



Accurately Weighing Africa



CONCRETE AXLE WEIGHING WEIGHBRIDGE

(WB-AC)

Corrosion Free Precision

WBAC-24-01

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WB 80T CONCRETE AXLE WEIGHER (WB-AC)

Discover the unparalleled range of truck weighing solutions offered by Sasco, from multi-deck to single deck and weigh-in-motion products.

When choosing the optimal truck weighing solution, factors such as budget considerations, the need for axle and total weights, available space, truck length, daily weight volume, required maximum axle loadings, deck strength, level of automation, and the possibility of unmanned weighbridges all come into play.

Sasco's extensive product line up ensures that the perfect solution, which are all powered by European manufactured weighing indicators, align seamlessly with specific requirements. In terms of single deck weighbridge solutions Sasco has six options:

	SAS-Bridge WB-SB	WB-LP	WB-AW	WB-PT	WB-AC	WB-HD
Total Accuracy	±99.95%	±99.95%	±99.98%	±99.98%	±99.98%	±99.98%
Deck Type	WB80 LP	WB80 LP	WB80 T	SPT Portable	Concrete	WB120 T
Lengths	6, 12, 18, 24m	6, 12, 18, 24, 30m	6, 12, 18, 24m	12, 18, 21m	6, 12, 18, 24m	6, 12, 18, 24m
Width	3m	3m	3m	3m	3m	3m
Deck Construction	Steel	Steel	Steel	Steel	Concrete	Steel
Deck Plate Thickness	8mm	8mm	10mm	10mm	n/a	12mm
Total Capacity	80T	80T	80T	50T, 60T, 80T	80T	120T
Axle Loadings	9T	9T	18T	10T	25T	25T
Colour	Yellow	Yellow	Lego Blue	Red	n/a	Green
Volume Daily Weighing's	<=60 p.d.	<=60 p.d.	<=120 p.d.	<=120 p.d.	No limit	No limit
Indicator	DD700	DD1015	DD1015	DD1015	DD1015	DD1015
Load Cells	Sasco S16	Sasco S16	CPD or S500	CPD	CPD or S500	CPD
System	Analogue	Digitised	Digital	Digital	Digital	Digital
Software	SasPro	ProWeigh	ProWeigh	ProWeigh	ProWeigh	ProWeigh
Axle Weighing Functionality	No	Yes	Yes	No	Yes	Yes
Lightning & Surge Protection	No	Yes	Yes	No	Yes	Yes
Installation	Pit or above ground	Pit or above ground	Pit or above ground	Portable	Pit	Pit or above ground

In addition to these six single deck weighbridges Sasco has a range of Multideck Weighbridges and Weigh-in-Motion solutions.

