ADCERAX

ENGINEERING PRODUCT CATALOG

Alumina Combustion Boats with Holes

Model selection and drawing definition for combustion analysis and furnace sample handling



Representative product forms with visible end holes. Appearance supports form recognition; the selected drawing defines the ordered configuration.

Select the boat by overall size, usable cavity, hole geometry and equipment interface. Define the sample, atmosphere and heating cycle before agreeing trial acceptance.

Catalogue references and drawing-led projects

34 model references • Four published configuration groups • Six alumina material grades

ADC-CAT-ACBH-001 | Revision 01

ADCERAX is a China-based advanced ceramics manufacturer for custom precision ceramic components.

View the product and send an enquiry

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Choose the reference and define the fit

Use an existing item number for replenishment, or a drawing and old part for a new configuration. Matching overall dimensions alone does not establish interchangeability.

Selection route	Reference scope	Page
Boat-shaped crucible references	26 paired outer-size references; cavity and hole details follow the selected drawing	3–4
Long boats with end hole	Six long-boat model references	5
Two-end and ring-end boats	Two separate configuration references	6
Alumina grade comparison	Dense-sintered material references and conditions	7
Drawing and hole definition	Required geometry and datum inputs	8
Trial and supply acceptance	Fit, analytical method, handling and packing	9
Quotation request	Existing model and drawing-led enquiry paths	10



Long boat with a visible end opening; representative form reference.

Confirm three things before selecting

Equipment fit Compare the boat envelope and end profile with the combustion tube, usable hot zone, push rod and loading path. Include cold and operating clearances in the equipment review.

Sample space Specify the usable cavity and working fill height together with sample mass, form, additives and behavior during heating.

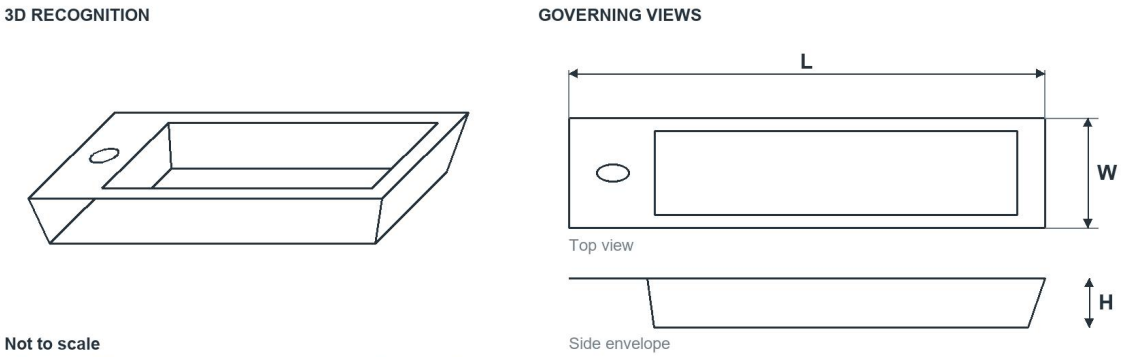
Hole and method Identify whether the hole is for positioning, handling, gas exchange or another purpose. Validate the chosen configuration with the actual equipment and method.

Catalogue sizes identify candidates. Stock, grade assignment, final tolerances, accessories and lead time are confirmed in the quotation. A photograph or material grade does not prove analyzer compatibility.

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Boat shaped crucible size references

Overall dimensions are paired by item number in millimeters. Retain the full model suffix when requesting a quotation.



Dimension key for the illustrated boat form. L = overall length; W = overall width; H = overall height. Not to scale; individual cavity, end profile and hole configuration follow the selected drawing.

Item number	L (mm)	W (mm)	H (mm)
TE-AS-071	100	84	35
TE-AS-072	100	56	35
TE-AS-073	100	43	26
TE-AS-074	100	27	27
TE-AS-075	100	24	17
TE-AS-075-1	100	20	20
TE-AS-075-2	100	27	27
TE-AS-075-3	103	28	30
TE-AS-075-4	100	43	25
TE-AS-075-5	100	24	17
TE-AS-075-6	100	27	25
TE-AS-075-7	100	43	26
TE-AS-075-8	100	56	35
TE-AS-075-9	100	50	35
TE-AS-075-10	100	56	35

Complete the configuration check

These models have different length-to-width proportions. The representative key explains outer dimensions and does not assign one common section or hole pattern to all models.

