472,5	646
114x140	890	514,5	688
134x78	510	472,5	646
134x98	640	472,5	646
134x118	775	472,5	646
134x140	890	514,5	688



TECHNICAL SPECIFICATION

The actuator is designed for smoke exhaust systems (SHEV) and ventilation.

Power supply	24V DC
Rated current	1,4 A
Working temperature	-5ºC to +75ºC
Chain pushing force	1000/500N
Chain closing force	500N
Closing force	250N
Opening speed	14.9 mm/s
Rated locking force	2000 N
Switch on time	30% (with tolerance time of 10 min.)
Protection type	IP 32 (with cover plugs that are provided with brackets)
Temperature resistance	30 min. / 300 °C
Emission sound pressure level	LpA ≤ 70 dB(A)
Additional functions	Closing edge protection (3-times repeated stroke test) – activated
Locking relief	activated
Housing	Powder coated aluminium (RAL 9006)

INSTALLATION

To ensure safety and proper operation of the window, follow the original user manual and fitting instructions included to the product. The installation process must be carried out by people trained in this area, dealing with installation of electrical wiring and its maintenance, electricians and mechanics with knowledge of electric and mechanic actuator systems. Correct operation of the window and prevention of damage is guaranteed only if the installation process is carried out in compliance with included fitting instructions.
In particular, pay attention to the actuator power supply voltage, rated power. It is strictly forbidden to connect 24V actuators to 230V AC.

ELECTRICAL WIRING

Electrical wiring must be carried out by qualified electricians only. When connecting devices follow the guidelines obligatory in a country concerned. If possible, a cable type should be agreed with local authorities and fire services. In particular, pay attention to low voltage cables system (24V DC) which must be separated from high voltage cables system. Cables must be installed in such a way that they are not sheared off, twisted or bent off during operation.
Cables used: type, length and cross-section must be compliant with technical data. In order to carry out maintenance and repair, there must be an option to disconnect the window from the 230V power supply.

CONTROL AND MAINTENANCE OF ELECTRIC ACTUATORS

- Smoke ventilation system requires regular control and maintenance. Make sure what is the frequency of the system maintenance required by local regulations.
- Actuators in use must be regularly inspected by qualified technicians (authorized to install and maintain smoke exhaust and ventilation systems).
- Operational availability should be examined regularly, including the following operations: dirt removal, checking tightness of screws, testing opening and closing.
- Defective actuators can be repaired only by the manufacturer.

After installation and any changes introduced, check the entire system. The user must be informed about all important changes.

PROCEDURE OF FSR SMOKE VENTILATION WINDOW CONTROL

The FSR window is one of the elements of the natural smoke ventilation system. Such system, acting as an active fire protection measure should be serviced by qualified company every 6 months. It is recommended to be the same company that has installed and started the system. When servicing the system it is required to check the following:
- If the FSR window does not open after connection to the control system, check the operation of the actuator by connecting it directly to the power supply (24V batteries) and make sure that the power consumption does not exceed permissible values provided on the actuator data plate.
- Check all metal elements for rust spots and remove them if required (see “FSR window maintenance procedure”).
- Check wooden elements for any signs of damage, especially at fixing points of metal holders coupling actuators to the sash.

PROCEDURE OF FSR SMOKE VENTILATION WINDOW MAINTENANCE

- Windows are coated with two layers of ecological acrylic varnish. They should be repainted with acrylic varnish every 2-5 years depending on the usage conditions.
- Remove leaves and other dirt from the flashing at least once a year to ensure proper water drainage.
- Hinges in smoke ventilation windows should be lubricated with grease every few years.
- Elements covered with rust should be cleaned (with sand paper, wire brush), washed and painted.

Before inspection and maintenance work and replacement of system parts (e.g. replacement of actuators), always disconnect all power sources, including emergency power supply batteries. Power switch must be protected against being switched on by third parties.

SPARE PARTS, ACCESSORIES AND OPERATION

Use original parts only.

