

# Process Weighing Technologies

Product Overview



SMART SOLUTIONS FOR  
DEMANDING INDUSTRIES

**BLH NOBEL**

A VPG Brand

## Solutions for the Process Industry

VPG's BLH Nobel designs and manufactures outstanding products, and is a turnkey supplier of weighing and batching solutions for the process industry.

Whether used to weigh fractions of a gram or thousands of tons, our precision weighing systems address every imaginable weight-processing need plant-wide – from quality reactor vessels to ingredient storage bins to clean-in-place batching processes.

## KIS Load Cells

Simple to install, KIS Load cells are easily adapted to special weighing applications. A moveable loading point eliminates the need for stay rods and other expensive mechanical supports, so weighing results are not compromised by thermal expansion of the support structures. In addition, highly accurate KIS load cells can tolerate side-loads up to 100%. This is particularly valuable for applications where structural deflection or wind loads are present and allows process vessels to be weighed while agitated.

## Instrumentation

We offer a complete program of instrumentation, transmitters, and batching units. Our instruments are known for their reliability, user-friendliness, and their ability to communicate easily with factory networks.

## Meeting Your Needs

Because we design both load cells and instrumentation to specific customer requirements, we are able to offer complete solutions to your weighing needs. Our system and application engineers possess the know-how needed to solve intricate weighing problems. We are happy to put our expertise to work for you.

## Batching Processes—Reactors and Process Vessels

BLH Nobel offers batching systems to help maximize product quality, consistency and safety. Our specially developed instrumentation includes over 250 application software packages that can be adapted to meet your needs.

## Process Measurement—Tanks, Silos, and Mixers

Our unique KIS Beam load cell provides accurate measurement in the most demanding process environments. Requirements for simple weight measurement on tanks or stable measurements during mixing are equally well met. Our instrumentation systems are powerful, flexible and user-friendly, and enable easy calibration and set-up.



## Special Weighing Demands

For decades, customers have turned to our experts for special weighing installations. Whether you are interested in converting a crane in a steel mill or developing a weighing system for a pharmaceutical pilot plant, we can provide a solution.

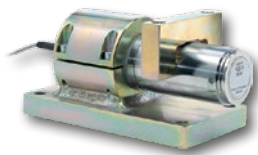
**Weigh Modules**

**Simple installation**  
**Moveable load point**  
**Insensitive to side loads**  
**Extremely accurate**

**Rugged**  
**Degree of protection IP67**  
**All units available in ATEX version**



**KIS-1**



**Combined error:** % of R.O.  $\pm 0.03$   
**Repeatability:** % of R.O. 0.01  
**Overload:** Safe % of R.L. 100 (50 for 300 kN)  
Ultimate % of R.L. 200 (100 for 300 kN)  
**Side Load:** Safe % of R.L. 100 (50 for 300 kN)  
Ultimate % of R.L. 200 (100 for 300 kN)

**Capacities**  
50, 100, 200,  
300, 500 kN

| Request product data sheet number 12308

**KIS-11**

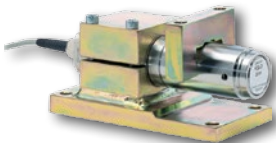


**Combined error:** % of R.O.  $\pm 0.02$   
**Repeatability:** % of R.O. 0.01  
**Overload:** Safe % of R.L. 100  
Ultimate % of R.L. 200  
**Side Load:** Safe % of R.L. 100  
Ultimate % of R.L. 200

**Capacities**  
50 kN

| Request product data sheet number 12314

**KIS-2 and KIS-3**

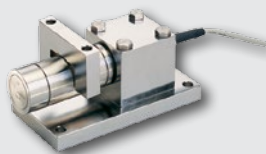


**Combined error:** % of R.O. KIS-3  $\pm 0.02$   
KIS-2  $\pm 0.05$   
**Repeatability:** % of R.O. 0.01  
**Overload:** Safe % of R.L. 100 (50 for 30 kN)  
Ultimate % of R.L. 200 (100 for 30 kN)  
**Side Load:** Safe % of R.L. 100 (50 for 30 kN)  
Ultimate % of R.L. 200 (100 for 30 kN)