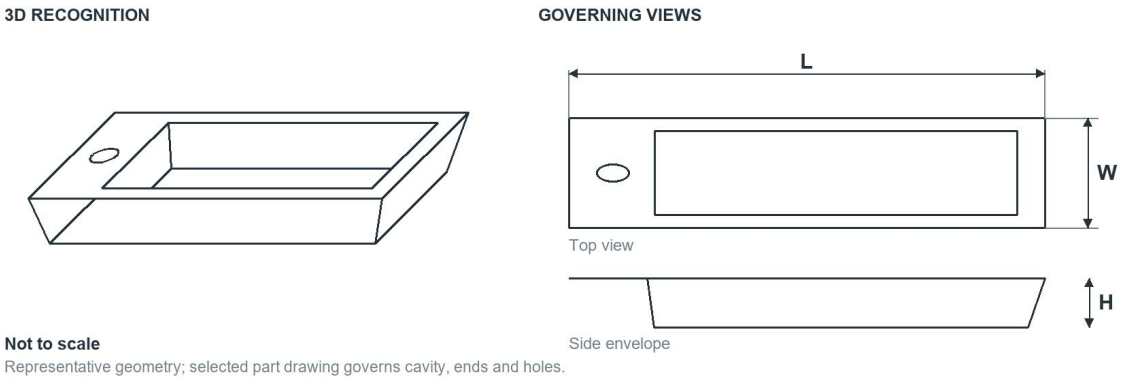
Models sharing L × W × H remain separate references. Request the item-specific drawing to distinguish these models, and compare cavity, wall and base thickness, ends, holes and material before approving a substitution.

Grade, hole diameter, hole position, usable capacity and final tolerances are order-defined. Availability is quotation-controlled.

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Additional boat size references

Overall dimensions are paired by item number in millimeters. Retain the full model suffix when requesting a quotation.



Dimension key for the illustrated boat form. L = overall length; W = overall width; H = overall height. Not to scale; individual cavity, end profile and hole configuration follow the selected drawing.

Item number	L (mm)	W (mm)	H (mm)
TE-AS-076	73	30	22
TE-AS-076-1	73	30	22
TE-AS-076-2	70	30	22
TE-FA-001	300	70	30
TE-FA-002	200	80	35
TE-FA-003	200	11	12
TE-FA-004	105	23	20
TE-FA-005	100	30	25
TE-FA-006	90	10	10
TE-FA-007	80	30	20
TE-FA-008	88	12	10

Complete the configuration check

These models have different length-to-width proportions. The representative key explains outer dimensions and does not assign one common section or hole pattern to all models.

Models sharing L × W × H remain separate references. Request the item-specific drawing to distinguish these models, and compare cavity, wall and base thickness, ends, holes and material before approving a substitution.

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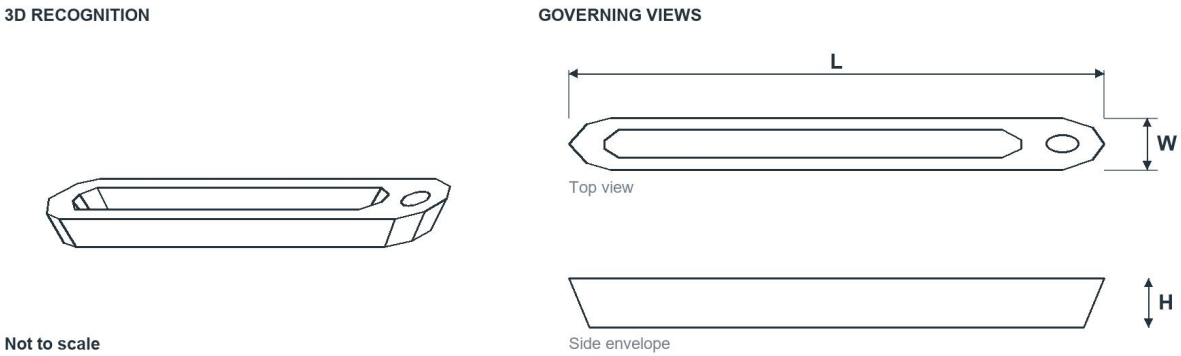
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Long boats with end hole

Use the model and outer envelope to narrow the fit, then compare the sample cavity, hole and end profile with the equipment drawing or existing part.



Representative long-boat form with an end opening. Hole size and model-specific fit are drawing-defined.



L = overall length; W = overall width; H = overall height. Not to scale; the selected drawing governs the actual contour and hole.

Item number	L (mm)	W (mm)	H (mm)
TE-AS-085-5	95	16	11
TE-AS-085-3	77	13	8
TE-AS-083-3	40	10	7
TE-AS-077	44	11	7
TE-AS-079-7	88	15	9
TE-AS-079-4	97	17	12

Keep material and method separate

The published long-boat series lists 99% alumina. Agree the exact grade, composition acceptance and any trace-contamination limits for the selected model; nominal composition alone does not establish analytical blank performance.

Check the end opening against the actual tool or flow path. Define the unobstructed area, working fill height and any lid requirement before trial use.

