ADCERAX
ADVANCED CERAMICS

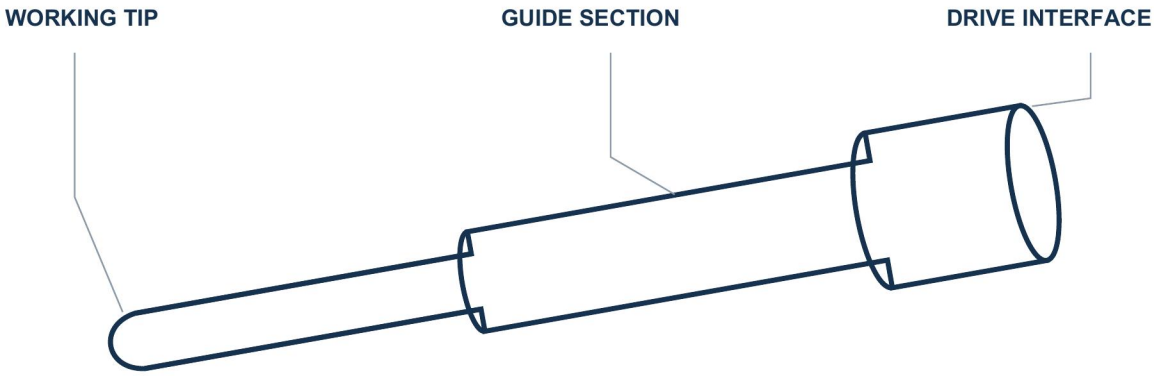
ENGINEERING REVIEW COPY

Zirconia Jet Valve Tappets

Custom ceramic pins for piezo dispensing

Catalog reference AT-YHG-YD1001 | Drawing-defined supply

ADCERAX supplies zirconia working pins with tip contact, guide fit and drive connection defined for the valve assembly. Use this catalog to prepare a drawing review, replacement-part assessment or sample enquiry.



Technical illustration - not to scale. Features are defined by the part drawing.

Define the part before selecting the material

The tappet is the moving ceramic structural pin. The piezoelectric actuator, nozzle insert, seat, guide and seals are separate components. Define the requested supply unit and mating interfaces in the enquiry.

Your next decision	Page
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Zirconia grade, surfaces and dispensing fluid	3
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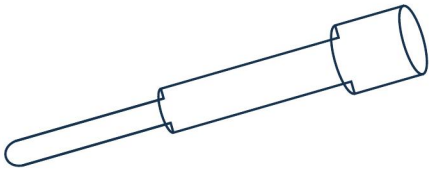
ADCERAX is a China-based advanced ceramics manufacturer for custom precision ceramic components.

01 CUSTOM SPECIFICATION

Define the pin on your drawing

AT-YHG-YD1001 identifies the catalog entry. Its dimensions are customized; the part drawing establishes the ordered geometry. No fixed standard size is specified in this catalog.

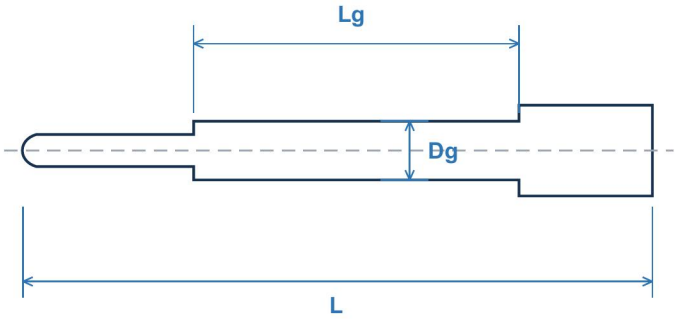
3D RECOGNITION



Illustrative stepped profile

Actual features follow your drawing

GOVERNING SIDE VIEW



Not to scale. Dimension inputs only; approved part drawing governs.

Drawing field	Information to specify
L | Overall length	End-to-end length, unit and tolerance. State mm or inches on the drawing.
Dg and Lg | Guide	Guide diameter Dg and guide length Lg; specify fit and tolerances.
Working tip	Contact profile and position; radius or angle where applicable, end diameter and edge detail. Provide a tip detail view.
Stem and shoulders	Diameter and length of each section, shoulder positions, transitions and any additional drawing-defined features.
Drive interface	Connection geometry, orientation and mating-part detail. For a ceramic-metal assembly, identify the joining method and supply scope.
Datum and geometry	Inspection datums, straightness, roundness, coaxiality or runout requirements at the relevant features.
Surfaces and edges	Ra / Rz by location, edge requirements, cleanliness and permitted visual defects. Add the measurement and acceptance basis.

Dimension key only. The illustrated profile explains the input fields; it does not define an orderable standard geometry. Complete sectional dimensions and tip/interface detail views belong on your part drawing.

Choose the project route

New design: provide the part drawing and revision, assembly context and required sample quantity. Existing-pin replacement: provide the valve version, original part reference, old-pin photos or sample, and mating-part information. A valve model alone does not establish interchangeability.

02 MATERIAL AND SERVICE

Match zirconia to the contact conditions

Specify the zirconia material together with the dispensing fluid, mating surfaces and pin geometry. The grade and required documentation form part of the agreed quotation.

Selection input	Details for the engineering review
Material identity	Required grade or material specification; material/batch documentation and any contamination limits.
Dispensing fluid	Fluid identity and formulation, viscosity at process temperature, curing behaviour and cleaning medium.
Fillers	Filler type, particle-size distribution and solids content; identify abrasive or particle-trapping concerns.
Mating components	Seat/nozzle, guide and metal-stem materials; contact profile, fit and joining detail.
Operating conditions	Temperature, pressure, stroke, preload and drive settings. State continuous, peak and cleaning conditions separately.

