

**Revolution Drill®**

**Case Study:** 6009  
**Industry:** Oil & Gas/Petrochemical  
**Part:** Pumps  
**Material:** 304 Stainless Steel  
**Diameter:** 1.875" (47.63mm)  
**Depth:** 4.0" (101.6mm)  
**Holder:** R34X22-150L  
**Insert:** OP-05T308-H



**The Challenge**

The customer manufactures pumps made from 304 stainless steel using a Mori-Seiki CNC machine with semi-synthetic coolant.

The customer needed to find a cost effective solution that would also reduce cycle time.

**The Advantages**

The Revolution Drill successfully decreased cycle time and provided a superior hole finish.

- Reduced cycle time by 40%
- Reduced cost per hole from \$10.66 to \$7.68

**Previous Tooling**

**Waukesha IC drill**

- 596 RPM
- 0.003 IPR ( 0.076 mm/rev)
- 1.79 IPM ( 40.64 mm/min)
- Tool life = 8 holes
- Cycle time = 4 minutes 12 seconds

**Allied Machine Solution**

**Revolution Drill®**

- 596 RPM
- 0.005 IPR (0.127 mm/rev)
- 2.98 IPM (73.66 mm/min)
- Tool life = 8 holes
- Cycle time = 2 minutes 31 seconds

