VELUX®

VS / VSE / VSS Product Data Sheet

VSS Starting Production Code: BC 01A   VS / VSE Starting Production Code: AX 08A

Description	General	The VS / VSE / VSS deck mount, top hinged, venting, "No Leak" skylights: Consisting of the following integrated components: an interior condensation drainage gasket, pre-painted white wooden frame and sash, a VS manual, VSE electric, or VSS solar operator, exterior maintenance-free aluminum cladding and counter flashing, corner keys, and an insulating thermal pane glass unit with two seals, warm edge spacer system, and three coats of LowE3 silver to increase visible light transmittance while reducing solar heat gain. The skylights are mounted to the roof deck by fastening the continuous deck seal mounting system with durable foam seal directly to the roof deck. NOTE: The VSE & VSS skylights are operated and controlled by a 2.4 GHz radio frequency remote control and the VS is operated with a ZCT 300 manual control rod or a ZMT 300 battery operated control rod. VSS skylight is charged (from the factory) and ready for use when the unit is removed from the carton and ready for installation. The battery should have enough power to operate the VSS unit at least a minimum 3 or more times during the installation process before recharging is required. For the battery to reach its fully charged capacity the solar panel must receive an average of 24 hours of direct sunlight. This recharging time is subject to variation due to time of year due to sun angle, shading of the PV panel. VSS units placed in shaded areas of the roof or in northern latitudes such as Canada or Seattle in the US, may only receive enough sunlight to recharge the battery enough to operate the skylights 2-3 times daily all year. As with any type rechargeable battery, the number of operations from a fully charged battery will reduce with age. The remote control will display "limited by power supply" if the battery does not have enough power to open the skylight. If skylight is open, the operator will automatically close when battery reaches low voltage and if the operator is stopped during this operation, it will resume closing after 2 minutes. After closing the operator will not open again until the battery voltage has been charged to a level to support operation
Installation	Instructions	Installation Instructions included in every box, and are also available at VELUX country-specific websites, or through VELUX country-specific sales companies.
	Orientation	The skylight has a specific top and bottom and can not be rotated.
	Roof Pitch	0° - 10° - Install with site-built curb to elevate the pitch of the glass to 14 degrees. Then install a VELUX ECB counter flashing kit to create a water tight joint between the skylight and the site-built curb. Drawings and instructions are available on the VELUX country-specific web site.
		14° - 85° - Mount the skylight directly to the roof deck by aligning and securing the continuous deck sealing mounting system directly to the roof deck.
		Under 20° - Condensation drips from the interior pane can be expected.
Compatibility	Flashings	EDL - Single installation with thin roofing material.
		EDW - Single installation with high profile roofing material. NOT available with VSS
		EDM - Single installation with metal roofing panels.
		ECB - Site-built curb counter flashing for low sloped applications.
		EKL/EKX - Side by side and/or over and under combinations with thin roofing material. NOTE: VSS units in combi application must be placed as lower units only. VSS units can not be placed above other skylight units in combi applications.
		EKW/EKX - Side by side and/or over and under combinations with high profile roofing material. NOTE: VSS units in combi application must be placed as lower units only. VSS units can not be placed above other skylight units in combi applications.
	Interior Accessories	PAH - Manual venetian blinds = for use with VS
		DMH - Electric blackout blind = for use with VSE
		RMH - Electric light filtering blind = for use with VSE
		DSH - Solar powered blackout blind = for use with VSS and VS
		RSH - Solar powered light filtering blind = for use with VSS and VS
	Exterior Accessories	None available
	Installation Products	ZOZ 216 - Adhesive skylight underlayment.
		VSS is provided with four filler pieces, pre-cut to proper length.
Materials	Wood	Ponderosa pine frame and sash, finished white in the factory; or, as a special order, natural wood with a short term colorless wood preservative (base treatment). For select markets, wood is finished with a clear coat in the factory
	Cladding	Lacquered aluminum, neutral gray color with a Kynar® 500 top finish to prevent fading. 0.65mm thick.
		Copper - VS / VSE available with copper - call for lead time. NOTE: VSS not available in copper.

