

SYNTE RFQ WORKSHEET

Vacuum Furnace RFQ Checklist

A structured worksheet for receiving an application-matched and technically comparable furnace proposal.

Complete the applicable fields, mark unknown items and attach drawings or standards rather than guessing.



Process

Define the result

Load

Part + tooling + batch

Site

Confirm utilities

Acceptance

Make evidence measurable

Use this document to

Screen the application, compare reference configurations, identify the engineering variables that change the proposal, and define measurable quotation and acceptance inputs.

Current online reference

<https://syn-v2.com/contact/>

All published values are reference data for preliminary selection. Final configuration, supply scope and acceptance conditions are controlled by the project proposal and technical agreement.

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1. Material, part and target result

The furnace route cannot be selected reliably without the material and the measurable result.

Input	Why it matters	Complete / attach
☐ Material / feedstock	Controls temperature, hot-zone compatibility, vacuum/gas and contamination risk	Project input: Grade / supplier / composition
☐ Starting condition	Controls the required thermal or metallurgical route	Project input: As-received hardness / density / prior treatment
☐ Part drawing	Defines geometry, critical features and inspection locations	Project input: Drawing no. / revision / attachment
☐ Process objective	Distinguishes joining, hardening, annealing, sintering or pressure-assisted processing	Project input: Required process and final state
☐ Special chemistry	Binder, filler, flux, lubricant or volatile load changes the gas and pumping design	Project input: Type / fraction / release data
☐ Acceptance result	Makes the equipment and process requirement measurable	Project input: Leak / hardness / case / density / dimensions / other

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2. Complete load and production demand

Use the full production arrangement. A loose-part envelope or net part mass is not enough.

Input	Why it matters	Complete / attach
☐ Largest part	Sets the minimum geometric boundary	Project input: $W \times H \times L$ or $\varnothing \times H$; drawing
☐ Fixture / tray / setter	Changes usable zone, radiation/gas flow and thermal mass	Project input: Drawing, material and mass
☐ Loaded arrangement	Defines clearances, orientation and sensor access	Project input: Rows / layers / spacing / image
☐ Gross load	Sizes heating, cooling, handling and structure	Project input: Parts + tooling + carrier mass
☐ Capacity	Determines batch size, takt, line or parallel-equipment logic	Project input: Good parts/batch or hour; shifts
☐ Handling	Changes chamber orientation, door, transfer and factory interface	Project input: Manual / cart / lift / robot / line

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3. Thermal, vacuum, gas and cooling cycle

State known process values and identify which require development or confirmation.

Input	Why it matters	Complete / attach
☐ Temperature curve	Defines heater, zones, power and cycle control	Project input: Ramp / equalize / soak / tolerance
☐ Vacuum stages	Defines pump train, gauges, valves and acceptance	Project input: Ultimate / working / pressure stages
☐ Process gas	Defines gas train, flow/pressure control and safety	Project input: Gas / purity / dew point / flow / pressure
☐ Cooling / quench	Defines fan, heat exchanger, oil system or programmed cooling	Project input: Gas pressure / oil / rate / unload target
☐ Cycle target	Connects process time to production capacity	Project input: Door-to-door or hot-cycle time
☐ Known limits	Prevents contamination, distortion, cracking or unsafe operation	Project input: Surface / distortion / chemistry / safety limits

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4. Installation, controls and acceptance

A comparable quotation must include the installation boundary and the evidence required before release.

Input	Why it matters	Complete / attach
☐ Electrical	Controls installed power and site connection	Project input: Voltage / phase / frequency / available power
☐ Cooling water	Controls heat rejection and cycle stability	Project input: Supply temp / pressure / flow / quality
☐ Gases / exhaust	Controls process, safety and operating cost	Project input: Supply pressure / storage / exhaust route
☐ Space / loading	Controls layout, door, maintenance and logistics	Project input: Footprint / height / floor / route
☐ Controls / data	Controls traceability and plant integration	Project input: Recipes / fields / protocol / export / retention
☐ FAT / SAT	Defines pass/fail evidence and responsibility	Project input: Tests / sensors / witness / standards / language

SUBMISSION

5. Document package and contact

Send one coherent enquiry package. Mark unknown values so SYNHTE can identify them as engineering questions rather than silent assumptions.

Recommended attachment	Status / filename
Part / assembly drawing and revision	
Fixture, tray, setter, basket or carrier drawing	
Material, filler, binder or feedstock specification	
Existing process curve / work instruction	
Inspection method, standard and pass limits	
Plant utility and layout information	
Photos of current part/load or existing equipment	
Project timing, delivery destination and document language	

Submission channels

Email info@synthe-corp.com | WhatsApp +86 155 3785 7393 | Tel +86 371 69392107 |
Website <https://syn-v2.com/>

What SYNHTE should return

Recommended process/furnace route; preliminary configuration and load basis; utilities/interfaces; proposed scope; acceptance basis; assumptions, exclusions and open questions.

Company: Henan Synthe Corporation

Address: Building 12, Shangwu Waihuan Road, Zhengzhou City, Henan Province, China

Project / company / contact: _____

Target quotation date: _____