

RodSim, Powered by PetroBench™

Rod Lift Design-and-Simulation Platform

Design rod pump wells with cubic-spline wellbore modeling and multi-scenario comparison—all within any browser

Applications

- Rod lift design and optimization
- Multi-scenario well modeling and analysis

Features and Benefits

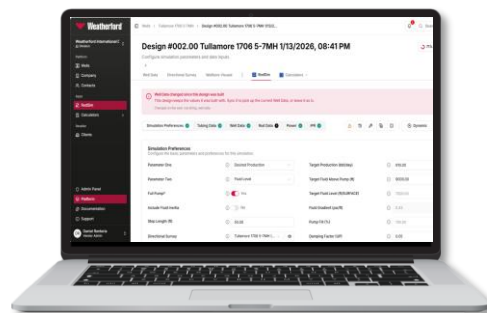
- **Browser-Based Simulation:** Get fast results, visualize parameter changes, and predict equipment behavior from any browser.
- **Multi-Scenario Comparison:** Bulk-simulate changing wellbore conditions to identify failure causes, compare design alternatives, and optimize rod pump performance.
- **Team Collaboration:** Work from centralized well data with complete design-history tracking across the operator organization.
- **Well-Deviation Analysis:** Adjust step length down to 10 ft for high-resolution surveys and identify critical stress and wear zones.
- **Targeted Rod-Guide and Centralizer Placement:** Reduce mechanical wear and drag forces.
- **Interactive 3D Viewing:** See wellbore geometry, force dynamics, dogleg severity, and loading analysis in one perspective.

Program Description

Weatherford RodSim, powered by PetroBench™, is a Cloud-native, design-and-simulation platform for next-generation rod lift solutions. RodSim helps engineers improve rod lift strategy, production, and efficiency through centralized well data, team-wide access, and multi-scenario modeling. Users can model fluid properties, pump parameters, and well conditions; optimize equipment selection before deployment; compare design alternatives side by side; and evaluate multiple scenarios simultaneously. The platform supports rod-string load, stress, pump-performance, and wellbore analyses in any Web browser.

Exclusive Capabilities

- Secure browser access from any device, including iPad
- Automatic updates without IT involvement
- Direct integration with Snowflake®, Databricks®, Azure®, and WellView®
- Field-level, multi-design differential comparison
- Real-time, same-well design collaboration
- User/timestamp full-audit tracking
- Cloud-parallel scenario runs with no case-count ceiling



Weatherford RodSim Rod Lift Design-and-Simulation Platform delivers trusted engineering rigor and wave-equation simulation through a Cloud-native platform that any engineers can open in a secure Web browser.



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Rod Lift Design-and-Simulation Platform

Specification Comparison

Deployment and Access

Capability	RODSTAR®	SROD™	RodSim
Browser	Windows Desktop Only	Windows Desktop Only	macOS, Windows, Linux, iPad
IT Install	Required per Machine	Required per Machine	None
Software Updates	Manual per User	Manual per User	Automatic, All Users
Onboarding Steps	Install, License File, Setup	Install, License File, Setup	Create Account, Open Browser
Data Storage	Local files (.rsdx/.rsvx)	Local files (.np6e/.inp7)	Centralized Cloud Database
Mobile Access	None	None	Any Browser or Device
Simulation Sharing	Email	Email or Network	Secure Link
Backup Responsibility	User	User	Automated Daily, Platform Managed
Importing Legacy Files	NA	NA	Drag-and-Drop

Enterprise and Collaboration

Capability	RODSTAR®	SROD™	RodSim
Multi-User Model	Per-Seat Desktop License	Per-seat or Network License	Native, Multi-Tenant SaaS
Shared-Well Database	Shared Drive or Files	Shared drive or files	Centralized database, always current
Enterprise Data Connections	File-Based Only	File-Based Only	Snowflake®, Databricks®, Azure®, WellView®
Equipment Library Scoping	Per Installation	Per Installation	Per Organization, Inheritable
Version Restoration	Re-Open Old File	Re-Open Old File	One-Click Recovery
Version History	Manual	Manual	Automatic
Real-Time Collaboration	NA	NA	Shared Workspace
Version Comparison	NA	NA	Field-Level Differential View
Audit Trail	NA	NA	Full Log, User/Timestamp
SSO (Azure® AD, Okta®)	NA	NA	Enterprise Package
SCIM User Provisioning	NA	NA	Enterprise Package
Role-Based Access Control	NA	NA	Standard
Org Hierarchy	NA	NA	HQ, Division, Region

Engineering and Simulation

Capability	RODSTAR®	SROD™	RodSim
Vertical Wells	✓	✓	✓
Deviated/Directional Wells	✓	✓	✓
Step Resolution	Standard	Standard	Configurable to 10 ft
Survey Interpolation	Minimum Curvature	Minimum Curvature	Cubic Spline
Rod Stress/Fatigue Analysis	✓	✓	✓
Buckling and Buoyancy	✓	✓	✓
IPR Integration	✓	✓	Auto-Calculated from Test Data
Custom VSD Velocity Profiles	Limited	Limited	Intra-Stroke Modeling
Parallel Scenario Runs	Serial Batch (Excel)	Wizard: Up to 20 Cases	Cloud-Parallel, No Case Limit
Fluid-Effects Modeling	✓	✓	✓

Daily Design Workflow

Capability	RODSTAR®	SROD™	RodSim
Surface/Downhole Card Prediction	✓	✓	✓
Multi-Scenario Generation	Batch Mode	Multi-Case Wizard	Comparison Tool
Side-by-Side Scenarios	File-Based	In-App (Limited)	Up to 5 Designs Simultaneously
Rod-Guide Recommendations	✓	✓	✓
Taper Design Assistant	Rule Based	Rule Based	Color-Coded on DLS graph
Deviation Survey Import	Manual (OCR Available)	Manual Entry	Drag-and-Drop import
Fluid Level from Field Shot	Manual Entry	Manual Entry	One-Click from Fluid Shot Record
PDF Report Export	✓	✓	✓
Peer-Review Workflow	File Share	File Share	Secure Link

