ADCERAX
ADVANCED CERAMICS

ENGINEERING PRODUCT CATALOG

ADC-CAT-ALU-DIAL-001 | Revision 01 | Review copy

Alumina Ceramic Rotary Indexing Plates

Drawing-based dial plates for automation, inspection and electrical test stations



Website form reference: stepped ceramic dial plate. Appearance only; the project drawing defines the supplied part.

AT-YHL-IW01 | Custom by drawing

ADCERAX supplies the ceramic working plate for a rotary indexer. Define the mounting interface, station layout, material and inspection requirements around your equipment.

Supply scope: ceramic plate. The indexer drive, bearings, motor, encoder and control system are outside this catalog.

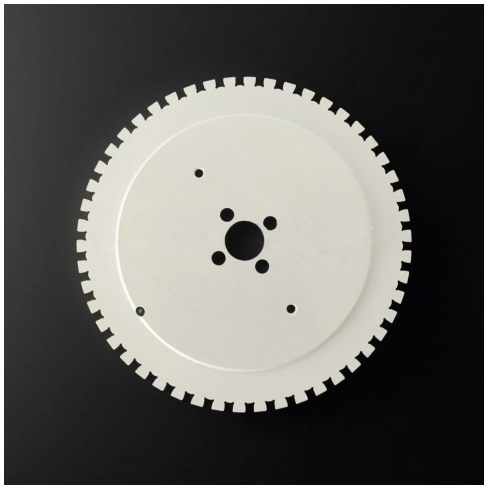
View this product online

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

01 APPLICATION AND SUPPLY SCOPE

Start with the plate and its interface

The ceramic dial plate carries the working surface and fixture features. The machine provides rotation, positioning and support. Specify the plate and the assembled system as separate acceptance levels.



A second website form reference with peripheral cut-outs and distributed holes. It is not identified as another view of the cover part.

Your application	Define before selecting the plate
Multi-station automation	Output flange and support contact; station layout; fixture and part mass; centre of gravity; acceleration and dwell cycle.
Electrical test and inspection	Required isolation and grounding; functional face; probe or vision access; contamination limits; measurement conditions.
Laser or locally heated stations	Heat-source location; plate and workpiece temperatures; gradients and cycling; fixture contact and mounting restraint.
Replacement and maintenance	Existing drawing and revision; old-part photographs or sample; mounting details; failure mode and first-article validation.

Order definition

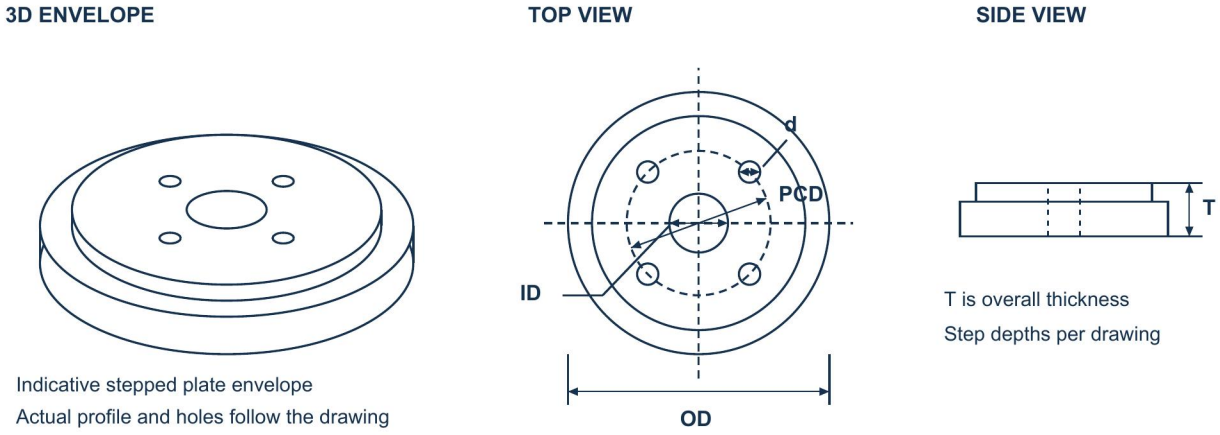
AT-YHL-IW01 identifies the inquiry route. Diameter, thickness, centre features, holes and final material are defined for the project. Equipment brand or model helps identify the interface; it does not establish interchangeability.

Catalog route: drawing inputs p. 3 • material selection p. 4 • acceptance p. 5 • RFQ p. 6

02 DRAWING INPUTS

Define the envelope and mounting pattern

Provide a dimensioned drawing with units, datums and revision. All fields below are RFQ inputs; no fixed diameter, thickness or tolerance is assigned to AT-YHL-IW01.



Dimension key, not to scale. Indicative envelope only; the approved drawing controls profile, hole count, steps and all dimensions.

Field	Required drawing definition
OD / ID / T (mm)	Outside diameter / centre bore diameter / overall thickness. Define a locating register separately where used.
PCD (mm)	Pitch-circle diameter of the mounting-hole pattern, with its angular orientation relative to the drawing datums.
d (mm) and hole count	Mounting-hole diameter, quantity and angular positions. Identify dowel holes, counterbores, inserts and depths separately.
Station layout	Number of stations and angular divisions; fixture attachment pattern and workpiece support areas. Keep these distinct from mounting holes.
Functional features	Define every required slot, pocket, step, channel or opening, including depths, minimum walls and areas that must remain unmachined.
Datums and surfaces	Identify working and mounting faces; flatness, parallelism, hole position and surface roughness requirements, with units and methods.
Edges and assembly	Chamfers/radii, permitted edge defects, support contact, fastener details and any required joining or insert arrangement.

