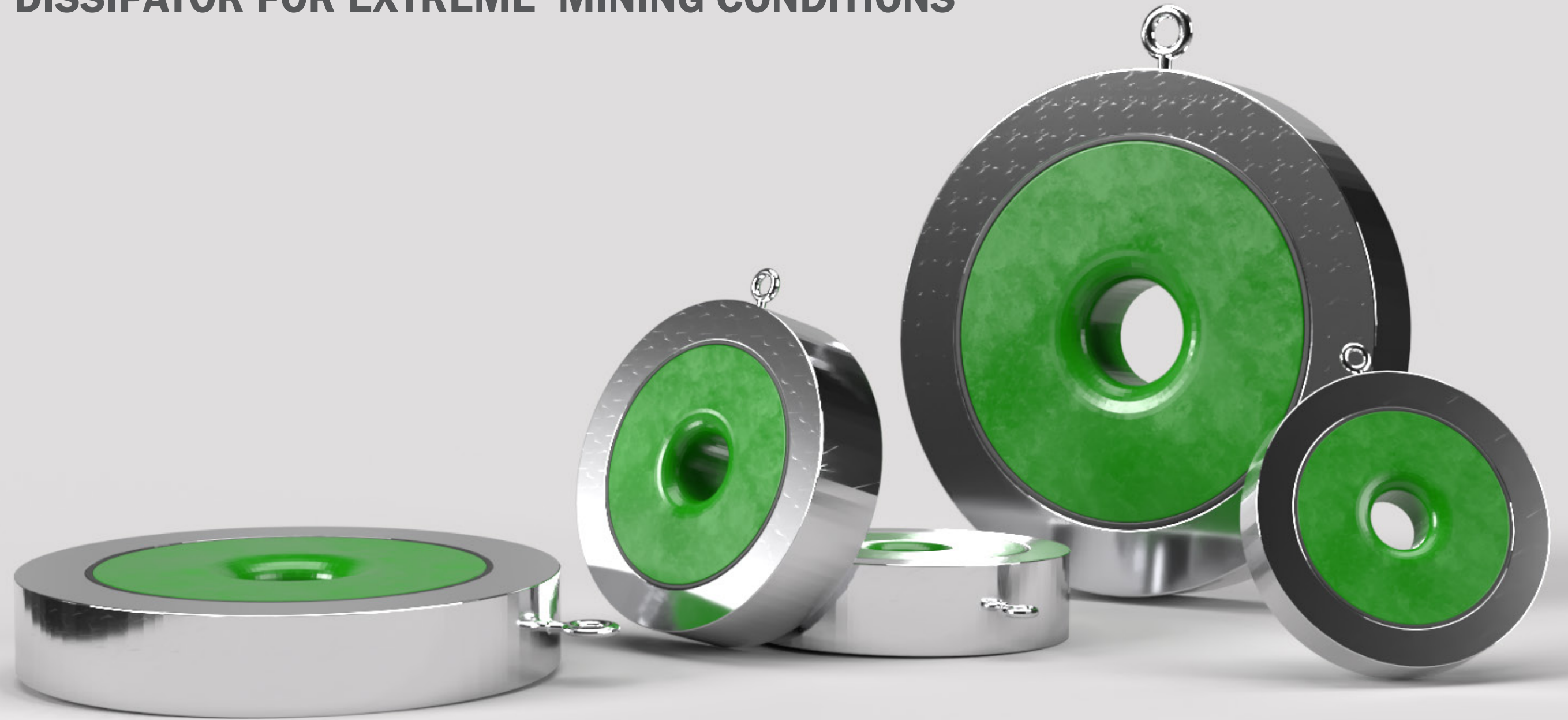




PRECISION CERAMIC FLOW DISSIPATOR FOR EXTREME MINING CONDITIONS



MODEL X-825
DISSIPATOR CERAMIC FLOW CONTROL

GLOBAL DELIVERY

CUSTOM CERAMIC ENGINEERING

1. Who We Are

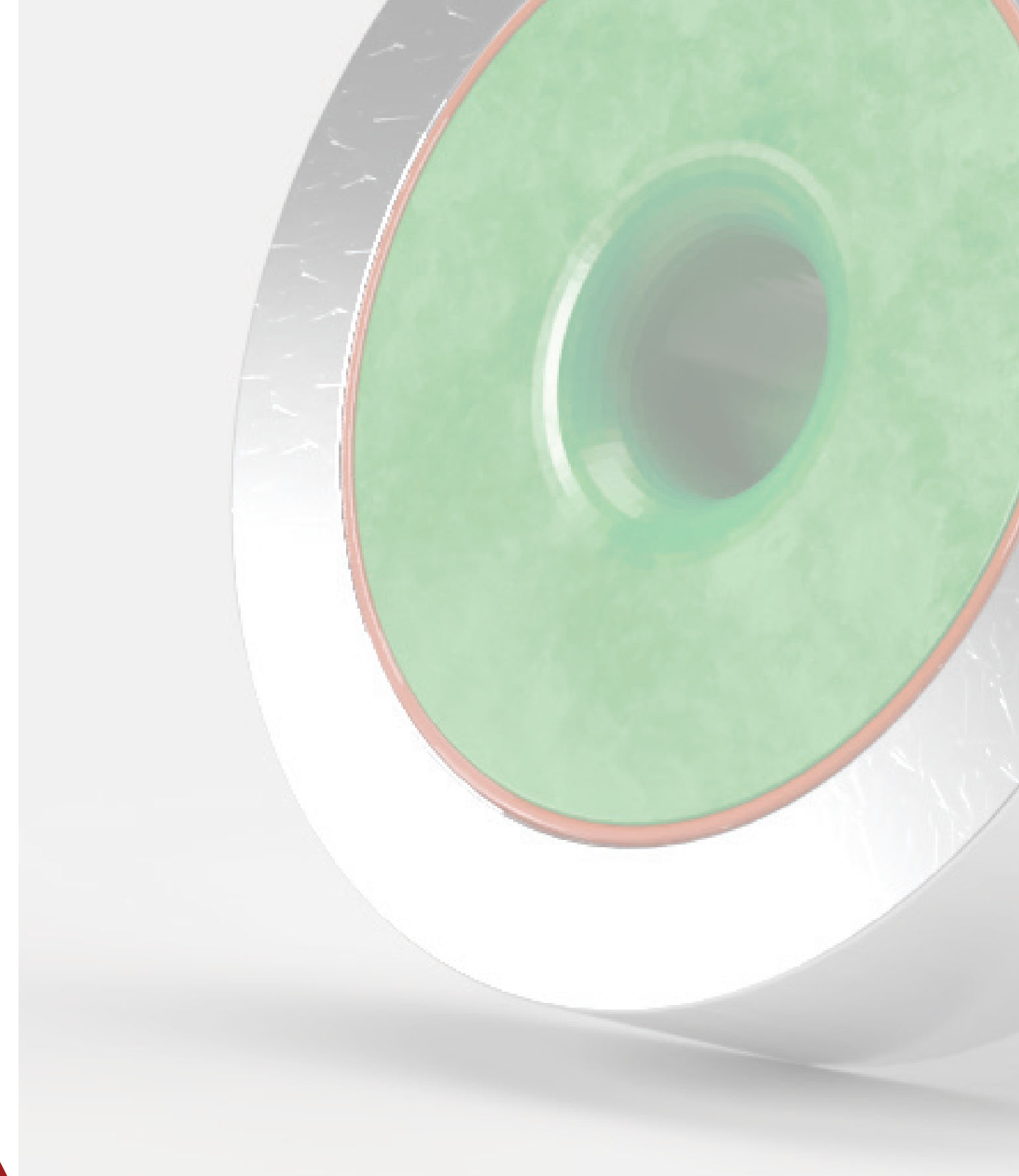
ModFlowX is an advanced ceramic engineering company delivering customized flow dissipation systems for high-demand industries like mining and energy.

