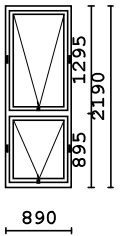
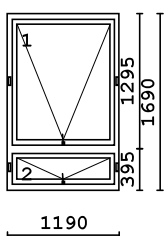
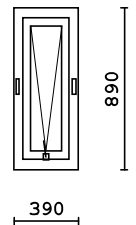
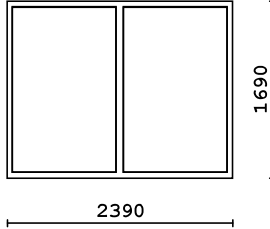
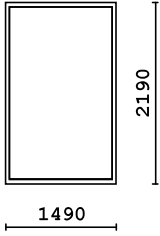
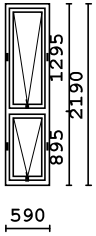



Item	Item ref. Item ref.mirror	Product Measurements	Surface treatment NB.	Colour	EUR Qty Price VAT0%
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1	Bibliotek	HAS131-T180-08 890 x 2190 Frame 131 U-Value: 0.78	VM VM	NCS S 0502-Y RAL9010	1
		<p>In. mountings: White Out. mountings:- <i>Properties:</i> Assemblyholes 4/14 mm + cover plugs 10*10 grooving to frame</p> <p><i>Glasselement:</i> S1S4(T)-_SS18-S1S4-_SS18-FF4(T)-ARGON S1S4-_SS18-S1S4-_SS18-FF4-ARGON</p> <p>Colors:</p> <p>Bottom sash inner & outer pane toughened</p>			
2	Soverom 3	HAS131-T180-08 1190 x 1690 Frame 131 U-Value: 0.78	VM VM	NCS S 0502-Y RAL9010	1
		<p>In. mountings: White Out. mountings:- Light 2: HAS131-T60-08 <i>Properties:</i> Assemblyholes 4/14 mm + cover plugs 10*10 grooving to frame</p> <p><i>Glasselement:</i> S1S4-_SS18-S1S4-_SS18-FF4-ARGON</p> <p>Colors:</p> <p>Bottom sash inner & outer pane toughened Bottom sash with T60 fittings.</p>			
3	Wc	HAS131-T180-08 390 x 890 Frame 131 U-Value: 0.78	VM VM	NCS S 0502-Y RAL9010	1
		<p>In. mountings: White Out. mountings:- <i>Properties:</i> Assemblyholes 4/14 mm + cover plugs 10*10 grooving to frame</p> <p><i>Glasselement:</i> S1S4-_SS18-S1S4-_SS18-FF4-ARGON</p> <p>Colors:</p>			


Item	Item ref. Item ref.mirror	Product Measurements	Surface treatment NB.	Colour	EUR Qty Price VAT0%
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10	Kjokken	HASF131-07 2390 x 1690 Frame 131 U-Value: 0.68	VM VM	NCS S 0502-Y RAL9010	1
		<p>In. mountings:- <i>Properties:</i> Assemblyholes 4/14 mm + cover plugs 10*10 grooving to frame</p> <p>Out. mountings:- <i>Glasselement:</i> S1S4-_SS18-S1S4-_SS18-FF4-ARGON <i>Colors:</i></p>			
11	Stue	HASF131-07 1490 x 2190 Frame 131 U-Value: 0.68	VM VM	NCS S 0502-Y RAL9010	3
		<p>In. mountings:- <i>Properties:</i> Assemblyholes 4/14 mm + cover plugs 10*10 grooving to frame</p> <p>Out. mountings:- <i>Glasselement:</i> S1S4(T)-_SS18-S1S4-_SS18-FF4(T)-ARGON <i>Colors:</i></p> <p>Inner & outer pane toughened</p>			
12	Stue	HAS131-T180-08 590 x 2190 Frame 131 U-Value: 0.78	VM VM	NCS S 0502-Y RAL9010	1
		<p>In. mountings:White <i>Properties:</i> Assemblyholes 4/14 mm + cover plugs 10*10 grooving to frame</p> <p>Out. mountings:- <i>Glasselement:</i> S1S4(T)-_SS18-S1S4-_SS18-FF4(T)-ARGON <i>Colors:</i></p> <p>Inner & outer pane toughened</p>			


