

Smart Integration of Weighing

Extreme Accuracy,
More Reliability,
Easy Calibration & Fast Maintenance.



Tank, Reactor and Silo Scales

BAYKON
Industrial Weighing Systems





Is a Tank Weighing System only Implementing Load cell in your Process ?

The accuracy and reliability of a tank /reactor / silo scales are determined by a combination of several factors, including weighing indicator, load cells, mechanical design, mounting hardware and environmental influences. Accurate measurement, especially batching, dosing or filling processes require high quality system configuration.

BAYKON tank scale components provide best performance for your weighing systems by increasing the accuracy, reliability, easy calibration and minimized service. Having a high quality tank scale, including precision components and supplier know-how, minimizes your cost due to eliminating weighing and processing problems, and increasing your production quality.

The selected weigh module affects the accuracy and safety of a tank scale system which must be considered during the design stage. If a scale will be subject to wind, seismic, or shock loading, you might need to be more careful at your component selection. Contact BAYKON experienced sales engineers to design your hardware.



			
<p>Versatile Weighing</p> <ul style="list-style-type: none"> • Stand alone silo, tank, vessel scales, • Fieldbus integration for weighing in process, • Accurate and reliable dosing, batching, blending, filling, discharging. • Inventory control etc. • Reliable Level measurement. 	<p>Smart Operation</p> <ul style="list-style-type: none"> • Intelligent and high speed weighing indicators and terminals, • Intelligent filling & discharging algorithms, • Accurate & reliable weigh modules, • High speed & accurate measurement. 	<p>Advanced Technology & Performance</p> <ul style="list-style-type: none"> • High speed real time processing, • Extremely high conversion rate, up to 1600 conversion per second, • 1000 times higher processing resolution than scale increment, • Freely programmable terminals with up to digital 32 In / 32 Out. 	<p>Integration & Connectivity</p> <p>Real time communication</p> <ul style="list-style-type: none"> • Ethernet TCP/IP, USB, RS-232C, RS-485, • Profibus, Profinet, Modbus RTU, Modbus TCP, EtherNet/IP, EtherCAT, CANopen, CC-Link, CC-Link IE, Powerlink, • DIN rail digital I/O unit for easy cabling in the cabinet, • Cloud connection, Industry 4.0.

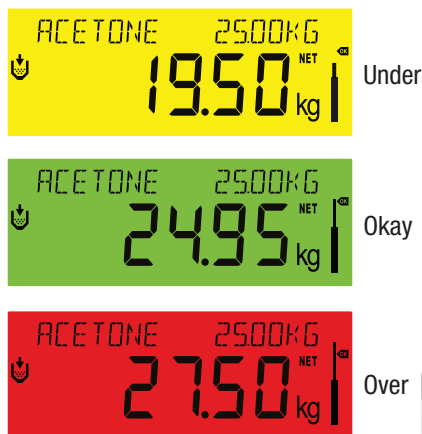
High accurate and reliable weighing terminals for tank weighing with BAYKON technology & know-how.

With its advanced and intelligent electronic technologies, Baykon weighing electronics meet all your requirements from basic to the most complex tank weighing applications. Integration of Baykon instruments to the factory automation system - like a PC / PLC / Scada etc. - is very simple! And today's world, Ethernet port on the instrument should be, and can not be even an option!

SmartAPP^R

This a special function helps the operator to follow the steps of the weighing process on the display.

Guiding the operator with color change



Easy & flexible calibration

All Baykon weighing indicators and terminals have eCAL electronic calibration method; adjustment without test weights provides big advantage especially for heavy capacity tank and silo scales having loading difficulties. Span calibration of loaded tanks which cannot be emptied.

Fast and effective service

Scale history log and remote service are only some advantages of Baykon electronics for easy and effective service.

Communication and Integration;

Powerful communication, fieldbus interface and easy system integration functions. Even if you don't need it today, it will be easy to modernize your production in the future with these optional features.

