

Gen-3

SKY BLADE



TECHNICAL DATASHEET

Technical Details & Engineering Calculations



visionartaluminium.com

Technical Content

**2.**

About
The Company

**3.**

Detailed Description
About the Product

**4.**

Assemblage
Points

**5.**

Aluminum
Profiles

**6.**

Powder Coating
Features

**7.**

Tensioner
Drive Belt

**8.**

Motor
& Remote

**9.**

Lighting
System

**10.**

Water Discharge
Mechanism

**9.**

Rainwater Drainage
Calculation

**10.**

Quality
Certificates

About Vision Art Aluminium

**MORE GLASS,
LESS FRAME.**

CUSTOM ALUMINIUM SYSTEMS | NEW JERSEY & NEW YORK

Vision Art Aluminium is a New Jersey-based design and installation company specializing in custom four-season sunrooms, motorized pergolas, panoramic door systems, and architectural aluminium solutions throughout New Jersey and the New York metropolitan area.

We combine contemporary design, precise field measurement, technical coordination, and professional installation to create made-to-measure systems with more glass, cleaner sightlines, and lasting performance. Every project is developed around the property, client goals, and applicable performance requirements.

When project scope or local permitting requires it, our licensed structural engineering partner reviews project-specific criteria such as wind, snow, and structural loads to help confirm durability, safety, and code compliance. From consultation and 3D visualization through shop drawings, installation, and after-sales support, Vision Art Aluminium manages the process with clear communication and careful attention to detail.

CUSTOM SIZES
Made-to-measure for each property.

TECHNICAL REVIEW
Project-specific structural coordination.

CLEAR PROCESS
Consultation through professional installation.

AFTER-SALES SUPPORT
Responsive service after completion.

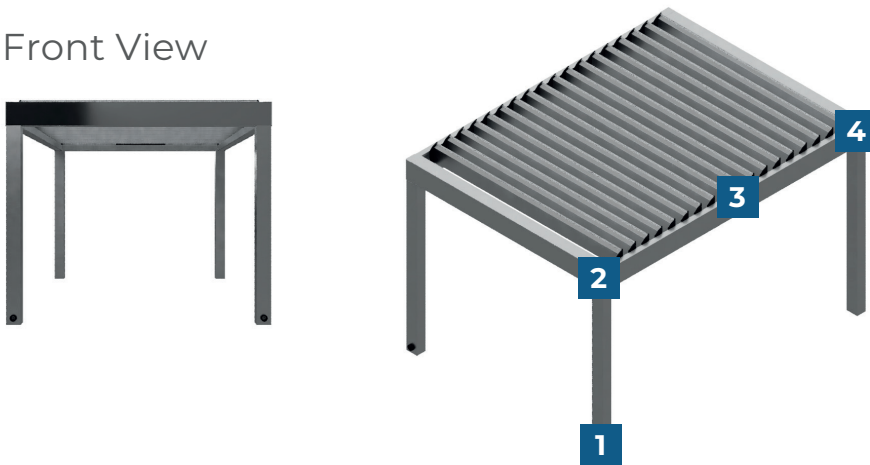
About the Product

1. Sky Blade is a premium louvered pergola system designed for dependable comfort in all seasons.
2. The roof can be positioned from fully open to fully closed, giving users flexible control of sunlight, shade, ventilation, and rain protection.
3. Interlocking aluminium roof panels are mounted modularly to an aluminium structural carrier frame.
4. The Sky Blade louvers rotate up to 135 degrees. Concealed cassettes and engineered drive components coordinate smooth panel movement.
5. The concealed-drive design provides several advantages over exposed-rod systems:
 - Quiet operation, typically below 40 dB.
 - Protected moving parts help reduce corrosion exposure.
 - The concealed mechanism minimizes visible hardware and operating noise.
6. Heat- and UV-resistant gaskets and brush seals are used throughout the panel and frame connections to limit air and water penetration and support four-season performance.
7. Exterior fasteners are stainless steel or Geomet-coated to improve corrosion resistance.
8. The system can accommodate options such as zip screens, glass enclosures, doors, lighting, sensors, and automated controls, subject to the selected configuration.
9. Integrated PVC drainage pipes inside the support columns route water efficiently and quietly. System drainage capacities are shown in the following technical tables.