Rows: 1, 2, 3, 4, 5, 6, 9, 12

 NB:0809	
Skaala IFN Oy, Yrittäjätie 25, FI-62375 Ylihärmä www.skaala.com DoP: 2158	
EN 14351-1:2006+A1:2010 HAS131-T180-08	
Watertightness - Non shielded (A):	E1200
Watertightness - Shielded (B):	NPD
Dangerous substances:	NPD
Resistance to wind load - Test pressure:	3
Resistance to wind load - Frame deflection:	C
Load-bearing capacity of safety devices:	NPD
Thermal transmittance:	0.78 W/m ² K
Acoustic performance:	32 (-1;-5)
Air permeability:	4


Rows: 8, 10


 NB:0809	
Skaala IFN Oy, Yrittäjätie 25, FI-62375 Ylihärmä www.skaala.com DoP: 2161	
EN 14351-1:2006+A1:2010 HASF131-07	
Watertightness - Non shielded (A):	E1200
Watertightness - Shielded (B):	NPD
Dangerous substances:	NPD
Resistance to wind load - Test pressure:	NPD
Resistance to wind load - Frame deflection:	NPD
Load-bearing capacity of safety devices:	NPD
Thermal transmittance:	0.68 W/m ² K
Acoustic performance:	31 (-2;-7)
Air permeability:	4

Rows: 7

 NB:0809	
Skaala Oy, Yrittäjätie 25, FI-62375 Ylihärmä www.skaala.com DoP: 2166	
EN 14351-1:2006+A1:2010 HAS131-T60-08	
Watertightness - Non shielded (A):	E1200
Watertightness - Shielded (B):	NPD
Dangerous substances:	NPD
Resistance to wind load - Test pressure:	3
Resistance to wind load - Frame deflection:	C
Load-bearing capacity of safety devices:	NPD
Thermal transmittance:	0.78 W/m ² K
Acoustic performance:	32 (-1;-5)
Air permeability:	4

Rows: 11

 NB:0809	
Skaala Oy, Yrittäjätie 25, FI-62375 Ylihärmä www.skaala.com DoP: 2161	
EN 14351-1:2006+A1:2010 HASF131-07	
Watertightness - Non shielded (A):	NPD
Watertightness - Shielded (B):	NPD
Dangerous substances:	NPD
Resistance to wind load - Test pressure:	NPD
Resistance to wind load - Frame deflection:	NPD
Load-bearing capacity of safety devices:	NPD
Thermal transmittance:	0.68 W/m ² K
Acoustic performance:	31 (-2;-7)
Air permeability:	NPD

 20 NB:0809	
Skaala IFN Oy, Yrittäjätie 25, FI-62375 Ylihärmä www.skaala.com DoP: 2166	
EN 14351-1:2006+A1:2010 HAS131-T60-08	
Watertightness - Non shielded (A):	E1200
Watertightness - Shielded (B):	NPD
Dangerous substances:	NPD
Resistance to wind load - Test pressure:	NPD
Resistance to wind load - Frame deflection:	NPD
Load-bearing capacity of safety devices:	NPD
Thermal transmittance:	0.78 W/m ² K
Acoustic performance:	32 (-1;-5)
Air permeability:	4

Skaala HAS-08, outward opening window

Thermal transmittance (of window) U_w (W/m²·K)
 $U_w = 0,79$ (HAS115-08, HAS131-08)

Total solar transmittance of glass
 $g_g = 0,46$ (HAS115-08 / HAS131-08 with FrostFree glazing)

Total solar transmittance of window
 $g_w = 0,33$ (HAS115-08 / HAS131-08 with FrostFree glazing)

Light transmittance (%)
LT = 64 (HAS115-08/ HAS131-08 with FrostFree glazing)

Product Family Skaala Scandic

Window type

Outward opening aluminium clad timber window with one casement, triple glass unit, frame depth 115mm, alternatively 131mm. The casement and the frame with modern, straight lined profile.

Materials

Painted windows: Frame finger jointed made from Nordic Redwood, all visible surfaces knotless, on the back side of the frame small singular knots are allowed. Casement engineered timber laminated from three sections, made from Nordic Redwood, all visible surfaces knotless.

Stained windows: Frame made from Nordic Redwood, all visible surfaces knotless, on the back side of the frame small singular knots are allowed. Casement engineered timber laminated from three sections, made from Nordic Redwood, inner and outer surfaces knotless and with finger joints

Aluminium cladding: The outer glazing frame and outer cladding of frame powder coated aluminium.

Maximum and minimum sizes

Maximum and minimum sizes of single opening casements:

TT180	490mm	1600mm	496mm	1595mm
TT60	490mm	1600mm	396mm	1595mm

Maximum width and height of frame is 3000 mm, however maximum area of the frame is 6 m².