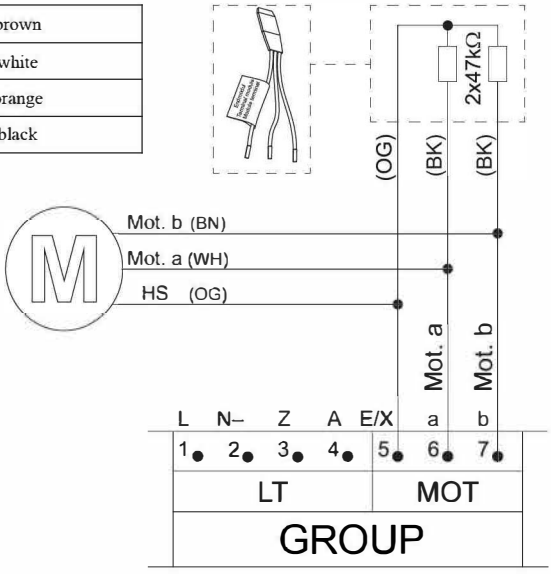
WINDOW LIFE EXPECTANCY

According to EN12101-2, Annex A, tested number of cycles is 11,000, including 10,000 to the ventilation position and 1,000 to the emergency position.

ACTUATOR CONNECTION

The actuator in the FSR smoke ventilation window comes with a HS option (High Speed), which means that from 100mm to the maximum extension, the actuator works at an increased speed of 15mm/s. This only happens when triggered during an emergency, i.e. by means of RT45 alarm button, SD-●371 smoke sensor or the fire alarm system. To make the HS mode available, connect the actuator as shown in the diagram below. The FSR window is fully compliant for operation with the RZN 4503-T control panel.

BN	brown	brown
WH	white	white
OG	orange	orange
BK	black	black



Connection diagram of the actuator in the FSR smoke ventilation window to the RZN 4503-T control panel.

SAMPLE CONNECTION DIAGRAM

FAKRO	Deklaracja właściwości użytkowych	Nr *R40/CPR/12101/17*	CE EN 12101-2	Rok wprowadzenia 17

1. Model produktu (numer): **FSR P1 (87DKxx), FSR/U P1 (87DRxx), FSR/W P1, FSR/RAL P1 (RB-xxxxx)**

2. Zamierzone zastosowanie: Klapa dymowa do naturalnego odprowadzania dymu i ciepła typu FSR (pakiet szybowy: 4H-14Ar-33.2T*) z siłownikiem KA54 do zastosowania w budynkach mieszkalnych i innych przeznaczonych na pobyt ludzi.
*gdzie: H – szkło hartowane, Ar – argon, T – szyba z warstwą niskoemisyjną

3. Producent: **FAKRO PP Sp. z o.o.**
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33-300 Nowy Sącz, Polska

4. Upoważniony przedstawiciel: ./.

5. System oceny i weryfikacji stałości właściwości użytkowych: **1**

6. Norma zharmonizowana: **EN 12101-2:2003**
Jednostka notyfikowana: Fires s.r.o., (Jednostka Notyfikowana nr 1396, Osloboditeľov 282, 059 35 Batizovce, Słowacja), przeprowadziła wstępne badania typu w systemie 1 (zawarte w pkt. 7.1-7.7) i wydała certyfikat stałości właściwości użytkowych nr 1396-CPR-0124.

