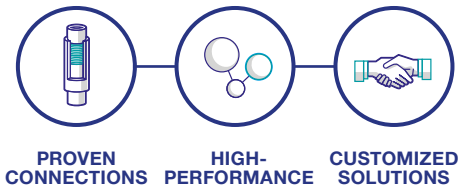


VAM® RISER

TOP TENSION APPLICATIONS



PREMIUM RISER SOLUTIONS FOR DEEP OFFSHORE CHALLENGES

- DRILLING
- PRODUCTION
- WORKOVER/COMPLETION

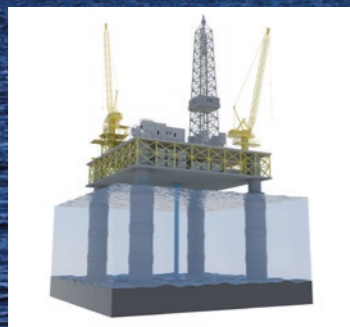
CUSTOMIZED SOLUTIONS FOR YOUR COMPLEX RISER SYSTEMS

WHAT MAKES RISERS UNIQUE?

Used to contain fluids for well control and to convey hydrocarbons from the seabed to the platform, risers face a combination of challenges from harsh environment and dynamic loads to high pressures and temperatures.

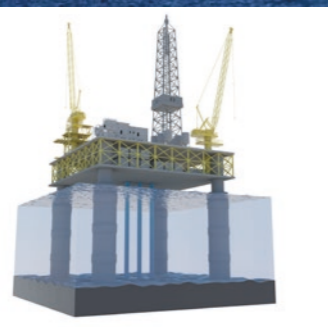
OUR SOLUTION

We offer a full range of seamless pipe suitable for all riser configurations to withstand extreme fatigue, challenging environments such as sour service and HP/HT, and multiple make and break cycles all while ensuring excellent sealability performance.



DRILLING HIGH PRESSURE

- VAM® DR HW
- VAM TOP® FE



PRODUCTION INNER/OUTER RISER

- VAM TOP® FE
- VAM® TTR

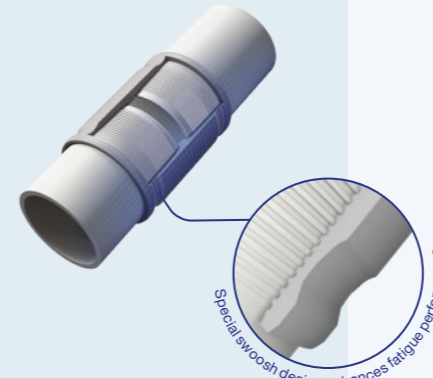


WORKOVER/COMPLETION EARLY PRODUCTION

- VAM® TTR HW
- VAM TOP® FE

VAM TOP® FE

FATIGUE ENHANCED



PERFORMANCE

- Based on the proven performance of VAM TOP®
- Fatigue enhancements of bending swoosh and smoothed thread form
- Up to 10 Make & Break Cycles
- Industry standard for riser applications for the last decade with over **1,000,000ft run** throughout the world

APPLICATIONS

- Drilling Riser
- Production Riser
- Workover/Completion

PRODUCT RANGE

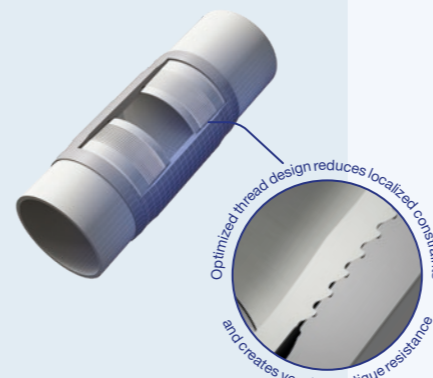
Pipe: Seamless pipe with high-performance riser grades

OD: 6 5/8" to 16"

Fatigue Performance: SAF 2.0

VAM® TTR VAM® TTR HW

HIGH PERFORMANCE & EXTREME FATIGUE RESISTANCE



PERFORMANCE

- Highest fatigue performance
- Specially designed triangular thread form and bending swoosh
- Internal metal-to-metal gas-tight
- External Seal: avoids seawater ingress and prevents corrosion
- Up to 25 Make & Break Cycles
- Available in heavy wall up to 1.31"

APPLICATIONS

- Production Riser
- Workover/Completion

PRODUCT RANGE

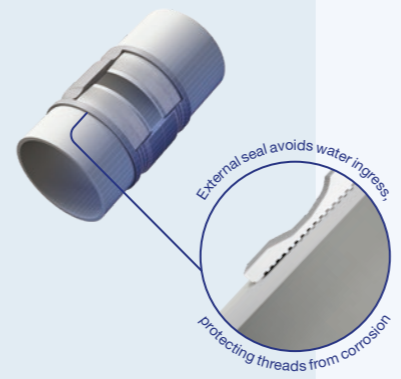
Pipe: Seamless pipe, sour service grades with Nace region 3 compliance

