

NOLVANT x WINSOL

# TECHNICAL SPECIFICATION BOOKLET

SO! Pergola Universe



MODEL SYSTEMS / STRUCTURE / DIMENSIONS / DRAINAGE / LOADS / CONTROLS / GLAZING

Technical reference edition - based primarily on SO! technical data, revision printed 17 November 2025.



SECTION 00

REFERENCE BASIS

Scope, source hierarchy, and interpretation rules for this technical booklet.

| REFERENCE ITEM           | DETAIL                                                                                                                                                    |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary technical source | SO!_SPECS_2025-00-1.pdf - revision printed 17 November 2025.                                                                                              |
| Secondary source         | Winsol Pergola SO! product brochure - used for supplementary terminology where helpful.                                                                   |
| Metric authority         | Manufacturer metric dimensions govern. Imperial figures are reference conversions at 25.4 mm/in.                                                          |
| Engineering status       | This booklet is not a fabrication drawing, stamped engineering package, permit set, or site-specific structural design.                                   |
| Release rule             | Recheck selected configurations against current WINSOL configuration/order documents before engineering, permit submission, fabrication, or installation. |
| Wind/load caution        | Published wind values concern pressure/suction on louvers and do not apply unchanged to pergolas with one or more walls.                                  |
| Electrical caution       | European product-reference electrical values require destination-market verification for voltage, listing, wiring, protection, and installation.          |

CONTENTS

- 01 Model / roof system matrix
- 02 Structure + connection profiles
- 03 Published dimension envelopes
- 04 Roof-system technical details
- 05 Drainage + anchoring
- 06 Load + weather conditions
- 07 Electrical / lighting / controls
- 08 Walls + glazing
- 09 Accessory coordination
- 10 Technical release checklist
- 11 Source register

SECTION 01

MODEL / ROOF SYSTEM MATRIX

Primary SO! roof families and the technical coordination that differentiates them.

| MODEL       | ROOF        | CONSTRUCTION                                                  | PUBLISHED SIZE REFERENCE                         | DRAINAGE / KEY COORDINATION                                                                        |
|-------------|-------------|---------------------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------|
| SO! Classic | Louvered    | Rotating aluminum louvers                                     | Single: L 1370-7030 mm; W 1400-4500 mm           | Integrated gutters; selected post drainage. Coordinate louver direction, controls, sensors, walls. |
| SO! Climate | Louvered    | Sliding-rotating louvers with tighter gutter closure          | Single: L 1370-6400 mm; W 1400-4500 mm           | More resistant to wind/rain than Classic. Coordinate closure, walls, acoustic option, span.        |
| SO! Cocoon  | Fixed solid | Sandwich panels + interior wood slats + EPDM weathering layer | Single: L 1370-6400 mm; W 1400-4000 mm           | Two low-side drains. Coordinate slat direction, membrane, low side, lighting.                      |
| SO! Crystal | Fixed glass | Laminated glass on dedicated rafter system                    | Use current Crystal dimension/rafter/glass table | Two low-side posts. Coordinate glass, rafter spacing, slope, solar control, snow.                  |
| SO! Combi   | Mixed       | Combination of compatible SO! roof systems                    | Project-specific                                 | Coordinate module interfaces, wall continuity, drainage and controls.                              |

Selection principle: choose the roof system first, then lock module orientation, drainage side, wall strategy and controls before final engineering.

SECTION 02

STRUCTURE + CONNECTION PROFILES

Published section sizes and special configuration limits.

