TECHNICAL SPECIFICATION

FSP
SMOKE VENTILATION WINDOWS

WINDOW TYPE	FSP
	
I. APPLICATION	
Installation	installation angle 20°-60°
	universal installation system installation on battens
II. FEATURES	
Material	pinewood, vacuum impregnated
Lacquer	acrylic natural colour
Varnishing	twice
Air inlet type	–
Seals	four
Equipment	2 x SP8 actuator (chain reach: 350mm, 24V power supply)
Warranty	5 years for windows

III. TECHNICAL PARAMETERS

Wind load resistance	WL 1500 as per EN 12101-2:2003						
Snow load class as per EN 12101-2:2003							
Product size [cm]	Product code	Roof angle in which the product is mounted					
		20°	25°	30°	35°	40°	45°
78x140	**07**	SL 831	SL 870	SL 922	SL 989	SL 1075	SL 1185
94x140	**09**	SL 652	SL 685	SL 728	SL 783	SL 854	SL 946
114x118	**10**	SL 791	SL 829	SL 879	SL 943	SL 1025	SL 1131
114x140	**11**	SL 500	SL 527	SL 563	SL 608	SL 667	SL 742
134x98	**12**	SL 1020	SL 1067	SL 1128	SL 1207	SL 1307	SL 1437
Low ambient temperature	T (-05) as per EN 12101-2:2003						
Reliability	RE 1000 as per EN 12101-2:2003						
Resistance to heat	B 300 as per EN 12101-2:2003						
Fire resistance	E (frame), F (seals) as per EN 12101-2:2003						

WINDOW TYPE	FSP
IV. OPTIONS	
Wooden profiles	- painted in colours of RAL spectrum - painted in one of five Lazure colours - coated with polyurethane lacquer (white) - in mahogany woodwork
Cladding	- painted in colours of RAL spectrum - cladding elements made of different types of sheet metal (CU, TC)
	- window with black mullion bar and cladding
V. ADDITIONAL PRODUCTS TO BE USED	
Flashings	- special E_S flashings - EFS flat roof system - combination
Control	- electric
Mounting accessories	- insulation sets - insulating band
External accessories	It is not possible to install accessories in smoke ventilation windows.
Internal accessories	

VI.TECHNICAL PARAMETERS FOR WINDOWS IN PARTICULAR SIZES

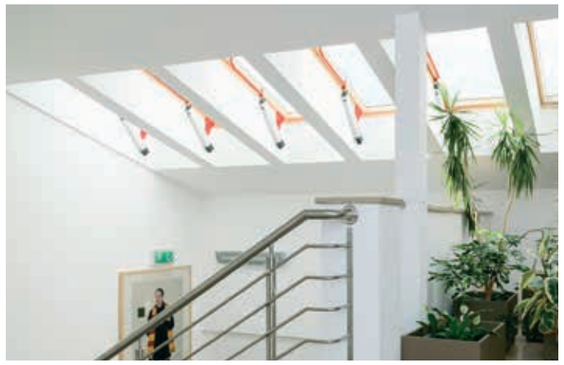
frame external size [cm]	78x140	94x140	114x118	114x140	134x98
window size symbol	**07**	**09**	**10**	**11**	**12**
					
access roof light internal area [m^2]	0.91	1.12	1.15	1.38	1.11
smoke ventilation geometric area [m^2]	0.91	1.12	1.15	1.38	1.11
smoke ventilation active area A_a[m^2]	0.53	0.65	0.67	0.80	0.65
FSP P1 window weight [kg]±1kg	41	47	48	54	47

It is not possible to manufacture other sizes

VII. TECHNICAL PARAMETERS FOR WINDOWS WITH PARTICULAR GLAZING UNIT TYPES

Technical parameters	Glazing unit type
	P1
glazing U-value as per EN 673	1.1 W/m^2K
light transmittance factor τ_v as per EN 410	0.70
solar factor g as per EN 410	0.52
UV radiation as per EN 410	0.01
frame thermal insulation Uf* as per EN ISO 10077-1, EN ISO 10077-2	2.34 W/m^2K
thermal insulation of frame and glazing connection Ψ* as per EN ISO 10077-1, EN ISO 10077-2	0.068 W/mK

* *FAKRO internal test results*
npd – no performance determined



TECHNICAL SPECIFICATION

FSR
SMOKE VENTILATION WINDOWS

WINDOW TYPE	FSR
	
I. APPLICATION	
Installation	installation angle 15°-90°
	universal installation system installation on battens
II. CECHY	
Material	pinewood, vacuum impregnated
Lacquer	acrylic natural colour
Varnishing	twice
Air inlet type	–
Seals	four
Equipment	actuator opening the window by 90°
Warranty	5 years for windows

