

**The Objective:**

A domestic mixer manufacturer required optimization of the cooling system cost without compromising the cooling levels being achieved.

**The Challenges:**

The main challenge was to understand all the factors that can affect the cooling, study the sub systems, and determine which sub systems could be modified without compromising on any of the performance parameters.

**The Solution:**

A new fan design was developed to increase flow rate without changing motor speed. Prototypes were prepared with constant width and straight blades with/without shroud.



Fig1: Old design

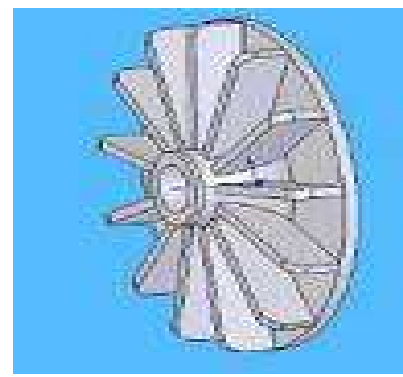
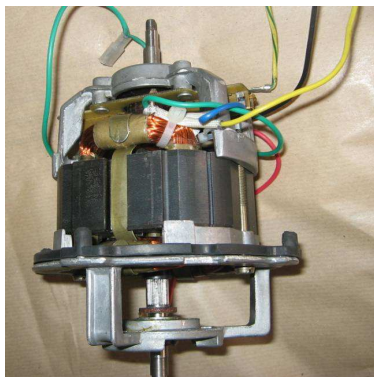


Figure2: New design

**The Outcome:**

Customer could reduce cooling system's cost by 50%. Customer has observed reduction in noise level by 10dB and reduction in temperature by 10°C