



High-speed weight measurement made simple

Dynamic-weighing solutions
for packaging machines








Discover VPG Force Sensors weighing precision and simplicity

High-speed packaging demands exact weight measurement that keeps pace with rapid throughput and maintains accuracy under demanding conditions. VPG Force Sensors empowers you to meet the challenge by delivering dynamic weighing solutions designed for high accuracy, responsive performance, and straightforward integration into your packaging machines.

With more than 50 years of experience in precision sensing, the broadest portfolio of load cells, weight transmitters and other accessories, and industry-leading development capabilities, VPG is the partner of choice for weight measurement for filling, batching, and high-speed controlled processes.

Get the VPG advantage

VPG Force Sensors stands alone in offering weighing performance, integration flexibility, and proven customization tailored to packaging machines.

-  **Broad choice of load cells optimized for packaging** – Wide range of analog and digital load cells
-  **Unique range of fluid-damped load cells** - Enabling faster, more stable readings, sustained high accuracy, and extended sensor life
-  **Embedded electronics** – Selected sensors feature integrated electronics that digitize the sensor output and enable direct fieldbus communication to a PLC, eliminating the need for an external weight transmitter
-  **Reliable real-time data visibility** – Versatile weight transmitters and indicators
-  **Easy installation and servicing** – Complete range of connectivity options, simplified installation, easy changeouts in the field
-  **Customized solutions** – VPG's unmatched R&D and customization services ensure the weighing solution aligns with your mechanical, electrical and installation requirements
-  **Dependable partner for long-term success** – Assured continuity and field serviceability to

Addressing the most demanding packaging applications in varied industries

VPG Force Sensors load cell-based solutions and force sensors are proven to deliver accurate and stable measurement in varied packaging environments, including legal-for-trade applications – wherever dependable real-time weight data is essential for control and throughput.

Supported applications include:

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



Delivering reliable weight data for packaging machine control and responsiveness

Industries that already benefit from VPG weighing solutions for packaging include:



Food and beverage – including high-speed bottling



Cosmetics and skin care products



Consumer and industrial chemical products



Industrial fluids and process liquids

Engineered for fast, reliable weighing in motion

VPG Force Sensors solutions are designed to deliver the high performance and control needed for dependable weighing for packaging.

Key features and capabilities include:

High performance at speed



- Short settling time for stable readings in motion
- Ultra-fast response time for dynamic weighing conditions
- Mechanical damping reduces vibration
- High resistance to side loads
- Insensitivity to rotary dynamic forces and centrifugal effects
- Effective isolation of base vibrations
- Mechanical tare load canceling for accurate net measurement
- Wide capacity range tailored to packaging applications

Easy and flexible integration



- Parallel connection-ready load cells for multi-head configurations
- Custom mounting configurations for straightforward integration
- Programmable calibration and output filtering
- Adjustable communication speed
- Easy integration with PLC-based controllers

Long-lasting reliability



- Multi-axis overload protection for operational resilience
- Mechanical damping to extend sensor life
- Environmentally sealed and wash-down capable construction
- Rugged stainless-steel housing options

Solution examples



Model 1430

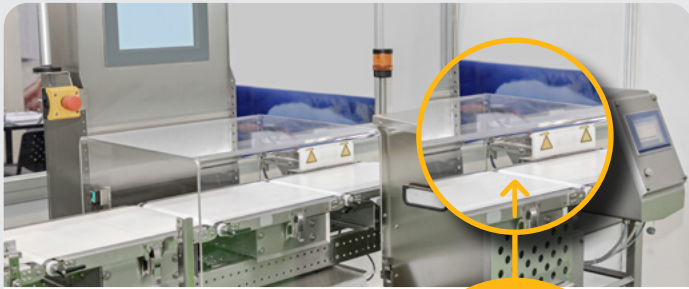
Damped load cell



Rotary filling machine

Load cells are integrated within individual filling stations or load-cell-supported platforms beneath the containers. As each bottle is filled, the load cell measures the applied load in real time, enabling the control system to regulate and stop the fill accurately.

This direct feedback supports consistent fill weights at high rotational speeds, even when product flow conditions vary.



Model 240

Fluid-damped load cell



Check weighing machine

A load cell is installed beneath a dedicated weighing conveyor section, where products are weighed as they pass through at speed. The measured force is converted into digital weight data and evaluated in real time, allowing the system to verify compliance with target weight limits and automatically accept or reject items without interrupting line flow.