Wide range of weighing instruments;

Contact Baykon to offer you the best instrument from a wide range of products, from basic electronics to complex weighing terminals.

What is the weighing accuracy;

The high resolution indication does not mean high accurate weighing. The scale accuracy might be very low even at very high resolution weight displaying. Select high accurate and reliable weighing electronic to eliminate the weighing error coming from electronic instrument. BAYKON weighing indicators with their start of art futures provide perfect results at tank weighing applications to get best performance.



Accurate and reliable tank weighing requires professional designed and produced Weigh Modules with know-how.

With its advanced and intelligent electronic technologies, Baykon weighing instruments meet all your requirements from basic to the most complex tank weighing applications. Integration of Baykon instruments to the factory automation system - like e PC / PLC / Scada etc. - is very simple!

And today's world, Ethernet port on the instrument should be, and can not be even an option!

Horizontal movement protection

Mounting hardwares have protection to prevent vessel horizontal movement and tipping.

Wide product range

You can easily select the most convenient weighing mount hardware for your application. Various load receiving variants maintains proper force transmission for accurate weighing, against vibration, thermal expansion and shock loading.

Lift of at wind protection

Overturn protection of outside tanks and silos from wind and lift of protection of the in-house tanks.

Load cell free mechanical installation

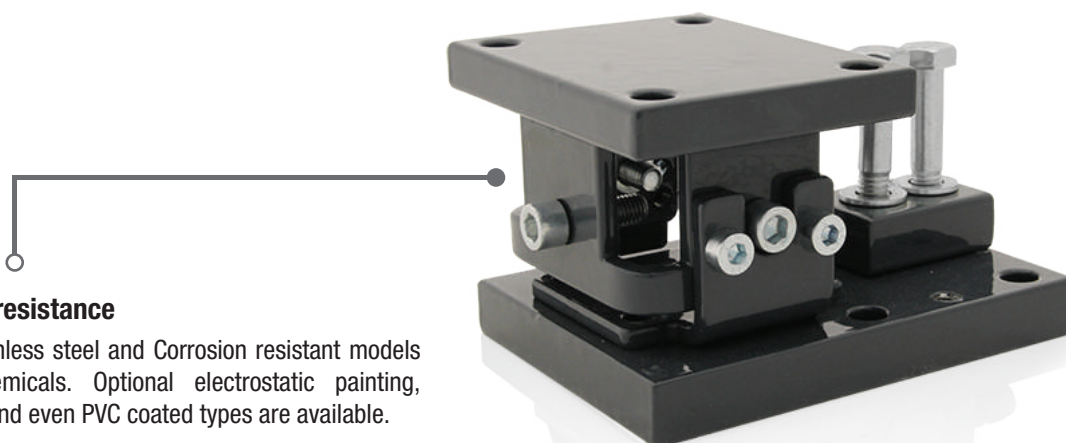
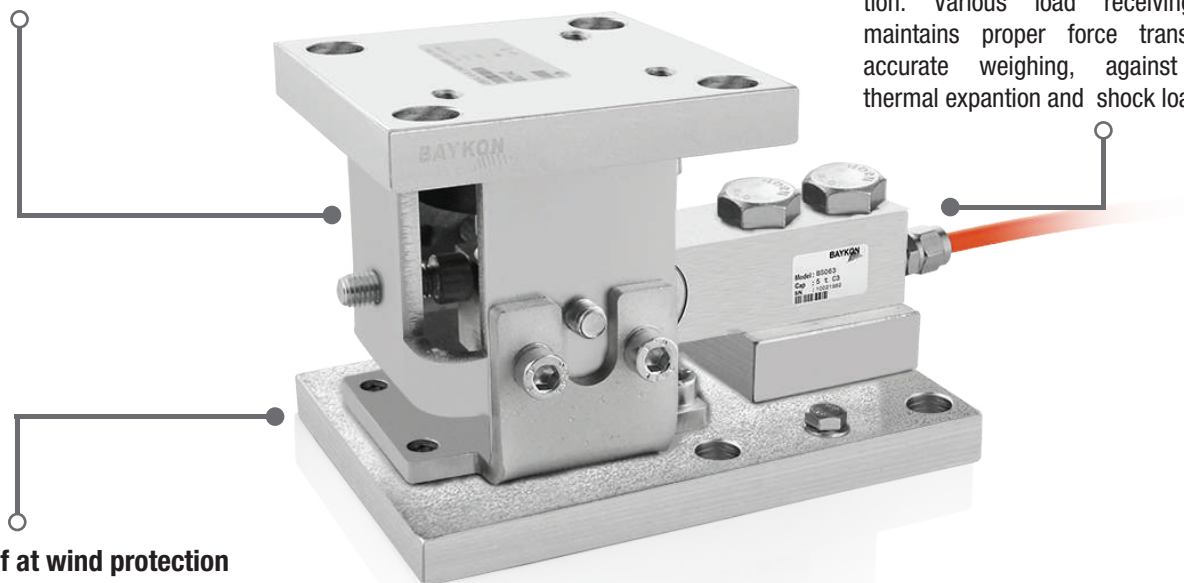
Mechanical installation can be done without load cells. Load cell assembling at start up do not require any jack.

