Sasco Africa

Accurately Weighing Africa

sanas Verification Laboratory

LTF0070

ROAD WEIGH-IN MOTION

(WIM-SA/PW/UM)

Affordable High Volume Axle Weighing

SASCO WEIGHING SYSTEMS

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The **WEIGH-IN MOTION WIMBRIDGE** is an important product within Sasco's range of Truck Weighing solutions. Other products within Sasco's truck weighing range which offer a similar solution, include multi deck weighbridges, group axle weighers and weigh pads.

The Wimbridge is the optimal solution for enabling full compliance with overloading regultions while also providing for the total integration of weighing data generated with user IT systems. The Wimbridge is cost effective, compact, accurate, and has powerful cloud and networking data capabilities.

PRO-WIM flush mounted deck is just 2.9 SQM

Product Overview

The Wimbridge comprises a steel deck of approximately 3 sqm. which is mounted flush in the ground. The concrete civil works around the deck are therefore straight forward but it is important the approaches to the Wimbridge are of a hard surface and are level. The Wimbridge is robust and can accommodate axle loadings of up to 30T per axle which is exceptionally strong.

Vehicles of any length can be weighed on the Wimbridge and this is done in motion at a speed not exceeding 5 kmph. Once the weighing is completed, vehicle total weight and group axle weights data will be generated.

Under normal operating conditions, the weighing performance of the Wimbridge has been validated through formal metrological testing to be as follows:

APPROACH SPEED	PERCENTAGE ERROR ON TOTAL WEIGHT	PERCENTAGE ERROR ON AXLE GROUP
3 Kmph	< 1 %	< 2.5 %
5 Kmph	± 1 %	< 2.5 %

Instrument Options

The Wimbridge comes with three instrumentation options:

WIM-SA

The WIM-SA is ideal for User's who do not plan to do high volumes of weighing. The WIM-SA is a manned system.

The indicator is the SW 1000 which comprises an indicator, printer and rechargeable battery, all are enclosed in a hard plastic case and the indicator and printer is powered by a durable rechargeable battery. The print format is total weight and each axle group weight.

The SW 1000 is simply plugged into the Wimbridge when weighing's are required. The SW 1000 provides for the manual down loading of weighing data stored on the SW 1000. The configurations of the horse and trailer must be selected manually on the indicator prior to weighing.

WIM-PW

The WIM-PW is a manned system and is ideal for Users who plan to do high volume weigh, and wish to have the possibility of integrating all weighing data generated directly into IT systems or cloud based reporting. The WIM-PW is a manned system.

The weighing integrator is the SW 2000 which operates in conjunction with a PC loaded with Sasco ProWim V4.1. The WIM-PW can accommodate the inclusion of a range of peripheral automation devices, such as bar code and QR code scanners, cameras and traffic lights, as well as the option of pre-loading horse and trailer fleet configurations within the software's fleet database.

Instrument Options

WIM-UM

The WIM-UM is a unmanned version of the WIM-PW and is suitable for Users who have sophisticated IT systems and plan to do a high volume of weighing's with a high degree of data integration between the User's systems and the WIM-UM. The WIM-UM is a un-manned system.

The weighing and systems integrator is the SW 3000 which operates in conjunction with Sasco ProWim V5.1. The horse and trailer registrations and axle configurations are obtained by the SW 3000 reading dispatch or delivery QR codes, in either paper or electronic form, presented by the driver on arrival at the WIM-UM.

On completion of the weighing process all horse and trailer details, User reference numbers and all weighing data is transmitted via the Sasco Cloud to the User's IT system.

SASCO WEIGHING SYSTEMS

SW3000

Software and Data Integration

The software and data integration options are as follows:

WIM-SA

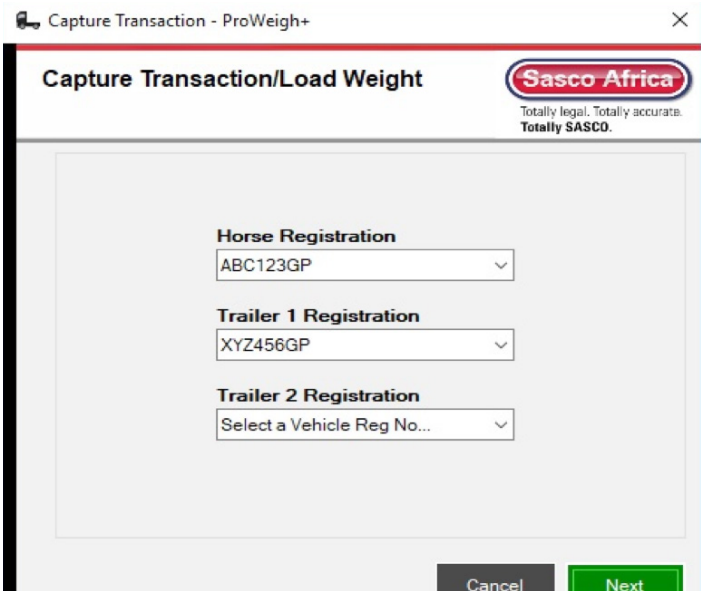
The **WIM-SA** is a stand-alone system and offers limited data integration options.