**Capacities**  
1, 2, 5, 10,  
20, 30\* kN  
(\*30 kN only  
available on  
KIS-2)

| Request product data sheet number 12309 (KIS-2) and 12310 (KIS-3)

**KIS-8**



**Combined error:** % of R.O.  $\pm 0.075$   
**Repeatability:** % of R.O. 0.02  
**Overload:** Safe % of R.L. 50  
Ultimate % of R.L. 100  
**Side Load:** Ultimate % of R.L. 100

**Capacities**  
1, 2, 5, 10, 20,  
50, 100, 200 kN

| Request product data sheet number 12311

**KIS-9**



**Combined error:** % of R.O.  $\pm 0.1$   
**Repeatability:** % of R.O. 0.02  
**Overload:** Safe % of R.L. 50  
Ultimate % of R.L. 100  
**Side Load:** Ultimate % of R.L. 100

**Capacities**  
5, 10, 20, 50,  
100 kN

| Request product data sheet number 12312

**KIMD-1**



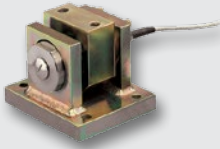
**Combined error:** % of R.O.  $\pm 0.1$   
**Repeatability:** % of R.O. 0.02  
**Overload:** Safe % of R.L. 50  
Ultimate % of R.L. 100

**Capacities**  
500, 800 kN

| Request product data sheet number 12318

## Weigh Modules

### KOM-1



**Combined error:** % of R.O.  $\pm 0.5$   
**Repeatability:** % of R.O. 0.5  
**Overload:** Safe % of R.L. 100  
 Ultimate % of R.L. 200

**Capacities**  
 10, 20, 50, 100,  
 200, 500 kN

| Request product data sheet number 12313

### EconoMount

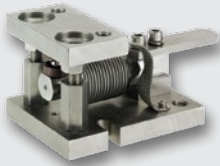


High grade stainless steel construction  
 Overload and uplift safety protection  
 Accommodates process thermal expansion  
 NTEP, OIML, and FM approvals

**Capacities**  
 500, 1.25K,  
 2.5K, 5K,  
 and 10K lb

| Request product data sheet number 12165

### EZ-Mount



High grade stainless steel construction  
 Overload and uplift safety protection  
 Accommodates process thermal expansion  
 NTEP, OIML, and FM approvals

**Capacities**  
 11 to 1.1K lb  
 (5, 10, 20, 50, 100,  
 200, 250, and  
 500 kg)

| Request product data sheet number 12154

### PRO-Mount



Ideally suited for applications with high dead-load to high-load ratios  
 Self-checking design for thermal expansion  
 Load beam sealed to IP67 standards  
 NTEP, OIML, FM, and CSA approvals

**Capacities**  
 10K, 15K, 25K,  
 35K, 50K,  
 and 75K lb

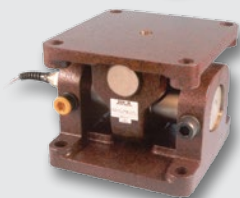
| Request product data sheet number 12153

### KDH Series



Designed for large indoor and outdoor process or silo type vessels, KDH modules meet ANSI and UBC structural requirements for wind load and seismic applications. A floating top plate and yoke arrangement allows each module to accommodate vessel thermal expansion and contraction without measurement errors.

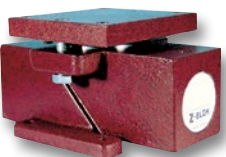
**Capacities**  
 22.5K, 45K,  
 111.5K, 200K,  
 and 300K lb



100% stainless steel construction—KDH-3B  
 Seismic and wind resistant self-checking design  
 0.02% repeatability full scale  
 FM and CSA approvals

| Request product data sheet number 12161 and 12162

### Z-BLOK



Weigh modules with seismic and wind load approvals  
 Inherent structural "overdesign" for ANSI and UBC  
 Double cantilever load beam improves accuracy  
 0.01% repeatability full scale  
 FM and CSA approvals

**Capacities**  
 500, 1K,  
 2K, 5K,  
 10K, 20K,  
 and 50K lb

| Request product data sheet number 12163



**Load Cells**

**KISD-6**



**Combined error:** % of R.O.  $\pm 0.1$   
**Repeatability:** % of R.O. 0.02  
**Overload:** Safe % of R.L. 100  
 Ultimate % of R.L. 200  
**Side Load:** Safe % of R.L. 100  
 Ultimate % of R.L. 200