| COMPONENT / RULE     | METRIC                             | IMPERIAL       | APPLICATION          | TECHNICAL NOTE                                                              |
|----------------------|------------------------------------|----------------|----------------------|-----------------------------------------------------------------------------|
| Single housing       | 240 x 240 mm                       | 9.45 x 9.45 in | Main housing         | Published single-housing cross-section.                                     |
| Coupling housing     | 360 mm overall width               | 14.17 in       | Coupled modules      | Dedicated connection housing joins adjacent units.                          |
| Corner post          | 150 x 150 mm                       | 5.91 x 5.91 in | Standard corners     | Main corner-post profile.                                                   |
| Intermediate post    | 90 x 90 mm                         | 3.54 x 3.54 in | Intermediate support | Free-corner configuration requires 150 mm intermediate post.                |
| Coupling post        | 180 x 150 mm                       | 7.09 x 5.91 in | Coupled modules      | Dedicated linking post; may coordinate drainage/service routing.            |
| Free-corner L-side D | 1250 mm max                        | 49.21 in max   | Free corner          | Only with 150 mm intermediate post; no additional stability at free corner. |
| Free-corner W-side D | 750 mm max                         | 29.53 in max   | Free corner          | Only with 150 mm intermediate post; no additional stability at free corner. |
| Module coupling      | Multiple units in L or W direction | -              | Large assemblies     | Screens only at outside edge, not in a connecting beam.                     |

Engineering note: section dimensions do not establish site-specific span capacity. Foundation, anchorage, wind, snow, wall conditions and local code must still be verified.

SECTION 03

PUBLISHED DIMENSION ENVELOPES

Module/configuration references. These are not unconditional structural spans.

| MODEL   | CONFIGURATION    | L MIN              | L MAX               | W MIN              | W MAX                |
|---------|------------------|--------------------|---------------------|--------------------|----------------------|
| Classic | Single           | 1370 mm / 53.94 in | 7030 mm / 276.77 in | 1400 mm / 55.12 in | 4500 mm / 177.17 in  |
| Classic | Couple L (CL/CR) | 1370 mm / 53.94 in | 7030 mm / 276.77 in | 1400 mm / 55.12 in | 4500 mm / 177.17 in  |
| Classic | Couple W (BL/BR) | 1370 mm / 53.94 in | 6900 mm / 271.65 in | 1400 mm / 55.12 in | 4500 mm / 177.17 in  |
| Climate | Single           | 1370 mm / 53.94 in | 6400 mm / 251.97 in | 1400 mm / 55.12 in | 4500 mm / 177.17 in  |
| Climate | Couple L (CL/CR) | 1370 mm / 53.94 in | 6400 mm / 251.97 in | 1400 mm / 55.12 in | 4200 mm / 165.35 in* |
| Climate | Couple W (BL/BR) | 1370 mm / 53.94 in | 6300 mm / 248.03 in | 1400 mm / 55.12 in | 4500 mm / 177.17 in  |
| Cocoon  | Single           | 1370 mm / 53.94 in | 6400 mm / 251.97 in | 1400 mm / 55.12 in | 4000 mm / 157.48 in  |
| Cocoon  | Couple L (CL/CR) | 1370 mm / 53.94 in | 7000 mm / 275.59 in | 1400 mm / 55.12 in | 4000 mm / 157.48 in  |
| Cocoon  | Couple W (BL/BR) | 1370 mm / 53.94 in | 6300 mm / 248.03 in | 1400 mm / 55.12 in | 4000 mm / 157.48 in  |

\* Climate CR width limit shown to 4200 mm in the referenced technical-data table; verify the exact CL/CR configuration.

Cocoon special limit: maximum published width = 4000 mm (157.48 in); net wood-slat length = 3700 mm (145.67 in). If wood slats run parallel to the L side, the same 4000 mm limit also applies to L.

Crystal: use the current manufacturer Crystal dimensions, rafter distribution and glass/load table for the selected configuration. No generalized envelope should replace that table.