Final hole details, grade mapping, tolerances and current availability follow the drawing and quotation.

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Two end and ring end configurations

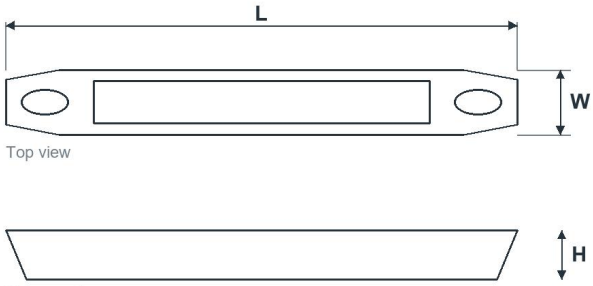
The two references have different end structures. Choose by the required interface and actual part drawing, including the overall envelope.

Two end openings

3D RECOGNITION



GOVERNING VIEWS



Not to scale

Representative geometry; selected part drawing governs cavity, ends and holes.

Two-end form key. L = overall length; W = overall width; H = overall height. Not to scale; hole dimensions and axes are drawing-defined.

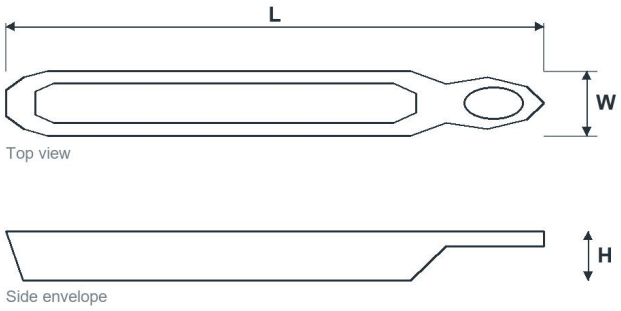
Item number	L (mm)	W (mm)	H (mm)
TE-AS-083-1	44	11	8

Ring end configuration

3D RECOGNITION



GOVERNING VIEWS



Not to scale

Representative geometry; selected part drawing governs cavity, ends and holes.

Ring-end form key. L includes the ring end; W and H are overall dimensions. Not to scale; actual end thickness, cavity and hole follow the drawing.

Item number	L (mm)	W (mm)	H (mm)
TE-AS-077-1	39	10	6.5

The published series lists 99% alumina. Exact grade and composition acceptance are agreed for the selected part. Do not infer a common hole diameter, handling load or equipment compatibility from the form.

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Alumina material selection

Compare the identified dense-sintered grade with sample chemistry, contamination requirements and the heating cycle. The data below describe materials, not finished-boat ratings.

Property and condition	AD-ALU 999	AD-ALU 997	AD-ALU 995	AD-ALU 990	AD-ALU 960	AD-ALU 950
Nominal Al_2O_3 (wt%)	99.90	99.70	99.50	99.00	96	95
Bulk density (g/cm³), typical	3.94	3.94	3.90–3.92	3.80–3.91	3.70	3.75
Flexural strength (MPa), 20 °C, typical	315–340	330	320–350	300–320	300	280
Thermal conductivity W/(m·K), typical	35–42 25 °C	35–40 25 °C	30–38 25 °C	24 25 °C	25 20 °C	18–25 25 °C
Mean linear expansion (10^{-6}/K)	7.6 25–800 °C	7.6 25–800 °C	7.6 25–800 °C	7.2 25–800 °C	8.2 25–1000 °C	7.6 25–800 °C
Service temperature guide (°C), application dependent	1750	1700	1650	1600	1600 max in air	1400
Water absorption (%)	≤0.01	≤0.05	≤0.10	≤0.10	≈0 typical	≤0.20
Color, visual	Ivory	Ivory	Ivory	Ivory	White	Ivory / white

Dense-sintered alumina reference data, Rev 16. Nominal composition identifies the grade; typical values and ranges are not manufacturing tolerances. Water absorption values are selection limits except the rounded typical value for AD-ALU-960.

Temperature is one selection input

Service-temperature guides are application-dependent material references. Confirm the actual boat geometry, atmosphere, load, dwell, heating and cooling cycle and allowable deformation. They do not specify a continuous-duty or loaded-life rating for a combustion boat.

Specify analytical cleanliness

State the target elements, permissible blank and drift, preconditioning method and sample or flux chemistry. Pure alumina content does not by itself establish the required blank or prevent cross-contamination.

Use the correct grade and conditions

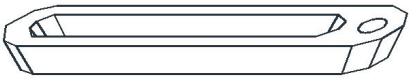
AD-ALU-960 has its own 96% data; it is not replaced by the 95% grade. Its thermal conductivity and expansion use different temperature conditions, as shown in the table. Grade choice is not a statement that every model is stocked in all six materials.

