SECOND DESK

INTERNATIONAL ADVISORY

Heating & cooling

Greenhouse thermal management under seasonal loads

GREENHOUSE & AGRI-TECH



AI-generated illustration | not an actual project reference

Product scope and commercial role

TECHNICAL SCOPE

- Hot-water pipe rail heating
- Heat exchangers
- Boilers or external utility connection
- Ventilation and evaporative cooling

SECOND DESK ROLE

Technical-commercial qualification, market development and manufacturer or partner coordination.



Source: Second Desk website | sector image, not project evidence

Design basis and operating envelope

INPUTS REQUIRED BEFORE A COMPARABLE QUOTATION

- Design weather
- Greenhouse geometry
- Crop climate band
- Heat source and energy price
- Water availability

The owner and qualified manufacturer confirm operating conditions and applicable design basis before engineering release.

Engineering and component selection

DESIGN REVIEW POINTS

- Heat load
- Distribution zones
- Pump head
- Thermal expansion
- Cooling strategy and controls

Selection trade-off

Compare peak design load with available capacity and distribution temperature. Review distribution balance and seasonal operating strategy.

Project drawings, tolerances and design details remain subject to the responsible supplier or engineer.

Representative technical section



AI-generated technical concept | not to scale or for fabrication

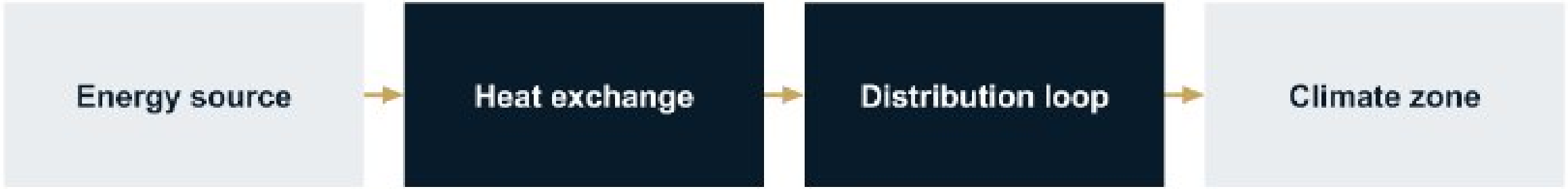
DETAILS TO CONFIRM WITH QUALIFIED SUPPLIER

- Heat load
- Distribution zones
- Pump head
- Thermal expansion

Confirm the actual construction and dimensions from controlled supplier drawings or approved samples.

Representative functional arrangement

Conceptual sequence for technical discussion. Actual layout and interfaces depend on the approved specification.



Heat-transfer view; return piping and cooling modes are separate design interfaces.

Input boundary

Design weather / Greenhouse geometry

Operating and output boundary

Temperature distribution / Control response

Fabrication and assembly sequence



AI-generated manufacturing scene, illustrative only

TYPICAL CONTROLLED WORKFLOW

01 Pipe spool and manifold fabrication

02 Coil or heat exchanger assembly

03 Pumps and valves

04 Control wiring

Inspection and quality control

TYPICAL QUALITY CONTROL POINTS

01 Pressure/leak tests

02 Actuator checks

03 Temperature sensor calibration

04 Control sequence



AI-generated sector inspection scene; illustrative only

Inspection methods, sampling, hold points and sign-off depend on the order and approved quality plan.

Factory acceptance and site acceptance

FAT / manufacturing release

- Pressure/leak tests
- Actuator checks
- Temperature sensor calibration
- Control sequence

SAT / performance verification

- Temperature distribution
- Control response
- Flow balance
- Safety and alarm checks

Agree test conditions, tolerances, witness authority and punch-list closeout before testing. SAT is distinct from factory release.

Site integration and commissioning readiness



AI-generated application scene; illustrative only

SITE PREREQUISITES

01 Verify expansion provision, supports and insulation

02 Balance flows

03 Connect heat source and power

Packing, logistics and delivery

PRODUCT-SPECIFIC PACKING CHECKS

01 Cap pipework

02 Protect fins and actuators

03 Bundle zone diagrams and component tags

Define the Incoterms® rule, named place, export documents, insurance responsibilities and site receipt process in the commercial agreement.



AI-generated logistics scene; illustrative only

Technical and commercial risk review

Heating and cooling controls must coordinate with ventilation, humidity and grower requirements.

Design compliance

Compare the same data sheets, duty and explicitly agreed exclusions.

Technical evidence

Request relevant engineering documents, inspection plan and test records.

Execution risk

Check site access, spares, service scope and the manufacturer's support plan.

Responsibilities across the supply chain

OWNER / EPC	SECOND DESK	MANUFACTURER / CONTRACTOR
Defines duty, project constraints, site interfaces and acceptance authority.	Clarifies the opportunity, identifies suitable suppliers and coordinates technical-commercial communication.	Owns engineering, production, testing, guarantees, site execution and contractual obligations as agreed.

Supplier names, manufacturing capability, certificates, references and country-specific approvals are verified for each enquiry; no standing partner or factory is implied.

RFQ and evidence package

01	**Technical definition**	Duty and design basis, data sheets, scope boundaries and tie-in information.
02	**Supplier evidence**	Capability, drawings, applicable compliance, inspection plan and relevant references.
03	**Commercial offer**	Scope and exclusions, lead time, payment, Incoterms® rule, optional services.
04	**Handover plan**	FAT/SAT where applicable, documentation, spares, training and after-sales.

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Discuss your next requirement

Share the application, target market or project, technical specification and expected delivery scope.

seconddeskinternational.com

Contact form: seconddeskinternational.com/#contact | Denizli, Türkiye | Meetings by appointment

SOURCE AND EVIDENCE NOTES

Second Desk sector page • FAO: good agricultural practices for greenhouse vegetables • ICC Incoterms® guidance

Visuals: generated sector illustrations and Second Desk website imagery. Project provenance, supplier capabilities and certification remain unverified unless separately confirmed.