

# Paper Pulp Refinement Load Cell

Industry: Manufacturing, CPG

## Summary

### Customer Challenge

Pulp refinement is a critical step in paper manufacturing. An industrial processing facility needs to optimize a multi-stage mixing and filtration process. Sensors are needed for the weighing of the clarifier tank during paper pulp refinement processes, but also to monitor the rake arm during the mixing process. They want to ensure the rotational resistance of the motor as solids build up during the refinement process.

### Interface Solution

Interface suggested using 1200 Standard LowProfile™ Load Cells to weigh the the clarifier tank. Weighing results are sent 9890 Strain Gage, Load Cell, & mV/V Indicator, where the customer can view displayed results in real-time. This allowed the system to measure inventory purely by mass and bypass the inaccuracies of level sensors entirely. For real-time torque monitoring, an Interface T2 Ultra Precision Shaft Style Rotary Torque Transducer was installed directly in-line with the rake arm drive shaft to measure the exact rotational resistance of the motor. Results are tracked in real time when connected to the 9894 Analog Input Process Indicator.

### Results

Using Interface load cells improves process consistency and ensures optimal fiber development, resulting in stronger, more uniform paper. Better force control reduces unnecessary energy consumption and operating costs. Overload monitoring helps extend equipment life and minimize downtime. Overall, the solution enhances efficiency, reliability, and product quality.

## Materials

- T2 Ultra Precision Shaft Style Rotary Torque Transducer
- 1200 Standard LowProfile™ Load Cells
- 9890 Strain Gage, Load Cell, & mV/V Indicator
- 9894 Analog Input Process Indicator
- Customer PC or Laptop

## How It Works

1. The slurry flows into the large clarifier and filtration tank. The 1200 Standard LowProfile™ Load Cells are placed under the legs of the tank, tracking its total weight in real time when connected to the 9890 Strain Gage, Load Cell, & mV/V Indicator.
2. Inside the filtration tank, a central rake arm rotates to separate solids. The T2 Ultra Precision Shaft Style Rotary Torque Transducer measures the rotational resistance of this shaft, signaling if the filter cake gets too thick and risks overloading the motor. Results are tracked in real time when conected to the 9894 Analog Input Process Indicator.