Specify the finish surface by surface

Identify the working tip, sliding guide and drive-interface surfaces separately. Put the required roughness parameter (Ra or Rz), limit, measurement location and method on the drawing. Confirm grinding or polishing for the relevant feature during drawing review.

Build the sample trial around the fluid

Project scenario	Trial observations to agree
Electronics adhesive dispensing	Tip-to-seat contact, dispensing output and residue after cleaning.
Conductive paste or filled adhesive	Tip/seat wear, particle trapping and output change. Record filler data.
Resin or encapsulation	Assembly fit, leakage and dispensing consistency at the specified temperature.
Selective coating or micro-dosing	Output and contact-surface condition through operating and cleaning cycles.

These are project and validation routes, not installed-customer examples. Pin material data does not establish valve frequency, drop volume, leakage or service life. Define those results and their acceptance criteria at the valve/process level.

03 INSPECTION AND VALIDATION

Agree what each test accepts

Separate finished-pin inspection from mating-part checks and valve trials. Each stage needs its own conditions, measurement method, sample quantity and acceptance criteria.

Level	What to check	Acceptance reference
Finished ceramic pin	Tip profile; stem/guide/interface geometry; surface condition; edges, visible defects and cleanliness.	Part drawing revision, defined inspection locations, methods and sampling plan.
Mating-part assembly	Guide fit, alignment, drive connection and tip-to-seat contact.	Assembly drawing, identified mating parts and fit-check procedure.
Valve or process trial	Dispensing output, leakage, wear and cleaning behaviour.	Fluid, temperature, pressure, drive settings, trial duration and agreed limits.

Make the sample result reproducible

Record the pin and drawing revision, valve version, mating-part condition, fluid batch and filler information. Preserve the same operating and cleaning conditions when comparing samples. Define the measurement method and the criterion for accepting a sample or ending a trial.

Use symptoms to guide the inspection

Observed issue	Evidence to collect before changing the pin
Tip chips or cracks	Close-up images, contact geometry, assembly condition, stroke/preload settings and recent handling or cleaning changes.
Uneven guide wear	Pin straightness, guide condition, alignment, fit and wear location.
Output drift or leakage	Tip/seat/nozzle condition, fluid and filler data, temperature, pressure, drive settings and leakage/output measurements.

A symptom can have several causes. Review the pin, its mating components and process conditions together; a material change alone is not a validated correction.

Documents to agree with the order

Material documents identify the specified grade and batch. Finished-pin inspection records reference the drawing revision and agreed feature checks. State the required records and sample quantities in the enquiry so the quotation can define the deliverables.

04 SUPPLY AND REPEAT ORDERS

Protect the tip through delivery and use

For a small pin, packing and part identification are part of the engineering definition. Agree protection, acceptance and repeat-order records before sample or production supply.

From drawing review to repeat supply

1 Define the part and scope

Provide the drawing revision, material, critical tip/guide/interface features and requested quantity. Identify the ceramic part and any assembly work as separate quotation items.

2 Agree the quotation and sample plan

Confirm geometry, grinding or polishing requirements, dimensional/visual checks, documents, packing and sample acceptance. Minimum order quantity, price and delivery schedule are confirmed for the project.

3 Preserve the approved order reference

For a repeat order, cite the agreed part/drawing revision and the earlier order or sample reference. Report any change in the fluid, valve version, mating parts or acceptance requirements.

Supply control	Requirement to agree
Individual protection	Separate pins and protect polished tips, small diameters and transition edges from contact and impact.
Cleanliness and orientation	Define acceptable residue, wrapping/contact materials and any orientation constraints.
Identification	Specify part reference, drawing revision, quantity and batch/lot identification or retention requirements.
Delivery definition	Sample and production quantities, destination, required documents and target schedule. Confirm these in the quotation.

Installation and cleaning

Compare the received pin with the drawing and inspect the seat, nozzle and guide for wear or damage. Follow the valve maker's procedure for alignment, connection, preload and cleaning. Protect the ceramic contact surfaces during handling.

Keep replacement records for fluid conditions, tip/seat wear, leakage and dispensing-output changes. Use these records to define the next trial or maintenance decision.

05 REQUEST FOR QUOTATION

Start your zirconia tappet project

Send the available part information and quantity to begin. ADCERAX reviews the drawing and identifies the next steps for quotation, existing-part assessment or sample planning.

Use the route that matches your project

New design or revised drawing	Existing-pin replacement
Attach the 2D drawing / 3D model and revision. Identify material, critical features and sample quantity.	Cite the valve version and original part reference if known. Include old-pin photographs or sample details and quantity.
Include mating-part or assembly details where the tip, guide or drive connection affects selection.	Describe the wear or failure and provide mating-part condition. Geometry and a trial plan establish the replacement basis.

Technical brief

Enquiry field	What to send
Product reference	AT-YHG-YD1001; catalog ADC-CAT-R98-001, Rev 01; new design or replacement route.
Part definition	Drawing/sample identification and revision; complete drawing inputs on page 2, including units and tolerances.
Material and surfaces	Required zirconia grade/specification; feature-specific finish and required material documents.
Valve and process	Valve version, mating components, fluid/fillers, cleaning medium and operating conditions.
Acceptance	Finished-pin checks, assembly fit and valve-trial criteria; required records and sample quantity.
Commercial and delivery	Initial quantity, repeat demand, packing requirements, destination and target schedule.

Send your drawing for review and quotation

info@adcerax.com

Product page | Online enquiry

Print enquiries: https://adcerax.com/contact/

ADCERAX responds within 24 hours of receiving an enquiry. This first reply sets out the next steps; quotation and technical review depend on the project information.

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Final part specification, acceptance, availability, price and delivery are stated in the agreed quotation and order.