ADCERAX
ADVANCED CERAMICS

ENGINEERING PRODUCT CATALOG

Silicon Carbide Mechanical Seal Faces

Face rings for OEM designs and pump repair projects

Select an AT-SC-H catalog reference or define a face component to drawing. Review the working face, mounting profile and material route together with the mating seal assembly.



Representative seal face and seating profiles. The quotation defines the selected component and any assembly work; the image does not identify an individual AT-SC-H item.

AT-MS-10 | AT-SC-H001 to AT-SC-H031

Catalog dimensions pp 3–4 • Drawing inputs p 5 • RFQ checklist p 9

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

adcerax.com | Mechanical seal faces

01 / PRODUCT SCOPE

Choose the component and inquiry route

These SiC face components form the hard sliding surfaces in a mechanical seal. Define the rotating or stationary role, mating component and mounting arrangement before selecting a catalog item or a custom profile.



Representative annular face profiles. Dimensions, material grade, face finish and fit follow the selected part specification.

Your project	Start with	Continue to
Existing catalog item	Selected AT-SC-H reference, paired OD/ID/H, quantity and full face/mounting details	Dimensions pp 3–4
New OEM drawing	Drawing and revision, component role, mating interfaces and specified SiC route	Drawing inputs p 5
Pump or seal repair	Front, reverse and side photos or a sample; seal maker, complete assembly model/version and failure history	Duty review pp 6–7
Sample or repeat order	Approved drawing, material specification and sample inspection record; identify any service changes	Acceptance p 8

Define the supply unit

Identify each ring separately. For a ring in a holder or a mating-face pair, include component and assembly drawings and quantities for each part. Complete mechanical seal assemblies require their own scope and specifications.

An AT-SC-H reference identifies a catalog entry. Matching three dimensions does not establish OEM interchangeability or operating ratings.

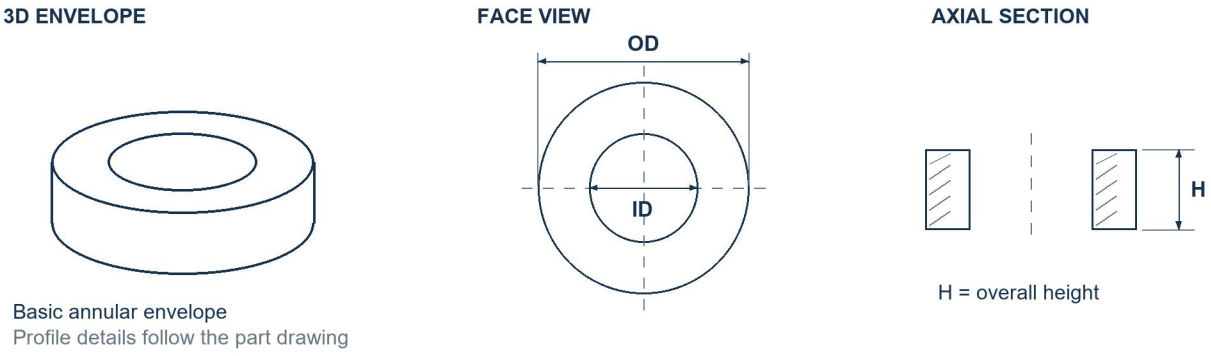
Dimensions 3–4 | Drawing inputs 5 | Material 6 | RFQ 9

02 / ENGINEERING PRODUCT CATALOG

AT-SC-H catalog dimensions

AT-SC-H001 to AT-SC-H016 | All dimensions in mm

Use the OD, ID and height from the same row. The drawing controls the working-face band, mounting profile, tolerances and any steps, grooves or drive features.



Envelope dimension key • Not to scale. OD = outer diameter; ID = bore diameter; H = overall height. The plain annulus explains the fields, not an item-specific profile.