Corrosion resistance

Various Stainless steel and Corrosion resistant models against chemicals. Optional electrostatic painting, galvanized and even PVC coated types are available.

When Sanitary is vital

Always, there is the most convenient solution for your application. Call Baykon to get the suggestion of the experienced sales engineer including mounting hardware selection to minimize sanitary risks, vibration and wind affects, and to increase accuracy and reliability of the weighing system. Baykon solutions meet or exceeds the global standards.



Would you like to have more reliable tank weighing system, Fully Digital Weighing System ?



BAYKON has a wide range of digital load cells which meets highest standards in various industries. All digital load cells are set up accurately at production process to get extremely high performance in the usage.



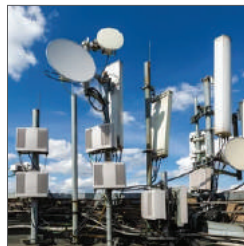
Better Performance

Digital load cells are digitally compensated for high performance with filtering and increased electrical immunity with a microcontroller in each load cell.



Prevents the Wrong Measurement.

Weighing system stops the operation in case of any detected malfunction by the weighing terminal. No any wrong weighing because of load cell malfunction.



Eliminated Spoiling Influences

Safety operation under Temperature & Voltage variations, Radio and Electromagnetic effects are minimized.



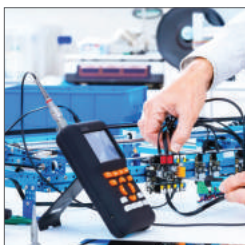
Heavy-duty Interfacing

The measured weight value do not affect from the water concentration at junction points and from damage of the cable.



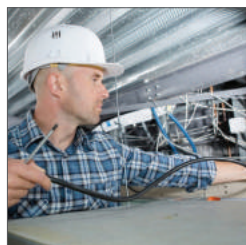
Advanced Features

The systems equipped with digital load cells have additional features due to digital technology in the load cell.



Electronic Calibration

No corner adjustment with resistances. Recalibration not required on indicator, cable or Junction box replacements and thanks to the digital interface technology.



Lowest Service Costs

Easy and quick fault finding, detects problems and simplifies service After load cell change, use without re-calibration for non-legal for trade scales.



Preventing Fraud & Cheating

Very difficult to cheat through secure digital BLDC RS 485 communication.



Lightning & Surge Voltage Protection

LPK24 and LPK24D Lightning Protection Kits increase the system immunity against surge.