WIM-PW

The **WIM-PW** runs on Sasco Proweigh V4.1 software and offers the functionality of seamless data integration, either directly or via the Sasco Cloud.

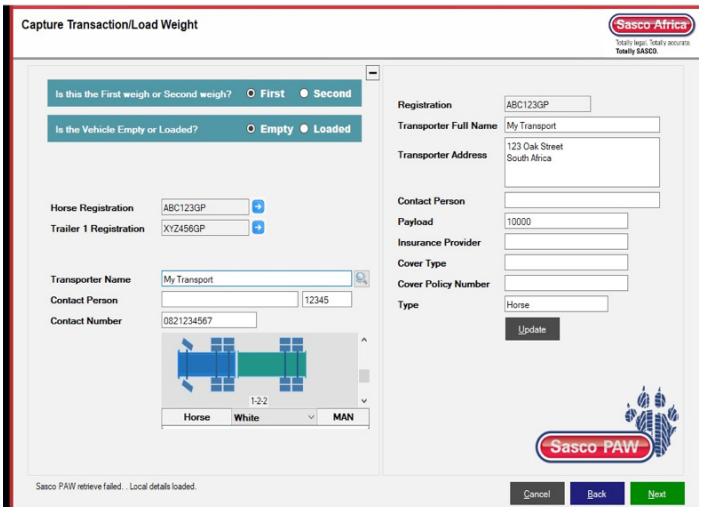
Software and Data Integration

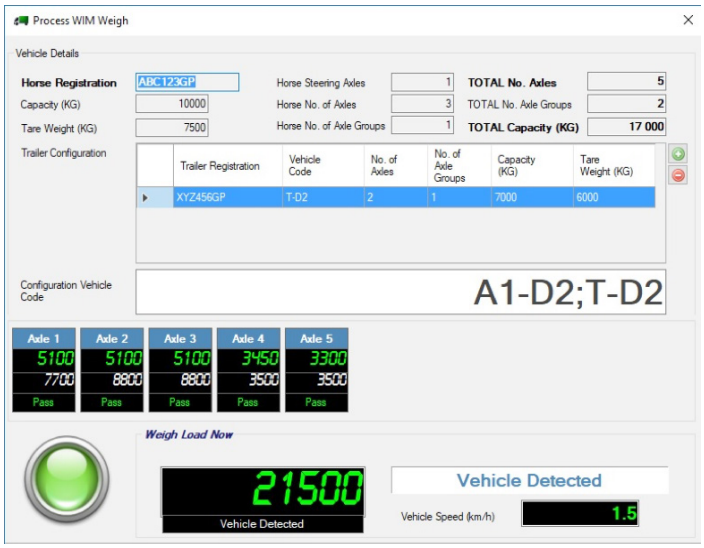
The weighing sequence to be followed by the Wimbridge Operator is as follows:



First action: Capture the registrations of the horse and trailer units. This must be inputted on the PC, key board or if Barcodes or QR Codes are being used these must be scanned.

Second action: For units that are pre-loaded on the Fleet Master file in ProWeigh, confirm the configuration picture that is generated. If not on the Fleet Manager database, select the right configuration picture from the menu.





Third action: Once the weighing process is complete, print the weighing ticket. If ProWeigh is set up to integrate with the User's IT system or Sasco Cloud, all the relevant weighing information will also be immediately transmitted electronically to this data destination.

