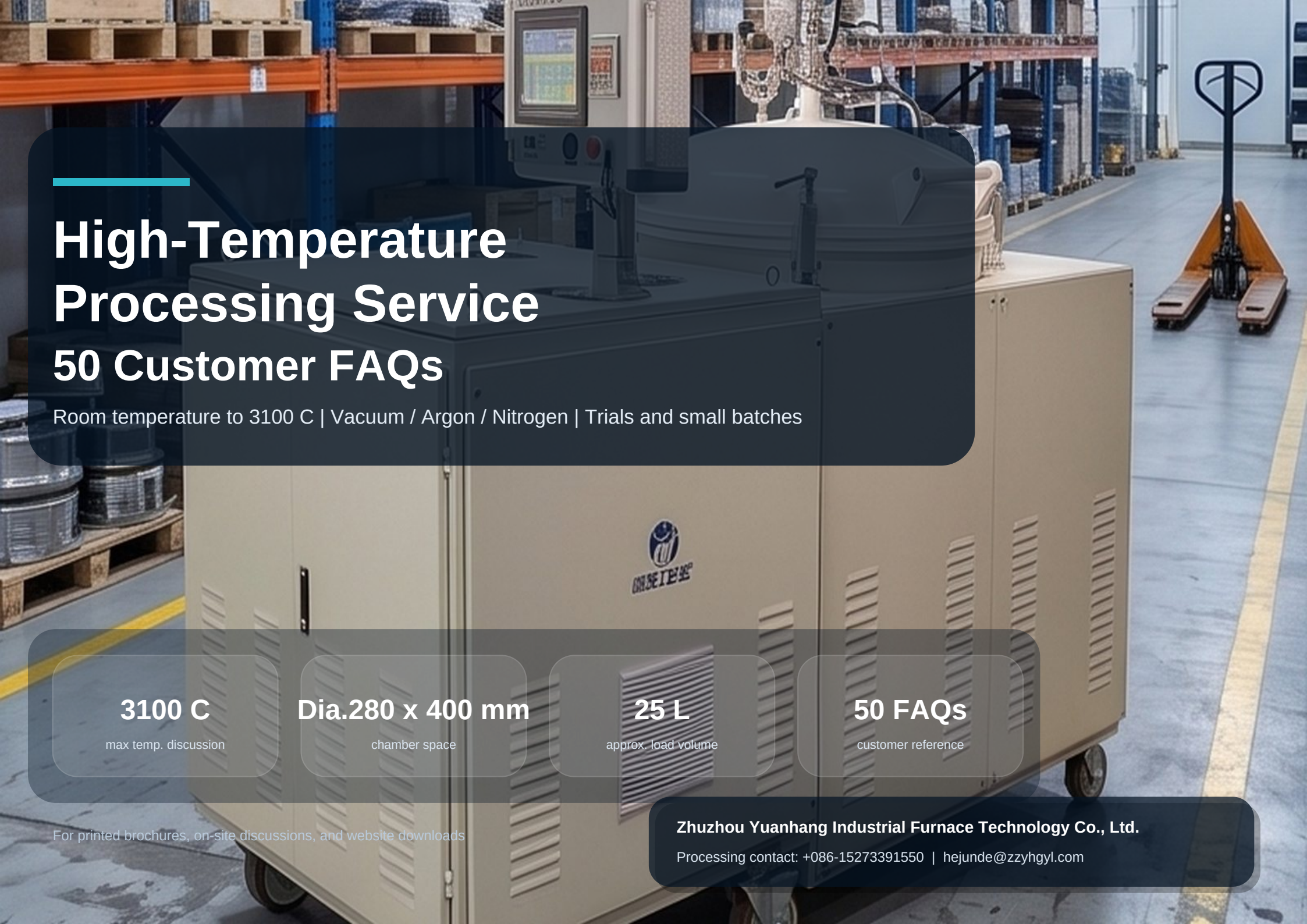


High-Temperature Processing Service

50 Customer FAQs

Room temperature to 3100 C | Vacuum / Argon / Nitrogen | Trials and small batches

3100 C	Dia.280 x 400 mm	25 L	50 FAQs
max temp. discussion	chamber space	approx. load volume	customer reference

For printed brochures, on-site discussions, and website downloads

Zhuzhou Yuanhang Industrial Furnace Technology Co., Ltd.