Rust & Corrosion

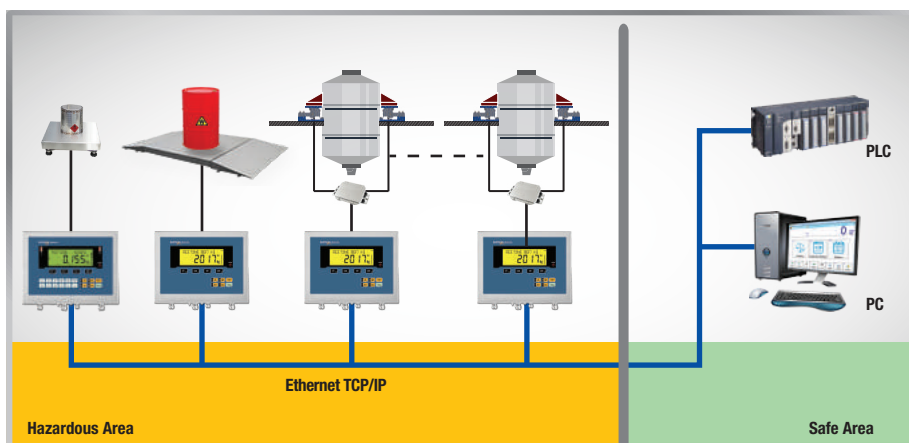
The fully welded stainless steel structure, hermetically sealed and IP68 protection class provides you long term reliability.

Explosive areas need special consideration, but scale performance need not be compromised.

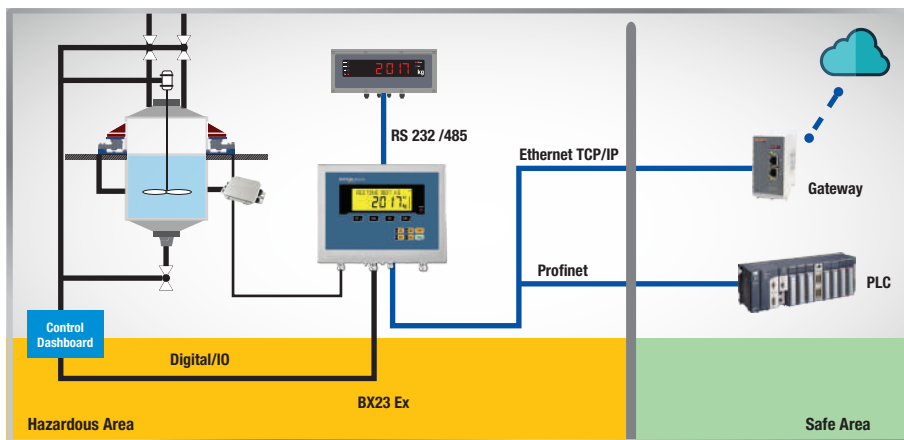
Baykon explosive area weighing equipment provide high speed process control for automated processes, multiple scale and ERP integration. You can select weighing electronics, load cells and junction box together with weighing module to configure ATEX or IECEx approved weighing system delivering safety and best accuracy.

Choose from a wide range of compact, bench, floor and custom scales as well as approved load cells, terminals and the best weighing module. Your selection should be convenient for your processing needs in the future investment.

Below you will find typical tank scale applications in production process.



Interfacing the weighing equipments in the hazardous area













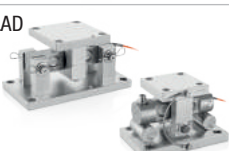
Process control of the vessel in the hazardous area







2 in one; tank and bench scale connected together to BX25. No need a second weighing indicator to add additives into your reactor. Direct Ethernet TCP/IP, Fieldbus connection and Analogue output for PLC/Scada Integration.







