



## CASE STUDY. **Revolution Drill<sup>®</sup>**

PROJECT PROFILE: **316 Stainless Steel Heavy Machine**

The end-user is machining pipe flanges made from 316 Stainless Steel using a Toshiba Horizontal Boring Mill, with 600 PSI water soluble through tool coolant.

### + CHALLENGE:

Previously the customer was using a YG-1 spade drill running at the following parameters: 100 RPM, 0.010 IPR, (0,25 mm/rev) which resulted in 1.0 IPM (25,4 mm/min). The tool drilled a 1.875" (47,63 mm) diameter thru hole to a depth of 4.0" (101,6 mm). The tool had a cycle time of 4 minutes and a tool life of 10 holes.

Looking for a reduction in cycle time, the customer asked if Allied could provide a solution.

### + OUR SOLUTION:

Allied recommended the Revolution Drill using insert item DP-D5T308-H and holder R34X22-150L. The tooling ran at a speed of 1000 RPM, 0.004 IPR (0,10 mm/rev) which resulted in 4.0 IPM (101,6 mm/min). The tool had a cycle time of 1 minute and a tool life of 144 holes. The outcome met the customer's goals of reduction in cycle time.

### + PROJECT DATA:

Allied Machine made a significant difference for the customer. Revolution Drill helped to reduce the costly cycle time resulting in the cost per hole dropping from \$13.59 to \$2.58, for a considerable cost savings of 81%, while increasing tool life by nearly 15 times!



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