Processing contact: +086-15273391550 | hejunde@zzyhgyl.com

We understand that customers care less about equipment specs, and more about whether the job can be done safely, consistently, and exactly to the processing requirement.

This English edition rewrites the 50 most common customer questions into a practical reference for commissioned heat treatment. It is meant to answer the main concerns before sending samples: capability, furnace conditions, sample handling, quotation, lead time, records, confidentiality, and cooperation workflow. Materials and processes vary, so it may not cover every special case. If anything remains unclear, please contact us at any time.

Service range

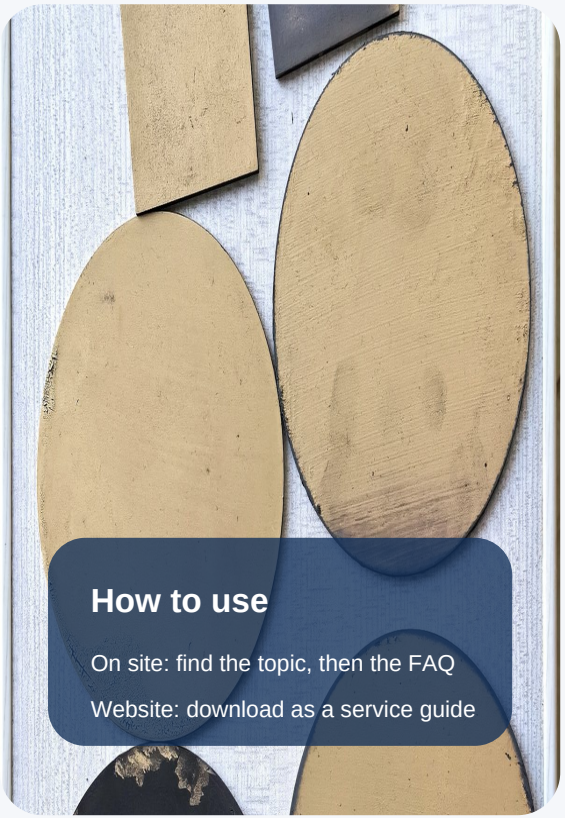
Room temp. to 3100 C

Atmosphere

Vacuum / Argon / Nitrogen

Use cases

Trials / Validation / Small batches



Content map

- Processing Capability & Furnace Conditions 15 FAQs
- Quality Assurance & Process Records 10 FAQs
- Pricing, Workflow & Business Terms 11 FAQs
- Confidentiality, Safety & Trust 6 FAQs
- Special Needs & Long-Term Cooperation 8 FAQs

Contents

Processing Capability & Furnace Conditions

FAQ 01-15 | 15 customer questions

Customer communication note

Before sending samples, please confirm the material name, target temperature, holding time, and atmosphere. If contamination, volatilization, oxidation, or testing standards matter, tell us early.

Processing Capability & Furnace Conditions

What high-temperature processing services do you provide?

We provide commissioned high-temperature processing from room temperature up to 3100 C, mainly for lab trials, small-batch samples, and process verification.

Feasibility depends on the material, target temperature, atmosphere, holding time, and loading method. We review these conditions before accepting a job.

Send us the material name, target temperature, holding time, and atmosphere requirement, and we will first check whether it is suitable.

High-temp trial | Small batch | Process validation | Heat treatment

Processing Capability & Furnace Conditions

Can you process under vacuum, argon, or nitrogen?

Yes. We can run vacuum, argon protection, nitrogen protection, and combined processes such as vacuum first and then protective gas.

The right atmosphere is selected after reviewing whether the material may oxidize, volatilize, or react with furnace materials at high temperature.

Share the material and target process conditions so we can suggest a safe atmosphere route.

Vacuum | Argon | Nitrogen | Protected heating

Processing Capability & Furnace Conditions

What is the maximum temperature you can discuss?

For suitable materials and processes, we can discuss work up to 3100 C.

The actual upper limit must be confirmed against material behavior, loading form, safety risk, and atmosphere requirements.