Materials, Cont'd.	Glazings	NOTE: Verify model-specific glazing availability with local VELUX sales companies.
		Type 05 - LoE3 tempered over tempered - Double-pane sealed insulating glass units with warm edge stainless steel spacer, filled with 95% Argon gas and coated with three layers of spectrally selective microscopic silver particles. Overall pane thickness is 17.2mm. (NOT available with VSE or VSS)
		Type 04 - LoE3 tempered over laminated with NEAT coated exterior - All the benefits of Type 05 but with a laminated interior heat-strengthened glass lite for safety and better protection from both heat gain and fading. Overall pane thickness is 17.6mm.
		Type 06 - "Impact" - Laminated heat strengthened with tempered LoE3 with NEAT coated exterior. Overall pane thickness is 18.2mm.
		Type 08 - White laminated - Laminated heat strengthened with tempered LoE3. Same as 04 but a white inner layer. Over all pane thickness is 17.6mm.
		Type 10 - "Snow load" - Tempered over laminated tempered LoE3 with Neat coated exterior. Overall pane thickness is 18.2mm.
	Gaskets	Patented, engineered rubber gaskets to prevent air infiltration and water penetration.
	Deck Sealing Mounting Bracket	Pre-engineered Deck Seal mounting system with a corrosion-resistant coating. The Deck Seal mounting system is pre-attached all the way around the perimeter of the skylight and has a durable closed cell foam that seals the skylight to the roof deck. Deck seal size: 1 1/4" up the frame and 1 1/4" away from the skylight frame.
	Operator Cover	White PVC
Operation	Sash	VSE is pre-wired for electric sunscreen accessories and the Pick&Click™ sunscreen mounting brackets are preinstalled.
		In case of power failure the VSE sash operator chain can be disconnected from the sash by removing the plug and turning the provided Allen wrench counter clockwise.
	Operators	VSE electrical operator is available in one variant and is used with all skylight markets. Power requirements: 100-240v, 50-60 Hz, 18w. A 2.4 GHz remote control is a standard component with each VSE and VSS.
		VSS solar charged battery operator is available in one variant. Battery pack is a 9 cell Panasonic NiMH 10.8V, 2100 mAH. Battery is charged by a 14-cell PV panel.
		VS manual operator by Truth is comprised of a gear driven system that is controlled by a closed loop or an in reach crank handle.
		A robust chain with one point of contact is used to open and close the sash a full 11 inches. One chain size for all venting skylights.
	Rain Sensor	Electric operators are equipped with an integral rain sensor that automatically closes the skylight, provided the rain sensor gets wet, when there is power to the skylight.
	VSE Electric Controls	KLB 100 - Battery backup
		KLI 110 - Wall mounted keypad
		KLR 200 - Radio frequency remote
		KLF 100 - Home automation integration kit and signal repeater
	VS Manual Controls	ZCT 100 - 3' Extension to ZCT 300 and ZMT 300
		ZCT 300 - Manual telescopic rod
		ZZZ 201 - Manual crank handle
		ZZZ 222 - Replacement hook
		ZZZ 203 - Angle adaptor for chain operator

Installation Products	Miscellaneous	ZOZ 216 - Adhesive skylight underlayment			
		VSS skylight is provided with four filler pieces pre-cut to proper length, that allow the drywall groove to be filled for use in retrofit installations			

Sizes	Standard Sizes	C01, C04, C06, C08, M02¹, M04, M06, M08, M25², S01, S06 ¹VS / VSS Only; ²Not available for US market.			

		Size	Width	Size	Height
Sizes	Rough Opening Dimensions	C01, C04, C06, C08	21"	M25	21 9/16"
		M02, M04, M06, M08, M25	30 1/16"	C01, S01	26 7/8"
		S01, S06	44 1/4"	M02	30"
				C04, M04	37 7/8"
				C06, M06, S06	45 3/4"
				C08, M08	54 7/16"

		Size	Ventilation Area	Size	Daylight Area
Product Data	Ventilation Area and Daylight Area	C01	2.60 sq. ft.	C01	2.27 sq. ft.
		C04	3.56 sq. ft.	C04	3.50 sq. ft.
		C06	4.14 sq. ft.	C06	4.38 sq. ft.
		C08	4.71 sq. ft.	C08	5.34 sq. ft.
		M25	2.81 sq. ft.	M25	2.55 sq. ft.
		M02	2.80 sq. ft.	M02	4.11 sq. ft.
		M04	4.17 sq. ft.	M04	5.48 sq. ft.
		M06	4.75 sq. ft.	M06	6.86 sq. ft.
		M08	5.32 sq. ft.	M08	8.36 sq. ft.
		S01	4.31 sq. ft.	S01	5.57 sq. ft.
		S06	5.84 sq. ft.	S06	10.73 sq. ft.

Certification	General	For U.S. market, exceeds International Building Code (IBC), International Residential Code (IRC), and International Energy Conservation Code (IECC). Certification information for specific markets is available from the market-specific sales companies.
		Electric is UL Listed.
	Air, Water, Structural	For U.S. market, certified to WDMA/Hallmark standards. Certification information for specific markets is available from the market-specific sales companies.
	Thermal	For U. S. market, NFRC certified and labeled to exceed Energy Star U-value and Solar Heat Gain (SHGC) requirements for all climate zones.

Warranty	Frame	For 10-years from the date of purchase, VELUX warrants that the skylight will be free from defects in material and workmanship.
	Glass	For 20-years from the date of purchase, VELUX warrants that the insulated glass pane will not develop a material obstruction of vision due to a failure of the glass seal.
	Installation	For 10-years from the date of installation, provided the skylight is installed with the three layers of protection, per the manufacturer's instructions.
	Manual, Solar and Electric Controls	For 5-years from the date of purchase, VELUX warrants manual, solar and electric controls will be free from defects in material and workmanship.

Changes from Earlier Versions	Exterior	New product design to match the skylight product family. New neutral gray color, lower profile and smoother look from the exterior.
	Interior	Factory finished white with a 10 year maintenance free frame and sash. Smaller operator and operator cover. The PVC white plastic operator cover now snaps into without the need for screws.
	Operator	New and improved solid state operator with integral rain sensor. Very quiet.

Changes from Earlier Versions, Cont'd.	Rain Sensor	VSS - Piezo electric sensor that is sensitive to the mechanical impact (vibration) of raindrops. Sensitivity depends heavily on size and speed of the raindrops, as well as angle of impact.
		VSE - Rain sensor is located at corner of side frame and bottom frame, between sash and frame.
Type Sign	Example	VSE C04 2004 AX 08A
	Location	On the top left corner of the wooden frame if viewing from the inside.