With manufacturing in both the U.S. and China, we provide robust, globally distributed solutions with unbeatable durability.



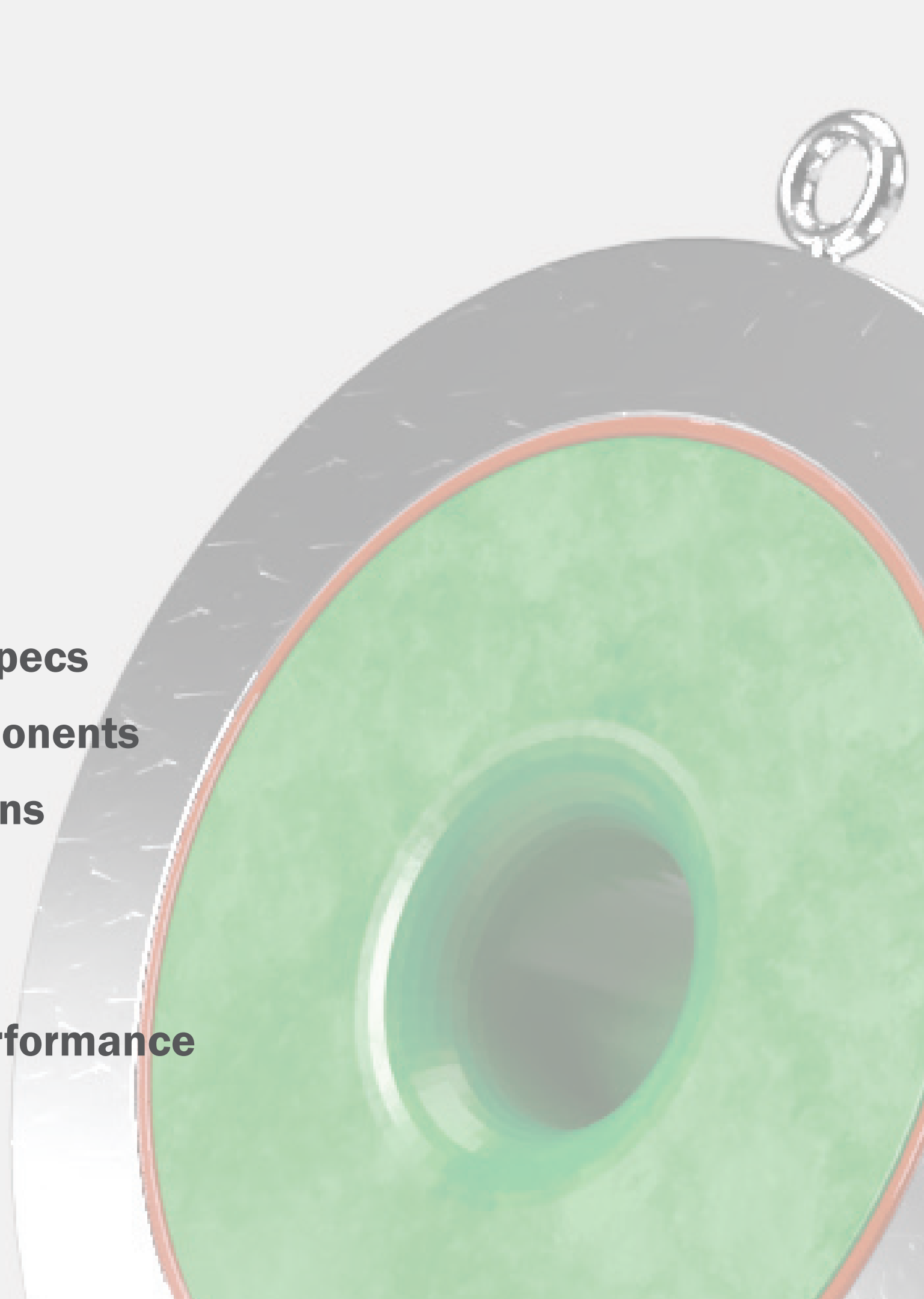
2. Our Purpose

Our mission is to create extreme-performance ceramic flow control devices that outperform traditional technologies in erosive, corrosive, and high-pressure applications. We aim to become the world's most trusted brand for ceramic inline chokes.



3. Table of Contents

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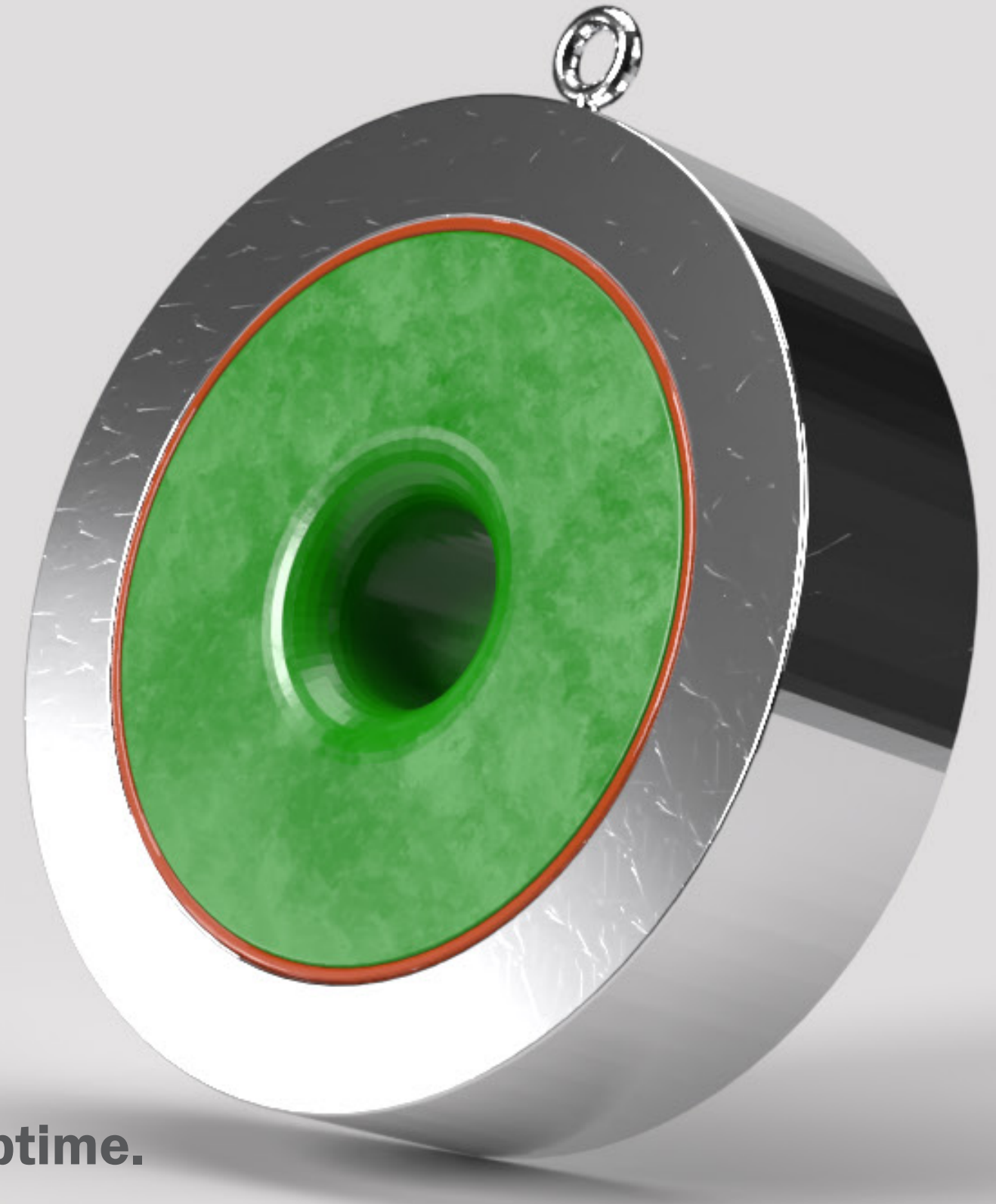
4. Product Overview

Model:
X-825

Application:
Tailings flow, slurry lines, and abrasive fluids.