Tell us the material, target temperature, and holding time so we can evaluate the practical limit.

3100 C | High temperature | Thermal processing

Processing Capability & Furnace Conditions

How large is the furnace chamber, and how much can it hold?

The current lab furnace chamber is about diameter 280 mm by 400 mm high, with an approximate usable loading volume of 25 L.

Actual loading weight depends on material density, crucible size, stacking method, and whether layered loading is required.

Send sample size, quantity, and preferred container information for a loading estimate.

Chamber size | Loading volume | Sample capacity

60 Pro

Processing Capability & Furnace Conditions

How many samples can be processed in one run?

Sample quantity is not decided by chamber volume alone.

We also consider material density, packing state, crucible dimensions, spacing, and whether samples can be safely loaded together.

Provide the sample form and approximate amount, and we can judge the loading plan.

Sample loading | Batch trial | Crucible

Processing Capability & Furnace Conditions

Can you provide crucibles, or can customers bring their own?

We can provide crucibles, and we also accept customer-supplied or customized crucibles when suitable.

If the sample is sensitive to residue or contamination, we recommend discussing whether a dedicated new crucible is needed.

Let us know any contamination sensitivity before processing.

Crucible | Custom tooling | Clean processing

Processing Capability & Furnace Conditions

What is the furnace chamber material? Could it contaminate samples?

The furnace chamber is graphite-based.

Before processing, we need to confirm whether the material may react with carbon under the target temperature and atmosphere.

If carbon reaction or contamination is a concern, please mention it at the first discussion.

Graphite furnace | Carbon reaction | Contamination control

Processing Capability & Furnace Conditions

Which materials are suitable for commissioned high-temperature processing?

Not every material is suitable for high-temperature processing in our furnace.

We evaluate the material's reaction behavior at the target temperature and atmosphere before deciding whether it can enter the graphite chamber.

Send the material composition and process target so we can screen feasibility.

Material review | Graphite chamber | Feasibility

Processing Capability & Furnace Conditions

Can powder materials be processed?

Powder materials can often be processed, but they need proper loading and containment.
We usually recommend a suitable crucible, lid, layering, or small trial first to reduce loss and contamination risk.

Tell us powder particle size, quantity, and whether it is easy to fly or react.

Powder | Crucible loading | Small trial

Processing Capability & Furnace Conditions

Can blocks, sheets, fibers, or similar forms be processed?

Blocks, sheets, fibers, and other forms may all be considered.
Different shapes carry different risks, so a small verification run is usually the safest first step.

Share photos, dimensions, and material form before we propose loading.

Blocks | Sheets | Fibers | Sample form

11

FAQ

Processing Capability & Furnace Conditions

Can you follow a heating curve provided by the customer?

If the process curve is mature and compatible with our equipment, we can follow confirmed ramping, holding, atmosphere, and cooling requirements.

Before execution, we need to confirm temperature range, holding time, atmosphere, and safety limits.

Send your curve or process table for review before quotation.

Heating curve | Ramp rate | Process control

12

FAQ

Processing Capability & Furnace Conditions

Can you help design a process if we do not yet have one?

If the process is not yet mature, we can suggest a trial route based on the material and target outcome.

A safer approach is to begin with a smaller test, review the result, and then optimize the next run.

Tell us the material and expected result, and we can suggest a first trial direction.

Process design | Trial route | Optimization

Processing Capability & Furnace Conditions

Can you evacuate first and then fill with protective gas?

Yes. Vacuum followed by protective gas is a common combined process.
Any switching point or atmosphere detail should be confirmed before processing.

If your process requires a specific vacuum-to-gas transition, please state it clearly.

Vacuum first | Protective gas | Combined process

Processing Capability & Furnace Conditions

Do samples need pre-treatment before processing?

Some samples may need drying, impurity removal, or packaging removal before entering the furnace.
Proper pre-treatment can reduce abnormal reactions during high-temperature processing.

Please tell us whether the sample contains moisture, binder, coating, or packaging residue.

Pre-treatment | Drying | Risk reduction

Processing Capability & Furnace Conditions

What if the material releases volatile substances at high temperature?