Glazing

As standard glazing triple IG-unit with SuperSpacer, argon gas. In HAS115-08 product there is two Low-E glass. Glazing with silicone and with outer aluminium frame. HAS115-08 product includes FrostFree glazing. Mild green tint of the glazing is a normal characteristic of the product. Intensity depends on the number of glass panes and the structure of the product. Frostfree glazing has the feature of mild grey tint. Energy values are defined with standard glazing.

Hardware

Assa Allswing hinge system

Top Swing (TT180), window that can be rotated 170°.

Top Hung (TT60), top hung window that can be opened 60°.

Side Swing (ST180), side hung window that can be rotated 170°.

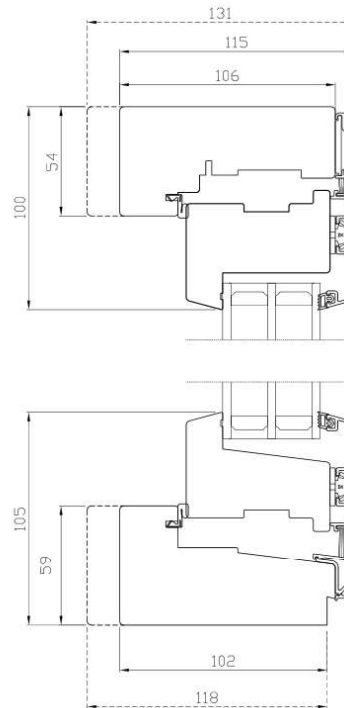
Side Hung (ST), hardware for side hung window.

Espagnolette Mila Garant and standard handle Hoppe Tokyo.

Standard colours of handle aluminium, brass and white. NOTE: With frame depth 150mm there are always additional 2 installation holes on the top frame.

Weather-stripping

PU-weather-strip (Q-Lon) in frame rebate. Between the aluminium glazing frame and the IG-unit TPE-weather-strip. Between frame and casement brush strip.



Surface treatment types:

Painting (VM)

Base coating with polyurethane paint, surface painting with water based paint. Manufacturing process of the billet structures with know and defect removal gives an excellent base for surface treatment. Painting is processed as a manually spray painting procedure with high pressure. Painting is carried out with separated parts before the assembly. Due to the procedure all grooves and frame ends have a clean finish as well. Standard colour: white (NCS S 0502-Y)

Staining and lacquering (KL)

1x coat of translucent stain + inner part of frame and casement lacquered

Base coat (SK)

Base coating with colourless wood protective liquid.

Notification for stain coloured products

The characteristics of the timber material used in the manufacturing process may have a little variation depending on the growth location, growing process/speed, felling seasons, lengths of storage and lengths of drying period. Due to this the absorption of the material used in the staining process may vary causing gentle colour fluctuation between different products and even between different areas of the same product. For some reason the final colours of products may slightly differ from the colours presented in colour maps.

Astragals

PIR30A, PIR60A= clip-on astragals to outer surface, fixed with lock-on systems

POB15, POB30 = plant on bars glued onto the glazing from both sides.

JPY = timber astragal, outer part aluminium, dividing the glass elements, width 78 mm.

Accessories (optional)

Venetian blinds on inner surface (with control wires).

Trickle ventilators supplied loose.

Groove for internal trim (only for 131 mm frame depth)

Condensation of the outermost glass surface of the outer glazing in windows with good insulating qualities

In certain times during a year when the humidity is high the windows can gather condensation on the outermost glass surface of the glazing. Other than the weather conditions, condensation may also be caused by the architectural design of the building (e.g. roof structure), compass directions and surrounding plants. Condensation is either a cause of a low temperature inside the building or a good insulation of the window. Thermal radiation from the inside is not enough to keep the glass dry. Condensation is not harmful and does not damage the window. Skaala FrostFree structure will solve this problem. However, because this is a normal natural phenomenon, it might occur in some conditions also in FrostFree windows.

Skaala HASF-07, fixed window

Thermal transmittance (of window) U_w , (W/m²K)

$U_w = 0,68$ (HASF131-07)

$U_w = 0,69$ (HASF115-07)

Total solar transmittance of glass

$g_g = 0,46$ (HASF115/131-07 with FrostFree glazing)

Total solar transmittance of window

$g_w = 0,39$ (HASF115/131-07 with FrostFree glazing)

Light transmittance (%)

$LT = 64$ (HASF115/131-07 with FrostFree glazing)

Product Family Skaala Scandic

Window type

Fixed aluminium clad timber window, triple glass unit, frame depth 115mm, alternatively 131mm. The frame with modern, straight lined profile.