Item number	OD mm	ID mm	H mm	Catalog purity %
AT-SC-H001	10.0	5.0	2.1	99
AT-SC-H002	10.0	6.0	3.5	99
AT-SC-H003	11.0	6.0	3.0	99
AT-SC-H004	11.5	4.0	3.5	99
AT-SC-H005	11.9	6.0	4.5	99
AT-SC-H006	12.0	6.0	4.0	99
AT-SC-H007	12.9	8.5	3.0	99
AT-SC-H008	14.5	8.5	3.5	99
AT-SC-H009	14.5	8.0	4.0	99
AT-SC-H010	14.5	9.0	3.5	99
AT-SC-H011	14.5	9.0	4.0	99
AT-SC-H012	14.5	10.0	4.0	99
AT-SC-H013	14.5	8.5	3.5	99
AT-SC-H014	18.0	12.0	4.0	99
AT-SC-H015	20.0	6.0	4.0	99
AT-SC-H016	22.3	15.2	11.0	99

Catalog purity reproduces the listed 99% field. Specify the actual SiC route, composition basis and required material documents on the order; this field is not a batch certificate.

H008 and H013 have the same listed OD 14.5 × ID 8.5 × H 3.5 mm. Retain the selected item number and provide full face, step and groove details; do not assume interchangeability.

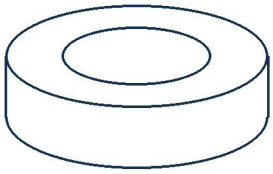
03 / ENGINEERING PRODUCT CATALOG

AT-SC-H catalog dimensions

AT-SC-H017 to AT-SC-H031 | All dimensions in mm

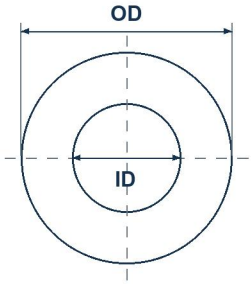
Use the OD, ID and height from the same row. The drawing controls the working-face band, mounting profile, tolerances and any steps, grooves or drive features.

3D ENVELOPE



Basic annular envelope
Profile details follow the part drawing

FACE VIEW



AXIAL SECTION



H = overall height

Envelope dimension key • Not to scale. OD = outer diameter; ID = bore diameter; H = overall height. The plain annulus explains the fields, not an item-specific profile.

Item number	OD mm	ID mm	H mm	Catalog purity %
AT-SC-H017	25.0	16.0	6.0	99
AT-SC-H018	25.0	18.0	6.0	99
AT-SC-H019	26.0	14.0	4.0	99
AT-SC-H020	26.0	20.0	5.0	99
AT-SC-H021	28.0	12.0	4.0	99
AT-SC-H022	28.0	22.0	7.0	99
AT-SC-H023	28.0	21.0	4.0	99
AT-SC-H024	31.0	18.0	10.0	99
AT-SC-H025	32.0	20.0	3.0	99
AT-SC-H026	32.8	22.6	11.0	99
AT-SC-H027	34.0	23.0	4.5	99
AT-SC-H028	34.5	28.0	5.0	99
AT-SC-H029	36.0	20.0	10.0	99
AT-SC-H030	36.0	26.0	14.0	99
AT-SC-H031	37.0	30.0	7.0	99

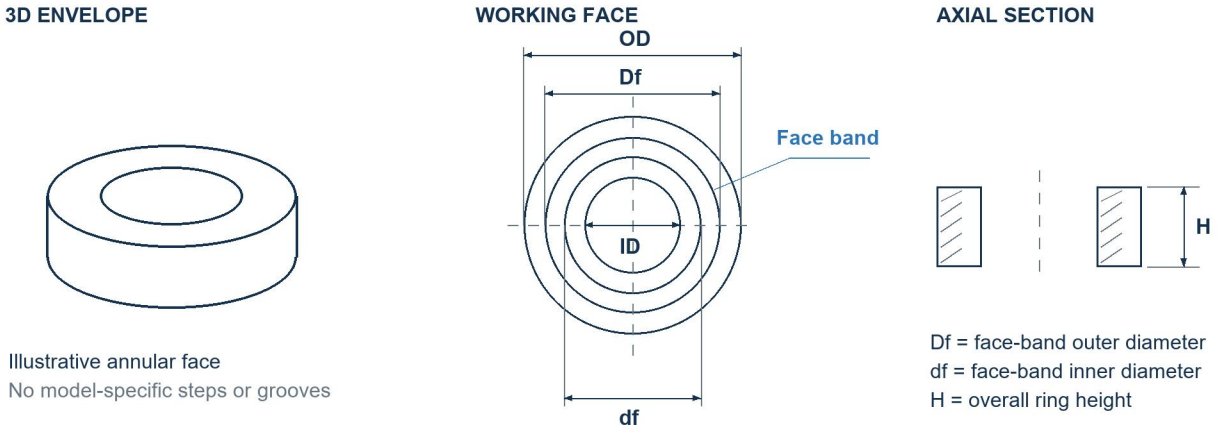
Catalog purity reproduces the listed 99% field. Specify the actual SiC route, composition basis and required material documents on the order; this field is not a batch certificate.