For a stepped bore, multiple hole patterns or non-circular outline, include the necessary section/detail views. A photograph can start a discussion; it cannot replace the controlled dimensional definition.

03 MATERIAL SELECTION

Choose a grade against the service conditions

The following alumina grades are material-selection options. Nominal alumina content identifies the material family; it does not establish the grade, performance or availability of a finished plate.

Material grade	Nominal Al_2O_3 content
AD-ALU-950	95%
AD-ALU-960	96%
AD-ALU-990	99.00%
AD-ALU-995	99.50%
AD-ALU-997	99.70%
AD-ALU-999	99.90%

Final grade is confirmed with the drawing, service conditions and order. Higher nominal purity alone is not a qualification for precision, vacuum, cleanroom or semiconductor-process use.

Selection input	What the engineering review needs
Mechanical duty	Part/fixture masses, load distribution, centre of gravity, contact loads, support geometry, shocks and motion cycle.
Thermal duty	Plate/workpiece temperatures, gradients, ramp and cooling conditions, cycle frequency and mating-material expansion.
Electrical duty	AC/DC, voltage and frequency, leakage requirement, grounding, surface condition, electrode geometry and creepage/clearance.
Vacuum and cleanliness	Pressure, seals, leak/outgassing targets, cleaning process, particle/ionic limits and required verification.
Chemical exposure	Medium, concentration, temperature, contact time and the allowable change in surface, dimensions or strength.

Use material data at the correct level

Request the applicable grade datasheet and agree the relevant material verification. Preserve test conditions when comparing grades. Material strength does not define plate payload, and a material temperature limit does not rate the mounted assembly.

A dielectric-strength specimen value cannot be multiplied by plate thickness to set machine operating voltage. Finished-part and system acceptance require their own criteria.

04 ACCEPTANCE AND HANDLING

Separate part inspection from system validation

Agree the acceptance plan before production. Identify the drawing revision, datums, measurement state, method, sample quantity and limits for each applicable level.

Acceptance level	Specify in the technical agreement
1 Material batch	Exact grade and the required material/batch documentation; identify any composition or physical-property verification needed.
2 Ceramic plate	Envelope, holes and features; working-face flatness, parallelism and hole position; surface finish, edge condition and visible defects.
3 Mounted plate	Hub/support contact, locating and fastening arrangement; axial/radial runout; seal, insulation or thermal-cycle checks where required.
4 Indexing system	Indexing and repeatability under the defined load, temperature and motion cycle; settling, vibration and thermal drift as required.
5 Equipment process	Trial with actual parts, fixtures and process conditions; functional outcome and agreed service-life endpoint.

Specify flatness and runout separately

For flatness, define the inspected area, support or clamping condition, temperature and measurement method. Flatness is a form tolerance and does not use a datum. For assembled runout, define the datum axis, measurement location/radius, temperature, load and mounting state; the hub and locating arrangement also affect the result.

Mounting and handling

Support the plate evenly. Keep mating faces clean and free of burrs or hard particles. Define fastener preload, contact faces and tightening sequence for the ceramic assembly; do not transfer metal-plate torque or interference practices without review.

Protect edges and holes during lifting and installation. Inspect for chips and cracks before use. Agree a cleaning method compatible with the process, and keep the plate supported on a flat, padded surface during storage.

Supply and repeat orders

Agree the supplied condition, identification, drawing revision, inspection documents and protective packaging in the quotation. Reference the approved drawing and first-article record on repeat orders; flag any change in grade, interface or acceptance requirements.

05 ENGINEERING RFQ

Send the drawing and the operating brief

Use either route below. The same interface and operating information is needed to review a new design or replace an existing plate.

Existing catalog reference

Quote AT-YHL-IW01 and this catalog revision. Attach your drawing, required dimensions and interfaces, quantity and any requested changes. The catalog reference does not define a fixed size or stock item.

New drawing or replacement plate

Send the part drawing or 3D model and revision. If no drawing is available, begin with old-part photographs or a sample, an interface drawing and the required function; the final geometry still needs a controlled definition.

RFQ item	Include in your brief
Part definition	Drawing/model and revision; supplied condition; material grade or selection request; functional and mounting faces.
Dimensions and interfaces	OD, ID and T; mounting PCD, hole diameters/count/positions; locating features; station pattern; slots, steps and other features.
Acceptance	Dimensional/geometric tolerances; roughness and edge condition; datums; free-state and assembled checks; required reports.
Equipment and duty	Output flange/support details; fixture and part masses; centre of gravity; clamping; speed, acceleration, dwell and cycle.
Environment	Temperature profile; electrical conditions; vacuum/seals; cleanliness and cleaning; chemical contact, where applicable.
Commercial and delivery	Prototype and repeat quantities; destination; target schedule; identification, protective packaging and documentation needs.

Request an engineering review and quotation

info@adcerax.com

Product page and inquiry form

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Final geometry, grade, acceptance, quantity, price, lead time and packing are agreed in the quotation and order.