High-Speed Weighing

Celtron • Sensortronics • Revere • Tedea-Huntleigh

Brands of VPG Transducers

www.vpgtransducers.com
Build the VPG Advantage into Your High-Speed Weighing Applications

- Shorter settling time
- Faster weighing speeds
- Environmentally sealed and/or wash-down construction
- Stainless steel housing
- Ultra-fast response time
- High resistance to side loads
- Insensitivity to rotary dynamic force
- Ultra high-performance in dynamic weighing
- Multi-axis overload protection
- Mechanical tare load cancelling
- Extended load cell life
- Digital fluid damped load cell
- Fully calibrated and programmable filtered digital output
- Adjustable communication speed
DHS—Dynamic Digital Interface

- Conversion of analog signal to digital data
- Full calibration and filtered digital output
- Link to any analog load cell and fluid-damped load cells
- Perfect solution to improve your weighing process
- Designed for easy installation and calibration in harsh process environments
- Cost-effective solution for your needs
- Guarantees high reliability and accurate production

**DHS Dynamic High-Speed Digital Interface**

- Amplifier
- Digital Filter
- High-speed A/D Converter
- Scaling Linearity
- Temperature Compensation
- Unit Conversion
- Calibration
- Output Formatting
- Control:
  - Digital Inputs
  - Digital Outputs
  - Triggers
  - Setpoints

Digital Outputs
- Setpoints
  - Over/under
  - Coarse
  - Fine

Digital Inputs
- Triggers
  - Zero
  - Tare
  - Start
  - Stop

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## Dynamic Solutions

- VPG Transducers supplies the largest and most comprehensive product line for high-speed weighing
- With over 45 years of experience producing load cells and fluid-damped load cells, we provide the widest solution for dynamic in-motion systems
- Our products accommodate all your demands for filling, batching, and high-speed controlled processes

### 9010 Self-Contained Fluid-Damped Load Cell
- Fluid-damped load cell
- Unique and adjustable tare load-cancelling mechanism
- Highly effective viscous damping
- Built-in overload limit stops
- Fast weighing speed
- IP65 protection
- Aluminum housing, electroless nickel plating (optional stainless steel)

### 1410 Load Cell for Rotary Filling Machines
- Specially designed for use in rotary filling machines
- Short settling time
- High resistance to side loads
- Effective isolation of base vibrations
- Centrifugal forces do not affect accuracy
- Two mounting options

### 240 Fluid-Damped Load Cell
- Painted steel construction (optional stainless steel)
- OIML R60- and NTEP-approved
- Available in metric and UNC threads

### 1430 Damped Load Cell for Rotary Filling Machines
- Stainless steel construction
- Insensitive to rotary dynamic forces
- Single-point performance
- Rotary speed to 13 rpm at 1 m radius
- Sealed wash-down configuration

### 1010/1015 Aluminum Single-Point Load Cell

### 1033 Low-Profile Aluminum Single-Point Load Cell

### 1042 Single-Point Aluminum Load Cell with C6 OIML Approval

### 1510 Hermetically Sealed Single-Point Load Cell

### 1260 Aluminum High-Capacity Single-Point Load Cell

### HPS Hermetically Sealed Single-Point Load Cell

### 1063 Aluminum Single-Point Load Cell
### Digital Solutions
- More features, advantages, and benefits through the line of high-speed fluid-damped load cells
- Combines digital capability with the unique mechanical advantages of analog fluid-damped load cells
- Increase product throughput with simplified control communication
- Advanced control of measurement signals converted to high-precision weighing

#### 9010D Digital Self-Contained Fluid-Damped Load Cell
- Unique adjustable tare load cancelling mechanism
- Highly effective viscous damping
- Built-in positive and negative overload limit stops
- Fully calibrated filtered digital output
- High update rate, up to 1200 updates per second
- Four opto-isolated digital inputs and outputs
- Advance configurable digital filtering
- Safeguard access to calibration data for approved applications
- Reading on request or continuous output
- Extensive diagnostics
- Optional: stainless steel
- Graphic User Interface (GUI) PC application enables easy setup, calibration, and monitoring

