ADCERAX
ADVANCED CERAMICS

**ENGINEERING PRODUCT CATALOG**

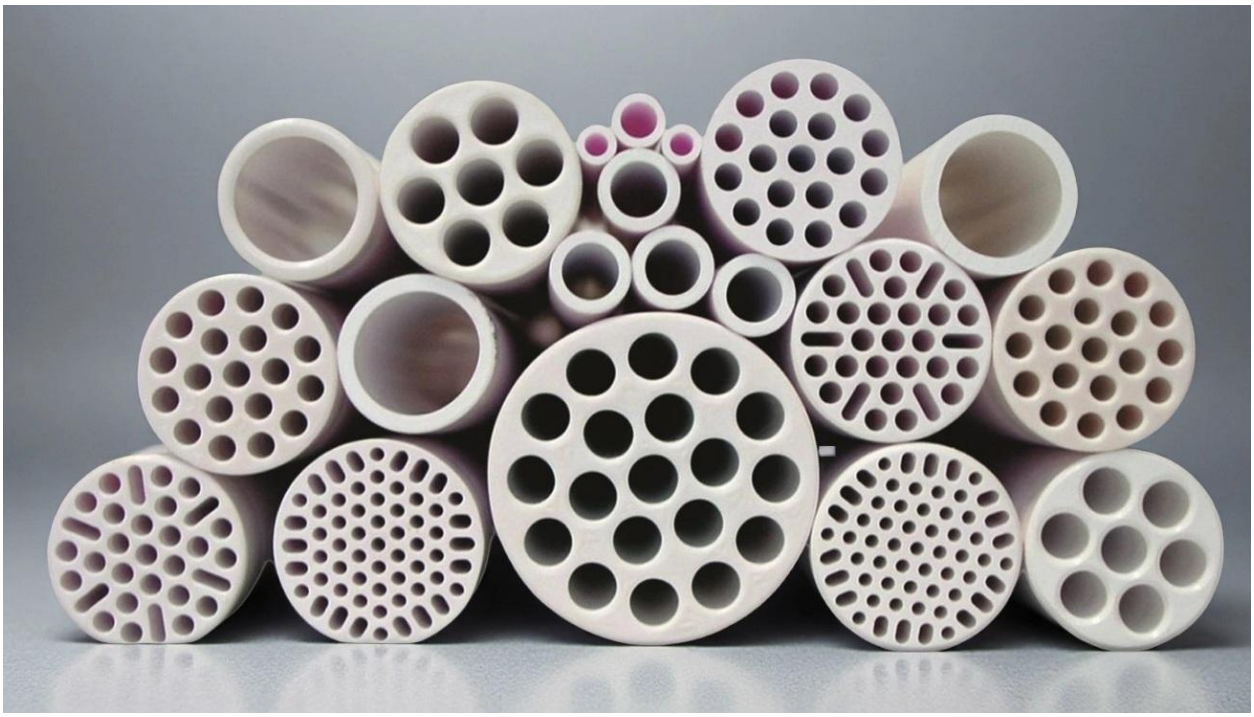
ADC-CAT-ZRO-MEM-001 | Revision 01 | 2026-10-09

# Zirconia Ceramic Membrane Tubes

## MF and UF process filtration
## Selection and engineering enquiry guide

**REVIEW EDITION | Engineering release pending**

For system integrators and process engineers evaluating tubular ceramic membrane elements for crossflow liquid separation. Define the feed, separation target and housing interface before selecting an element.



Product-family illustration from the ADCERAX page. It is not verified product photography or evidence of a specific item, membrane grade or supplied batch.

## A useful enquiry starts with the process

Share your liquid composition, what must be retained or recovered, and the required flow. Existing drawings and operating records can support the review even when the pore grade is undecided.

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

Product page | info@adcerax.com

01 ENGINEERING PRODUCT CATALOG

# Choose the enquiry route

This guide concerns bare tubular MF/UF membrane elements. Housing, seals, pumps, controls and a complete treatment system require their own specification and supply definition.

| Start here | Information to prepare | Continue |
|---|---|---|
| Replace an existing element | Old element reference and full suffix; housing drawing; end and seal details; feed and cleaning records. | Geometry p3; conditions p4 |
| Develop a new filtration duty | Feed composition; target retention or recovery; required flow; sample availability; operating and cleaning conditions. | Selection below; tests p5 |
| Prepare an RFQ | Geometry or drawing; separation target; conditions; quantity; destination; acceptance needs. | RFQ p6 |

## Match the separation task

| Candidate duty | Questions that determine the review |
|---|---|
| Process water or oily wastewater | What are the solids, oil and other constituents? Define target water quality, viscosity, flow and pretreatment. |
| Chemical or catalyst separation | Which material must be recovered? Identify solvent, concentration, particle distribution and cleaning chemistry. |
| Food or fermentation clarification | What should pass and what should remain? State product-loss limits, hygiene interfaces and applicable contact requirements. |

## Separate channel size from separation grade

The flow channel carries the feed. Its size is not the selective membrane pore size. Pore size or molecular weight cut-off (MWCO) describes a separation grade under a defined method; neither alone guarantees retention on your liquid.