Points

Front View

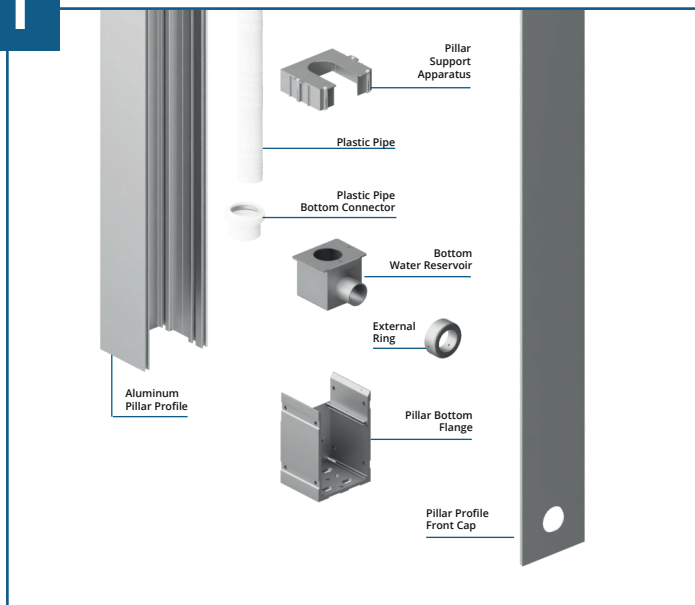


Side View



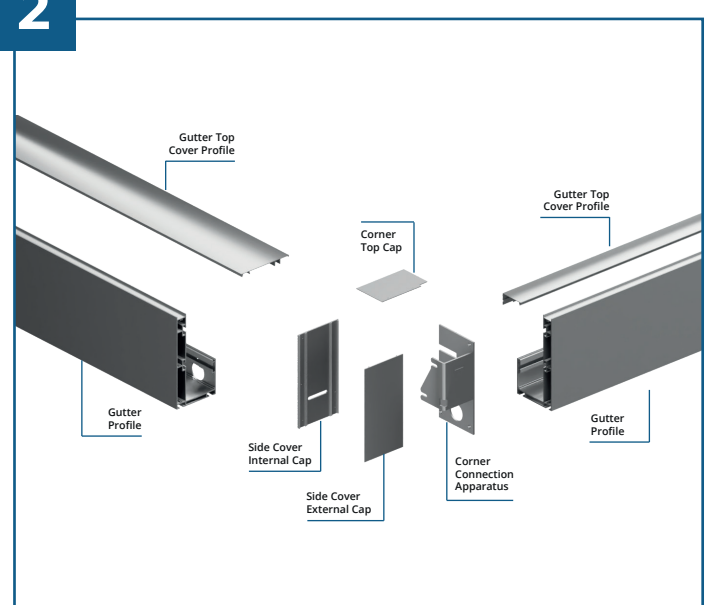
1

Front-Rear Pillars Bottom Connection



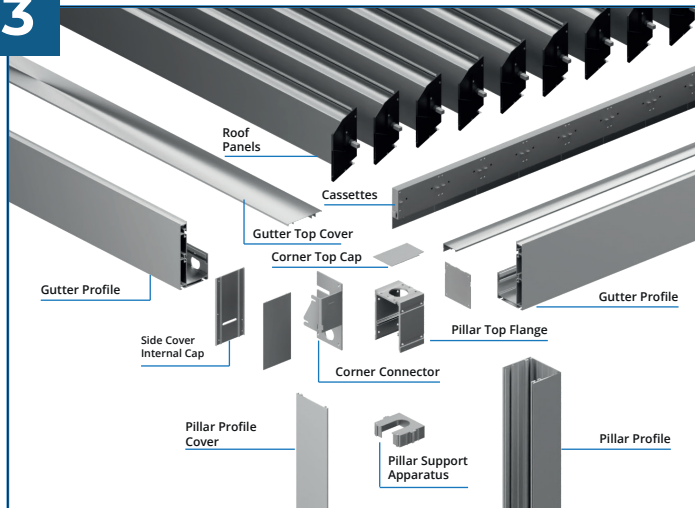
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Corner Connection