Features:
Modular ceramic core, corrosion-resistant metal housing, customized orifice options.

Benefits:
Long lifespan, reduced maintenance, and improved operational uptime.

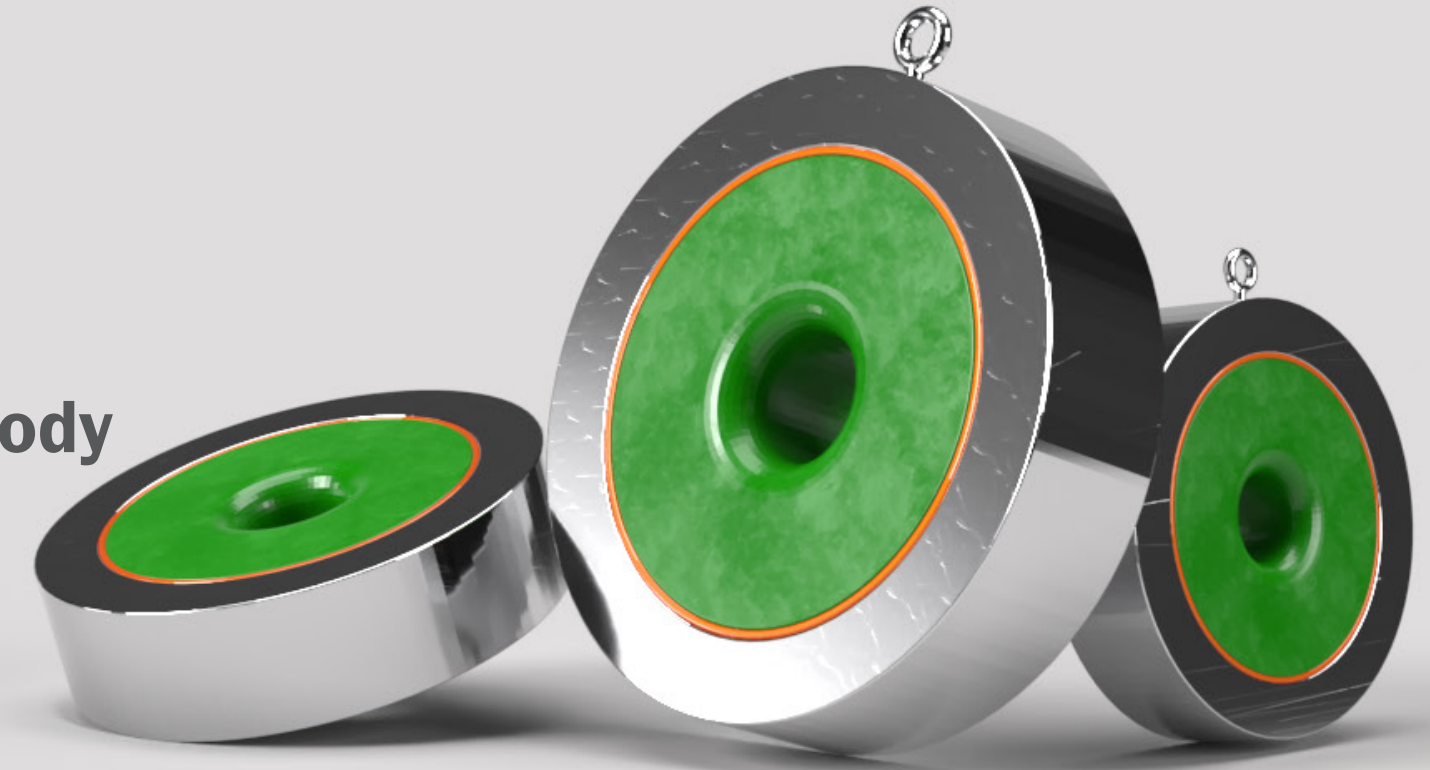


5. Size & Class Range

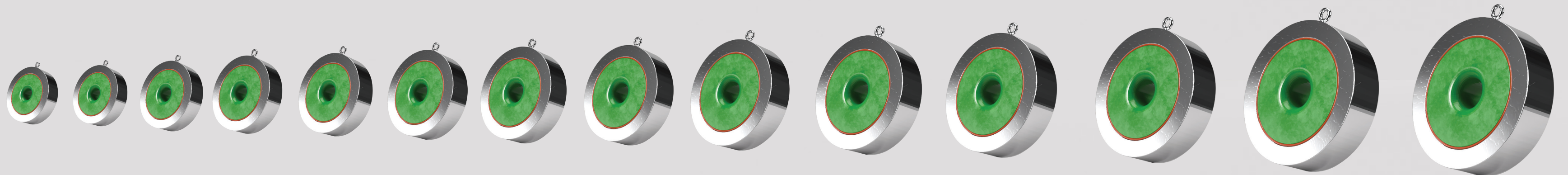
Sizes: 2" to 36" standard (custom available upon request)

Pressure Ratings: ANSI 150, 300, 600, 900, 1500, 2500

Optional Configurations: Flanged or threaded, inline or angle body



2" 3" 4" 6" 8" 10" 12" 14" 16" 18" 20" 24" 30" 36"