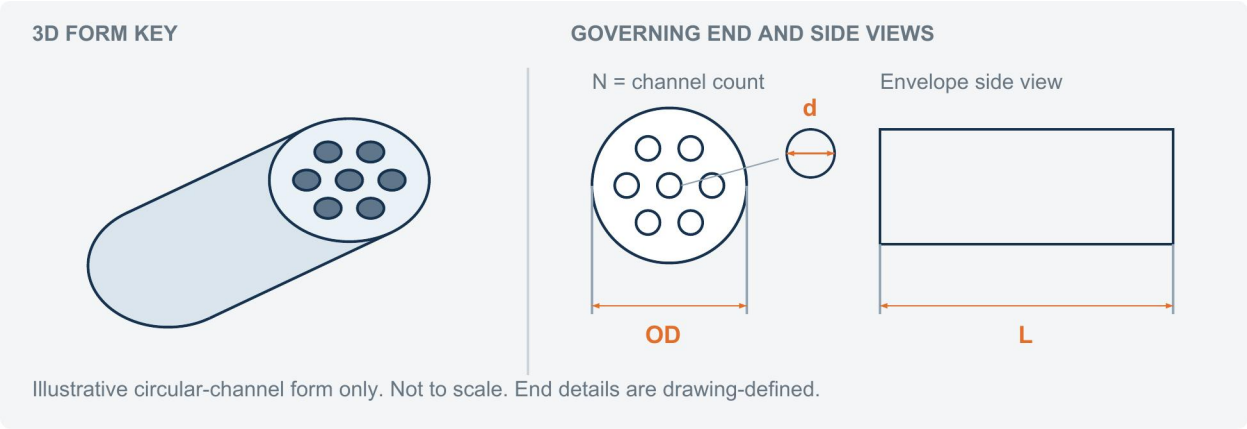
**Order definition:** dimensions and membrane grade are defined for the requested element. This guide does not offer a stock size matrix or a confirmed performance rating. Availability and final specification require quotation review.

Geometry / Page 3 Operating conditions / Page 4 RFQ / Page 6

02 ENGINEERING PRODUCT CATALOG

# Define the element and housing fit

Use an approved element and housing drawing to define the envelope, channel section and both ends. Similar appearance or channel count does not establish interchangeability.




Dimension key for enquiry inputs only. OD is the outside diameter, L the overall length, d the circular-channel diameter, and N the channel count. It is not a manufacturing drawing or an offered configuration.

| Drawing field | Unit or definition | Input required |
|---|---|---|
| OD | mm | Outside diameter, fit tolerance and reference measurement position. |
| L | mm | Overall length and tolerance; separately define effective filtration length. |
| d | mm; circular channels only | Channel diameter and tolerance. For noncircular channels, supply a dimensioned section instead. |
| N | Count | Channel count and dimensioned coordinates or section drawing. |
| Both ends and seal interface | Drawing-defined | End profile, sealing zones, surface requirements, support and housing interface. |
| Walls and webs | Drawing-defined, mm | Minimum outer wall and interchannel webs; define measurement and acceptance basis. |

## Material and membrane definition

Identify the selective layer, intermediate layers where applicable, porous support and end treatment separately. The product name does not establish the composition or purity of every layer.

**Geometry status:** all fields above are RFQ inputs. The illustrative channel arrangement supplies no size, tolerance, stock or manufacturing commitment. The agreed drawing controls the requested part.

**Membrane area:** state the effective coated region and area definition. Do not calculate system capacity from an unverified area or total tube length.