III. TECHNICAL PARAMETERS

Wind load resistance	WL 3000 as per EN 12101-2:2003							
Snow load class as per EN 12101-2:2003								
Product size [cm]	Product code	Roof angle in which the product is mounted						
		15°	20°	25°	30°	35°	40°	45°
78x78	**23**	SL 2007	SL 2063	SL 2139	SL 2238	SL 2366	SL 2530	SL 2741
78x98	**05**	SL 1944	SL 1998	SL 2072	SL 2168	SL 2292	SL 2451	SL 2655
78x118	**06**	SL 1877	SL1929	SL 2000	SL 2093	SL 2213	SL 2366	SL 2563
78x140	**07**	SL 1804	SL 1854	SL 1922	SL 2012	SL 2127	SL 2274	SL 2463
94x78	**24**	SL 1686	SL 1733	SL 1797	SL 1880	SL 1988	SL 2126	SL 2303
94x98	**15**	SL 1645	SL 1691	SL 1753	SL 1834	SL 1939	SL 2073	SL 2246
94x118	**08**	SL 1598	SL 1643	SL 1703	SL 1783	SL 1884	SL 2015	SL 2183
94x140	**09**	SL 1546	SL 1590	SL 1648	SL 1725	SL 1823	SL 1949	SL 2112
94x160	**80**	SL 1500	SL 1542	SL 1599	SL 1673	SL 1768	SL 1891	SL 2048
114x78	**25**	SL 1850	SL 1901	SL 1971	SL 2063	SL 2181	SL 2332	SL 2526
114x98	**20**	SL 1816	SL 1866	SL 1935	SL 2025	SL 2140	SL 2289	SL 2479
114x118	**10**	SL 1775	SL1824	SL 1891	SL 1979	SL 2092	SL 2237	SL 2423
114x140	**11**	SL 1727	SL 1775	SL 1841	SL 1926	SL 2036	SL 2177	SL 2358
134x78	**26**	SL 1586	SL 1630	SL 1690	SL 1768	SL 1870	SL 1999	SL 2165
134x98	**12**	SL 1563	SL 1607	SL 1666	SL 1743	SL 1843	SL 1971	SL 2135
134x118	**18**	SL 1534	SL 1577	SL 1635	SL 1711	SL 1809	SL 1934	SL 2095
134x140	**17**	SL 1500	SL 1542	SL 1599	SL 1673	SL 1768	SL 1891	SL 2048
Low ambient temperature	T(-15) as per EN 12101-2:2003							
Reliability	RE 1000 as per EN 12101-2:2003							
Resistance to heat	B 300 as per EN 12101-2:2003							
Fire resistance	F as per EN 12101-2:2003							

WINDOW TYPE	FSR
IV. OPTIONS	
Wooden profiles	- painted in colours of RAL spectrum - painted in one of five Lazure colours - coated with polyurethane lacquer (white) - in mahogany woodwork
Cladding	- painted in colours of RAL spectrum - cladding elements made of different types of sheet metal (CU, TC)
	- window with black mullion bar and cladding
V. ADDITIONAL PRODUCTS TO BE USED	
Flashings	- standard - special - combination
Control	- electric
Mounting accessories	- insulation sets - insulating band
External accessories	It is not possible to install accessories in smoke ventilation windows.
Internal accessories	

VI. TECHNICAL PARAMETERS FOR WINDOWS IN PARTICULAR SIZES

frame external size [cm]	78x78	78x98	78x118	78x140	94x78	94x98	94x118	94x140	94x160	114x78	114x98	114x118	114x140	134x78	134x98	134x118	134x140
window size symbol	**23**	**05**	**06**	**07**	**24**	**15**	**08**	**09**	**80**	**25**	**20**	**10**	**11**	**26**	**12**	**18**	**17**
smoke ventilation geometric area [m²]	0,50	0,64	0,78	0,93	0,61	0,78	0,96	1,14	1,32	0,75	0,97	1,17	1,41	0,90	1,15	1,40	1,68
FSR window weight [kg]±1kg	24	28	33	38	28	33	38	43	48	32	39	44	50	37	43	50	57

VII. TECHNICAL PARAMETERS FOR WINDOWS WITH PARTICULAR GLAZING UNIT TYPES

Technical parameters	Glazing unit type	
	P1	**P5**
glazing U-value as per EN 673	1,0 W/m²K	0,5 W/m²K
light transmittance factor τ_v as per EN 410	0,75	0,63
solar factor g as per EN 410	0,52	0,48
UV radiation as per EN 410	0,01	0,01
frame thermal insulation Uf as per EN ISO 10077-1, EN ISO 10077-2	npd	npd
thermal insulation of frame and glazing connection Ψ as per EN ISO 10077-1, EN ISO 10077-2	npd	npd

npd – no performance determined