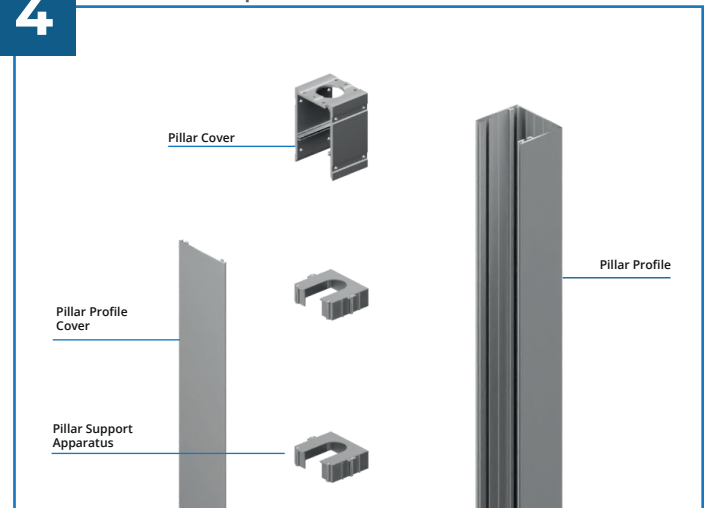
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Roof Connection



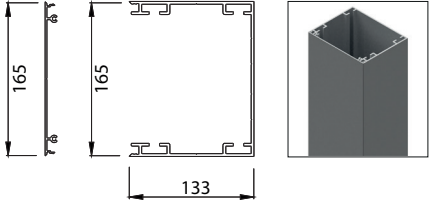
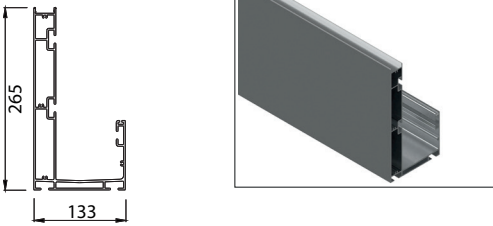
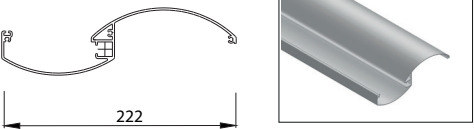
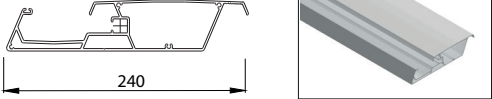
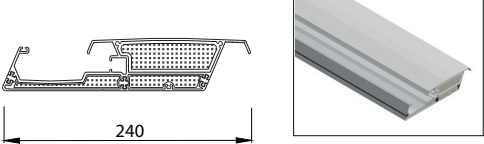
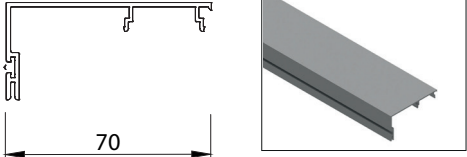
4

Pillar Top Connection



Aluminium Profiles - Sections and Features

Sky Blade structural profiles use 6063 aluminium alloy, selected according to each component's function. The alloy combines strength and low density, supporting durable structural performance while limiting unnecessary weight. It can be joined using established fabrication methods and offers strong corrosion resistance for exterior applications. The profile tables below summarize the chemical composition and mechanical properties used for this system.

Pillar Profile and Cap 	Gutter Profile 
ECO Panel 	ACTIVE Panel 
MAXI Panel 	Side Gutter Cap 

In the table below, the values of the chemical and mechanical properties of our product in **6063** aluminum alloy are shown, based on the Pillar Profile.

Chemical Components - EN573-3 (EN - AW %)

	Fe	Si	Cu	Mn	Mg	Zn	Ti	Cr
Standard (EN 573-3) 6063	Max 0,35	0,2 - 0,6	Max 0,1	Max 0,1	0,45 - 0,9	Max 0,1	Max 0,1	Max 0,1
1333-23	0,21	0,42	0,03	0,02	0,51	0,02	0,01	0,01

Mechanical Properties - EN 755-2

	Rm (N/mm2)		Rp 0,2 (N/mm2)		A (%)	
Standard (EN 755-2) 6063	Min	Max	Min	Max	Min	Max
	215	-	170	-	8	-
1333-23	221		175		10,9	

Powder Coating Features

Sky Blade aluminium and steel components receive PE electrostatic powder coating after controlled cleaning and surface preparation. Exterior-grade polyester powder coatings are used to support color consistency, adhesion, and long-term durability.