Some materials may volatilize, smoke, or produce deposits when heated.

Before accepting the job, we assess possible impact on the chamber, exhaust system, and other samples.

If volatile components are possible, please disclose them before quotation.

Volatilization | Exhaust | Safety review

Quality Assurance & Process Records

FAQ 16-25 | 10 customer questions

Customer communication note

Before sending samples, please confirm the material name, target temperature, holding time, and atmosphere. If contamination, volatilization, oxidation, or testing standards matter, tell us early.

Quality Assurance & Process Records

Can you provide on-site process data?

We can provide necessary process records, and real-time data can be shared when the job conditions allow.
Typical records may include temperature, time, atmosphere or vacuum condition, and loading information.

Tell us what records you need before processing starts.

Process record | Temperature | Vacuum data

60 Pro

Quality Assurance & Process Records

Can you provide a temperature-time curve?

We can usually provide a temperature-time curve for the run.
If you need a specific recording format or data export requirement, please confirm it before the job.

State your reporting format in advance if your project requires one.

Temperature curve | Data record | Traceability

Quality Assurance & Process Records

Can you guarantee the expected material result?

For a first trial, we normally cannot guarantee final material performance in advance.

The more reliable route is to process under confirmed conditions, test the result, and then optimize based on feedback.

For new materials, we recommend starting with a small verification batch.

Trial result | Material performance | Optimization

Quality Assurance & Process Records

Can testing be provided after processing?

We mainly provide the processing service and basic before/after handling information.

Specialized property testing usually needs to be discussed in advance and may require an external testing arrangement.

If testing is required, tell us which indicators you care about before quotation.

Testing | After processing | External lab

60 Pro

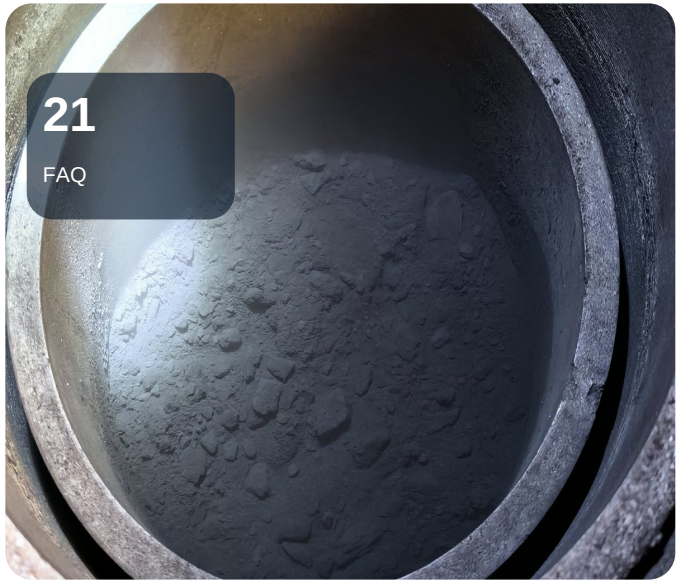
Quality Assurance & Process Records

Can ash content, graphitization degree, or resistivity be provided?

Ash content, graphitization degree, and similar indicators usually require specialized testing.
For some carbon-based materials, we can help coordinate sample submission or discuss relevant testing needs.

Please clarify whether your priority is composition, graphitization, resistivity, or another index.

Ash content | Graphitization | Resistivity



Quality Assurance & Process Records

How do you keep batches consistent?

Batch consistency depends on stable parameters, consistent loading, and clear process records.
After key parameters are confirmed during small trials, later batches can be run more consistently.

For repeated orders, we recommend fixing the process window and loading method.

Batch consistency | Repeatability | Process window

Quality Assurance & Process Records

How do you prevent cross-contamination?

For sensitive materials, we can discuss dedicated crucibles, dedicated packaging, and clearer loading requirements.

Before processing different customer materials, we evaluate possible contamination risks.

Please tell us if residue, trace elements, or mixed loading are unacceptable.

Cross-contamination | Dedicated crucible | Clean handling

Quality Assurance & Process Records

How are sample failure or loss risks handled?

High-temperature processing may involve risks such as cracking, sticking, volatilization, or performance not meeting expectation.