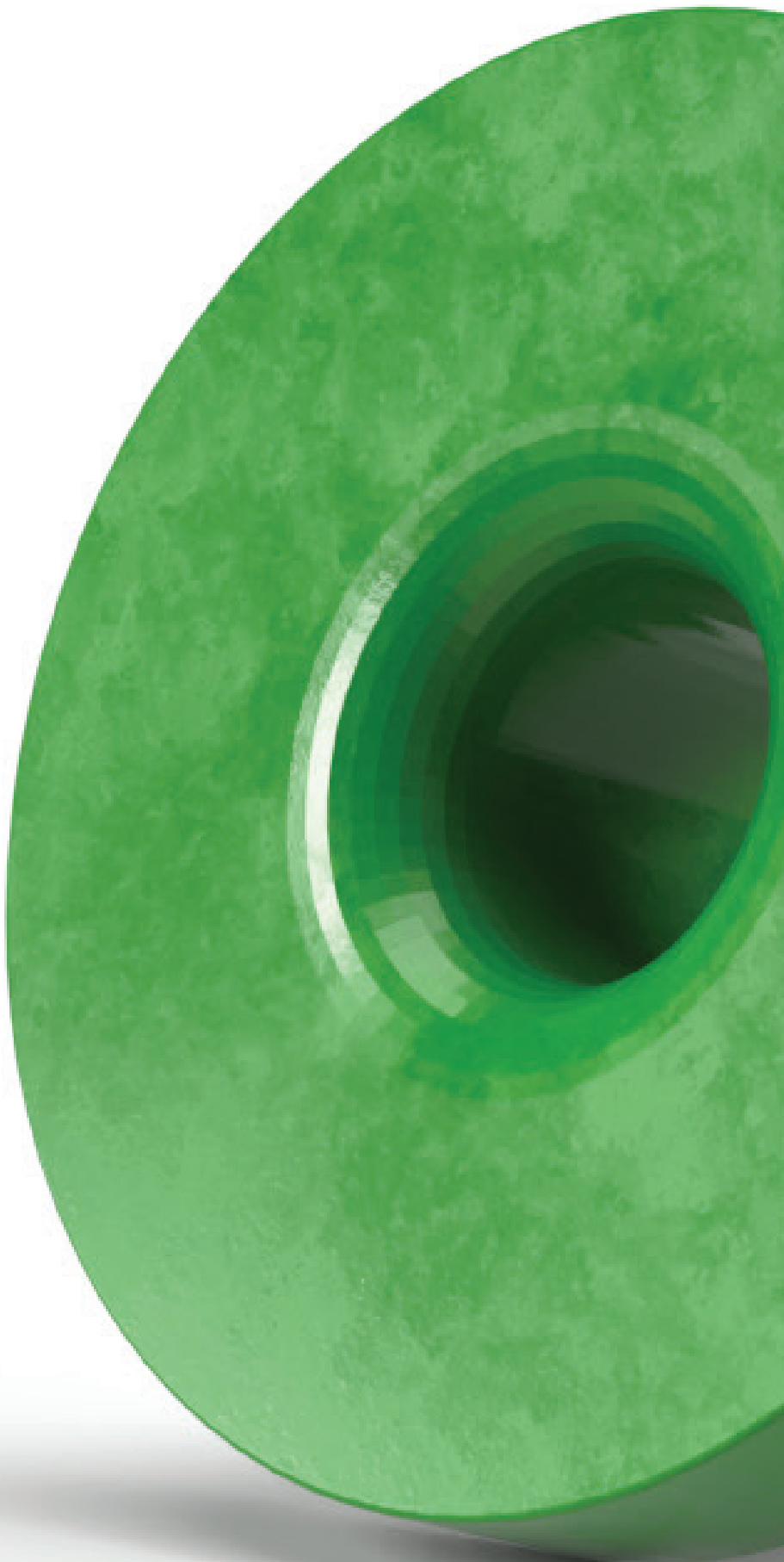
6. Ceramic Materials & Specs

We offer:

- Reaction Bonded Silicon Carbide (RBSC)
- Sintered Silicon Carbide (SSiC)
- Nitride Bonded Silicon Carbide (NBSiC) (select applications)
- Alumina (Al_2O_3) – available in 92%, 95%, and 99.5% purity grades depending on performance requirements

Typical Properties:

Property	SSiC	RBSC	Alumina (Al_2O_3)
Density (g/cm^3)	≥ 3.05	2.95–3.05	3.6–3.9
Hardness (Vickers)	≥ 2500 HV	1800–2200 HV	1500–2000 HV
Flexural Strength (MPa)	> 400	250–300	300–400
Compressive Strength	~3900	~2000	~2500
Porosity (%)	< 0.1	~1	< 0.05
Max Operating Temp ($^{\circ}\text{C}$)	> 1400	1350–1380	1450–1600
Thermal Conductivity	~120 W/m-K	~80–100 W/m-K	~80–100 W/m-K



7. Housing & Metal Components

Materials: ASTM A36, A105, SS304, SS316

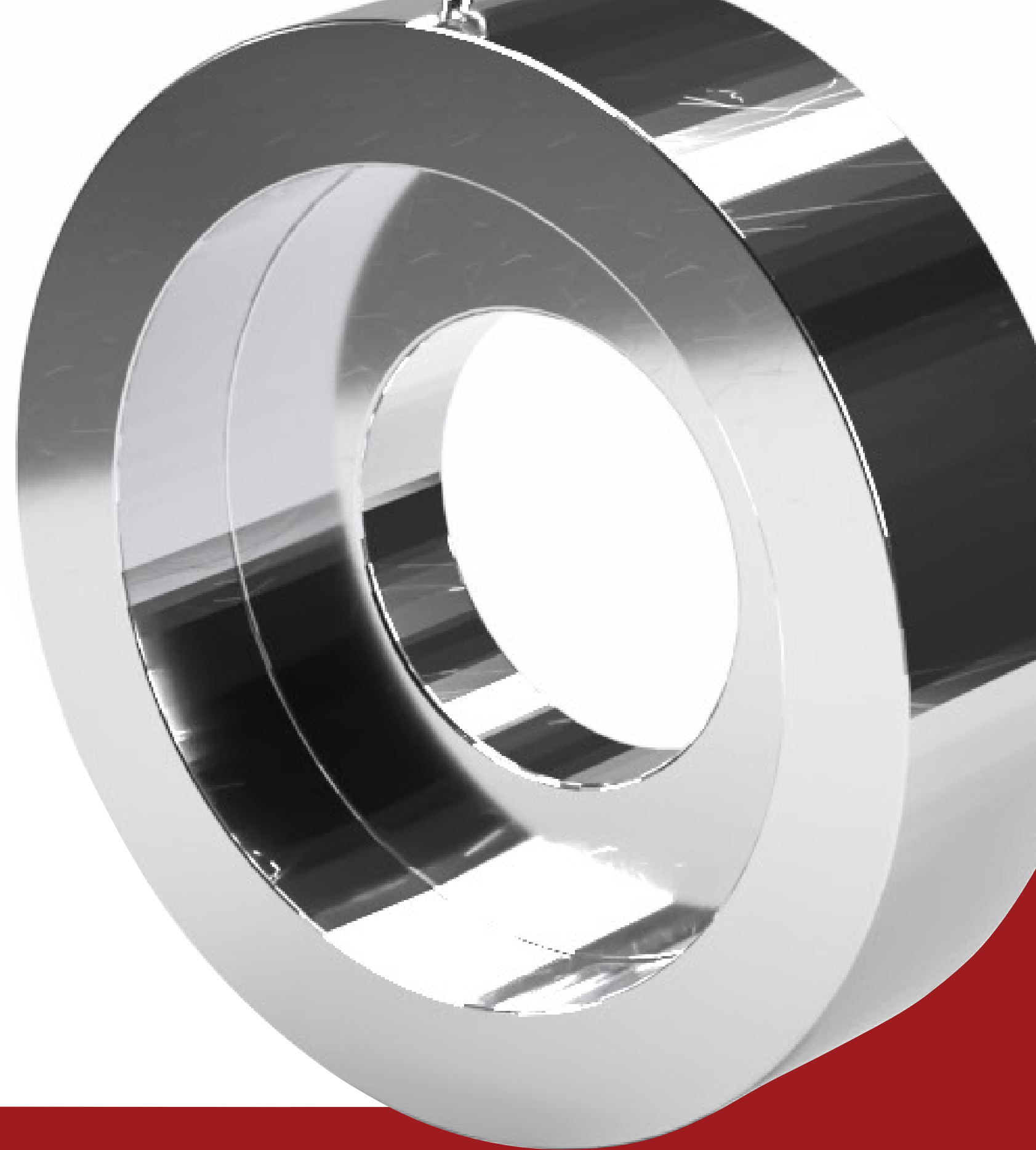
Surface Treatment:

Zinc-rich epoxy primer + polyurethane
topcoat (ISO 12944 C5 compliance)

Surface Preparation: Sa 2½ per ISO 8501-1

Finish: $Ra \leq 3.2 \mu m$ (125 μin)

Classes: 150 - 2500



8. Manufacturing Locations

USA:

- CNC Machined components via certified partners, providing precision tolerances up to ± 0.005 " with industry-standard inspection and quality assurance.