The coating process is monitored through defined quality-control checks aligned with QUALICOAT requirements. Available finish documentation and test information can be included with the technical submittal package when required.

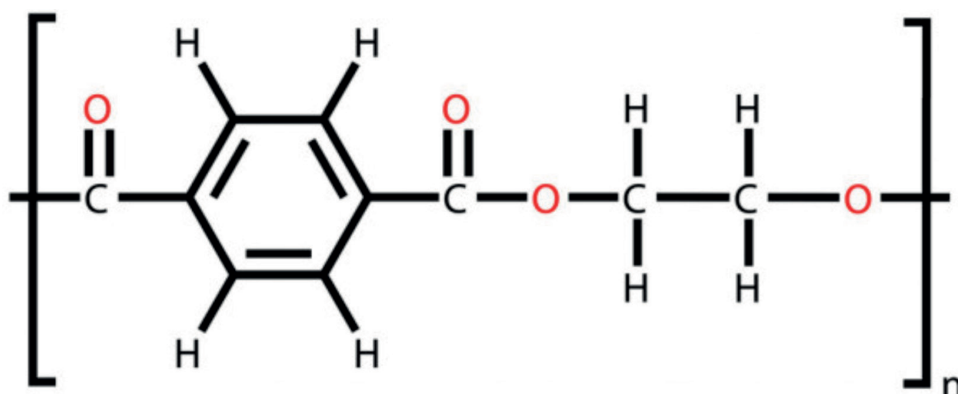
Eligible powder-coated components carry a 5-year limited finish warranty, subject to the written project agreement, normal maintenance, environmental exposure, and full payment.

Test Standards to Be Applied:

QUALICOAT must have passed all the tests listed below for acceptance:

- **Adhesion Test (EN ISO 2409)**
- **Bending Test (EN ISO 1519)**
- **Impact Test (ASTM D2794)**
- **Cupping Test (EN ISO 1520)**
- **Surface Treatment Baths**

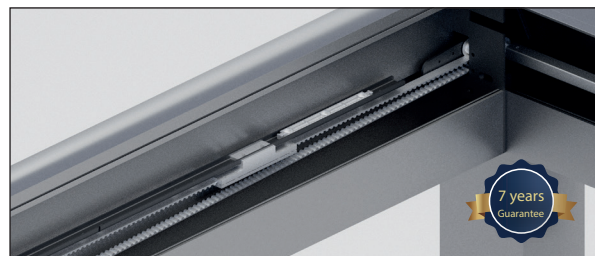
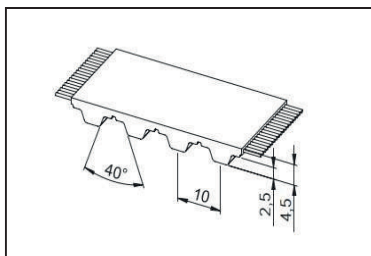
- There are 5, 5m³ bathrooms
- Acidic degreasing
- Mains rinse
- DI rinse
- Passivation Bath
- DI rinse



Tensioner / Drive Belt

ELATEC (Italy) drive belts transfer motion from the Sky Blade motor through 16 mm and 25 mm belt systems. The tension belts are concealed and protected within the rail profiles, limiting exposure to moisture, sunlight, and dust while keeping the mechanism out of view. The drive belt and tensioning system carry a 7-year limited warranty, subject to the written project terms.

Profile TT10
Width 16
Cord Stainless Steel



Dimensional characteristics

Width	25	± 0.5 [mm]
Thickness	4,5	± 0.2 [mm]
Length		± 0.5 [mm/m]
Measuring Preload	44,2	[N]
Weight	0,085	[Kg/m]

Material characteristics TPU 92 Sh.A

Colour Black

Tension member

Diameter	0,63
n.	17

Technical characteristics

Allowable Tensile load Type M [N]:	1275
Allowable Tensile load Type V [N]:	637,5
Breaking load FBr [N]:	5100
Specific spring rate Cspez [N]:	318750

Flexibility

Drive without reverse bending	Z_min	15
	d_min Idler	60 [mm]
Drive with reverse bending	Z_min	50
	d_min Idler	120 [mm]