Tank, Silo Weighing Applications & Mounting Kits

Application Type	Precision tank, reactor and vessel weighing	Accurate tank, reactor and vessel weighing	Low Accurate tank and vessel weighing	Level measurement of storage tank and silo
				
System Accuracy %FS	0.015 to 0.03	0.03 to 0.05	0.05 to 0.10	Greater than 0.1
Load cell accuracy	C6 , C5, C4, C3 OIML	C3, C2 OIML or non-OIML	C3, C2, C1 OIML or GP	C3, C2, C1 or GP
Dummy load cell	None	None	None	Preferable only for liquid and gas
Vibration	Not recommended	depend on scale design	Up to weigh module limits	Up to weigh module limits
Air current and Wind	Indoor applications	depend on scale design	Up to weigh module limits	Up to weigh module limits
Calibration technic	Test weight and material substitution	Test weight and material substitution, eCAL (Plus) with Geo adjust		eCAL (Plus)
Mounting Kits				
		Load cell capacity : From 25 kg to 5000 kg Loading direction : Tension Protections : Against breaking Material : Galvanized steel, painted steel or stainless steel		
	Load cell capacity : From 10 kg to 500 kg Loading direction : Tension (T type) / Comparison (C type) Protections : Over load, anti-lift Material : Galvanized steel, painted steel or stainless steel			
		Load cell capacity : From 100 kg to 5000 kg Loading direction : Comparison Protections : Anti-lift Material : Galvanized steel, painted steel or stainless steel		
		Load cell capacity : From 100 kg to 5000 kg Loading direction : Comparison Protections : Over load, anti-lift, Material : Galvanized steel, painted steel or stainless steel		
	Load cell capacity : From 100 kg to 5000 kg Loading direction : Comparison, self-centering Protections : Over load, anti-lift, horizontal movement by bumpers Material : Galvanized steel, painted steel or stainless steel			
	Load cell capacity : From 1000 kg to 50000 kg Loading direction : Comparison Protections : Anti-lift, horizontal movement, vibration absorber limited horizontal displacement at earthquake. Material : Galvanized steel, painted steel or stainless steel			
		Load cell capacity : From 1000 kg to 50000 kg Loading direction : Comparison Protections : Over load, anti-lift, horizontal movement Material : Galvanized steel, painted steel or stainless steel		

Instruments

	Weighing Transmitters	BX10 / BX11 / BX13 Weighing terminals	BX23 / BX25 Weighing terminals	BX30 / 30 Plus / BX30 Fill Weighing terminals
				
Application type	Reactor, tank, silo weighing with PC and PLC interfacing. Level measurement	Tank, hopper, silo, conveyor systems, batching, filling.	Tank, hopper, silo, conveyor systems, batching, filling.	Tank, hopper, silo, conveyor systems, batching, filling.
Accuracy	< 0.05 % TX11 and TX12 < 0.02% others	< 0.01%	< 0.01%	< 0.01%
Load cell type	Analogue load cells	Analogue load cells	Analogue and digital load cells	Analogue and digital load cells
Analogue output	TX11, TX12 and TX13	optional	optional	optional
Interfaces	Std: RS232C, RS485 Fieldbus: TX2, TX4, MCS08 Ethernet: TX2, TX4, MCS08	Std: 2 x RS232C, RS485, Ethernet TCP/IP, USB Opt.: Fieldbus, Digital I/O	Std: 2 x RS232C, RS485, Ethernet TCP/IP, USB Opt.: Fieldbus, Digital I/O	Std: 2 x RS232C, RS485, Ethernet TCP/IP, USB Opt.: Fieldbus, Digital I/O
Cloud communication	NA	NA	IIoT (optional)	NA

Load Cells

	S Type	Beam Type	Ring Type	Column Type
				
Type	Analogue load cells	Analogue and digital load cells	Analogue and digital load cells	Analogue and digital load cells
Loading direction	Tension	Compression	Compression	Compression
Accuracy	GP, C3, C6	GP, C3, C6	GP, C3, C5, C6	GP, C3, C4, C5, C6
Capacity	5 kg - 1000 kg	20 kg - 10 tons	5 ton - 250 tons	7,5 ton - 400 tons
Material	Al, Nickel plated steel, Stainless steel.	Nickel plated steel, Stainless steel.	Nickel plated steel, Stainless steel.	Nickel plated steel, Stainless steel.

(Specifications are subject to change without notice. 01 - 07 / 2022)