

**APPLICATION SOLUTION: Casting Operation**

**Product Family:** Electric

**Product Used:** Two (2) RSX096 Extreme Force Rod-Style Actuators

**Product Type:** Standard

**Application Requirements:**

**Stroke:** 305 mm (12")

**Acceleration:** 2.5 m/sec<sup>2</sup> (100 in/sec<sup>2</sup>)

**Thrust:** 177 kN peak (40,000 lbf)

**Orientation:** Vertical, Rod End Down

**Application Description:**

Molding operation of an automated sand casting line in a steel foundry.

**Challenge:**

A manufacturer of high-quality castings needed an electric actuator to replace existing high maintenance hydraulic actuators. During regular operation pulling the castings out of the molds required approximately 66 kN (15,000 lbf). However, during a plant shutdown, when a casting was left to cool in the mold, the customer estimated it may require a peak of 177 kN (40,000 lbf) to break the casting out of the mold. The operation of the machine also required any solution to provide equal force while pulling (retracting) or pressing (extending).

**Tolomatic Solution:**

Tolomatic provided two (2) RSX Extreme Force Rod-Style Electric Actuators with high-capacity roller screw technology to meet the peak thrust requirement. Additionally, the RSX actuator's IP65 rating and robust design maximized the actuator's life in the high temperature, dirty foundry environment. The RSX electric actuator provides its rated thrust while extending or retracting, meeting this application's specific requirement. No modification of the standard RSX actuator were needed to meet the extreme requirements of this application.

**Customer Benefit:**

- Each heavy duty, robust electric actuator could achieve peak forces of greater than 89 kN (20,000 lbf) for a total of peak 177 kN (40,000 lbf).
- Eliminated a messy, high maintenance hydraulic system which lowered repair costs and system down time.
- Roller screw technology in the RSX has longer life than the previous hydraulic solution.
- YMH (Your Motor Here) program provided the exact motor mount on the RSX for easy compatibility with customer specified motor/gearhead