Working Temperature range

-10 ÷ +80 ° C

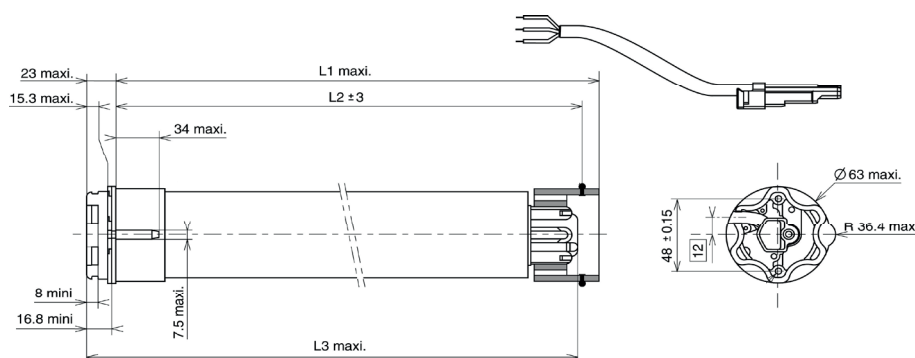
Branding



Elatech ® - 25TT10S - batch nbr - Made in Italy

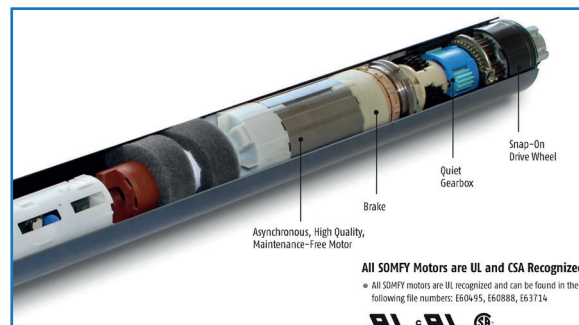
Control

Movement must be provided for each product with one 85/17 Somfy Altus Motor. The motor is also controlled by SomfyRTS Telis Remote Control.



Somfy Motor Technical Specifications

Type of head	Star Head
Nominal voltage	230 V 50 Hz
Power supply tolerances	207 - 253 V AC
Thermal time	4 minutes
Number of wires of the cable	3
Wire section	0,75 mm ²
Type of limit switch unit	Electronic
Capacity of the LSU	200 turns
Repeatability	< ± 3°
System of protection	IP 44
Interface drawings	Wheel interface LT60 206801-Crown interface LT60, LT60ADF, FTS60 & LT60CSI 206802-Interface drawing star head LT60 206803-Interface drawing LT50&60 buttons 206817.
Radio frequency	433,42 MHz
Coding	Rolling code 16million of possibilities
Capacity of memory	12 different transmitters plus 3 wireless sensors
Antenna	Integrated
Range	20 m with 2 reinforced concrete walls to be passed through
R&TTE (Radio Equipment and Telecommunications Terminal Equipment Directive)	Dir 1999/5/CE
Safety Security	EN 60335 - 2 - 97
Electromagnetic compatibility	EN 301489 - 3
Radio frequency	EN 300 - 220 - 3
Application	
Principle	
Basic crown for tube Ø	63 x 1,5 mm
Temperature working range	Normal use: -10°C to +40°C Exceptional use (20% of the life time not simultaneous): -20°C to +70°C
Noise level	According to SOMFY measures (for information only). Worse value: in load up direction during 10 seconds.



	Nm	rpm		mm	mm	mm	mm	W	A	°C		kg	dBA		mm	µF
Designation	Nominal torque	Nominal speed	Reference	L1 max.	L2 (±3 mm)	L3 max.	tube	Rated power	Rated current	Thermal tripping	Brake type	Weight	Noise		Stator	Capacitor
ALTUS 60 RTS 55/17	55	17	5005453	734	717	740	670	290	1,5	130	sliding	4,18	64		85	11
ALTUS 60 RTS 70/17	70	17	5005454	734	717	740	670	350	1,9	130	sliding	4,5	66		100	14
ALTUS 60 RTS 85/17	85	17	5005455	734	717	740	670	400	2,1	140*	sliding	4,7	66		115	15
ALTUS 60 RTS 100/12	100	12	5005456	734	717	740	670	350	1,9	130	sliding	4,82	65		100	14
ALTUS 60 RTS 120/12	120	12	5005457	734	717	740	670	400	2,1	140*	sliding	5,03	65		115	15

*Red tagged motor types using in our systems

Lighting System

Sky Blade integrated lighting uses modular LED boards with six light sources per card. Each card is rated at 3 watts and uses high-efficiency LED lenses that provide at least 250 lumens per module. The aluminium PCB design supports heat management and simplifies service compared with continuous strip lighting.