Before the first cooperation, we recommend clarifying risk boundaries and handling principles.

For valuable or sensitive samples, start with a small trial whenever possible.

Sample risk | Trial batch | Risk boundary

Quality Assurance & Process Records

What happens if there is a power outage or equipment fault?

If an abnormal event occurs, our first priority is equipment and sample safety.

Whether a replacement run is needed will be discussed according to the process condition and actual situation.

For critical projects, please discuss schedule and risk tolerance in advance.

Abnormal event | Equipment safety | Contingency

Quality Assurance & Process Records

Can photos or videos be recorded?

Yes. Key steps such as sample receiving, furnace loading, unloading, or packaging can be recorded when appropriate.

If confidentiality or restricted access is involved, recording requirements should be discussed in advance.

Tell us which steps you want documented before the run.

Photo record | Video record | Traceability

Pricing, Workflow & Business Terms

FAQ 26-36 | 11 customer questions

Customer communication note

Before sending samples, please confirm the material name, target temperature, holding time, and atmosphere. If contamination, volatilization, oxidation, or testing standards matter, tell us early.

Pricing, Workflow & Business Terms

How is high-temperature processing priced?

Pricing is usually calculated by run or furnace batch.

The quote depends on maximum temperature, atmosphere, holding time, loading difficulty, and process risk.

Send the material, temperature, holding time, and atmosphere, and we can prepare a more accurate quote.

Pricing | Quotation | Run-based

60 Pro

Pricing, Workflow & Business Terms

Why do different temperatures and atmospheres cost differently?

Different temperatures and atmospheres lead to different energy use, consumables, equipment occupation, and operating risks.

That is why pricing changes under different process conditions.

A clear process requirement helps us quote fairly and avoid hidden changes later.

Temperature cost | Atmosphere cost | Process risk

Pricing, Workflow & Business Terms

What is the minimum quantity?

We usually quote by furnace run, so the sample quantity does not always need to be large. Whether samples can share a run depends on compatibility and contamination risk.

Tell us the amount and sample type, and we will advise whether a small run is suitable.

Minimum order | Small sample | Shared run

Pricing, Workflow & Business Terms

What does the quotation include?

A quotation may include processing, energy use, crucible or tooling, packaging, tax, and other agreed items. Any special testing, special packaging, or additional handling will be listed separately when needed.

Please confirm all required deliverables before the final quotation.

Quotation scope | Packaging | Tax

Pricing, Workflow & Business Terms

What payment methods are available?

Corporate bank transfer is supported.

Payment terms can be discussed according to the order, such as deposit plus balance or payment after completion and invoicing.

For company orders, we can confirm payment and invoice details before starting.

Payment | Bank transfer | Business terms

Pricing, Workflow & Business Terms

Can you issue invoices, including special VAT invoices?

Invoices can be issued.

Invoice type, tax rate, and billing information should be confirmed with our business team before the order.

Please provide complete company billing information when needed.

Invoice | VAT invoice | Billing

Pricing, Workflow & Business Terms

How long does processing usually take?

If the required holding time is within 24 hours, many jobs can be completed within about three days after sample receipt.

More complex processes or longer holding times will extend the schedule according to the actual run.

Tell us your schedule expectation before shipping samples.

Lead time | Turnaround | Schedule

Pricing, Workflow & Business Terms

Can processing be expedited?

Expedited processing depends on the current furnace schedule.

For high-temperature work, we do not shorten ramping, holding, or cooling steps in a way that compromises process safety.

If the project is urgent, contact us before sending samples.

Expedite | Schedule | Safety

Pricing, Workflow & Business Terms

How are logistics and packaging handled?

Before shipment, samples should be sealed and protected according to material condition and risk.
After processing, we can repack and return samples according to the agreed requirements.

Please tell us if the sample is fragile, hygroscopic, reactive, or hazardous.