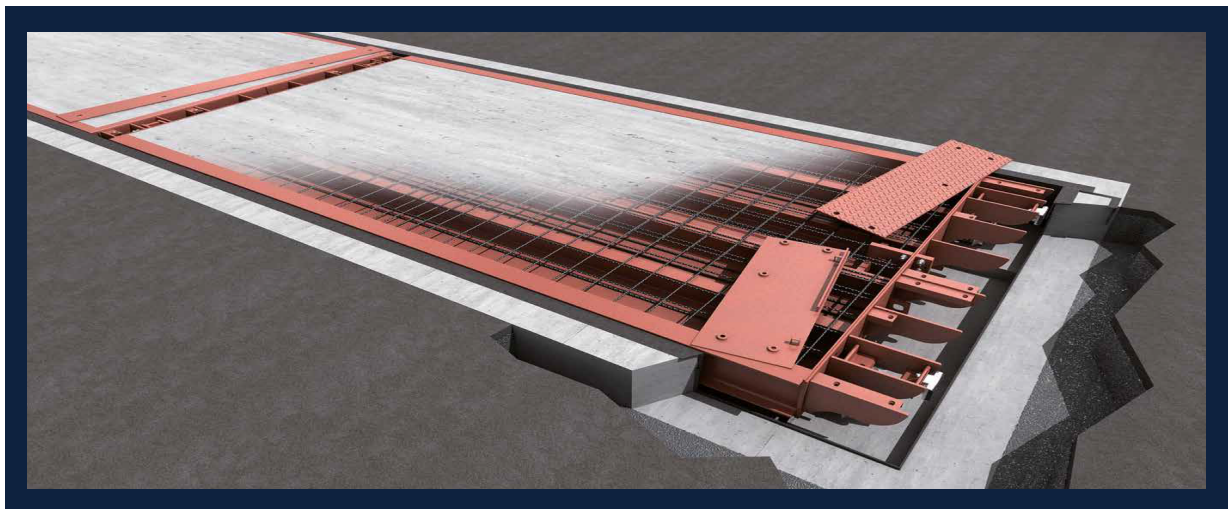
WB-AC Product Overview

In scenarios characterized by both extensive exposure to rust and high vehicular traffic, where both total weight trade weighing and compliant axle weighing are imperative, the WB-AC stands out as the optimal solution. This advanced system facilitates highly precise digital total weight trade weighing and ensures compliant axle weighing is efficiently executed.

When coupled with Sasco ProWeigh+ software, the WB-AC not only ensures fully compliant axle weighing but also offers a range of operational features. These include weighbridge automation, seamless integration of weighing data with user IT systems, and robust cloud and networking data capabilities.

Concrete weighbridges offer several advantages:

- 1. Corrosion Resistance:** Concrete decks are particularly suitable for installations near the sea, effectively mitigating issues related to rust corrosion.
- 2. Longevity:** Concrete decks generally outlast their steel counterparts, especially in abrasive environments such as quarries and mines. The wear and tear experienced by checkered steel plates, particularly in high-traffic areas, are minimized.
- 3. Low Maintenance:** Concrete decks require less maintenance compared to steel decks. They eliminate the need for repainting and are less prone to surface wear commonly observed in steel decks.
- 4. Traction in Adverse Conditions:** Concrete decks provide superior traction in wet or slippery weather conditions, unlike steel decks that can be dangerously slippery even in light rain. The combination of rain and truck-related oil can create hazardous surfaces on steel decks.
- 5. Load Distribution:** Due to their design, concrete decks have a natural tendency to distribute loads more evenly across a wider area compared to steel decks.
- 6. Stability:** The substantial weight and mass of a concrete deck contribute to minimal movement, reducing wear on steel components such as links, stands, and load supports. This inherent stability enhances the overall durability and reliability of the concrete weighbridge.



Sasco DD1015 Indicator



- Diagnostic system.
- Automation device management.
- Dual core 1GHZ
- 512 Mbyte RAM and 1 GByte Flash
- Ethernet 10/100MBps
- 4 USB Ports
- 3 x RS232/RS422
- 2 x RS232/RS422 Optio Isolated
- Connect to 12 analogue load cells
- Connect to 16 digital load cells
- OIML and NTEP Approved

The DD1015 weighing indicator, designed and manufactured in Europe, boasts not only OIML approval but also multiple additional European certifications.

Setting it apart from other solutions on the market and proving pivotal for weighing applications in Africa, this indicator is equipped with comprehensive temperature compensation, ensuring the system maintains its accuracy even amidst significant temperature fluctuations.

Sasco CPD Load Cells

The Bilanciai CPD load cell has earned a reputation as one of the premier weighbridge load cells globally, owing to its unique and unparalleled features. Notably, it boasts the capability to be submerged, withstand side loads and inclinations without sustaining damage, and incorporates rodent protection cabling.

Crafted with A17-4PH Stainless Steel casing, it ensures durability and resilience. Additionally, the load cell is equipped with built-in lightning protection, continuous diagnostics, and the innovative ability to have calibration settings reverse-calibrated, minimizing downtime. These distinctive attributes collectively make the Bilanciai CPD load cell exceptionally reliable, robust, and precise, setting a standard for excellence in load cell technology.

The CPD load cells are characterized by the following specifications:		
	Accuracy Class	C3 (OIML R60)
	Rated Capacity	20t, 35t, 50t
	OIML R60 intervals	Max 6000
	Safe Overload	150% F.S.
	Safe Side Load	10%
	Ultimate Overload	200% F.S.
	Op. Temperature	-10~40 °C
	Ability To Incline	Yes to 5 degrees
	Transmission Protocol	RS485
	Supply Voltage	7~15 VDC
	Housing Material	A17-4PH Stainless Steel
	Rating	IP 68/ 69K
	Type	Digital
	Continuous Diagnostics	(A) Yes
	In built lightning protection	(A) Yes
	Radio Interference Protection	(A) Yes
	Reverse calibration	(A) Yes
	Rodent protection cables	(B) Yes
Submersible	(C) Yes	

Option II: Sasco S500 Load Cells

The S500 load cells, specifically the S500 model, boast several advantages that contribute to their accuracy and ease of use. Being a double shear load cell enhances its precision in measuring forces. The construction of the load cell incorporates a steel ball to apply force, effectively nullifying any side forces that could compromise accuracy.