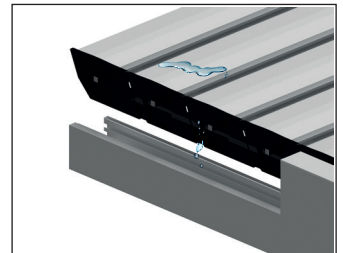
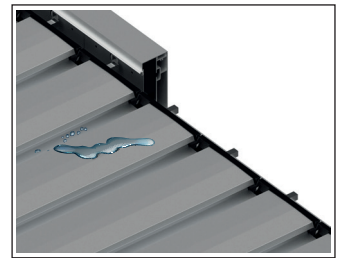
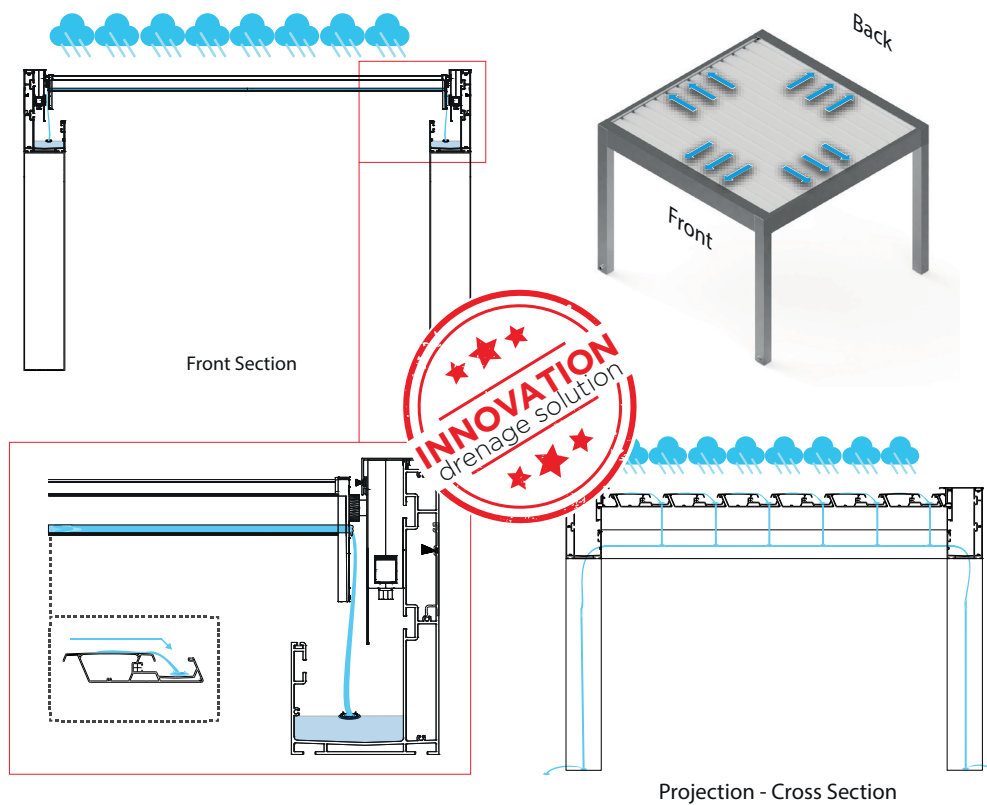
System advantages:

- Rated service life of 10,000 hours or more under normal operating conditions.
- Individual cards can be replaced without changing the complete lighting system.
- A transparent protective cover shields the electronic assembly.
- Socket-type connectors are selected for applicable IP65, IP66, and IP67 conditions.
- 100% copper cabling and IP67-rated transformers, such as the Mean Well LPV 100 Series, support reliable low-voltage operation.