Materials

Painted windows: Frame finger jointed made from Nordic Redwood, all visible surfaces knotless, on the back side of the frame small singular knots are allowed.

Stained windows: Frame made from Nordic Redwood, all visible surfaces knotless, on the back side of the frame small singular knots are allowed.

Aluminium cladding: The outer glazing bead and outer cladding of frame powder coated aluminium.

Maximum and minimum sizes

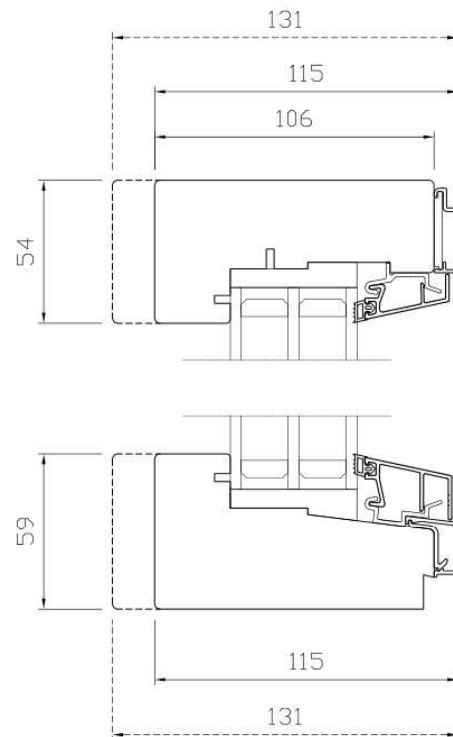
Minimum width and height of single light window 340 mm and maximum width and height of single light window 2800 mm. Either the width or height of the window must always be less than 2500mm. Maximum width and height of the frame is 3000 mm, however maximum area of frame is 6 m².

Glazing

As standard glazing triple IG-unit with SuperSpacer, argon gas. In HASF-07 product has two Low-E glas. Glazing with silicone and with outer aluminium frame. HASF-07 product includes FrostFree glazing. Mild green tint of the glazing is a normal characteristic of the product. Intensity depends on the number of glass panes and the structure of the product. Frostfree glazing has the feature of mild grey tint. Energy values are defined with standard glazing.

Weather-stripping

Between the aluminium glazing frame and the IG-unit TPE-weather-strip.



Surface treatment types:

Painting (VM)

Base coating with polyurethane paint, surface painting with water based paint. Manufacturing process of the billet structures with know and defect removal gives an excellent base for surface treatment. Painting is processed as a manually spray painting procedure with high pressure. Painting is carried out with separated parts before the assembly. Due to the procedure all grooves and frame ends have a clean finish as well. Standard colour: white (NCS S 0502-Y)

Staining and lacquering (KL)

1x coat of translucent stain + inner part of frame lacquered

Base coat (SK)

Base coating with colourless wood protective liquid.

Notification for stain coloured products

The characteristics of the timber material used in the manufacturing process may have a little variation depending on the growth location, growing process/speed, felling seasons, lengths of storage and lengths of drying period. Due to this the absorption of the material used in the staining process may vary causing gentle colour fluctuation between different products and even between different areas of the same product. For the same reason the final colours of products may slightly differ from the colours presented in colour maps.

Astragals

PIR30A, PIR60A= clip-on astragals to outer surface, fixed with lock-on systems
POB15, POB30 = plant on bars glued onto the glazing from both sides.

Accessories (optional)

Venetian blinds on inner surface (with control wires).
Trickle ventilators supplied loose.
Groove for internal jamb (only for 131 mm frame depth)

Condensation of the outermost glass surface of the outer glazing in windows with good insulating qualities

In certain times during a year when the humidity is high the windows can gather condensation on the outermost glass surface of the glazing. Other than the weather conditions, condensation may also be caused by the architectural design of the building (e.g. roof structure), compass directions and surrounding plants. Condensation is either a cause of a low temperature inside the building or a good insulation of the window. Thermal radiation from the inside is not enough to keep the glass dry. Condensation is not harmful and does not damage the window. Skaala FrostFree structure will solve this problem. However, because this is a normal natural phenomenon, it might occur in some conditions also in FrostFree windows.