# High-level Requirements

1. The system shall be available to deliver insulin when required.

2. The system shall perform reliably and deliver the correct amount of insulin to counteract the current level of blood sugar.

# System Requirements

* Reliable
* Stable
* Fast
* High accuracy
* Safety

## Functional Requirements

1.If the reading is below the safe minimum, no insulin shall be delivered.

2. If the reading is within the safe zone, then insulin is only delivered if the level of sugar is rising and the rate of increase of sugar level is increasing.

3. If the reading is above the recommended level, insulin is delivered unless the level of blood sugar is falling and the rate of decrease of the blood sugar level is increasing.

## Non-Functional Requirements

1. Availability: The pump should have a high level of availability but the nature of diabetes is such that continuous availability is unnecessary

2. Reliability: Intermittent demands for service are made on the system

3. Safety: The key safety requirements are that the operation of the system should never result in a very low level of blood sugar. A fail-safe position is for no insulin to be delivered