

Electric Motor Test Bench – Bharat Bijlee Ltd.

Objective:

- This product was designed to test quality of motor production at Bharat Bijlee Navi Mumbai manufacturing facility.
- Test motors of different mounting arrangement, frame size, shaft diameter & power can be tested using same bench.

Approach:

- Listed all 15 motors which are to be mounted for testing, classified motors based on mounting arrangement flange mount & base mount.
- Designed a flange on which motors with flange mounting arrangement can be mounted & height adjustable a platform can be used to mount base mount motors.
- Driving motor and torque sensor is mounted on fix structure.

Solution:

- Fixture is designed in such a way that 15 types of motor with different frame size and power can be mounted and tested.
- Few adjustments need to be made to mount different motors upto 0 - 60 N-m torque and 10 HP power.
- Motors with flange mounting arrangement can be mounted using three different ring locator to locate the centre of 7 different motors on mounting bracket.
- Motors with base mounting arrangement can be mounted on height adjustable platform by adjusting T bolts as per motor 7 different motors can be mounted using this arrangement, platform height can be adjusted using accurate scale mounted on platform.

My Role:

- Conceptualization
- CAD & Production drawing GD&T
- Design for Manufacturing & Assembly
- Manufacturing from vendors
- Assembly, Testing, installation at site.

