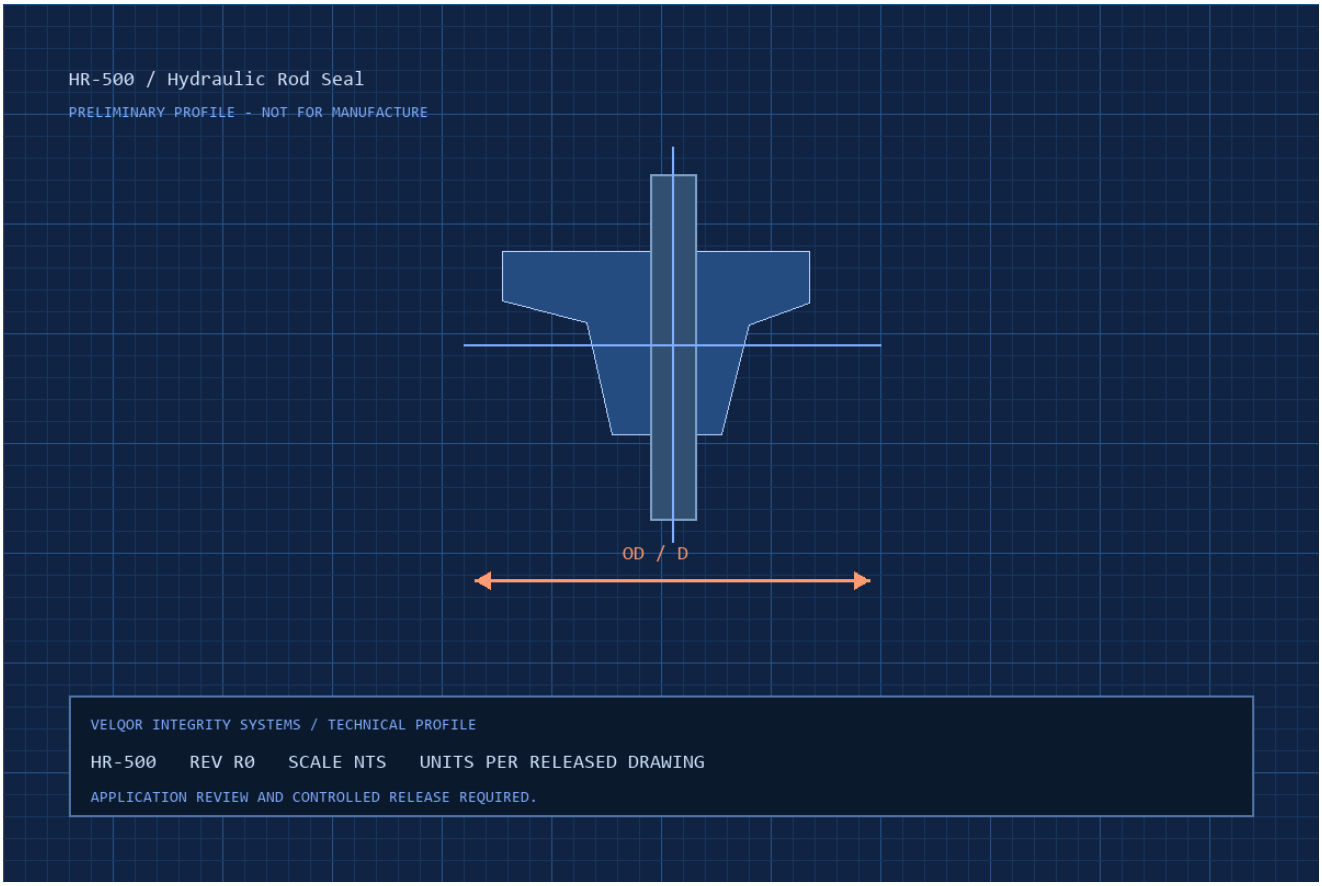
HR-500 / PRODUCT DATASHEET

Hydraulic Rod Seal

R0 preliminary product platform for engineering selection. Final geometry, compound and operating limits are application-specific.

Release boundary: NOT FOR MANUFACTURE, INSTALLATION OR PERFORMANCE RATING. Obtain a controlled Velqor drawing and approved compound specification.



Profile	Asymmetric U-cup
Reference geometry	Rod diameter (d) x housing diameter (D) x groove width (B)
Intended duty	Reciprocating rod sealing
Candidate materials	Polyurethane / NBR / PTFE-energized by review
Typical interfaces	Mobile cylinders / Industrial presses / Material handling
Document status	Revision R0 / preliminary / engineering approval required

Application definition

A seal is a system component. The profile, material, counterface, gland and operating duty must be evaluated together.

Minimum selection inputs

Input	What engineering needs
Interface	Mating drawing, tolerances, gland dimensions and available installation envelope.
Media	Fluid or gas identity, concentration, contamination, cleaning agents and exposure sequence.
Thermal	Normal, minimum, maximum and transient temperature at the seal.
Pressure	Normal and peak differential pressure, direction, dwell and decompression rate.
Motion	Static, reciprocating, oscillating or rotary; include stroke, speed and cycle target.
Surfaces	Counterface material, finish, hardness, runout, lead and edge condition.
Assembly	Installation method, stretch, squeeze, tooling constraints and service access.
Acceptance	Leakage criterion, inspection method, traceability level and target service life.

Material qualification

Listed polymers are candidate families, not blanket compatibility approvals. Temperature capability changes with compound formulation and media. Validate actual service conditions and any regulatory requirement before release.

Dimensional release

The dimensions shown in the blueprint are variables only. A production document must identify numerical values, tolerances, material and compound, surface requirements, inspection characteristics, revision and approval.

Document control and references

Source IDs

SRC-005 / SRC-007

Reference scope

SRC-001 Parker O-Ring Handbook ORD 5700; SRC-002 Trelleborg O-Rings and Back-up Rings catalog, June 2024; SRC-003 ISO 3601-1:2012; SRC-004 Trelleborg Quad-Ring technical page; SRC-005 Trelleborg industrial sealing product taxonomy; SRC-006 SKF Industrial Shaft Seals catalogue; SRC-007 Sealtronix local catalog used for taxonomy discovery only; SRC-008 Garlock sealing product taxonomy; SRC-009 Garlock gasket taxonomy; SRC-010 Velqor product platform definition, Revision R0.

Source boundary

Competitor and standards sources inform terminology, category architecture and selection questions. Their proprietary models, ratings, images, documents and trademarks are not Velqor products and are not reproduced as Velqor evidence.

Revision record

Revision	Date	Status	Change
R0	2026-10-23	Preliminary	Initial public selection brief and profile drawing.

Release checklist

Before issue for manufacture: approve the application record; approve compound and color; issue numerical dimensions and tolerances; define inspection and traceability; complete representative validation; record engineering approval.

Contact and issuer

Velqor Integrity Systems / Public pre-release technical library. Email: info@velqorintegrity.com. Postal address, telephone number and facility details remain pending client confirmation.