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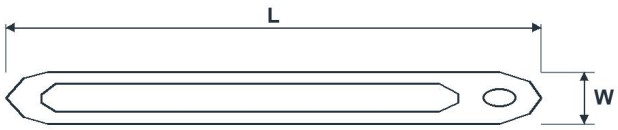
Define a drawing led boat

Mark the actual part or project drawing. A complete definition joins the sample cavity and hole to the equipment datums, loading clearance and inspection basis.

3D RECOGNITION



GOVERNING VIEWS



Top view



Side envelope

Not to scale

Representative geometry; selected part drawing governs cavity, ends and holes.

Conceptual outer-envelope key: L, W and H. Not to scale. Add the actual cavity, wall, base and hole details to the project drawing; this is not a manufacturing drawing.

Drawing input	Definition needed for quotation
Outer envelope	Overall L, W and H in mm; maximum end envelope, end-view outline and loading direction.
Usable sample cavity	Inner length, width and depth, base contour, radii and intended working fill height.
Wall and base	Wall, base, end and rim thicknesses, transitions and minimum material around each hole.
Hole details	Hole count, diameter, axis direction, through or blind condition, center positions and spacing from named datums, edge distances and edge finish.
Interfaces	Push rod, hook, holder and tube geometry; contact surfaces, lid requirements and loading clearance.
Tolerance and surface	General and critical dimensional tolerances, flatness or warpage, working-surface finish, cleanliness and allowed edge defects.

Identify the function before fixing the hole

State the intended role of each opening and the sample relationship to it. For a flow feature, define gas composition, pressure, flow direction and the method acceptance criterion. For positioning or handling, provide the mating tool and load conditions.

Submit a dimensioned drawing, old-part photographs or sample details. Geometry and manufacturing feasibility are reviewed before the order specification is agreed.

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Trial acceptance and repeat supply

Agree checks for the selected boat and method. Dimensional fit, analytical performance and transport protection are different acceptance decisions.

Check	Acceptance input
Part identity and fit	Item number, drawing revision, outer and inner geometry, hole datums, end profile, tube passage and loading-tool interface.
Hole and edge quality	Diameter and location limits, unobstructed opening, crack and chip limits and agreed gauges or measurement method.
Material and cleanliness	Grade and composition requirement, target impurity limits, surface condition, residue removal and requested material documents.
Method trial	Actual sample and additives, atmosphere, pressure and flow, heating cycle, blank and drift criteria and pass/fail rule.
Repeat orders	Retained approved drawing or sample, agreed inspection plan, lot identity and order-specific records.
Packing and arrival	Single-part separation, rim and hole-edge protection, support direction, cleanliness, box quantity, labels and incoming inspection.

Before loading

Inspect for cracks, chipped rims and hole-edge damage. Check cleanliness and cold fit. Compare working fill height and sample behavior with the cavity and required clear openings.

During use and reuse

Follow the validated instrument method for heating, cooling, loading and removal. Validate cleaning against the sample chemistry and analytical limit. Define rejection criteria for cracks, warpage, blockage, persistent residue and blank drift.

Order specific manufacturing review

ADCERAX reviews the cavity, hole access, local thickness, tolerance and contact surfaces before quotation. The agreed route and inspection scope follow the selected geometry and grade; special reports and functional trials are defined per project.

Keep clean, dry parts separated in storage. Quantity, inspection documents, packaging and delivery timing are quotation- and order-controlled.

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Send the model or drawing for quotation

Start with the item reference or the part you need to define. Add quantity and the operating context so ADCERAX can review fit, material and the quotation scope.

Existing catalogue reference

Quote ADC-CAT-ACBH-001, Rev 01, the full item number and quantity. Include the required grade, equipment model, current part or drawing revision, hole requirements, inspection documents, destination and target schedule. State any changes to the catalogue envelope.

New or modified configuration

Attach the drawing and revision, marked photos or old-part details. Include outer and inner dimensions, wall and base, hole count and geometry, datums, tolerances, surface requirements, quantity and expected repeat demand.

Technical brief	Information to include
Equipment and method	Analyzer or furnace, combustion tube and loading fixture, OEM consumable reference where relevant, analytical targets and acceptance method.
Sample and additives	Chemistry, form, particle size, loading mass, flux or accelerator and behavior during heating.
Operating conditions	Continuous and peak temperature, ramp and dwell, atmosphere, gas purity, pressure, flow direction and loading/removal conditions.
Acceptance and delivery	Critical dimensions, hole inspection, material and cleanliness documents, trial quantity, packing, destination and target schedule.

Request an engineering review and quotation

Email the drawing or specification info@adcerax.com

Product enquiry adcerax.com

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ADCERAX reviews geometry, material and working conditions, then confirms the quotation scope, any required trial, current availability and delivery plan.

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