Logistics | Packaging | Return shipment

60 Pro

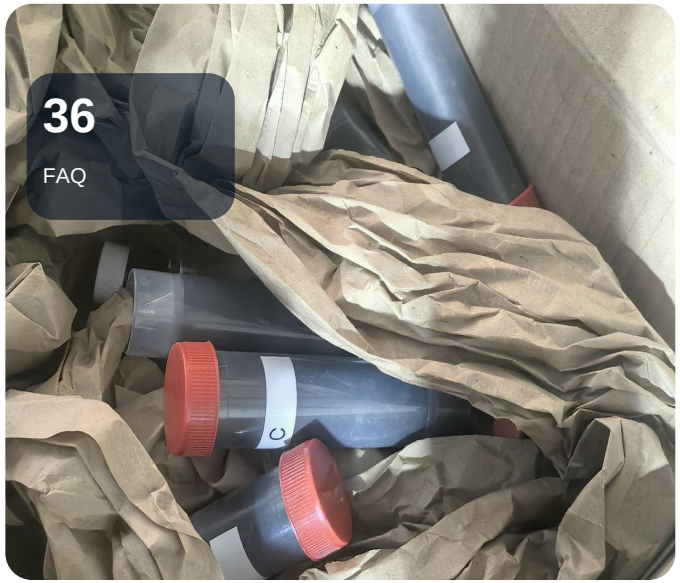
Pricing, Workflow & Business Terms

What will I receive after processing?

Normally, you receive the processed sample, any remaining sample, and necessary process records.
If reports, photos, curves, or testing documents are required, they should be written into the quotation or contract in advance.

Clarify expected deliverables before the job starts.

Deliverables | Process record | Report



Pricing, Workflow & Business Terms

Can we sign a commissioned processing contract?

Yes. A commissioned processing contract can be signed.

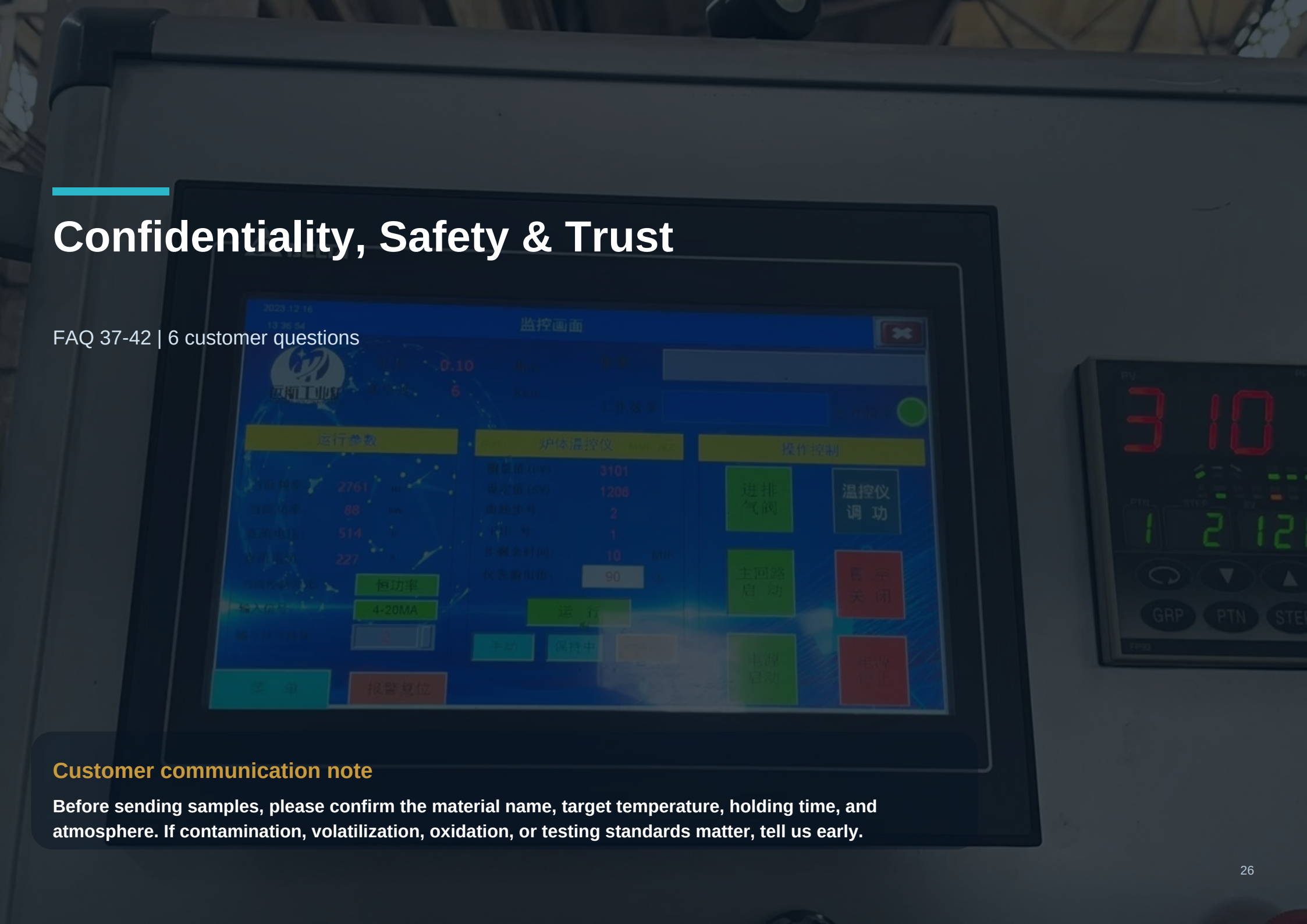
This is especially recommended for first cooperation, higher-value samples, or projects with clear responsibility requirements.