OD: 7" to 16"

Fatigue Performance: SAF 2.0

VAM® DR HW

LARGE OD & HEAVY WALL



PERFORMANCE

- Large OD threaded & coupled connection, allowing for lighter weight, high strength steel (**up to 140 ksi**)
- Riser fatigue enhancements in thread form and bending swoosh
- Internal metal-to-metal gas-tight seal and external metal-to-metal liquid seal
- Up to 30 Make & Break Cycles
- Qualified up to API 5C5 CAL-III

APPLICATIONS

- Drilling Riser
- Production Riser

PRODUCT RANGE

Pipe: Seamless, 80 ksi - 140 ksi, sour service

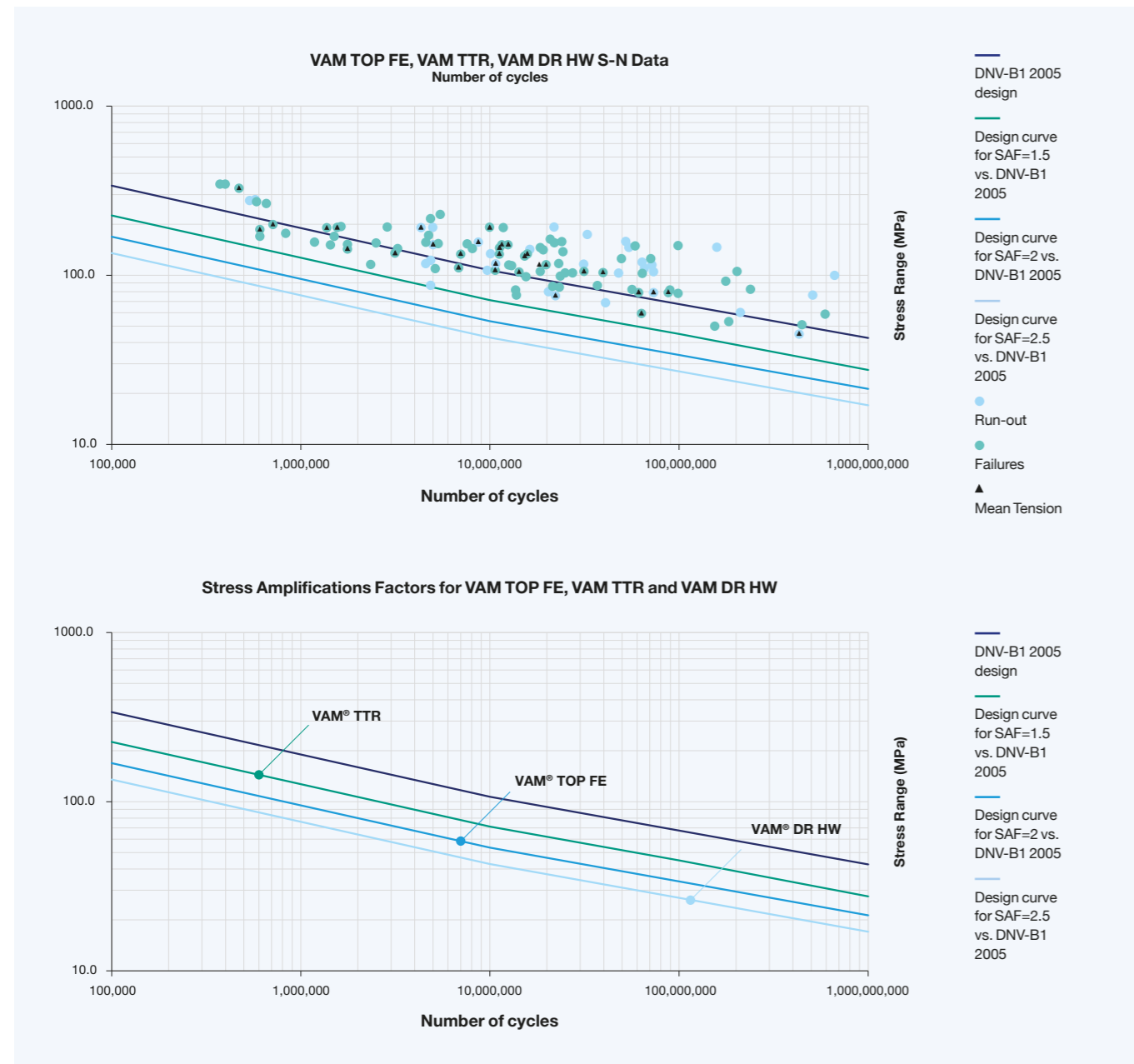
OD: 20" to 23" up to 1.65" wall

Fatigue Performance: SAF 2.5

TESTING & QUALIFICATION

Dedicated testing facilities allow us to qualify our VAM® Riser connections to the most stringent testing protocols including including ISO 13679 / API RP 5C5: CAL-III and CAL-IV, ISO 13628-7 / API 17G.