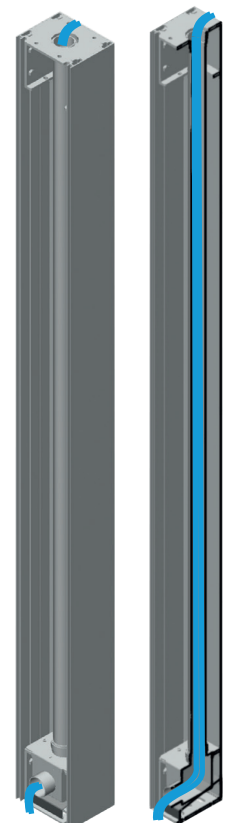
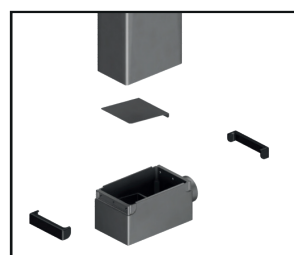
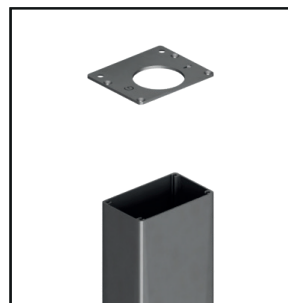
Electrical components and the final lighting configuration are confirmed in the approved project documents.



Mechanism



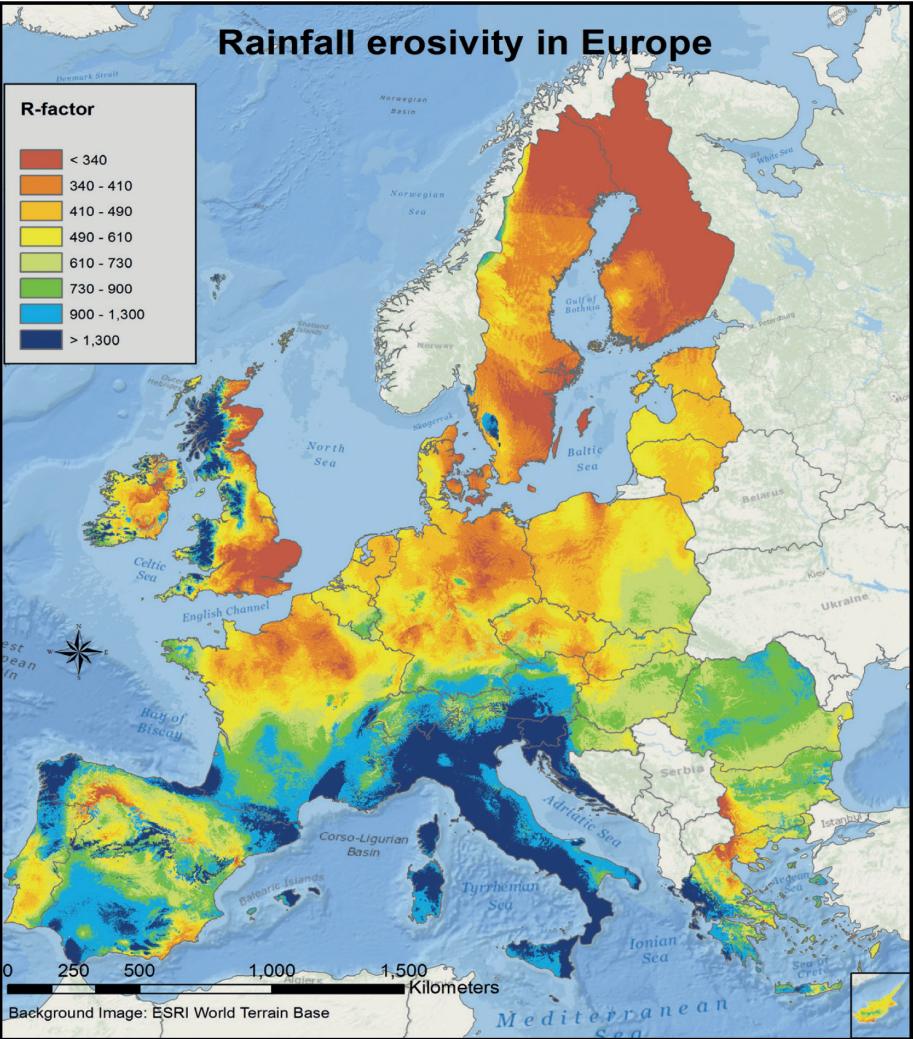
The water, which is included in the drainage path shown on the previous page, is transferred to the front and rear struts of the system at the last stage. The water passing through the filter is transferred to the water reservoir mounted on the lower flange, including the lower plastic pipe. And it is evacuated from here. The column drain system with a diameter of 50 mm has a drainage capacity of 0.98 l / s.



