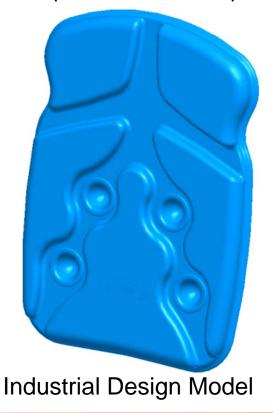
# Bath Tub Spa Consumer Products

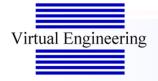
### **Challenge:**

Consumer products customer wanted to market test a portable bath tub spa

#### **Functional Targets:**

- Design and construct a proof of concept model of a new type of portable spa capable of mimicking the jet pressure of permanently installed spa systems.
- Design must be easy to use
- Design must be inexpensive to manufacture





## Bath Tub Spa

### **Consumer Products**

### **Results:**

- Plastic pump design based off commercially available cast iron pump.
- Multiple studies conducted to minimize flexible tubing diameter
- Concept model constructed with specially fabricated open frame universal motor.







