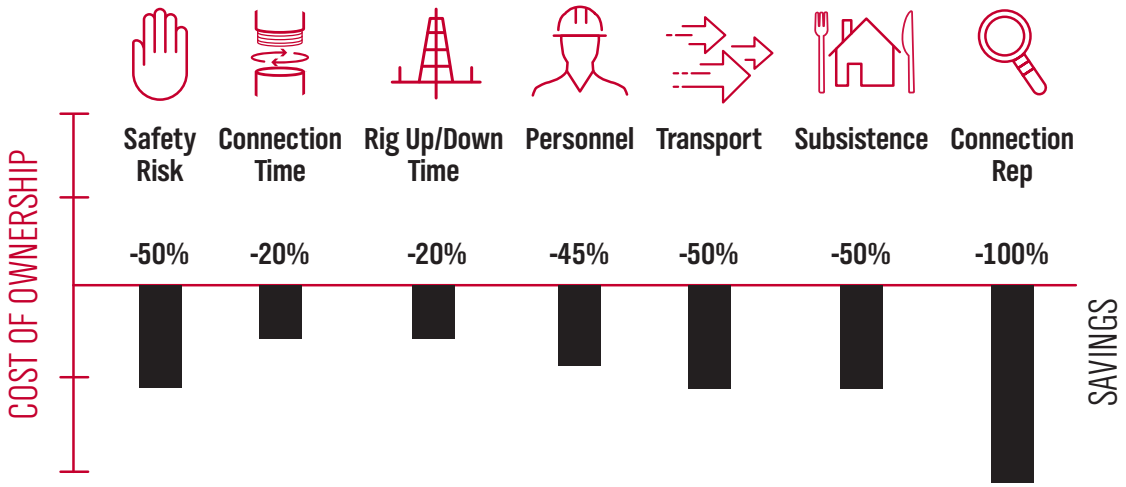
AutoTong™ System

FREQUENTLY ASKED QUESTIONS

Q HOW WILL THIS SYSTEM IMPACT MY TUBULAR-RUNNING BUDGET?

A The AutoTong system reduces an average offshore budget by about 20%. While every operation is unique, this automated system delivers connection integrity while decreasing the number of personnel and time required for any tubular-running job. Below is an estimate based on an average offshore, single-completion-running operation in the Caspian Sea:

A Cost Comparison of Traditional Tubular-Running Equipment Versus the AutoTong System



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FREQUENTLY ASKED QUESTIONS

Q How does this automated makeup process differ from traditional, manually controlled makeup?

A The AutoTong system precisely controls the process to deliver smoother and more consistent makeup operations. The system, rather than the operator, determines and adjusts the speed of connection makeup until achieving the final torque. Automatic speed adjustments eliminate the need for a traditional valve that dumps hydraulic pressure and the related sudden stops.

Q How does the tong control the connection makeup process?

A The tong-mounted computer controls the final makeup sequence. The computer continuously monitors torque and gradually reduces the rotational speed of the casing until reaching the optimum torque for the connection.

Q Does this tong require additional personnel to approve the graphs?

A No. The tong-mounted controller contains our AutoEvaluate™ software, which approves the makeup graphs by automatically checking them against the expected specifications and profiles. The software derives the makeup algorithms from an extensive database of field and lab connection makeups. With this onboard capability, the tong eliminates the need for a separate JAM® (joint-analyzed makeup) unit and technician.

Q When verifying connection integrity, is automatic makeup and graph evaluation really as good as my experienced hand and eye?

A Yes. Continuous torque monitoring and speed adjustments during connection makeup result in a smoother, more consistent process. AutoEvaluate software analyzes multiple data points from the torque and turn sensors, which results in a resolution 10 times greater than the human eye can detect on today's JAM screens.

Q What happens after AutoEvaluate software detects improper connection makeup?

A The software uses the Joint Issue Advisor feature to display a window that shows the problem with the makeup graph, explains the issue and potential root cause, and recommends corrective actions to resolve the issue.

Q Is there special training required to operate the tong?

A No. The easy-to-use system requires minimal training with simple, single-button operation and computer-controlled final makeup.

Q Are there additional set-up requirements for running this tong?

A No. Setting up this tong is simpler than standard tongs. The AutoTong system identifies load cell type and size when connected. The system also requires fewer manual inputs for thread-specific details. In addition, AutoEvaluate software runs on the tong-mounted controller, which eliminates the need to hook up a separate JAM unit.

Q How does automating the connection makeup process affect the personnel requirements for running casing?

A The AutoTong system and AutoEvaluate software reduce the number of personnel required in every application. Because specific applications have different personnel requirements for efficient makeup operations, this reduction varies. Integrating the AutoTong system into the rig control system can reduce personnel even further.

Q Are there different AutoTong types for my different applications?

A Yes. The AutoTong system is available in two different types:

1) AutoTong system for conventional operations—
   A manual tong with computer-controlled makeup and graph acceptance
2) AutoTong system for mechanized operations—
   A mechanized tong with remote-control capabilities and computer-controlled makeup and graph acceptance

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