**Capacities**  
50, 100, 200,  
400, 1000 kN

| Request product data sheet number 12315

**KOSD**



**Combined error:** % of R.O.  $\pm 1$   
**Repeatability:** % of R.O. 0.5  
**Overload:** Safe % of R.L. 100  
 Ultimate % of R.L. 200  
**Side Load:** Safe % of R.L. 100  
 Ultimate % of R.L. 200

**Capacities**  
1000, 2000 kN

| Request product data sheet number 12316

**KOSD-40**



**Combined error:** % of R.O.  $\pm 0.1$   
**Repeatability:** % of R.O. 0.5  
**Overload:** Safe % of R.L. 100  
 Ultimate % of R.L. 200  
**Side Load:** Safe % of R.L. 100  
 Ultimate % of R.L. 200

**Capacities**  
10, 20, 50, 100,  
200, 500 kN

| Request product data sheet number 12317

**U3SB "S" Type**



Constructed with quality nickel plated, alloy tool steel for superior corrosion resistance  
 Stainless steel versions available  
 Sealed to IP67 standards  
 NTEP and FM Approvals

**Capacities**  
50, 100, 150,  
250, 300, 500, 750,  
1K, 1.5K,  
2K, 2.5K, 3K,  
5K, 10K, 15K,  
and 20K lb

| Request product data sheet number 12152 and 12166

**Canister**



Compact, rugged with low deflection  
 Compression, tension, or universal service  
 Sealed to IP67 standards  
 FM and CSA approvals

**Capacities**  
500 to 500K lb

| Request product data sheet numbers 12170, 12171, 12172,  
12173, and 12174

**Floor and Bench Scales**



Platform sizes from 10 inches square to 5 feet x 7 feet  
 Stainless steel versions available  
 Compatible with all BLH Nobel indicators, transmitters, and network products

**Capacities**  
5 to 10K lb

| Request product data sheet number 12175 and 12176

## Load Cells

### KIMD-M



Load cell module for heavy duty application with moveable load point in KIS principle. This load module is designed for harsh environment with high accuracy.

| Request product data sheet number 12340

**Capacities**  
500-1000 kN and  
1500-2000 kN

### CLC

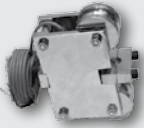


Low profile shear force load cell

| Request product data sheet number 12345

**Capacities**  
25, 50, 100 and 200 ton

### RTT



Rope tension transducer clamp-on module for rope and wire forces measurement

| Request product data sheet number 12339

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### Custom Load Cells



We can design load cells, based on different principles and sizes, to meet your needs.

**Capacities**  
Any

## Load Beams that Serve as Pins, Shafts, and Axles

### KIMD-M



We offer a unique series of load beams for use as axles, pins, and shafts. These cells replace “dead” shafts in bogies, pulleys, and coupling devices, thereby providing live force measurement for crane scales, aircraft/ship wheel bogies, push-pull systems, and other onboard devices.

#### Applications

Crane scale pulley wheels  
Axle replacements in multiple bogey systems  
Load sensing sheave axle pins

#### Beam Features

Stainless steel construction  
Capacities from 10 kN to 2 MN  
IP67 Protection with ATEX Certification available

## Instrumentation

**Developed for process industry**  
**Available for several communication options**  
**Modern design**

**High accuracy**  
**Easy to calibrate**  
**Reliable and user-friendly**

### AST 3P



#### DIN Rail Mounted, High-Performance Transmitter

Analog output  $\pm 10$  VDC, 0 mA to 20 mA or 4 mA to 20 mA  
Serial communications: RS-485 Modbus RTU protocol  
Internal resolution >8000000 counts  
Relay outputs  
Patented A/D converter

| Request product data sheet number 12165

## Instrumentation

### AST 3IS



#### **DIN Rail Mounted, High-Performance Isolation Amplifier**

Designed for applications with strain gage transducers inside hazardous areas and without the need of zener barriers