7. Deklarowane właściwości użytkowe:

Zasadnicze charakterystyki			Właściwości użytkowe FSR, FSR/U, FSR/W																Zharmonizowana specyfikacja techniczna	
Rozmiar okna [cm]			78x78	78x98	78x118	78x140	94x78	94x98	94x118	94x140	94x160	114x78	114x98	114x118	114x140	134x78	134x98	134x118	134x140		
7.1	Powierzchnia czynna	A_v [m²] (1)	0,29	0,38	0,47	0,58	0,35	0,46	0,58	0,70	0,80	0,44	0,57	0,71	0,86	0,52	0,68	0,84	1,01	6	EN 12101-2:2003
7.2	Odporność na obciążenie wiatrem		WL 3000																	7.4.1	
7.3	Odporność na obciążenie śniegiem	**15°**	SL2007	SL 1944	SL 1877	SL 1804	SL 1686	SL 1645	SL 1598	SL 1546	SL 1500	SL 1850	SL 1816	SL 1775	SL 1727	SL 1586	SL 1563	SL 1534	SL 1500	7.2.1.1	
		20°	SL 2063	SL 1998	SL1929	SL 1854	SL 1733	SL 1691	SL 1643	SL 1590	SL 1542	SL 1901	SL 1866	SL1824	SL 1775	SL 1630	SL 1607	SL 1577	SL 1542		
		25°	SL 2139	SL 2072	SL 2000	SL 1922	SL 1797	SL 1753	SL 1703	SL 1648	SL 1599	SL 1971	SL 1935	SL 1891	SL 1841	SL 1690	SL 1666	SL 1635	SL1599		
		30°	SL 2238	SL 2168	SL 2093	SL 2012	SL 1880	SL 1834	SL 1783	SL 1725	SL 1673	SL 2063	SL 2025	SL 1979	SL 1926	SL 1768	SL 1743	SL 1711	SL 1673		
		35°	SL 2366	SL 2292	SL 2213	SL 2127	SL 1988	SL 1939	SL 1884	SL 1823	SL 1768	SL 2181	SL 2140	SL 2092	SL 2036	SL 1870	SL 1843	SL 1809	SL 1768		
		40°	SL 2530	SL 2451	SL 2366	SL 2274	SL 2126	SL 2073	SL 2015	SL 1949	SL 1891	SL 2332	SL 2289	SL 2237	SL 2177	SL 1999	SL 1971	SL 1934	SL 1891		
		45°	SL 2741	SL 2655	SL 2563	SL 2463	SL 2303	SL 2246	SL 2183	SL 2112	SL 2048	SL 2526	SL 2479	SL 2423	SL 2358	SL 2165	SL 2135	SL 2095	SL 2048		
7.4	Niska temperatura otoczenia		T (-15)																	7.3.1	
7.5	Niezawodność		RE 1000																	7.1.1	
7.6	Odporność na wysoką temperaturę		B 300																	7.5.1	
7.7	Reakcja na ogień		F																	7.5.2.1	

(1) wg EN 12101-2, załącznik B, punkt B 2.4.2.2

Właściwości użytkowe określonego powyżej wyrobu są zgodne z zestawem deklarowanych właściwości użytkowych. Niniejsza deklaracja właściwości użytkowych wydana zostaje zgodnie z rozporządzeniem (UE) nr 305/2011 na wyłączną odpowiedzialność producenta określonego powyżej.

W imieniu producenta podpisała:

Ewa Łukaszczyk-Haslik
(Dyrektor ds. Certyfikacji i Kontroli Jakości)

Nowy Sącz, 24.04.2017 r.

DECLARATION OF PERFORMANCE

WARRANTY

The manufacturer guarantees correct device functioning. It also undertakes to repair or replace faulty device if damage is a result of material or structural faults. The warranty period is 24 months from the date of purchase, fulfilling the following conditions:

- Installation has been performed as per manufacturer recommendations.
- Seals remain intact and no authorised structural changes have been made.
- The device has been used in accordance with its intended use as per user manual.
- Damage is not a result of improperly made electrical system or atmospheric phenomena.
- The manufacturer is not liable for damage which occurred as a result of improper use or mechanical damage.
- In case of failure, the device must be submitted for repair with a Warranty Card.

Defects revealed within the warranty period will be removed free of charge no longer than 14 days after accepting the product for repair. Warranty and post-warranty repairs are performed by the manufacturer i.e. FAKRO PP. Sp. z o.o.

Quality certificate:

Device _____

Model _____

Serial number _____

Seller _____

Address _____

Purchase date _____

Invoice No. _____

Signature (stamp) of person installing a device

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