The table gives paired catalog dimensions, not a continuous range of freely combined sizes. Availability, final tolerances and delivery are confirmed in the quotation.

04 / ENGINEERING PRODUCT CATALOG

Define the body and working face

For a custom face or a catalog item with additional features, submit a drawing that distinguishes the sealing face, seating surfaces and drive interfaces. Use millimeters unless another unit is explicitly stated.



Drawing-input key • Not to scale. The annular working-face band is illustrative. Its position and profile are defined by the selected component drawing.

Drawing field	Specify for quotation and inspection
OD / ID / H	Body outer diameter, bore diameter and overall height, with dimensional tolerances and units.
Df / df	Working-face band outer and inner diameters, separately from the body and bore. Define any face steps or recesses.
Working face	Flatness, parallelism, face runout, Ra or Rz surface finish, lapping/polishing state, texture and edge acceptance.
Profile and drive	Steps, shoulders, grooves, holes, slots or pins, with feature positions, radii/chamfers and contact details.
Datums and mounting	Inspection datums; coaxiality/perpendicularity where required; seating, secondary-seal and shaft/holder interfaces, fit and assembly temperature.
Material and part identity	SiC route and grade; part number and drawing revision; rotating/stationary role; material and inspection documents.

Reproducing an existing part

Send front, reverse and side views, mark the working face, and add measurements beside the relevant view. Include the seal assembly identification and the mating component that will remain in service.

05 / ENGINEERING PRODUCT CATALOG

Select the material route with the fluid

SSiC and RBSiC are distinct dense silicon carbide routes. Select the route and grade against the actual medium, mating face, component geometry and manufacturing requirements.

Material selection field	SSiC Sintered silicon carbide	RBSiC Reaction-bonded silicon carbide
Structure	Dense sintered SiC	Dense SiC with residual free silicon
SiC content, wt%	≥99	85 nominal
Bulk density, g/cm³	3.10 typical	≥3.02
Selection review	Specified chemical exposure, working-face geometry and mating surfaces	Compatibility of residual phases with the fluid, component geometry and machining requirements

These are material-route selection values. They are not a batch result or a finished-ring acceptance guarantee and do not assign a route to every AT-SC-H item. The drawing and order define grade, composition basis, documents and agreed inspection.

Chemical exposure

Identify the process fluid, concentration, temperature, cleaning agents and flushing medium. Review the SiC matrix and any residual phase against that exposure. The route name alone does not establish compatibility.

Mating face and lubrication

State the mating-face material and grade, face geometry and condition. Review the pair with the intended lubrication or flushing arrangement. A SiC ring is one part of the sliding interface.

Dense routes and other SiC families

Nitride-bonded and recrystallized SiC are separate material families. Their porous structures and thermal-component data should not be substituted for the dense face routes described here.

Operating limits belong to the seal design

Pressure, speed, face loading, temperature, dry-running behavior, leakage and life depend on the actual seal pair and system. A material temperature ceiling is not a seal operating rating.

Include your required material evidence

List the composition, density or other material checks needed for acceptance. Agree the test method, sample or batch basis and report requirements before placing the order.

06 / ENGINEERING PRODUCT CATALOG

Describe the duty and failure history

For chemical process pumps, slurry service and utility-pump maintenance, evaluate the face component with the assembly and operating conditions. Use service observations to guide the review; appearance alone does not establish the root cause.