Data and performance identical to that of AST 3P

| Request product data sheet number 12302

### WST 3P



#### **DIN Rail Mounted, High-Performance Weight Transmitter**

Tare, gross/net and zero function

Fieldbus interface: Profibus DP

Analog output  $\pm 10$  VDC, 0 mA to 20 mA or 4 mA to 20 mA

Serial communications: RS-485 Modbus RTU protocol

Internal resolution >8000000 counts

Relay outputs for level or setpoint control

Patented A/D converter

| Request product data sheet number 12303

### TAD 3



#### **Very Accurate Weight Processor for Panel Mounting**

Excellent connectivity and operator interface

Customized software

Easy set-up via front panel or PC

Comprehensive batching and recipe handling capacity in two versions:

Batching of up to six components in coarse and fine feeding phases; the extended recipe version storing up to 30 recipes, and handling up to 24 activities per recipe

Batching is carried out using separate, digital I/O units. Non-weighing functions such as stirring, heating, and dumping can also be controlled.

| Request product data sheet number 12333

### WIN 3



#### **Weight Indicator**

Housed in a rigid IP65 stainless-steel case

Three different levels can be monitored by relay outputs. Remaining keys are used for simple set-up and calibration of the instrument.

Analog output 0 V to 10 V, 0 mA to 20 mA or 4 mA to 20 mA

Communication via interfaces RS-232 or RS-485

| Request product data sheet number 12305

## PC-Software

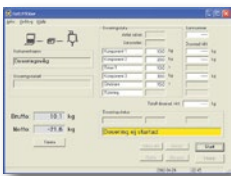
### deltaCOM



Valuable tool for configuration, calibration and servicing of BLH Nobel transmitters, indicators and weight processors  
Works on Windows® based PCs

| Request product data sheet number 12304

### Batchview



A PC-based software package for remote monitoring and control of the BLH Nobel TAD 3 Weight Indicator with optional batching function  
Complete overview of the full batching sequence and setpoints. Allows control of setpoint values start, stop, halt, restart, etc. Save and load batch data from a PC  
Can be customized to meet special requirements

| Request product data sheet number 12306

### Datalogger



Utility program for plotting and logging weight signal over time. Can be used with any BLH Nobel instrument with a Modbus communication and can plot up to 6 curves in one graph, and up to 2000 points (per curve) in each scan  
Scans can be started manually, or triggered on a value

| Request product data sheet number 12307

## Controllers/Indicators

### LCp-104



#### Safe-Weigh® Systems for Quality Critical Applications

Display individual load cell data as weight or percent of load  
Continual, proactive diagnostics assure system performance  
Intuitive digital filtering and multiple analog outputs  
Overload status monitoring of each system load cell  
DeviceNet, Profibus, A-B Remote I/O, or Modbus Plus Interface

| Request product data sheet number 12179

### LCp-100/200



#### Weight Indicator/Controllers

Designed for precise high-speed process weighing applications  
Interface with any PLC, DCS, or PC-based process control system  
A-B Remote I/O, Modbus Plus, Profibus or DeviceNet protocol  
Ultra efficient Plug-n-Weigh® set-up and calibration  
Weight and mass flow measurement with setpoint control (200)

| Request product data sheet number 12180 and 12181

### G4



#### Multi-Vessel Weigh System Controller

Measure, monitor, and control up to 8 vessels simultaneously  
Synchronization of measured channels (vessels)  
Vibrant graphical user interface (GUI)  
High speed performance (300 updates / second)  
Expandable I/O capability

| Request product data sheet number 12207 (Panel Mount) and 12208 (Rail Mount)



**Transmitters**

DXp-40



**High Resolution Weight Transmitter**

Individually digitized load cell data for superior system accuracy  
 Continuous diagnostics of system performance  
 Keypad calibration eliminates expensive deadweight calibration  
 Optional dynamic digital filtering rejects process "noise"  
 Interfaces include Modbus RTU and A-B Remote I/O  
 Web tension measurement version available

| Request product data sheet number 12177

DXp-10/15



**Blind Weight Transmitters**

Microprocessor-based "blind" weight transmitters  
 Integral summing junction circuit for multi-cell applications  
 50,000 count (DXp-15) or 20,000 count (DXp-10) resolution  
 A-B Remote I/O or Modbus RTU interface available (DXp-15)  
 Standard NEMA 4/4X enclosure for harsh environments