SECTION 04

ROOF SYSTEM TECHNICAL DETAILS

Construction and operating characteristics that drive coordination before fabrication.

| MODEL   | ITEM                  | PUBLISHED REQUIREMENT                                        | DESIGN / INSTALLATION IMPLICATION                                          |
|---------|-----------------------|--------------------------------------------------------------|----------------------------------------------------------------------------|
| Classic | Louver action         | Rotating louvers                                             | Coordinate direction with sun, ventilation, walls, lighting and controls.  |
| Classic | Closed-roof condition | Waterproof per manufacturer description; not fully windproof | Do not treat the closed roof as a conditioned-room air barrier.            |
| Climate | Louver action         | Sliding-rotating louvers close more tightly against gutter   | Tighter closure improves wind/rain resistance relative to Classic.         |
| Climate | Acoustic option       | Optional louver insulation                                   | Provides sound damping; does not establish whole-room thermal performance. |
| Cocoon  | Roof build-up         | Sandwich panels + interior wood slats + EPDM sheet above     | Coordinate membrane termination, service access and low-side drainage.     |
| Cocoon  | Wood slat direction   | Slats run perpendicular to gutter side                       | Affects ceiling expression and dimension limits.                           |
| Crystal | Glazing system        | Laminated glass on dedicated rafters                         | Use current glass, slope, rafter-spacing and load table.                   |
| Crystal | Solar control         | Dedicated roof-shading system documented                     | Resolve shading before finalizing rafters, service routes and controls.    |

Order-sequence note: roof type, module orientation, gutter/low side, wall system and controls should be settled before shop-drawing approval.

SECTION 05

DRAINAGE + ANCHORING

Water-management routes, foundation references, and manufacturer anchorage assumptions.

| SYSTEM / ITEM                       | PUBLISHED REQUIREMENT                                                                           | REFERENCE                                 | TECHNICAL NOTE                                                                             |
|-------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------|
| General louver-roof drainage        | Drain through selected posts; reference one outlet per 15 m2 roof area                          | 50 mm drain / 15 m2 (1.97 in / 161.5 ft2) | Coordinate low side, post selection, discharge, grading and service access.                |
| Cocoon drainage                     | Two drainage points on low side                                                                 | 2 points                                  | Separate drainage element runs along the gutter side.                                      |
| Crystal drainage                    | Two low-side posts; manufacturer recommends two drains per 15 m2                                | 2 drains / 15 m2                          | Use Crystal-specific drainage detail rather than generic louver-roof drainage.             |
| Ground-anchor concrete reference    | Concrete block around ground anchor                                                             | 500 x 500 x 1000 mm deep                  | Reference only; verify soil, frost, uplift, overturning and local code.                    |
| Floor plate / chemical-anchor basis | Published structural values assume floor plates with chemical anchoring into suitable substrate | Manufacturer condition                    | Existing deck slabs, pavers, topping slabs or unknown concrete cannot be assumed suitable. |
| Recessed floor arrangement          | Recommended only with a floating terrace                                                        | Threshold/detail condition                | Coordinate track drainage and finished-floor elevations.                                   |

Do not size anchorage from profile dimensions alone. Verify substrate capacity, edge distance, embedment, uplift, overturning, frost and complete load path.

SECTION 06

LOAD + WEATHER CONDITIONS

Manufacturer limitations that govern how published wind, snow and roof-load information can be used.

| TOPIC                | PUBLISHED CONDITION                                                                     | DO NOT ASSUME                                                               | PROJECT ACTION                                             |
|----------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------|
| Wind values          | Tables apply as pressure and suction on louvers.                                        | Values do not apply unchanged when one or more walls are present.           | Re-evaluate enclosure condition and local wind exposure.   |
| Anchorage basis      | Values assume floor plates with chemical anchors into suitable substrate.               | Do not transfer ratings to unverified deck, slab, paver or soil conditions. | Verify anchors, substrate and load path.                   |
| Snow density         | Snow density changes with weather conditions and age.                                   | Do not convert a roof-load number into a universal snow-depth allowance.    | Use local design snow criteria and maintenance procedures. |
| Heavy snow operation | Clear louvers; use snow sensor or position louvers vertically.                          | Do not leave heavy accumulation unmanaged.                                  | Define sensor package and owner procedure.                 |
| Crystal snow load    | Statement concerns static load from gradual accumulation; falling-snow impact excluded. | Do not include snow sliding/falling from an upper roof without analysis.    | Review upper roofs, drifting and falling-snow impact.      |
| Crystal with walls   | 200 kg/m2 condition is stated only with wall mounting + floor plates.                   | Do not treat 200 kg/m2 as a universal rating.                               | Confirm exact module, mounting, walls, glass and supports. |
| Prolonged snow       | Waterproofing not guaranteed under prolonged snow load.                                 | Do not promise permanent watertightness under long-duration snow loading.   | Provide snow-management and maintenance guidance.          |