#### 240D Digital Fluid-Damped Load Cell
- Fully calibrated and filtered digital output
- High update rate, up to 1200 updates per second
- Checkweigher function—reading acquired over period set by remote sensor trigger
- Four opto-isolated digital inputs and outputs
- Advanced configurable digital filtering
- Safeguard access to calibration data for approved applications
- Reading on request or continuous output
- Visual indication of operating mode and errors
- Extensive diagnostics
- Fluid damped and overload protected
- Graphic User Interface (GUI) PC application enables easy setup, calibration, and monitoring

#### DHS Dynamic High-Speed Digital Interface
- Link to any load cell or analog fluid-damped load cell
- Convert the signal to digital data
- Four opto-isolated digital inputs and outputs
- Advanced configurable digital filtering
- Reading on request or continuous output
- Graphic User Interface (GUI) PC application enables easy setup, calibration, and monitoring
VPG Transducers’ Wide Range of Products Offers Solutions for Your Dynamic Weighing and Precision Control Applications

- Fluid-damped load cell
- 9010 / 240 for high-speed weighing
- 1430 / 1410 for rotary filling machines
- A wide range of load cells (1010, 1033, 1042, 1063, 1260, 1510, HPS) for dynamic applications
- Digital fluid-damped load cells: 9010D / 240D
- Dynamic high-speed digital weighing: DHS

<table>
<thead>
<tr>
<th>Transducer Type</th>
<th>Load Cells</th>
</tr>
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<tbody>
<tr>
<td><strong>Model</strong></td>
<td>1010</td>
</tr>
<tr>
<td><strong>Capacities</strong></td>
<td>3–90 kg</td>
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<tr>
<td><strong>Rated Output (mV/V)</strong></td>
<td>2</td>
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<tr>
<td><strong>Relative Stiffness</strong></td>
<td>RFF (1.0)</td>
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<tr>
<td><strong>Environmental Protection</strong></td>
<td>IP65       (optional IP67)</td>
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<tr>
<td><strong>Safety Overload</strong></td>
<td>150%</td>
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<tr>
<td><strong>External Construction Material</strong></td>
<td>Aluminum</td>
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<tr>
<td><strong>Optional Material</strong></td>
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<tr>
<td><strong>Settling Time</strong></td>
<td>–</td>
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<tr>
<td><strong>Communication Interface</strong></td>
<td>–</td>
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<tr>
<td><strong>Communication Protocol</strong></td>
<td>–</td>
</tr>
<tr>
<td><strong>Applications</strong></td>
<td>✔️</td>
</tr>
</tbody>
</table>

- Batching
- Filling
- Rotary Filling
- High Speed Weighing
## Typical Applications

- Check weighers
- Bottle rotary filling
- Multi-head packaging
- Dynamic batching and weighing
- Batching control
- Packaging, filling, sorting, controlling
- High-speed in-motion weighing
- Rotary filling
- Multi-head combination precise weighing

<table>
<thead>
<tr>
<th>Fluid-Damped Load Cells for Rotary Filling Machines</th>
<th>Analog Fluid-Damped Load Cells</th>
<th>Digital Fluid-Damped Load Cells</th>
<th>Digital Interface</th>
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<tbody>
<tr>
<td>1510, 1430, 1410</td>
<td>240, 9010</td>
<td>240 Digital, 9010 Digital</td>
<td>DHS</td>
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<tr>
<td>100–500 kg</td>
<td>3 kg, 17 lb, 23 lb</td>
<td>10, 20, 30 kg</td>
<td>2–50 kg</td>
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<tr>
<td>2</td>
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<tr>
<td>3.0</td>
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<td>–</td>
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<tr>
<td>150%</td>
<td>Negative 120% Positive 160%</td>
<td>Negative 120% Positive 160%</td>
<td>150%</td>
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<tr>
<td>Stainless steel</td>
<td>Stainless steel</td>
<td>Aluminum</td>
<td>Coated mild steel</td>
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<td>–</td>
<td>–</td>
<td>–</td>
<td>Stainless steel</td>
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<tr>
<td>–</td>
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<td>300 milliseconds</td>
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