We can confirm contract terms before sample shipment.

Contract | Commissioned processing | Business cooperation

Confidentiality, Safety & Trust

FAQ 37-42 | 6 customer questions



Customer communication note

Before sending samples, please confirm the material name, target temperature, holding time, and atmosphere. If contamination, volatilization, oxidation, or testing standards matter, tell us early.

Confidentiality, Safety & Trust

Will formulas and process information be kept confidential?

We respect customer confidentiality.

If a project has specific confidentiality requirements, they can be discussed in advance, and a confidentiality agreement can be signed when needed.

Tell us your confidentiality boundary before sharing sensitive details.

Confidentiality | NDA | Formula protection

Confidentiality, Safety & Trust

Can we visit the site during processing?

Site visits or observation of key steps can be arranged by appointment when suitable.

Visits must follow site safety, confidentiality, and production scheduling requirements.

Please make an appointment before planning a visit.

Site visit | Safety | Process observation

Confidentiality, Safety & Trust

Where is the company located? Is sample shipment convenient?

Our company is located in Zhuzhou, Hunan, with convenient sample shipping and on-site communication options. If an on-site discussion is needed, please make an appointment in advance.

Contact us before shipping so we can confirm receiving details.

Zhuzhou | Sample shipment | On-site meeting

Confidentiality, Safety & Trust

Are there successful cases for reference?

Reference cases can be discussed according to material type and confidentiality boundaries. We will judge whether a past case is truly relevant before using it as a reference.

Share your material category so we can discuss comparable experience.

Case reference | Experience | Material type

Confidentiality, Safety & Trust

Can you handle military, aerospace, or other special materials?

Special materials require additional review for compliance, safety, and management requirements.
Customers should explain the project background and provide necessary information before processing.

Please disclose special material requirements at the first consultation.

Special materials | Compliance | Safety review

Confidentiality, Safety & Trust

If the material damages equipment, how is responsibility handled?

If a material may be corrosive, explosive, volatile, or otherwise risky, the customer should disclose the risk truthfully in advance.
Responsibility boundaries should be written into the contract or quotation before processing.

Do not omit known material risks during consultation.

Equipment risk | Responsibility | Safety disclosure

Special Needs & Long-Term Cooperation

FAQ 43-50 | 8 customer questions

Customer communication note

Before sending samples, please confirm the material name, target temperature, holding time, and atmosphere. If contamination, volatilization, oxidation, or testing standards matter, tell us early.