SECTION 07

ELECTRICAL / LIGHTING / CONTROLS

Product-reference electrical values. Destination-market compliance and final circuit design remain project-specific.

| ITEM                 | POWER / FORCE          | VOLTAGE    | OUTPUT / IP                  | FUNCTION                 |
|----------------------|------------------------|------------|------------------------------|--------------------------|
| Classic louver motor | 60 W / 2500 N          | -          | IPX6; 10 m cable             | Louver drive             |
| Climate louver motor | 100 W / 3500 N         | -          | IPX6; 10 m cable             | Louver drive             |
| Screen motor         | 250 W / 25 Nm / 17 rpm | -          | IP44; 10 m cable             | Vertical screen drive    |
| White LED strip      | 5.5 W/m                | 24 V       | 3000 K / 450 lm/m; IP65      | Integrated lighting      |
| Tunable white LED    | 5.5 W/m                | 24 V       | 2700-6500 K / 450 lm/m; IP65 | Integrated lighting      |
| RGB LED              | 6.7 W/m                | 24 V       | 800-1200 mcd; IP65           | Integrated lighting      |
| LED spot             | 2 W/unit               | 24 V       | 3000 K / 380 lm; IP54        | Spot lighting            |
| Starlight            | 0.25 W/unit            | 12 V       | 3000 K; IP65                 | Decorative roof lighting |
| Audio                | 2 x 50 W RMS           | 24 V       | IP65; 15 m cable             | Bluetooth audio          |
| Design heater 2.0    | 2500 W                 | 230 V ref. | IP65; 1.5 m cable            | Infrared heating         |
| Standard heater      | 3000 W                 | 230 V ref. | IP65; 1.5 m cable            | Infrared heating         |

| CONTROL MODE | BEHAVIOR / INPUTS                                                                     | USE                             |
|--------------|---------------------------------------------------------------------------------------|---------------------------------|
| Standard     | User sets roof/louver position through app/direct controls/buttons depending package. | Manual comfort control          |
| Automatic    | System follows sun; user chooses sun, shade or intermediate preference.               | Solar tracking                  |
| Intelligent  | Uses sun + presence + temperature inputs to choose louver behavior.                   | Automated comfort preference    |
| Casambi      | Bluetooth/app platform with optional sensors and integration.                         | Integrated SO! control platform |
| Somfy        | Transmitters and compatible sensors depending ordered package.                        | Motor / screen control          |

U.S. project note: 230 V references are manufacturer product data, not a U.S. electrical design. Confirm listed equipment, voltage, disconnecting means, GFCI/AFCI and circuit protection as applicable.

SECTION 08

SIDE WALL + GLAZING SYSTEMS

Technical perimeter coordination for sliding glass, joinery, decorative walls and built-in screens.