Operating input	Information to send
Fluid and particles	Fluid identity, concentration and phase; particle material, size distribution and concentration; cleaning/flushing media.
Pressure	Seal-chamber pressure, normal and peak conditions, pressure direction, cycling and vacuum exposure where relevant.
Temperature	Fluid and component temperatures, measurement locations, continuous/peak conditions and thermal cycles.
Motion and loading	Shaft speed and direction, start-stop pattern, vibration, axial movement and face-loading information when available.
Lubrication and cooling	Flushing plan, flow/pressure/temperature, filtration and the startup/shutdown procedure.
Acceptance in service	Required leakage behavior, trial duration and conditions, wear endpoint and inspection intervals.

What to record from a damaged face

Observation	Useful review evidence
Grooves or an abrasive track	Face photographs, particle exposure, mating-face condition and flushing history.
Cracking or thermal marks	Startup events, lubrication interruptions, temperature changes and assembly history.
Surface attack or deposits	Actual fluids, concentrations, cleaning sequence, selected SiC route and mating materials.
Chipped edges or drive features	Damage location, mounting fit, installation support and edge requirements.
Uneven contact or leakage	Face flatness/finish, mating-face condition, alignment and face loading.

Record the part and assembly revision with the observations. An approved component inspection and an agreed equipment trial address different stages of acceptance.

07 / ENGINEERING PRODUCT CATALOG

Agree inspection and repeat supply

Build the acceptance plan around the working face and the mounting interfaces. Specify the records required with samples and production parts so engineering, purchasing and quality use the same basis.

Approval level	Checks to agree	Acceptance basis
Material	Route/grade, relevant composition, batch identification and required documents	Selected material specification and stated methods/conditions
Finished face component	OD/ID/H, face band, flatness, finish, datums, mounting features, edges and visual defects	Drawing revision; measurement locations, methods, sampling and limits
Mating assembly	Fit, location, alignment, secondary seals and working-face contact	Assembly drawing and fit-check procedure
Equipment trial	Leakage, wear, temperature and operating behavior	Defined fluid, pressure, speed, temperatures, flushing, duration and endpoints

From drawing review to the sample plan

Confirm the ring role and interfaces, select the SiC route, and agree forming/sintering and the required machining, grinding or finishing operations. Identify which surfaces are functional and how they will be measured. The quotation states the agreed part scope and deliverables.

Protect the sealing surfaces

Specify individual separation, face protection and protection of edges and drive features. Agree cleanliness, part/revision and lot identification, and whether matched components require set identification. Packaging units and transport protection are defined for the order.

Handle and install to the assembly procedure

Keep faces clean and avoid impact. Before assembly, verify the drawing revision, component role, face condition and mating parts. Follow the seal maker’s instructions for fits, alignment, retention, secondary seals and face loading.

Control repeat orders

Reference the approved drawing, material specification and sample inspection record. Identify changes to fluid, mating face, mounting fit or duty before reordering. State sample quantity, batch quantity, destination and requested schedule; availability and delivery are quotation-controlled.

08 / ENGINEERING PRODUCT CATALOG

Send a seal face inquiry

Start with three items

Send the catalog item or drawing/old-part photographs, the application and component role, and quantity. ADCERAX can then identify the next information needed for drawing review, quotation or sample planning.

Inquiry route	Include first
Catalog reference	AT-MS-10 / selected AT-SC-H item; paired OD, ID and H; quantity; required face and mounting details.
New or repaired component	Drawing and revision or front/reverse/side photographs; rotating/stationary role; seal maker and assembly model/version; sample details when available.

Complete the technical brief

Field	Requested information
Part and geometry	Item/part number, drawing revision, units, OD/ID/H, face-band Df/df, profile, drive features, datums and tolerances.
Material and mating part	SiC route/grade, composition basis, material documents, mating-face material/condition and any holder or secondary-seal requirements.
Service	Fluid and concentration, particles, pressure, temperatures, speed, start-stop duty and lubrication/flushing.
Acceptance	Face flatness/finish, visual/edge criteria, inspection records, sampling and any assembly or equipment trial requirements.
Supply	Sample/batch quantity, repeat demand, packing/identification, destination and required delivery date.

Send your drawing or part details

info@adcerax.com

Open the mechanical seal face product page

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Please reference ADC-CAT-SIC-MSF-001 / Rev 01 in your inquiry.

HUNAN ATCERA CO.,LTD

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Custom precision ceramic components for overseas engineering teams