

The Agitators

Milestone 3

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Functional Decomposition

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1 – FUNCTIONAL DECOMPOSITION

This document outlines the functions and subfunctions that the project will accomplish.

Functions and subfunctions have been broken down to account for all considerations in the design of the agitator torque sensor. This includes both mechanical and electrical considerations. The breakdown of this, using a hierarchical chart, can be found on the following page.

Calculate
power

Speed Running torque Load detection

Starting torque Load detection

Form

Geometry

Material
selection
Agitator Torque Sensor

Enclosure

Electronics
locations

Sensor
placement
Assembly

Modularity

Clearance

Material
agitation

Torque
application

Motor control Safety control

Data logging

Analog to digital conversion

Writing and
storing data

Noise filtering

Time stamping Calibration