| SYSTEM                    | CONSTRUCTION / LIMIT                                                                           | OPERATION                                                   | TECHNICAL COORDINATION                                                                                      |
|---------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Frameless sliding glass   | 10 mm safety glass; opening/rail limits vary by configuration                                  | 3-, 4- or 5-rail sliding; 5-rail not compatible with screen | Completely level floor required. Plan stack side, track count, threshold, drainage and finished level.      |
| Steel-look sliding glass  | 10 mm glass + aluminum lattice dividers                                                        | Sliding                                                     | Coordinate divider pattern, stack side, track count and screen conflicts.                                   |
| Insulating double glazing | 6 securit / 15 / 6 securit; area max 5 m2; B max 2 m; panel max 150 kg; pergola H ref. 2840 mm | Fixed or sliding by system                                  | Improves thermal/acoustic performance but does not automatically create conditioned space.                  |
| Single-glass joinery      | SGG securit 10 mm; same max-area / width / panel-mass references                               | System dependent                                            | Coordinate base profile and water route.                                                                    |
| Thermowood sliding wall   | Thermowood in sliding frame; project-specific widths                                           | Sliding                                                     | Privacy/architectural enclosure; verify current wall-width tables.                                          |
| Verso-Tex sliding wall    | Fiberglass screen fabric in sliding frame                                                      | Sliding                                                     | Privacy + solar/wind protection; verify current limits.                                                     |
| Built-in screen           | Motorized integrated screen; side/configuration limits apply                                   | Vertical                                                    | Screens only at outside edge, not in connecting beam. Coordinate wind sensor, guides and glazing conflicts. |

SECTION 09

ACCESSORY TECHNICAL COORDINATION

Accessory requirements to resolve before fabrication, service routing and electrical rough-in.

| ACCESSORY                         | PUBLISHED DETAIL                                                                                                 | COORDINATION REQUIREMENT                                                       |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| Projector support                 | Minimum 5000 lm; high contrast; max referenced device 350 x 250 mm; holder tilt 25 degrees; rotation 360 degrees | Confirm projector body, ventilation, service and HDMI/power routing.           |
| Projection in direct sun          | Use SolFix screens perpendicular to projection fabric; close louvers                                             | Set client expectations for ambient light and coordinate screens before order. |
| Standard heater                   | 3000 W; 16 A reference; 105 x 9 cm; 4.2 kg; 2-5 micrometer wavelength                                            | Not recommended with more than one permanently open side.                      |
| Design heater 2.0                 | 2500 W; 16 A reference; 93 x 15.5 cm; 6 kg; 2-5 micrometer wavelength                                            | Not recommended with more than one permanently open side.                      |
| Cocoon anchor points              | Set of four anchor points documented                                                                             | Confirm permitted load and attachment arrangement before hanging equipment.    |
| Classic fixed-louver fan location | Manufacturer reference recommends max 8 kg fan load; fan not supplied                                            | Confirm fan size, vibration, attachment, electrical route and local listing.   |
| Bluetooth audio                   | 2 x 50 W RMS reference                                                                                           | Confirm speaker count, cable route and service access.                         |
| Integrated power / charging       | 230 V, USB / USB-C and HDMI references appear in product literature                                              | Confirm destination-market approved connection package.                        |

## SECTION 10

# PROJECT TECHNICAL RELEASE CHECKLIST

Minimum technical decisions that should be closed before manufacturer release.

| PHASE       | TECHNICAL ITEM                  | REQUIRED INPUT / VERIFICATION                                                     | GATE   |
|-------------|---------------------------------|-----------------------------------------------------------------------------------|--------|
| Site        | Overall L/W dimensions          | Field-verified dimensions and controlling datum                                   | HOLD   |
| Site        | Finished floor levels           | Elevation, slope, threshold, recess and track condition                           | HOLD   |
| Structure   | Mounting condition              | Freestanding / wall-mounted / coupled / free-corner                               | HOLD   |
| Structure   | Foundation / substrate          | Concrete, deck framing, slab or ground-anchor condition; engineering verification | HOLD   |
| Structure   | Local wind / snow criteria      | Project design values, exposure, drift/falling-snow conditions                    | HOLD   |
| Roof        | Roof model / module arrangement | Classic / Climate / Cocoon / Crystal / Combi; number of modules                   | HOLD   |
| Roof        | Roof orientation / low side     | L/W direction, louver/slat direction, gutter/low side                             | HOLD   |
| Drainage    | Drain count + discharge path    | Post selection, outlet count, discharge, overflow and service access              | HOLD   |
| Walls       | Perimeter system                | Screens / sliding glass / insulating glazing / wood / open sides                  | HOLD   |
| Controls    | Control platform + sensors      | Casambi / Somfy / buttons / weather sensors / automation behavior                 | HOLD   |
| Electrical  | Electrical load schedule        | Motors, LEDs, heaters, audio, outlets and controls                                | HOLD   |
| Electrical  | Destination-market compliance   | Voltage, listed equipment, disconnects and protection as applicable               | HOLD   |
| Accessories | Accessory placement             | Heaters, audio, projector, fan and hanging loads                                  | REVIEW |
| Engineering | Manufacturer configuration      | Current WINSOL configuration/order document and shop drawings                     | HOLD   |
| Engineering | Permit / structural package     | Stamped drawings/calculations when required                                       | HOLD   |
| Release     | Final technical approval        | Approved dimensions, product, options, walls, drainage, controls and exceptions   | HOLD   |