China:

- High-performance ceramic manufacturing through ISO 9001, ISO 14001 (Environmental), ISO 45001 (Occupational Health & Safety) certified facilities.
- UL-certified material testing (odor tests under UL 746C standards)
- Expertise in structural ceramics, silicon carbide, and bulletproof-grade ceramics

Certifications and Compliance:

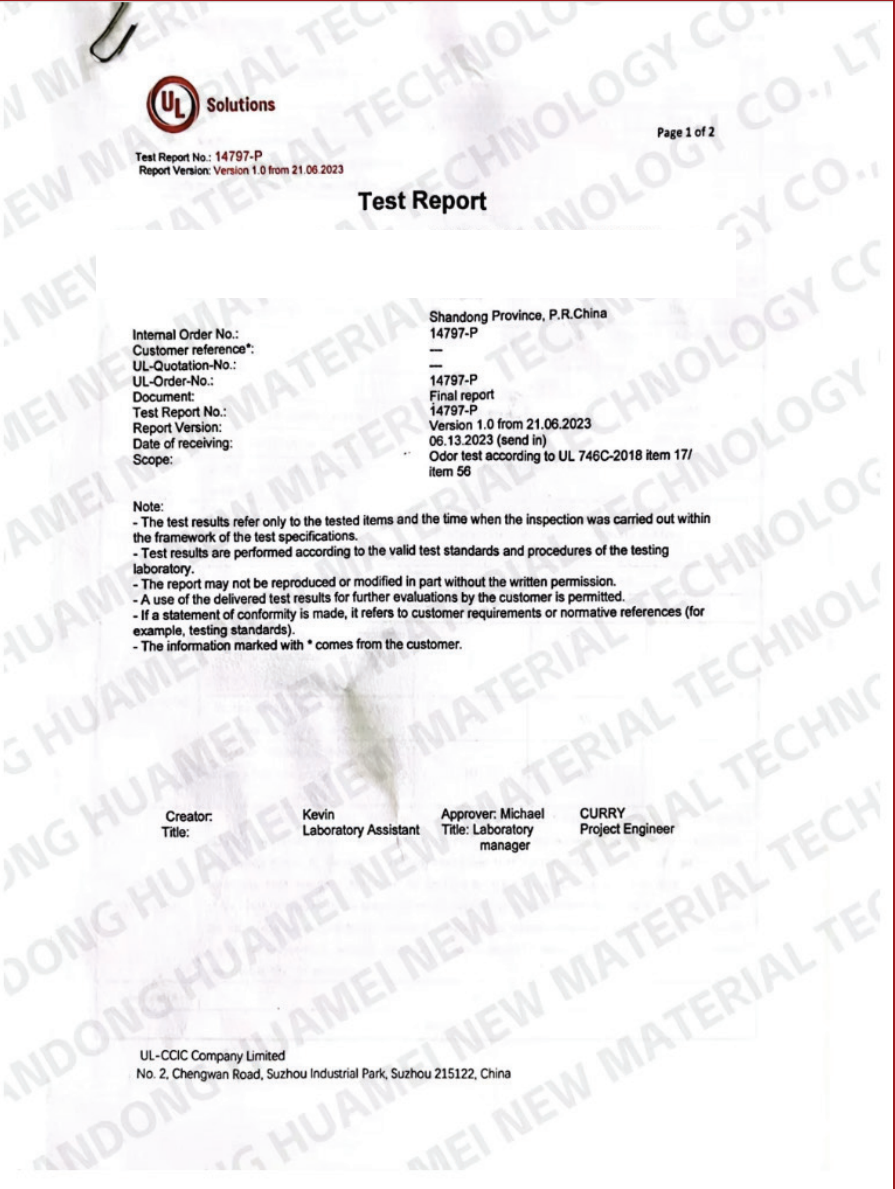
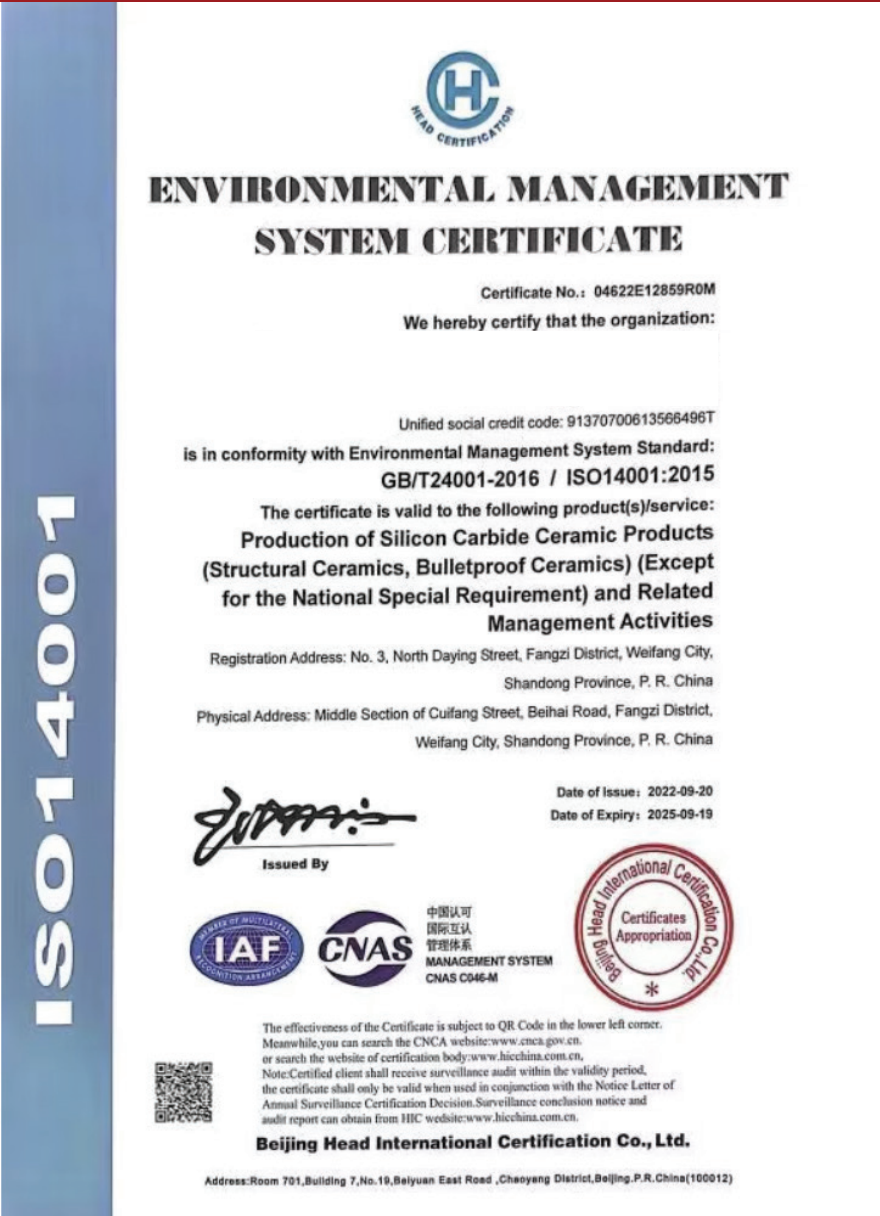
- Quality control supported by international bodies such as CNAS and IAF
- Fully documented inspection reports, MTRs, and certificate authenticity provided

Global Quality Control:

- Quality audits conducted both on-site and at shipment
- Each production batch traceable with documentation and photographic proof
- All components adhere to ISO and customer-specific engineering standards

9. Certification & Quality

- ISO 9001 manufacturing partners (China & USA), Material Test Reports (MTRs) available, and Surface finish and coating inspection upon request.