Model 1010/1015

Aluminum single-point load cell

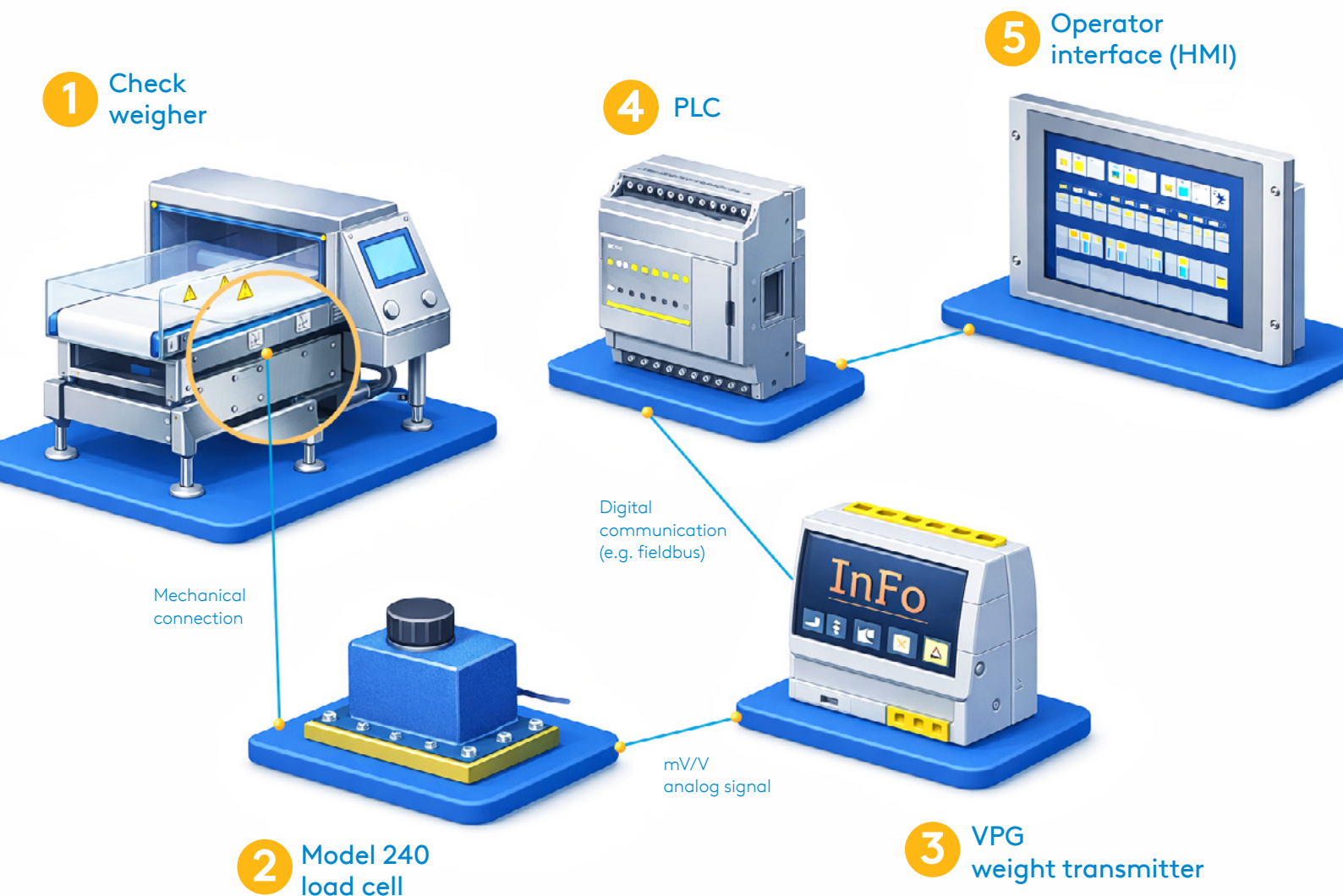


Dynamic weighing

The load cell is integrated into a moving or mechanically active section of the packaging process rather than a fixed weighing belt. Rapid weight changes are captured while products remain in motion, with vibration and mechanical noise filtered out to maintain measurement stability. This approach enables reliable weight data for continuous processes such as dosing, filling, or inline monitoring.

Configuration example – Check weigher

In this check weighing system, the Model 240 fluid-damped load cell is mounted underneath the conveyor support table, measuring the combined load of the belt section and product. The load cell converts the measured force into a stable analog signal proportional to weight, even in the presence of vibration. This signal is transmitted via a wired analog connection to a VPG weight transmitter, where it is digitized and communicated to the PLC using standard industrial communication protocols. The PLC processes weight data for control and decision-making, while the operator interface provides real-time visibility, diagnostics, and system status.



Damped load cells for packaging machines

VPG Force Sensors offers a wide range of load cells suitable for packaging machines, including these damped models. Rugged, stainless-steel construction is designed for any area, from hazardous environments to the food industry. Robust and reliable, VPG damped load cells are designed to deliver high-quality performance day after day, year after year.



Model 9010

Self-contained fluid-damped load cell

Fluid-damped load cell | Unique and adjustable tare | load-canceling mechanism | Highly effective viscous damping | Built-in overload limit stops | Fast weighing speed | IP65 protection | Aluminum housing, electroless nickel plating (optional stainless steel)



Model 1410

Load cell for rotary filling machines

Fluid-damped load cell 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



Model 240

Fluid-damped load cell

Painted steel construction (optional stainless steel) | OIML R60- and NTEP-approved | Available in metric and UNC threads



Model 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

Additional load cells for packaging machines



Model 1010 / 1015
Aluminum single-point load cell



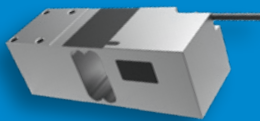
Model 1033
Low-profile aluminum single-point load cell



Model 1042
Single-point aluminum load cell
with C6 OIML approval



Model 1510
Hermetically sealed single-point load cell



Model 1260
Aluminum high-capacity single-point load cell



Model HPS
Hermetically sealed single-point load cell



Model 355
Welded hermetically sealed load cell

High-accuracy weight data, where you need it

VPG Force Sensors' WT Series weight transmitters are quality-engineered versatile devices that convert load cell signals into accurate, real-time weight values, ensuring seamless communication with industrial control systems. Designed for precision and speed, they simplify integration and enhance system reliability, providing outstanding accuracy, performance and reliability wherever it's needed.