**Release rule: any HOLD item should be treated as unresolved unless a responsible engineer, dealer, manufacturer or project lead has explicitly accepted the condition.**

SECTION 11

SOURCE REGISTER

Reference hierarchy used in this booklet.

| PRIORITY | SOURCE                                             | USE                                                 | NOTES                                                                                       |
|----------|----------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------------------------------------------|
| 1        | SO!_SPECS_2025-00-1.pdf - Rev. printed 17 Nov 2025 | Primary technical authority                         | Dimensions, profiles, roof details, load conditions, drainage, controls, walls and glazing. |
| 2        | Winsol Pergola SO! product brochure                | Supplementary product / enclosure terminology       | Technical-data sheet governs where information differs.                                     |
| 3        | NOLVANT x WINSOL technical workbook                | Consolidated internal reference                     | This booklet is the print-form companion to that workbook.                                  |
| 4        | WINSOL manufacturer portal - current issue         | Current manuals, CAD and configuration confirmation | Check current documents at project release because technical data may be modified.          |

Final note: this booklet is intended to make technical coordination faster and more consistent. The current manufacturer configuration and site-specific engineering remain controlling.

NOLVANT x WINSOL | SO! TECHNICAL SPECIFICATION BOOKLET

Technical reference - not for fabrication

SECTION 12

PROJECT CONFIGURATION RECORD

Project-facing technical data sheet for capturing the selected SO! configuration before engineering and order release.

| FIELD                                | PROJECT ENTRY                                                               |
|--------------------------------------|-----------------------------------------------------------------------------|
| Project / job name                   |                                                                             |
| Site / jurisdiction                  |                                                                             |
| SO! roof model                       | Classic / Climate / Cocoon / Crystal / Combi                                |
| Module count / coupling direction    |                                                                             |
| Overall L x W                        |                                                                             |
| Mounting condition                   | Freestanding / wall-mounted / coupled / free-corner                         |
| Roof orientation / low side          |                                                                             |
| Drainage posts / discharge           |                                                                             |
| Perimeter walls                      | Open / screen / frameless glass / insulating glass / Thermowood / Verso-Tex |
| Control platform                     | Casambi / Somfy / project-specific                                          |
| Weather sensors                      |                                                                             |
| Lighting package                     |                                                                             |
| Heating / audio / projector / fan    |                                                                             |
| Foundation / substrate               |                                                                             |
| Wind / snow design criteria          |                                                                             |
| Engineer / AHJ requirements          |                                                                             |
| Manufacturer configuration reference |                                                                             |

SECTION 13

TECHNICAL NOTES

Reserved for project-specific RFIs, manufacturer clarifications, engineering notes and field coordination.

| NO. | NOTE / RFI / CLARIFICATION |
|-----|----------------------------|
| 01  |                            |
| 02  |                            |
| 03  |                            |
| 04  |                            |
| 05  |                            |
| 06  |                            |
| 07  |                            |
| 08  |                            |
| 09  |                            |
| 10  |                            |
| 11  |                            |
| 12  |                            |
| 13  |                            |
| 14  |                            |
| 15  |                            |

**NOLVANT x WINSOL**

SO! TECHNICAL SPECIFICATION BOOKLET

Technical reference only - verify current manufacturer documents and site-specific engineering before release.