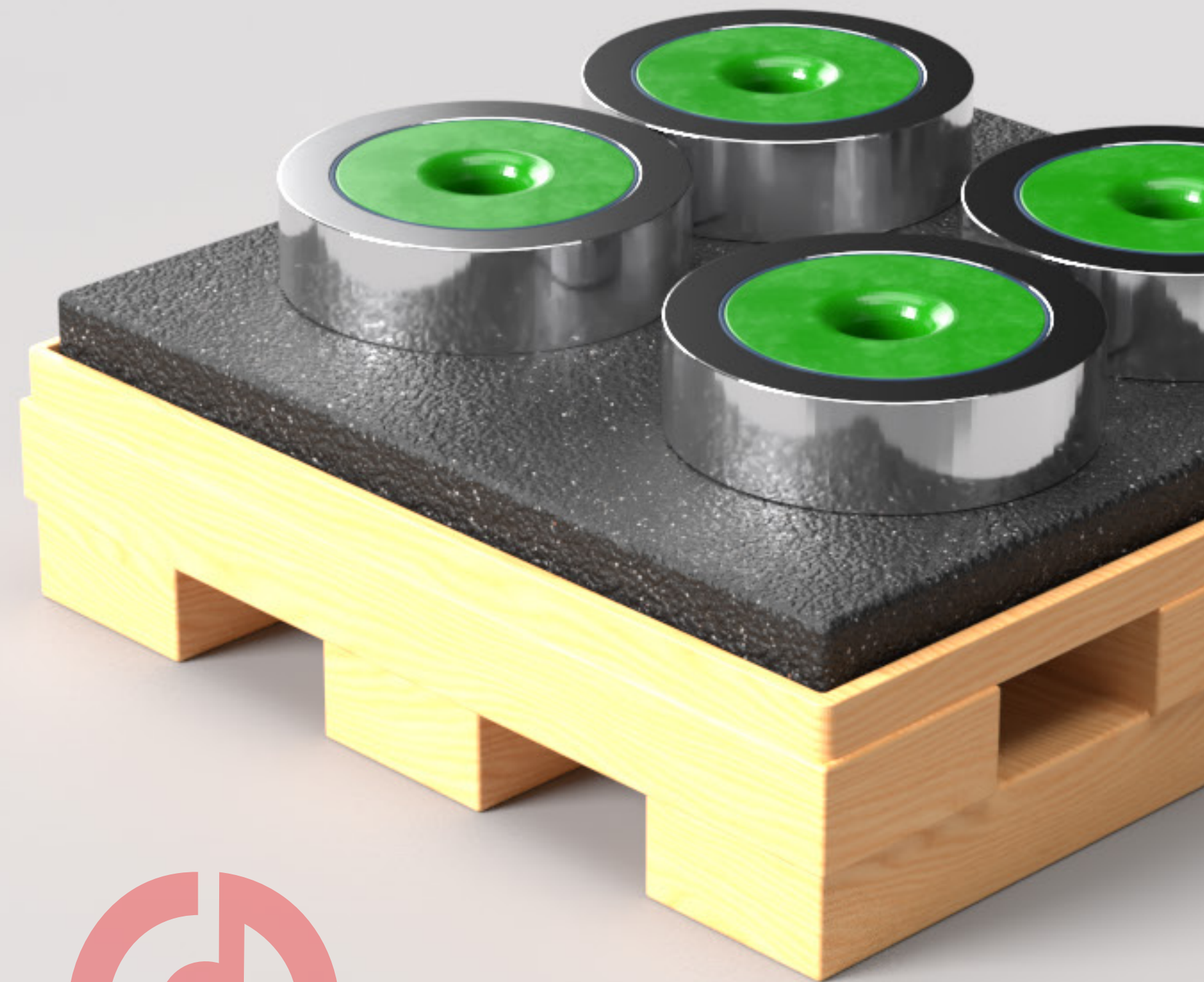


10. Packaging & Delivery

- Protective foam-inserted crating and reinforced export-grade wood pallets.
- Premium packaging system designed to ensure safe handling and transit across continents.
- Incoterms:
EXW, FCA, CFR, DDP available based on customer request.
- Fast delivery lead time:
Expedited options upon request.

Foam-inserted Open Pallet:

- Secure modular packaging for individual ceramic components.



These visuals reflect ModFlowX's commitment to first-world logistics and premium packaging standards.

Packaging & Delivery

- Every crate includes labeled documentation, QR-coded inspection records, and secure bracing for ceramic parts.
- All shipping complies with international logistics standards, including ISPM 15-certified wood for global customs clearance.

Closed Export Crate:

- Stacked, ISPM 15-certified wooden boxes for complete protection during global shipment.



These visuals reflect ModFlowX's commitment to first-world logistics and premium packaging standards.



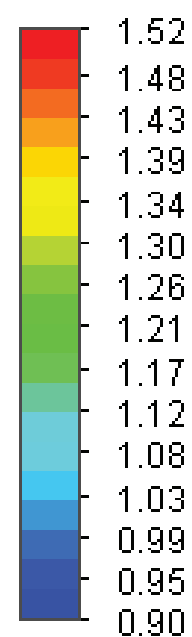
Q ModFlowX

11. Flow Simulations & Performance

CFD Visualization:

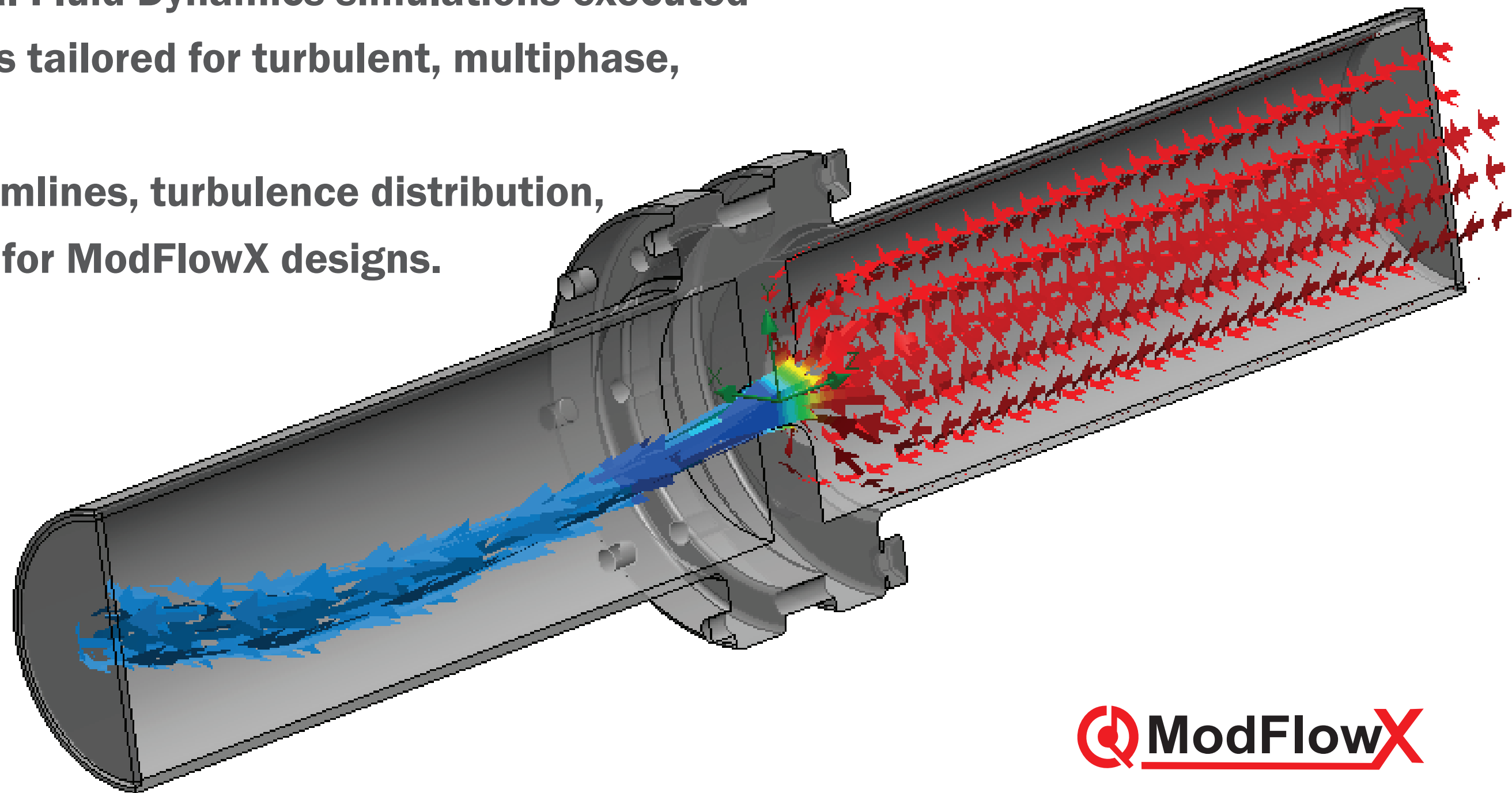
- Advanced Computational Fluid Dynamics simulations executed using high-resolution solvers tailored for turbulent, multiphase, and erosive flow conditions.

