A fully electric assembly press system with integrated motion control and monitoring.

If you’re not using our technology now, you’re pressing your luck.
Electro-Mechanical Assembly Press

If you need to push, pull, position, monitor and control every aspect of your assembly process, Promess has the solution for you. The Electro-Mechanical Assembly Press (EMAP) System.

The Promess EMAP System combines our servo-controlled ball screw press technology with our multi-axis motion control system to provide a high precision, closed loop press system.

**Key Features of the EMAP:**

- Ball screw design that features dynamic press load capacity 2.5 to 3 times greater than the stated load capacity
- Integrated load cell
- Servo system is sized to reach press load capacity within the continuous current zone of the motor and drive
- Push or pull with equal accuracy
- 360° mounting orientation

**Press Sizes**

<table>
<thead>
<tr>
<th>FORCE (kN)</th>
<th>STROKE (mm)</th>
<th>SPEED (mm/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2</td>
<td>100, 300</td>
<td>200</td>
</tr>
<tr>
<td>1</td>
<td>100, 300</td>
<td>200</td>
</tr>
<tr>
<td>3</td>
<td>100, 300</td>
<td>200</td>
</tr>
<tr>
<td>5</td>
<td>200, 350</td>
<td>200</td>
</tr>
<tr>
<td>8</td>
<td>200, 350, 500</td>
<td>200</td>
</tr>
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<td>12</td>
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<td>200</td>
</tr>
<tr>
<td>20</td>
<td>180, 350, 550</td>
<td>200</td>
</tr>
<tr>
<td>30</td>
<td>180, 350, 550</td>
<td>200</td>
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<tr>
<td>40</td>
<td>330, 660</td>
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<td>330, 660</td>
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<td>80</td>
<td>330, 660</td>
<td>175</td>
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<tr>
<td>100</td>
<td>330, 660</td>
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<tr>
<td>120</td>
<td>330, 660</td>
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<td>300</td>
<td>400</td>
<td>100</td>
</tr>
<tr>
<td>500</td>
<td>400</td>
<td>70</td>
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</tbody>
</table>

* Other sizes, stroke lengths and speeds available
Sample Applications

**Press to Position**
- Press to a programmable position
- Press to external sensor
- Press to torque
- Press to offset

**Press to Shoulder**
- Press to a programmable force
- Press to rate of change
- Gauge and press to shoulder
- Gauge force and position

**Press to External Transducer**
- Press to dimension (external probe)
- Press to flow
- Press to external force
- Press to torque

**Crimping / Staking**
- Crimp to a programmable force
- Crimp to a relative distance from a touch point
- Stake to a dimension
- Single or multiple staking points

**Riveting**
- Upset rivet to a force
- Upset rivet to a position
- Upset rivet to a relative dimension on the part
- Upset rivet to a functionality specification

**Spring Testing**
- Measure spring rate
- Measure spring height at defined force
- Measure spring free height
- Measure spring retention

**Forming**
- Press and hold a constant force
- Press to shape
- Press to position
- Press to thickness

**Bending / Straightening**
- Bend/straighten to an external measure
- Push and pull to bend / straighten
- Gauge and make
- Customized algorithms
Promess software solutions offer a very high level of flexibility allowing our customers to configure the system solution to fit their process requirements.

There are three basic components that make up the Promess software package. The Editor which is used to create the setup and programs, the HMI components for local viewing and the Data Service for collecting and viewing data. These software components can be used individually (remotely or locally) or in conjunction with each other as required.

**Fieldbus Interfaces:**
- EtherNet I/P
- Profibus
- ProfiNet
- ModBus TCP

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**MotionPRO Controller**

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**PLC**

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**Fieldbus or Discrete I/O**

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**MotionPRO Editor Software**
- Setup, programming and debugging

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**MotionPRO HMI Software**
- Simple HMI viewer

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**MotionPRO Data Service Software**
- Process data storage

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**Windows CE HMI**

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**Remote Server**

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**Laptop**

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**Force Signal Cable**

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**Preamplifier**

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**Motor Power Cable**

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**Feedback Cable**

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**Promess Servo Amplifier with Motion Controller**

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**PLC Interface**

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**Ethernet**

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**(Discrete or Fieldbus)**
MotionPRO Editor

Easy menu driven software includes:

- Rapid application development using powerful commands:
  - Motion control
    - Move to position / angle
    - Move to force / torque
    - Move to an external signal
    - Move to a rate of change
    - Move to a compensation factor
  - Data acquisition and signature monitoring
    - Acquire force, position, angle, or sensor versus time or distance
    - Fixed high and low limits
    - Learned signature limits
    - Editable signature limits
    - Gauge force, position, angle, or sensor
    - Pass/fail outputs
- Data storage
- Looping and branching
- Custom commands
- Formulas
  - “Real-time” formula evaluation
- Program debugging aids
- Online and offline editing supported
- Cut and paste
- Editing history logging
- Multi-user access control
- Windows XP, Windows 7/8 compatible

MotionPRO HMI

- Visualization of:
  - Signature curves
  - Gauge values
  - Live force, position, angle, and sensor readings
  - Part status (OK/NOK)
  - Faults and events
- Parameter setting screen
- Manual jogging screen
- Maintenance-free HMI
  - No virus scanners needed
- Complete visualization of one or multiple MotionPROs
- Multiple HMIs may be connected to one MotionPRO simultaneously
- Multilingual
- Windows CE, Windows XP, Windows 7 compatible
MotionPRO Data Service

Promess Database Viewer

- Provides total data recall of signatures and gauge values
- Works with Promess Database produced from any Promess product
- Remote viewing using:
  - Microsoft file sharing
  - Dropbox
  - Microsoft SkyDrive
  - USB drives
- Data recall features:
  - Recall monitored graphs
- Overlaid graphs
- Data filtering

Promess Data Service

- Easy set up
- Process data storage
  - Signature curve
  - Calculated and gauged values
- Server-level software
- Continuous and reliable storage MotionPRO
- Plug-in architecture:
  - Promess database
  - Q-DAS
  - Custom storage solutions
- Works independently of Editor and HMI Software
- Windows XP, Windows 7, Windows 8, Windows Server 2008 compatible
- Serial number tracking

The Company

Promess Incorporated located in Brighton, Michigan, is recognized as a leading U.S. manufacturer of highly adaptive monitoring and motion control systems used by companies around the world to assemble and test the products they produce.

11429 Grand River Road
PO Box 748 • Brighton, MI 48116
810-229-9334 • Fax: 810-229-8125
promessinc.com • promess@promessinc.com

"Cloning the Perfect Part"