Unlike canister-type load cells, the S500 load cell remains unaffected by issues such as tilting, expansion, contraction, or bending of the deck, ensuring consistent and reliable measurements. One notable convenience is the ease of installation, simplifying the process for users. Overall, the S500 load cells, with their double shear design and robust construction, stand out as accurate and user-friendly tools for weighbridge applications.

The S500 load cells are characterized by the following specifications:

	Accuracy Class	C3 (OIML R60)
	Rated Capacity	30t
	OIML R60 intervals	3000
	Safe Overload	150% F.S.
	Safe Side Load	N/A
	Ultimate Overload	300% F.S.
	Op. Temperature	-35~65 °C
	Ability To Incline	N/A
	Transmission Protocol	RS485
	Supply Voltage	7~15 VDC
	Housing Material	Nickel Plated Alloy Steel
	Rating	IP 68
	Type	Analogue
	Continuous Diagnostics	No
	In built lightning protection	No
	Radio Interference Protection	No
	Reverse calibration	No
Rodent protection cables	No	
Submersible	No	

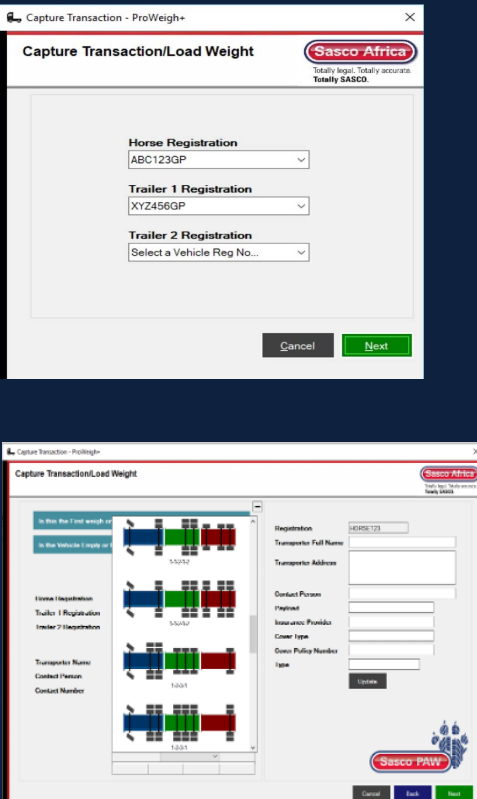
Sasco Proweigh Software

Launched in September 2009, ProWeigh+ V1.0 aimed to provide a cost-effective off-the-shelf software solution, utilizing a modular building block approach for seamless functionality expansion. Since its inception, ProWeigh+ has undergone substantial developments, enhancing its functionality while maintaining its inherent simplicity.

The latest iteration, ProWeigh V5.0 stands as a testament to this evolution, meeting the diverse needs of customers and even surprising those initially considering bespoke solutions with its flexibility and functionality.

Developed incrementally over a decade from the original platform, ProWeigh V5.0 is a proven and stable software solution. This is underscored by the widespread adoption of licenses across key sectors of the African economy, reflecting its reliability and performance.


A practical weighing solution is one that weighbridge operators find easy to use, and ProWeigh+ epitomizes this concept.



- Wide range of definable fields.
- Purchasing and Product module.
- Fleet database module.
- Ticket emailing module.
- Axle weighing reporting module.
- Country specific overloading setup.
- SOLAS container module.
- Definable overloading % tolerances.
- Specific definable User rights.
- Full audit trail.
- Microsoft Sequel database.
- Online Accredited Operator Training.
- Option of ERP or Cloud interfacing.
- Option of adding automation hardware management module.
- Developed and supported by Sasco.