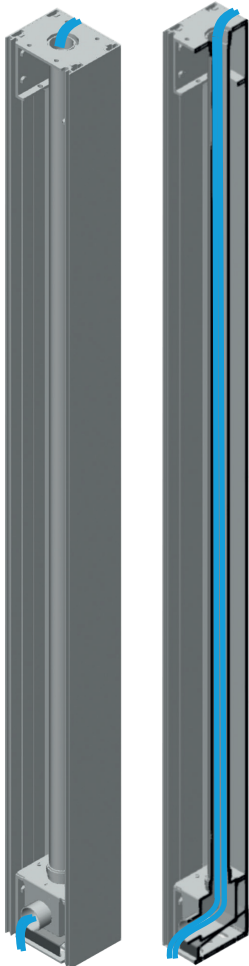


Rain Discharge Capacity (lt/s ha)

cm	2 Rail (4 Pillar)												
	150	175	200	225	250	275	300	325	350	375	400	425	450
150	17422	14933	13100	11615	10453	9503	8711	8041	7467	6969	6533	6149	5807
175	14933	12800	11200	9956	8960	8145	7467	10356	6400	5973	5600	5271	4978
200	13100	11200	9800	8711	7840	7127	6533	9062	5600	5227	4900	4612	4356
225	11644	9956	8711	7743	6969	6335	5807	8055	4978	4646	4356	4099	3872
250	10480	8960	7840	6969	6272	5702	5227	7249	4480	4181	3920	3689	3484
275	9527	8145	7127	6335	5702	5183	4752	6590	4073	3801	3564	3354	3168
300	8733	7467	6533	5807	5227	4752	4356	6041	3733	3484	3267	3075	2904
325	8062	6892	6031	5361	4825	4386	4021	5576	3446	3216	3015	2838	2680
375	6987	5973	5227	4646	4181	3801	3484	4833	2987	2788	2613	2460	2323
400	6550	5600	4900	4356	3920	3564	3267	4531	2800	2613	2450	2306	2178
425	6165	5271	4612	4099	3689	3354	3075	4264	2635	2460	2306	2170	2050
459	5708	4880	4270	3796	3416	3106	2847	3948	2440	2277	2135	2009	1898
475	5516	4716	4126	3668	3301	3001	2751	3815	2358	2201	2063	1942	1834
500	5240	4480	3920	3484	3136	2851	2613	3625	2240	2091	1960	1845	1742
525	4990	4267	3733	3319	2987	2715	2489	3452	2133	1991	1867	1757	1659
550	4764	4073	3564	3168	2851	2592	2376	3295	2036	1901	1782	1677	1584
575	4557	3896	3409	3030	2727	2479	2272	3152	1948	1818	1704	1604	1515
600	4367	3733	3267	2904	2613	2376	2178	3021	1867	1742	1633	1537	1452



System Pillar



Water discharge capacity for single pillar is **0,98 l/s**

Quality Certificates

Sky Blade is supported by documented quality-control and compliance records for its principal materials and components. Vision Art Aluminium can provide applicable certificates, finish documentation, and technical data for project review when required. Availability and applicability may vary by configuration, manufacturing batch, and local code requirements. Final project approval remains subject to the contract documents, approved shop drawings, and the authority having jurisdiction.



ISO 9001:2008

Sky Blade components are produced within an ISO 9001-certified manufacturing environment. Applicable documentation can be included in the technical submittal package when required.



CE - Compliance Approval

Applicable components are supported by CE conformity documentation for product design, production controls, and quality requirements. Vision Art Aluminium reviews available documentation for each project and can provide it for permitting or technical review when requested.



QUALICOAT - Compliance Approval

Powder-coated aluminium finishes are produced through controlled processes aligned with QUALICOAT standards to support finish consistency, adhesion, and exterior durability.



5 year warranty

Vision Art Aluminium provides a 5-year limited finish warranty on eligible Sky Blade components, subject to the written project agreement, normal maintenance, environmental exposure, and full payment. Warranty terms are confirmed in the project contract.

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