Highly accurate and durable instruments

Proven in demanding industrial environments



Versatile connectivity

Support for a wide range of communications and compatible with any PLC



Fast configuration

Quick setup via the VPG VTW Connect configuration



WT-11

Small in size, big in capabilities

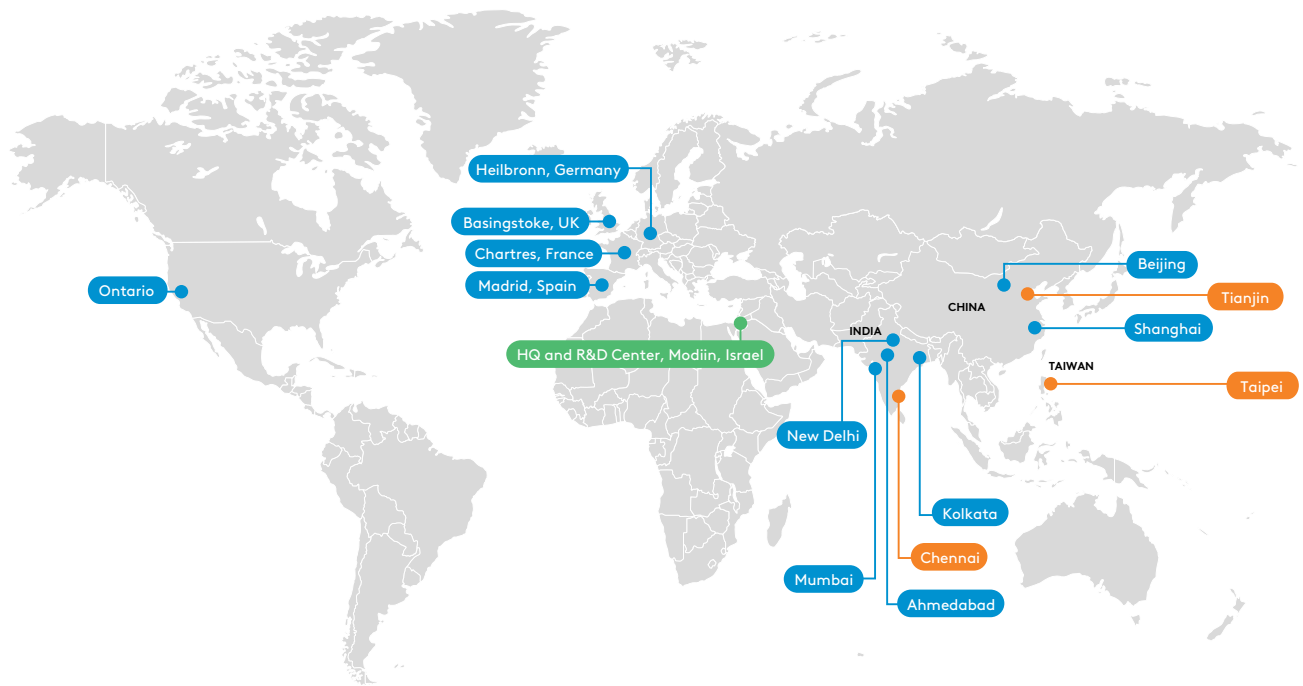
- Ultra-slim, lightweight design for space-constrained applications
- Easy DIN rail installation
- Fast data acquisition & conversion
- Ideal for batching and testing applications
- High-performance A/D converter
- Supports fieldbus and analog output protocols
- PC-based calibration and monitoring



WT-14

High-speed performance for demanding applications

- Ultra-fast data acquisition, conversion and transmission
- PC-based calibration and monitoring
- Versatile configuration
- Built for hazardous areas – Interfaces with safety barriers
- Legal-for-trade available
- Ideal for high-speed filling, check weighing



VPG Force Sensors develops and manufactures the world's most advanced force measurement sensors and solutions, delivering optimal performance and empowering tomorrow's innovations. With our renowned brands, we offer the largest range of load cells, weighing instruments and accessories available from a single-source supplier. Chosen for their high accuracy, uncompromising quality and long-lasting reliability, our products are implemented in millions of machines, devices and systems around the world. Due to our large manufacturing capacity, fast turnaround on orders, high product quality and competitive cost structure, we are a leading load cell supplier to many industries and markets. VPG Force Sensors is part of VPG (Vishay Precision Group), a global leader in precision measurement sensing technologies.



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