| Request product data sheet number 12178

PS-1040/45/50



**Weight Transmitters**

Panel or DIN rail mount configurations  
 Push button configuration and calibration  
 Ten-point load cell linearization  
 0 VDC to 10 VDC or 4 mA to 20 mA isolated analog output  
 Peak hold measurement feature  
 Keypad entry or dead load calibration  
 Selectable/adjustable digital filtering  
 Serial communication with Modbus RTU protocol

| Request product data sheet number 12156 and 12157

PS-2010W

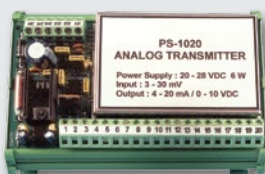


**Transmitter/Controller**

Compact, full function weight indicator  
 DIN rail mount capability  
 700,000 count resolution; 8 millisecond sample rate  
 Dynamic digital filtering with online diagnostics  
 Eight open collector setpoint outputs with main and dribble operation  
 High speed—120 updates-per-second  
 4 mA to 20 mA current output  
 24 VDC version available

| Request product data sheet number 12186

PS-1020



**Analog Transmitter**

Complete load cell signal conditioner  
 Precise 10 VDC excitation supply for up to four load cells  
 Selectable 0 VDC to 5 VDC, 0 VDC to 10 VDC, or 4 mA to 20 mA analog output  
 Independent zero and span adjustments  
 DIN rail "Snap Track" mounting  
 Adjustable analog filtering  
 Integral load cell summing

| Request product data sheet number 12158

## Calibrators

### FSk-40



#### Complete Field Service Kit

Start-up, commissioning, routine servicing, and calibration of process weighing systems can be simplified significantly using the FSk-40 Service and Calibration Kit. This complete kit is equipped with a four-channel load cell instrument, an instrument calibrator, a serial communication module, operation and servicing manuals, and a set of 10-foot remote connection cables. The entire assembly is housed in a rugged, portable suitcase with shock mounting.

| Request product data sheet number 12191

### Model LCc-II



#### Load Cell Calibrator

For indication and calibration of up to 10 load cells  
Ten registers with 10-point linearization curves each  
Quick Cal, 10-point dead load, or data sheet calibration/each register  
Peak and valley storage capability for each register

| Request product data sheet number 12185

### Model 325



#### Precision Calibrators

Compact, rugged construction for cal lab or plant floor service  
Model 625: five ranges, 56 calibration points, 0.05% accuracy  
Model 325: eight ranges, three bridge impedance selections, vernier  
Model 125 Pocket Calibrator: palm sized, four selectable ranges

| Request product data sheet number 12190

## Accessories

### Load Cell Tester 1006



A load cell tester with calibration and diagnostic functions

### GATE 3S



Communication link between local network for transferring weight, force or servo data over external networks (field buses) to PCs or PLCs

| Request product data sheet number 12300

## Accessories

PS-121



Power Supply

| Request product data sheet number 12155

SL-4



The junction box allows fast and easy connection of many transducers to a single weighing instrument.

| Request product data sheet number 12321

SL-5



Rugged summing junction box, built for harsh environment. Easy connection to load cell tester model 1006 for testing of individual transducer, calibration, service and diagnostic.

| Request product data sheet number 12342

RD 10 Display



RD 10 is a compact, digit-for-digit, high visibility remote display. The large LED display (57 mm digits) and wide viewing angle contribute to ease of reading at long distances.

| Request product data sheet number 12346

## Services

Support



### Application Support and Field Service

BLH Nobel Application Engineers are the best in the business. With over 50 years of accumulated process industry knowledge and experience, our Application Engineers profile and model your system before you buy it. After installation, our Field Service Engineers fine tune it for maximum dynamic performance and repeatability to meet your expectations. The Field Engineering group provides on-site startup, calibration, and service 24 hours a day, 7 days a week, anywhere in the world.

Our service engineers are equipped and trained to perform a wide range of calibration procedures. Available service contracts offer a turn-key calibration program that includes full computer generated documentation of results and traceability of methods and equipment.

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## Contact

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