With over 1000 installations across multiple African countries, Sasco ProWeigh+ has established itself as arguably Africa's most popular weighing software today. Its widespread use across diverse industries underscores its reputation for reliability, user-friendly operation, and adaptability to evolving weighing needs.

The Weighing Ticket

THIS DOCUMENTATION IS COMPLIANT WITH THE NATIONAL ROAD TRAFFIC AMENDMENT ACT, 64 OF 2008					
		WEIGHBRIDGE TICKET SLIP			
		Horse Registration	VEHICLE		
		Weighbridge Name	Road train weighbridge2		
		Company Name	Assmang Blackrock Mine Operation		
		Site Name	****		
Product				*** COPY ***	
TICKET NUMBER	SMS00000019		TICKET DATE	2022/09/02 13:47	
VEHICLE DETAILS					
Registration Number	VEHICLE	TRAILER123	TRAILER456		
Type	****	****	****		
Operator	Private	****	****		
Contact Person	****	****	****		
Insurance Provider	****	****	****		
Cover Type	****	****	****		
Policy Number	****	****	****		
TRADE WEIGHING DETAILS					
<u>First Weigh Details</u>		<u>Second Weigh Details</u>		<u>Weigh Calculations</u>	
Weight (kg)	21,000	Weight (kg)	56,000	NETT Weight (kg)	35,000
Date Time	2022/09/02 13:43	Date Time	2022/09/02 13:46	Product NETT (kg)	35,000
Operator	sa	Operator	sa	Total Difference	35,000
				Total Cost	0.00
LOADING DETAILS					
Axle Groups	Actual (kg)	Permissible (kg)	Difference (kg)		
Group 1	7,600	7,700	-100		
Group 2	16,000	18,000	-2,000		
Group 3	16,000	18,000	-2,000		
Group 4	16,400	18,000	-1,600		
TOTALS	56,000	61,700	-5,700	Speed	0.00 km/h
CONSIGNEE DETAILS					
Consignee Code	Address				
Consignee Name					
Document Number	ROA0000000002				
Document Type	Sales	Contact Name	****		
Document Weight	0	Contact Number	****		
CONSIGNOR DETAILS					
Consignor Name	Assmang Blackrock Mine Operation	Contact Name	****		
Address	****	Contact Number	****		

The system requirements for ProWeigh+ are:

- CPU : Intel Core i5 (8th generation or newer)
- RAM : 8GB or Higher
- Storage: 500GB or more
- Network: Ethernet and WiFi
- Operating System: Windows 10 or 11
- Printer: A4 printer

Application Example

Company N is a logistics port terminal operator, based in a container port. The company specializes in the import and export of containers. The volumes of traffic are significant, rust corrosion is a major problem as is flooding.

Imported goods arrive by sea in containers. These containers are brought into the Company's terminal from the ships and then re loaded onto trucks which carry these containers across Southern Africa.

Export containers are brought into the Company's terminal from all over Southern Africa. These containers are off loaded and re loaded on trucks for the short distance to the ships.

Included in the services Company N must offer are SOLAS weighing for inbound export containers, and axle weighing for outbound imported containers. All weighing data must also be fully integrated with the Company's ERP system.

All documentation carried by the trucks has fully details of the container cargoes and this data is also recorded in the form of a bar code.

The WB-AC, combined with ProWeigh+, will be the optimal solution and would be configured as follows:

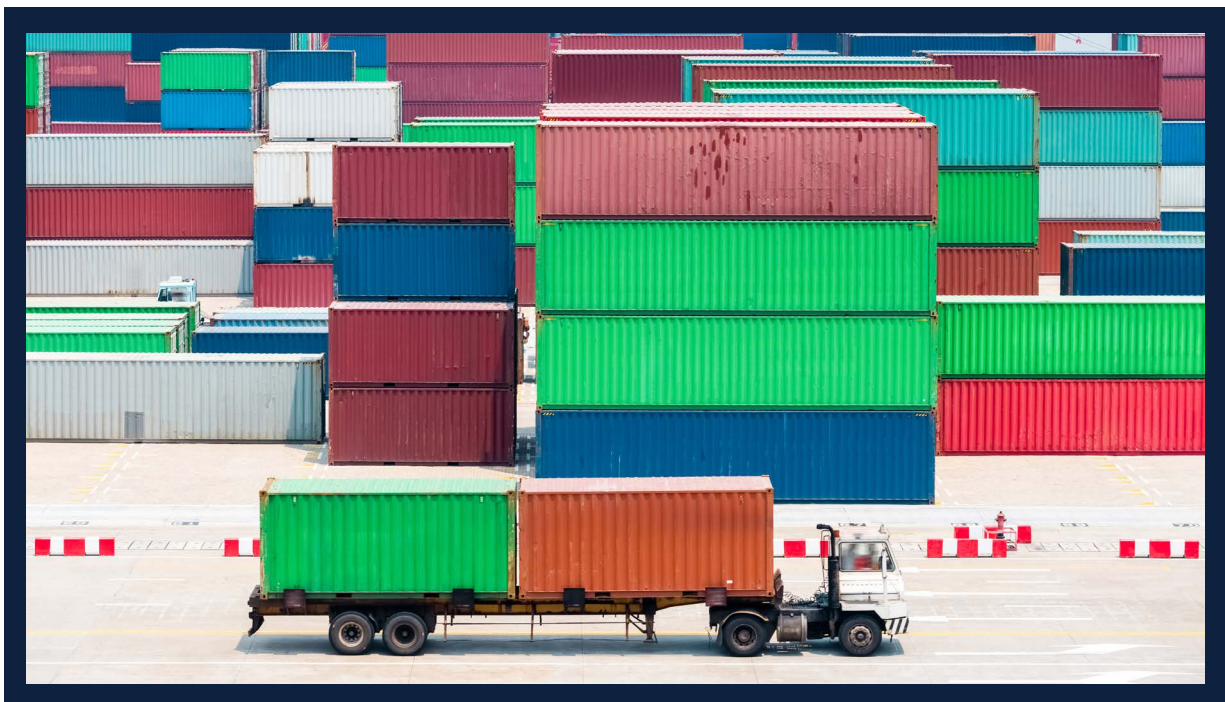
- One WB-AC weighbridges, with CPD load cells will be installed.
- ProWeigh+ will be loaded on the PC's located in the Weighbridge Operators office. The PC will be networked to the DD1010 indicator and the Company's ERP system. A printer and bar code scanner will be connected to the PC.
- The ERP interfacing functionality of ProWeigh+ will also be activated and the weighbridge PC will be configured to the customer network.
- Tare weighing functionality will be activated in ProWeigh+. To enable this to work correctly all transporter vehicle details will be loaded on the ProWeigh+ Fleet Manager data file. This information will include horse and trailer tares.

For trucks carrying IMPORTED containers out of the facility, for onward transportation to destinations in Southern Africa, the weighing procedure will be:

- The truck and trailer will drive onto the weighbridge.
- The Operator will enter the horse and trailer registrations. ProWeigh+ will access the Fleet Manager file and extract the horse and trailer data and using this data will do the permissible axle computations.
- The driver will pass the Operator documentation, which will be scanned.
- The Operator will then weigh, print the weighing ticket, and give this to the truck driver. All data will be immediately transmitted to the Company's ERP system.
- The weighing ticket generated will comply fully with the requirements of the Road Traffic Act in terms of axle loading.

For trucks carrying containers for EXPORT, into the facility, for export by sea, the weighing procedure will be:

- The truck and trailer will drive onto the weighbridge.
- The Operator will enter the horse and trailer registrations. ProWeigh+ will access the Fleet Manager file and extract the horse and trailer data and using this data will do the tare weight computation.
- The driver will pass the Operator documentation, which will be scanned. This information will comprise all the container related information required to generate a SOLAS weighing ticket
- The Operator will then weigh, print the weighing ticket, and give this to the truck driver. All data will be immediately transmitted to the Company's ERP system.
- The weighing ticket generated will comply fully with the requirements of SOLAS.