These include velocity streamlines, turbulence distribution, and pressure drop mapping for ModFlowX designs.



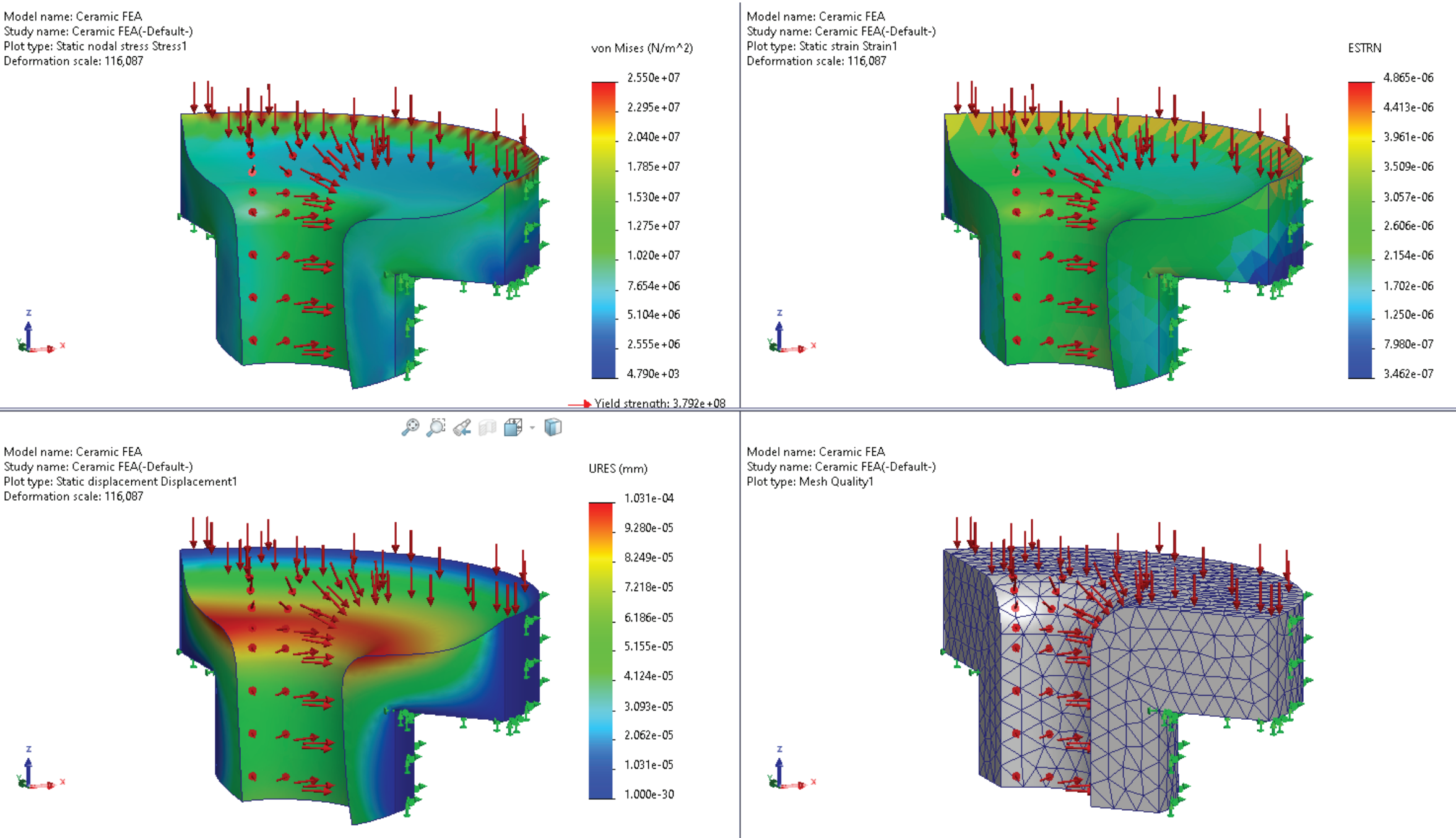
Pressure [bar]

Flow Trajectories 1



FEA Validation:

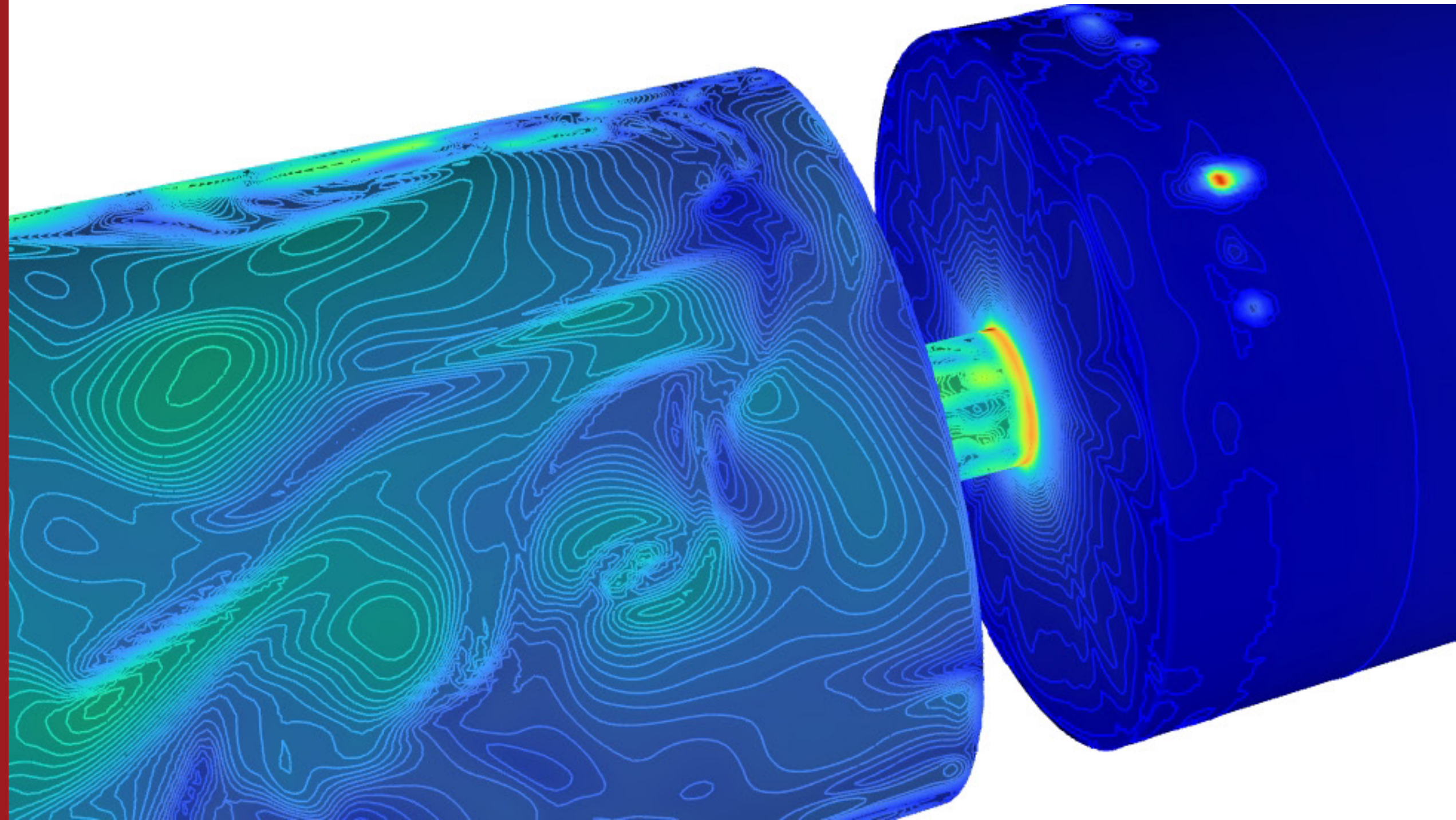
- **Finite Element Analysis performed to assess mechanical stress, thermal behavior, and structural performance under extreme pressure and vibration.**
- Visual outputs include stress distribution, deformation maps, and fatigue zones.**



