Overview of CAD Customization Services from EGS India

EGS Computers India Private Limited
Chennai, Coimbatore & Trichy
www.egs.co.in
Key Benefits of Customization Services from EGS India

- Customization Services by Experienced Mechanical Engineering Team
- Proven Expertise on Design Automation for MCAD Applications
- Application Knowledge in many Industrial Segments
- Dedicated Team of Knowledge Based Engineering Software Development Professionals
- Proven Business model for Technical Support and CRM
Case Study I – Battery Stack Generator

- Proposal Generation in Minutes not days
- Optimization of Material Utilization
- Fool-proof Drawing Generation Process
- Enhanced Design engineer productivity
- Least Cost and Time investment at RFQ Stage
Case Study II – Chain Design Automation

- Excel Integrated Automation based on Standards
- Sales RFQ preparation
- Family of Products integrated in One Database
- Drawings generated in a fraction of a time
Case Study III – Expansion Joint Design

<table>
<thead>
<tr>
<th>Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enquiry Ref</td>
</tr>
<tr>
<td>Project</td>
</tr>
</tbody>
</table>

**Expansion Joint Selection**
- Expansion Joint Type: Single Unrestained

**Bellow Data**
- Part No: 1000
- Material Type: 1
- No. of Piece: 12
- Thickness: 0.7
- Overall Length: 134

**Design Condition**
- Design Pressure: 1034 kPa
- Design Temperature: 50°C
- Axial Compression: 125
- Axial Extension: 100
- Lateral Offset: 50
- Angular Deflection: 30
- Annual Test: No
- Media: Water

**Custom Properties**
- Quantity: 1
- Quotation No.
- Ion No.
- Checked: Yes
- Approved: Yes
- Drawn: Yes
- Drawing No.: 001
- Revision:

**Outputs**
- exe
- exc
- Psc
- Psi
- Pt
- S
- S2
- S3+S4
- Fatigue Life: 100

**Accessories**
- End Connection: Flange
- Range Standard: B16.5 ANSI 150W SOF
- Range Material: B16.5 ANSI 150W SOF
- Pipe Schedule: B16.5 ANSI 150W WNRF
- Pipe Material: B16.5 ANSI 150W WNRF
- Flow Liner: B16.5 ANSI 150W WNRF
- Row Liner Material: BS 5534 DN50 PN10 PP
- External Cover: BS 5534 DN50 PN10 PP
- Hardware Material: BS 5534 DN50 PN10 PP

**Quality Control and Reports**
- Drawing Calculation
- Quality Plan
- ROH-WPG
- WPS
- Material Cert
- Test Cert
- Cut of Origin

**Pressure Converter**
**Temperature Converter**
**Special Instruction**

Calculate
Case Study III Contd...

Excel Integrated Automation based on EJMA Standards

Drawing Generation for RFQ

FEA Analysis Ready Model Generation

Design Calculations embedded in Automation
Case Study IV – Brake Rotor Design
Case Study V – Crane Rope Drum Design

**CRANE DRUM**

<table>
<thead>
<tr>
<th>Inputs</th>
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<tbody>
<tr>
<td>SWL</td>
<td>5000</td>
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<tr>
<td>Class of crane</td>
<td>M1-M5</td>
</tr>
<tr>
<td>Height of lift</td>
<td>5000</td>
</tr>
<tr>
<td>No. of falls</td>
<td>4</td>
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<tr>
<td>Diameter of drum</td>
<td></td>
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</tbody>
</table>

**Calculation outputs**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Rope tension</td>
<td>1312.5</td>
</tr>
<tr>
<td>Factor of safety</td>
<td>5.25</td>
</tr>
<tr>
<td>Breaking strength</td>
<td>890.625</td>
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<tr>
<td>Rope diameter</td>
<td>12</td>
</tr>
<tr>
<td>Diameter of drum (cal)</td>
<td>216</td>
</tr>
<tr>
<td>Diameter of drum</td>
<td>320</td>
</tr>
<tr>
<td>PCD</td>
<td>328.4</td>
</tr>
<tr>
<td>No. of grooves</td>
<td>20</td>
</tr>
<tr>
<td>Landing width</td>
<td>50</td>
</tr>
<tr>
<td>Length of drum</td>
<td>590</td>
</tr>
<tr>
<td>Drum thickness</td>
<td>20</td>
</tr>
<tr>
<td>Flange dia</td>
<td>460</td>
</tr>
<tr>
<td>Flange dia</td>
<td>368</td>
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Case Study VI – Heat Exchanger Design

- Design based on TEMA Standards
- 2D Drawing driven by Excel, Calculations, Equations, Top-Down Design and Configuration
- Fully Automatable Design Framework
- Ready to use model for CFD Simulation
Case Study VI Contd...
Case Study VII – Pump Design Automation

- Integration of Analytical model with 3D Design and 2D Drawing Generation
- Ready to use model for CFD Simulation

![Diagram of pump design with calculations for discharge, speed, head, and other parameters.](image)
Duct Design & Drawing Generation

- Ducting Layout based on 3D Curve in context of Plant Layout
- Sheet Metal Development Drawing with Macros
- BOM Generation
- Custom Table driven approach to automation
Conveyor Design & Automation

- Conveyor Design based on Standards
- Interactive Automation based on User Driven Layout
- BOM Generation
- Configuration based Design
Waterpanel Design Drawing Generation – Rule Based Approach
New Trends in Design Automation

- Knowledge Based Engineering Framework Development
- Integrating Voice of Customer in Design Process
- FEA Simulation Ready Designs
- Integrated approach to 3D CAD, 2D CAD, Manufacturing Process and MRP/ ERP co-ordination
Unique Functionalities

- Automation specialists at EGS India are Mechanical Engineers
- Open, Customizable and Scalable
- Web Integrated Solutions for CRM enabled architecture
- Sales Driven approach to Engineering Design
- Elimination of Design Process bottlenecks for higher efficiency
Recent Milestones

- Power Plant and Equipment Manufacturers invest in Design and Drawing Automation for Power Products
- Cement and Mineral Extraction Plant Integrators use Design, Validation and Drawing Automation solutions for Plant Engineering functions
- Automation of Tool & Die Designs for Automotive sheet metal components
- Design and Drawing Automation for Centrifugal Pumps
- Customization of Enterprise PDM for worldwide usage
- Foundry practice Design Automation for Drawing release
Summary

- Increased Productivity
- Knowledge Re-Use (vital for IPR Benefits)
- Error Elimination
- Faster Turn around time
- Better Utilization of Design Engineers' Time
- Reduced Over all cost of ownership
- Assured Confidentiality

Trusted Support from EGS India Team!

Contact: info@egs.co.in