FULL-SCALE FATIGUE VALIDATION



STRESS AMPLIFICATION FACTOR

Graphs show the fatigue performance (cycles vs. stress) on full scale pipe and connections physically tested in a fatigue frame. The DNV-B1 curve is a very high standard against which to compare connection performance and represents the pipe. Stress Amplification Factor (SAF) shows how much the fatigue performance is affected by introducing a mechanical connection. Vallourec's riser connections increase fatigue performance more than other mechanical performance in class or welds.

HIGH-PERFORMANCE MATERIALS

We provide an unparalleled range of fatigue-enhanced connections associated with high-strength sour service materials for lighter and better performing riser strings.

VALLOUREC PROPRIETARY GRADES

RISER APPLICATION

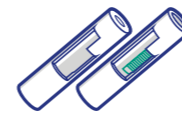
- VM95 R
- VM110 R
- VM125 R

RISER APPLICATION WITH SOUR SERVICE

- VM95 RSS
- VM110 RSS



OD AND WALL
CUSTOMIZABLE
SIZES



THICK WALL
SOUR SERVICE
MATERIAL



SPECIALIZED
TESTING

TURN-KEY SOLUTIONS AND PROJECT MANAGEMENT, YOUR STRATEGIC PARTNER

Every riser project is unique and so is our approach. We collaborate with you from pre-design to running and beyond.

TAKE THEIR WORD FOR IT

Our riser technology has an extensive track record, having performed in some of the most challenging deepwater projects worldwide.



TECHNICAL SUPPORT

from initial inquiry through life of your product



STRING DESIGN & QUALIFICATION

pipe and connection selection, and qualification testing



PROJECT COORDINATION

from P.O. to pipe running and lifetime support



VALLOUREC.SMART DIGITAL SOLUTIONS

Smartengo® Inventory, Smartengo® Traceability, and Smartengo® Running Expert



RUNNING SUPPORT

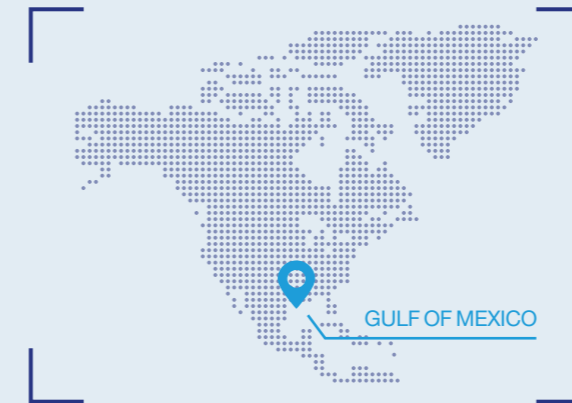
highly experienced VAM® field service technicians, available worldwide 24/7

SMARTENGO® RUNNING EXPERT

A NEW DIGITAL SOLUTION TO ENHANCE RUNNING OPERATIONS

Smartengo® Running Expert is a digital solution designed to reduce tubular management inefficiencies on the rig deck. Thanks to its unique bar code ID and automatic scan it improves control and prevents errors during running operations. It allows easy access to data management to monitor rig performance, bringing you savings in rig time and money.

- Pipe identification
- Running Supervision
- Digital construction report
- Web portal



WORKOVER RISER

Specially designed and developed for WOR application with 15 make & breaks and SAF 1.5. Qualified connection to API5C5 & API17G. High working pressure for 15,000 psi.

COUNTRY USA

LOCATION Gulf of Mexico

PROJECT Workover Riser

CONNECTIONS VAM® TTR HW

SERVICES Ran multiple lines in field with Smartengo® Running Expert



LARGE PRODUCTION APPLICATION

Six sizes developed for inner drilling, inner and outer production, and water injection. Unique sizes include:

- 11.267" VAM TOP® FE
- 10.951" VAM® TTR
- 10.715" VAM TOP® FE, VAM® TTR
- 14.34" VAM® TTR
- 14.025" VAM TOP® FE
- 16.00" VAM TOP® FE

Vallorec riser grades (VMRSS)

COUNTRY USA

LOCATION Gulf of Mexico

PROJECT Production, water injection, and inner drilling riser

CONNECTIONS VAM® TTR, VAM TOP® FE

VALLOUREC, YOUR LEADING PARTNER FOR ALL YOUR PROJECTS

6 INTERNATIONAL R&D CENTERS

15 ROLLING MILLS AND 34 FINISHING UNITS (EUROPE, USA, BRAZIL AND ASIA)

INTERNATIONAL NETWORK OF OVER 180 VAM® LICENSEES

VAM® FIELD SERVICES AND SUPPORT



NEED MORE INFORMATION?

Information is available online on solutions.vallourec.com or by scanning the following QR code.



contact@vallourec.com
Headquarters

12, rue de la Verrerie
92190 Meudon - FRANCE
Phone: +33 1 49 09 35 00
www.vallourec.com