03 ENGINEERING PRODUCT CATALOG

# Specify operating and cleaning conditions

Element suitability requires the feed, membrane layers, end treatment, seals and housing to be considered together. State normal operation, start-up, shutdown and cleaning separately.

| Condition | Required definition |
|---|---|
| Feed and target | Composition, concentrations, solids and oil loading, viscosity, particle distribution; target permeate and concentrate quality. |
| Pressure and crossflow | Feed inlet and outlet pressure, permeate pressure, transmembrane pressure (TMP) definition, crossflow rate or velocity, and excursions. |
| Temperature and chemistry | Wet service temperature and changes; solvent identity and concentration; pH with chemistry and contact time. |
| CIP and backwash | Cleaning in place (CIP) agents, concentration, temperature, duration and cycle; backwash direction, medium, pressure and frequency. |
| Sanitization and compliance | Required hot-water, steam or other cycle; food-contact or hygienic requirements for the actual assembly. |

## Compare like measurements

| Indicator | Define before using it |
|---|---|
| Flux | Volume per effective membrane area and time, typically L/(m²·h). State liquid, temperature, TMP and time in the run. |
| Pressure-normalized permeability | A pressure-normalized result, typically L/(m²·h·bar). It is distinct from flux and requires stated test conditions. |
| Retention or recovery | Define the target constituent, sampling method, inlet and outlet concentrations and calculation basis. |
| Cleaning recovery | Define the clean baseline, fouled state, cleaning cycle and post-cleaning measurement conditions. |

**Performance boundary:** pure-water measurements do not establish continuous flux on a process liquid. Dense zirconia material values do not establish porous membrane operating limits. Final values require element-specific evidence and agreed test conditions.

04 ENGINEERING PRODUCT CATALOG

# Agree validation acceptance and supply

Define the validation plan before selecting production quantities. The following checks are acceptance inputs to discuss, rather than a statement that every test is already available or completed.

| Review stage | Define the evidence and acceptance basis |
|---|---|
| Geometry and interface | Drawing revision; OD and L; channel section and count; both ends; seal fit; surface and visual criteria; inspection method and sampling. |
| Layer and separation grade | Layer/support definition; pore-size or MWCO method; specimen identity; test conditions and acceptable limits. |
| Clean-water baseline | Effective area; conditioning; water quality; temperature; TMP; stabilized measurement and reporting method. |
| Actual-feed trial | Representative liquid; crossflow; run length; flux and pressure trend; permeate quality; retention/recovery and concentrate behavior. |
| Integrity and cleaning | Leakage or integrity method; test pressure and medium; cleaning chemistry/cycles; post-cleaning performance and rejection criteria. |

## Control the supplied configuration

| Supply input | Confirm before order release |
|---|---|
| Identity and repeat orders | Element/drawing reference, revision, membrane grade and agreed lot identification. Keep approved changes with the repeat-order record. |
| Handling and packing | Individual cushioning, separation from hard contact, rigid outer packing, moisture/storage requirements and unpacking checks. |
| Commercial scope | Bare element or separately specified assembly; quantity; trial or repeat batch; required documents; destination and target schedule. |

**Release sequence:** technical definition → agreed validation and acceptance → quotation and drawing approval → agreed supply and inspection documentation. Confirm feasibility, test scope, packaging, lead time and availability for the actual order.

05 ENGINEERING PRODUCT CATALOG

# Send a technically useful RFQ

Send existing information first. If the pore size or model is undecided, describe the feed and separation target so the review can identify the next decision.

| Enquiry route | Attach or identify |
|---|---|
| Existing or replacement element | Full element reference and suffix; original specification/drawing revision; housing and both ends; photographs; operating and cleaning history; required changes. |
| New or drawing-defined element | Drawing or dimensioned section; housing interface; material/layer requirements; target separation; trial and production quantity. |

## Include these process and order inputs

| Input group | Information to send |
|---|---|
| Separation | Feed composition, solids/oil content, viscosity, target retained or recovered material, pore grade or MWCO if known. |
| Duty | Required flow; temperature; feed/permeate pressures and TMP; crossflow; solvent and pH; cleaning/backwash cycles. |
| Fit | OD, L, d for circular channels, N and section drawing; both ends, seal/housing interfaces, tolerances and surface requirements. |
| Acceptance | Actual-feed trial, integrity test, grade method, inspection/reporting needs, sampling and acceptance limits. |
| Supply | Quantity; pilot or repeat supply; destination; requested schedule; packing and identification requirements. |

## Send your brief or drawing for engineering review

info@adcerax.com | WhatsApp +86 19311583352

Contact ADCERAX | View the product page

Reference this guide as ADC-CAT-ZRO-MEM-001, Rev 01. Final element specification, suitability, acceptance and commercial terms are confirmed for the requested project.

ADCERAX | HUNAN ATCERA CO.,LTD
No. 9 Yuhe Road, Guitang Street, Changsha City, Hunan Province, China