
DESIGN ENHANCEMENTS ON CHECK WEIGH MACHINE

CONCEPT DESIGN AND EVALUATION FOR WASH DOWN APPLICATION



Client background

Global leader in manufacturing laboratory instruments like balances, pipettes, and pH meters, and they are a pioneer in Automated Chemistry.

Their instruments are used in research, scientific and quality control labs, pharmaceutical, chemical, food and cosmetics industries.

Business Challenge & Requirements

To improve productivity in their legendary equipments they initiated a survey through the end users of their equipments. The major audience were shop operators, supervisors and maintenance teams and after the survey they decided to make enhancements on their equipments .

Srinsoft experts made a detail study and provided the optimized solutions to the client. It was executed through engineering standards and cad tools

Challenge:

Load analysis and real-time animations Have to implement all the survey report recommendations.

Value engineering

Material selection should be within the suggested list.

Handling the Huge cad data through PDM was pretty challenge to us

Solution:

Our experts made a detail study through brain storming and provided the optimized solutions to our clients. It has been executed through engineering standards and cad tools

Results:

The productivity had increased by 5%
Maintenance has been reduced by 50%

A well structured documents and manufacturing details has been produced

New designs had been implemented without disturbing the existing production line

Solutions Provided

a detailed study has been made over the suggestions on survey reports. through brain storming groups several concepts has been suggested to our client and a optimized concepts are approved then forwarded to respective actions

Execution

Parametric conversion

That design changes brings us a lot of work and we have modified all my Components again based on the design changes.

Transportation sheet:

It holds the Requirements of client, there is lot design inputs running in this one page. It differs from client to client. You can get some inputs from here to gear up your design to next level.

Speed in f/m, Products/min, Size of the Product (all the dimensions with tolerances) .unfortunately I can't attach the sheet here it is configured with client server.

Sprocket design (Drive line design)

Before start designing the drive line we read and understand the transportation sheet that will give us the inputs for this Spread sheet. Based on the outputs from the spread sheet, you have to model the sprocket or else you have to select from existing models. The spread sheet has been attached here for your reference.

Guide Rail design:

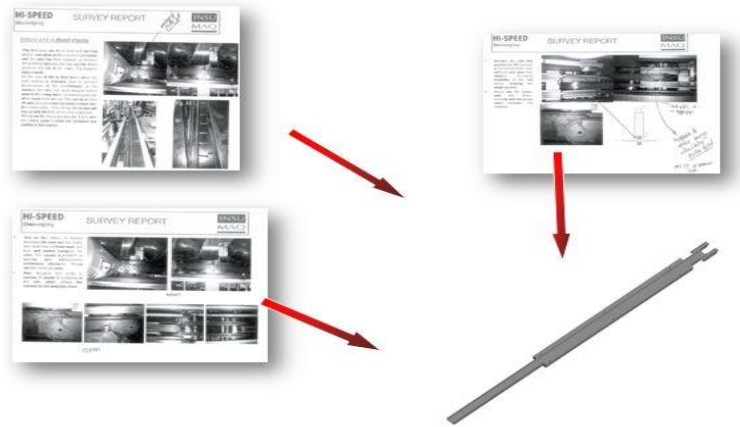
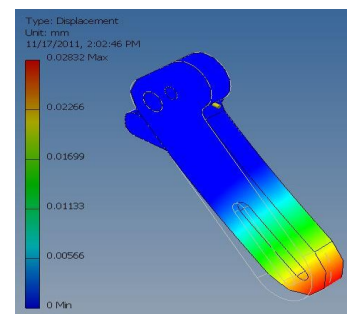
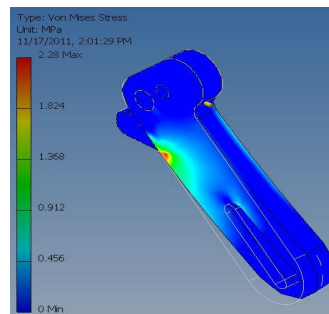
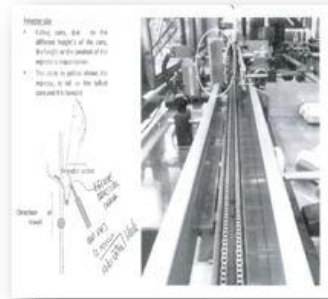
We designed the guide rails through Value guide engineering catalog

Pneumatic regulator selection:

Based on the Stroke length the pneumatic cylinder selection has been made.

Custom Timing screw Design

It designed through the spread sheet which has STD design we used interpolation method.

A 'SYSTEM SPECIFICATION SHEET' table with columns for 'PARAMETER SPECIFICATIONS' and 'TRANSFORMER SPECIFICATIONS'. The table contains various technical specifications and values.

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