Special Needs & Long-Term Cooperation

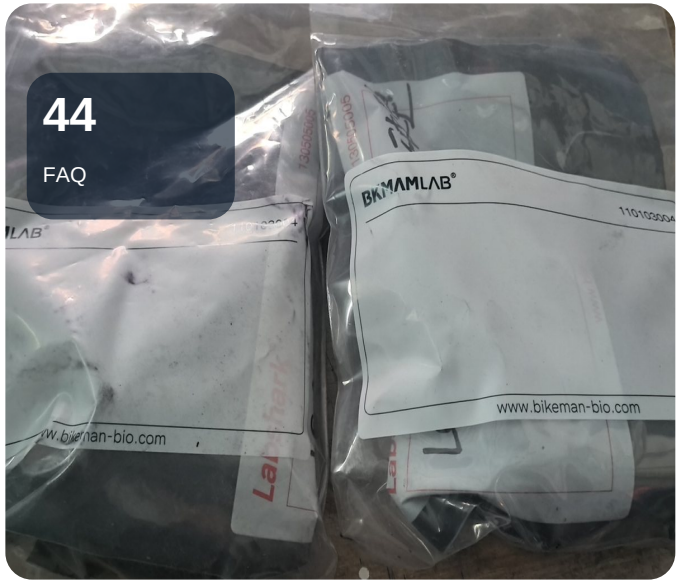
Will the sample condition be recorded before processing?

Basic sample receiving records can be made.

This may include sample name, quantity, appearance, packaging condition, and photos when needed.

If pre-processing records are important, tell us before shipment.

Sample record | Receiving record | Photos



Special Needs & Long-Term Cooperation

Can you also support carbonization, sintering, or purification?

Whether carbonization, sintering, purification, or graphitization can be supported depends on the material and target process.

We first need to understand the process goal before judging feasibility.

Send the material and expected process result for review.

Carbonization | Sintering | Purification

Special Needs & Long-Term Cooperation

Can overseas customers send samples for processing?

Yes. We have practical experience communicating with overseas customers for sample processing.
Overseas customers can first send material and process requirements for preliminary evaluation.

Contact us before international shipment so we can confirm details.

Overseas samples | International cooperation | Sample processing

Special Needs & Long-Term Cooperation

Can I run only one experiment without buying equipment?

Yes. Commissioned processing is suitable for early-stage process exploration, small-sample validation, and trial production.
Customers do not need to purchase equipment just to verify an early process idea.

A single trial can help decide whether the process route is worth continuing.

One-time trial | No equipment purchase | Process validation

Special Needs & Long-Term Cooperation

After processing, can you help with equipment selection?

Yes. Trial processing results can provide useful information for future equipment selection.

They may help define furnace size, temperature range, atmosphere configuration, and production capacity requirements.

Send your material and process target, and we can discuss both processing and equipment direction.

Equipment selection | Scale-up | Furnace planning

Special Needs & Long-Term Cooperation

Can you provide optimization suggestions based on test results?

Yes. We can combine process records, result feedback, and sample photos to suggest next-step adjustments.

Optimization may involve temperature, holding time, atmosphere, loading method, or pre-treatment.

Share the result you obtained, and we can discuss the next trial route.

Optimization | Process adjustment | Next trial

Special Needs & Long-Term Cooperation

Can we arrange long-term cooperation or monthly scheduling?

For customers with stable recurring demand, long-term cooperation, fixed scheduling, or package pricing can be discussed.

The arrangement depends on processing frequency, batch size, process time, and furnace availability.

If you have regular demand, tell us the expected monthly volume.

Long-term cooperation | Monthly schedule | Recurring order

Special Needs & Long-Term Cooperation

What information should I provide for the first consultation?

For the first consultation, please provide material name, sample form, target temperature, holding time, atmosphere requirement, and expected result.

The more complete the information is, the more accurate our feasibility judgment and quotation will be.

Send the basic process information first, and we will help you judge whether commissioned processing is suitable.

First consultation | Required information | Feasibility review

Before asking for a quote, prepare four details

1. Material name	Powder, block, sheet, fiber, or part form
2. Target temperature	Maximum temperature and holding time
3. Atmosphere	Vacuum, argon, nitrogen, or combined process
4. Sample amount	Size, weight, batch size, and testing needs

Send the basic process information first, and we will help judge feasibility.

Zhuzhou Yuanhang Industrial Furnace Technology Co., Ltd.
Processing contact: +086-15273391550 hejunde@zzyhgyl.com