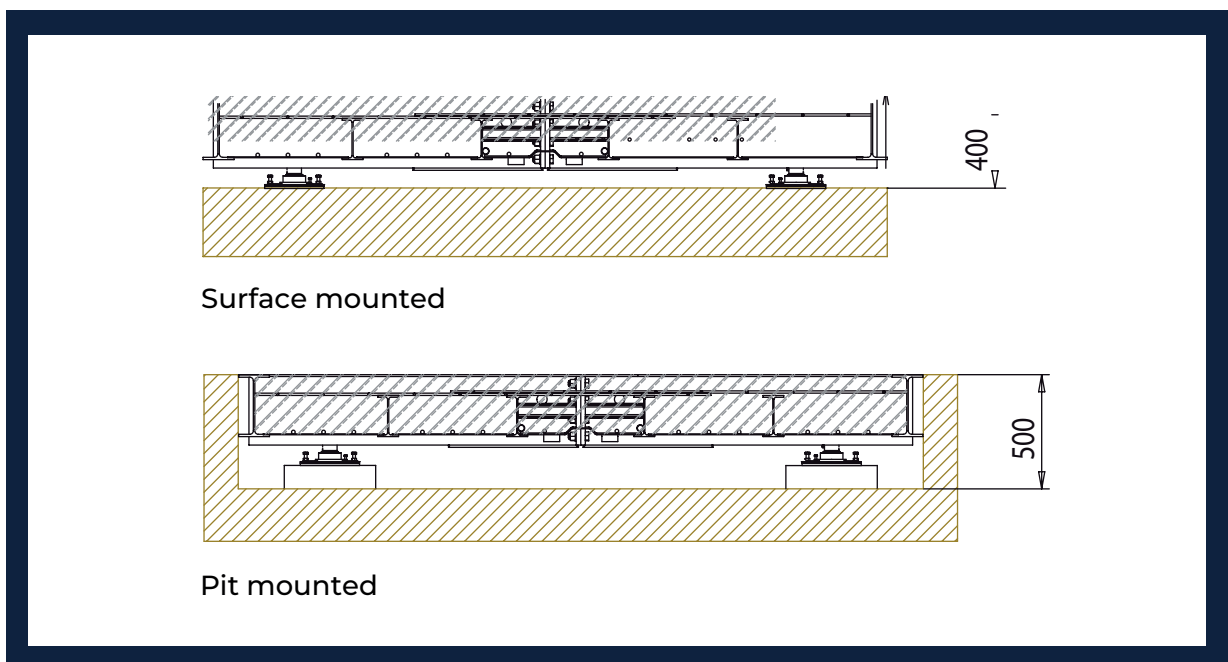


Cement Application Specifications

The cement application specifications are normally:

- Cement mix should be 4.5 quintals/ cubic meter.
- Continuous particle size with aggregate of approximately 35mm.
- Water cement ratio of 0.5
- Additional cement fiber mix at a rate of 1kg / cubic meter.
- Surface of cast concrete should be dusted with spheroidal quartz 1mm in diameter at rate of 1kg per cubic meter.
- The casting of the weighbridge surface should be raised in the center by 1cm to create a convex surface for water run-off.

Installation



Technical Specifications

	SCPD Load Cells	S500 Load Cells
Total Accuracy	±99.95%	±99.95%
Axle Weighing Accuracy	±97.50%	±97.50%
Installation	Above ground or pit	Above ground or pit
Deck Width	3m	3m
Deck Length	24m	24m
Number of Modules	One	One
Indicator	One - DD1010	One - DD1010
Indicator IP Rating	IP 48	IP 48
Load Cells	Ten - CPD	Ten - S500
Load Cell IP Rating	IP68	IP68
Dlink Required	No	Yes
Maximum Total Weigh	80 tons	80 tons
Maximum Axle Weigh 200 W.P.D	25 tons	25 tons
Reverse Calibration	Yes	Yes
Temperature Compensation	Yes	Yes
Maximum Number of Axle Groups	Unlimited	Unlimited
Total Weight Generated	Yes	Yes
Axle Weights Generated	Yes	Yes
RTA Compliant Ticket	Yes	Yes
SOLAS Weighing	Yes	Yes
Double or Single Weighing	Yes	Yes
Manned or Unmanned	Manned	Manned
PC Required	Yes	Yes
Option of Automation	Yes	Yes
Option of Unmanned	Yes	Yes
Option of Centralization	Yes	Yes
Direct IT Systems Interfacing Possible	Yes	Yes
Cloud Interfacing Possible	Yes	Yes
Pre- Loading of Fleet Possible	Yes	Yes
Deck Warranty	6 Years	6 Years
Instrumentation Warranty	12 months	12 months
Trade Approval	Yes	Yes

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