- Performance validation includes erosion wear prediction, velocity field visualization, and pressure drop analysis.
- Custom flow simulation and stress analysis reports available to demonstrate design reliability under customer-specific operating parameters.
- Data-backed confidence for mission-critical applications in mining, tailings, and corrosive slurry environments.

Flow Core Behavior (FCD Insight):

- Internal flow dissipation captured through volumetric contour plots revealing swirl zones and energy reduction layers inside the ceramic insert.



12. Technical Drawings

Full Assembly Drawings:

Complete PDF and STEP file sets, including dimensions, tolerances, and bill of materials.

Exploded View Illustrations:

Highlight individual parts such as ceramic insert, top cap, housing, and seals for easy identification.

Sectional Views:

Show internal flow paths and interface alignment between ceramic and metal components.

Customization Ready:

Drawings include configurable dimensions for bore size, flange class, and orifice plates upon request.

Documentation Included:

Each drawing set comes with revision history, dimensional callouts, and optional 3D render for client review.

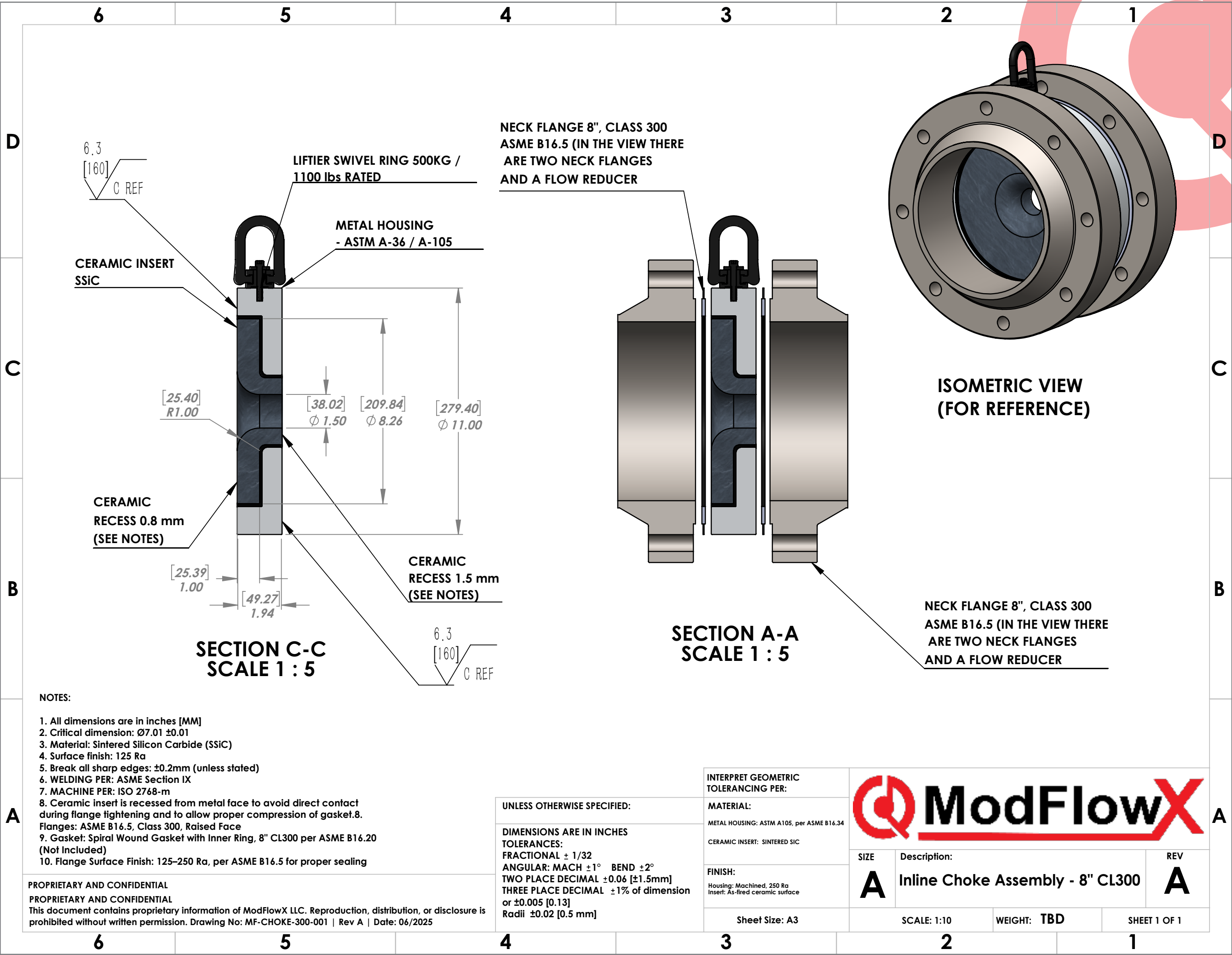


ISOMETRIC VIEW
(FOR REFERENCE)

**3D and detailed PDF drawings available upon request and subject to NDA.*

Technical Drawings

- Full Assembly Drawings





13. Contact & Location

**Registered U.S. Entity –
ModFlowX LLC**

**3214 North University Ave, Suite 210,
Provo, UT 84604, – USA**

jnogueira@ModFlowX.com

Global Shipping Available



Q ModFlowX

Appendix A – Legal Entity Registration

The Domestic Limited Liability Company Certificate of Organization for ModFlowX LLC was filed with the Utah Division of Corporations and Commercial Code on June 13, 2025, and is currently in Active status.

Filing Type	Domestic Limited Liability Company - Certificate of Organization
Filing/Effective Date	6/13/2025 3:19:48 PM / Effective: 6/13/2025 5:08:00 PM
Entity Name	ModFlowX LLC
Entity Status	Active, Current

Registered by the Utah Department of Commerce, Division of Corporations and Commercial Code

Governor: Spencer J. Cox
Lieutenant Governor: Deidre M. Henderson
Executive Director: Margaret W. Busse
Division Director: Adam Watson

ModFlowX LLC
3214 North University Ave, Suite 210,
Provo, UT 84604, – USA
jnogueira@ModFlowX.com
Global Shipping Available



Appendix A – Legal Entity Registration

ModFlowX LLC



SPENCER J. COX
Governor

DEIDRE M. HENDERSON
Lieutenant Governor

UTAH DEPARTMENT OF COMMERCE

Division of Corporations and Commercial Code

MARGARET W. BUSSE
Executive Director

ADAM WATSON
Division Director

06/13/2025

Filing Type	Domestic Limited Liability Company - Certificate of Organization		
Filing/EffectiveDate	6/13/2025 3:19:48 PM effective, 6/13/2025 5:08:00 PM		
Entity Name	ModFlowX LLC		
Entity Number		Entity Status	Active Current

The Domestic Limited Liability Company Certificate of Organization for ModFlowX LLC was/were filed with the Utah Division of Corporations and Commercial Code on 06/13/2025, effective 06/13/2025.