Software and Data Integration

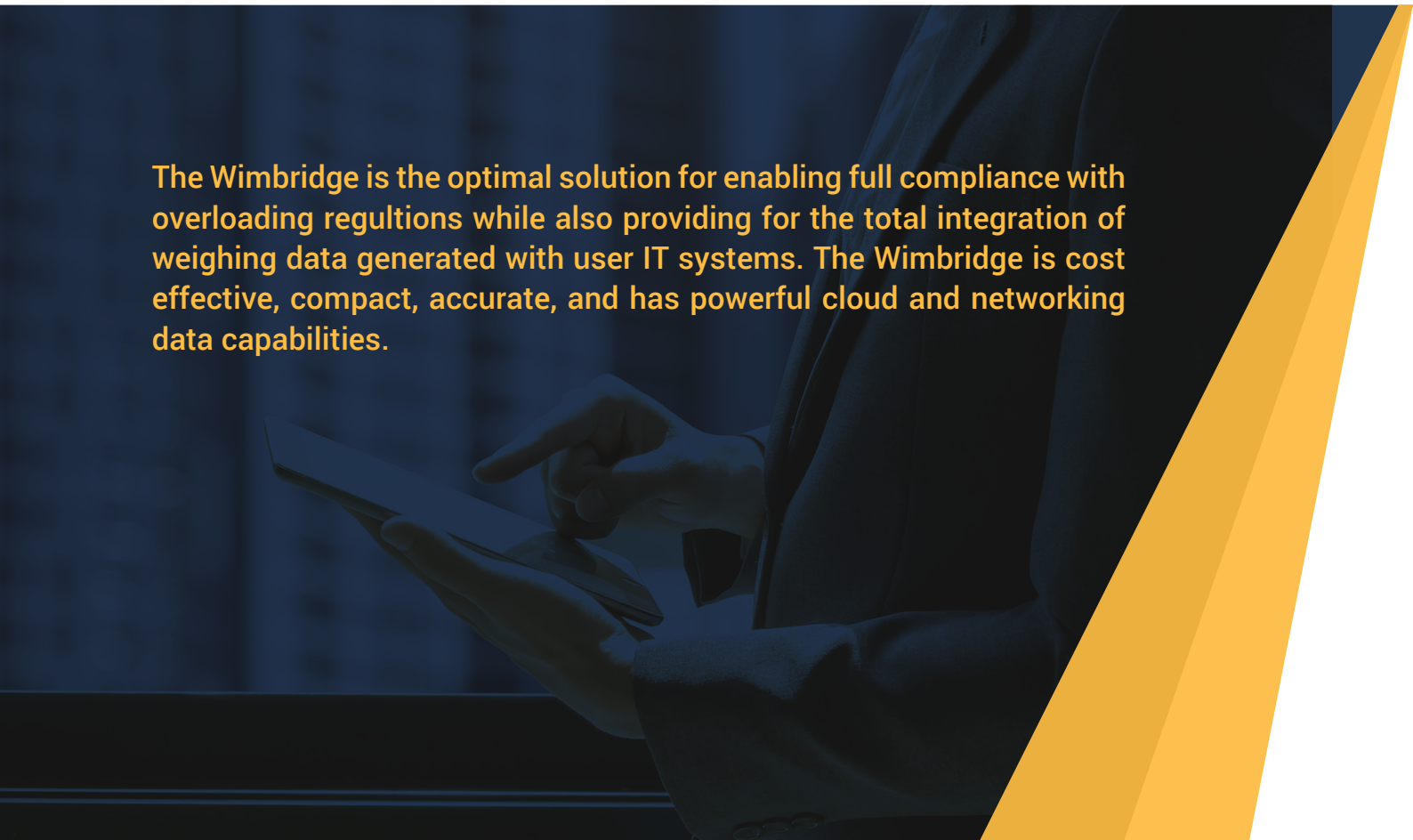
WIM-UM

The **WIM-UM** runs on Sasco ProWim 5.1 software and offers the functionality of seamless data integration, via the Sasco Cloud.

The system is unmanned. Therefore, the weighing process is triggered by the driver scanning on the SW 3000 a bar code or QR code containing the relevant information such as the vehicle registrations, the operator or User name, a VCC code which defines the vehicle's configuration and any other relevant information such as the driver's cell phone number and trip number.

This system provides both axle weighing compliance and the ability to generate SOLAS tickets.

Example of the data to be included on the QR Code for the operation of the WIM-UM.



The Wimbridge is the optimal solution for enabling full compliance with overloading regultions while also providing for the total integration of weighing data generated with user IT systems. The Wimbridge is cost effective, compact, accurate, and has powerful cloud and networking data capabilities.

Axle Weighing Ticket Format

Weighing tickets generated from the **WIM-PW**, being a manned system is in paper form, with the option of also electronic versions. All weighing tickets generated by WIM-UM are in electronic form. The amount of data included on these weighing tickets will vary depending on the configuration of the system, the use of Fleet Manager and/or the integration with Sasco Cloud.

Example of a typical paper form or electronic form axle weighing ticket generated by either WIM-PW or WIM-UM:

Solas Weighing Ticket Format

Example of a typical paper form or electronic form SOLAS weighing ticket generated by either WIM–PW or WIM-UM:

SOLAS COMPLIANT WEIGHING TICKET	
WEIGHBRIDGE NAME	Sasco P&W Pomona
DATE AND TIME:	2018/07/11 8:00:00
SANAS CERTIFICATE:	1121990
CALIBRATION CERTIFICATE:	1121990
CALIBRATION DATE:	2019/01/19

TICKET NUMBER	PM00002473	TICKET DATE	2018/07/11 8:00:00

TRANSPORTER INFORMATION			
Horse Registration:	TESTGP	Driver Name:	
Trailer 1 Registration:	TRAILER01GP	Captured by:	sa
Trailer 2 Registration:			
Transporter Name:	Test Company		

CARGO INFORMATION	
Customer Name:	Test Company
Container Number:	MSKU2666542
ISO Type:	ST20
Load Type:	
Container Tare:	10 000 kg
Seal Number:	S12346
Empty Vehicle Weight:	14 000 kg
Gross Vehicle Weight:	80 kg
Gross Cargo Weight:	-13 920 kg
Net Cargo Weight:	-23 920 kg

COMPLETED BY _____ DRIVER _____

DATE _____ DATE _____

This document also confirms that the minimum mass of the drive axles have been checked and that the mass on the steering axle has been checked for both over and under loading.

Add-on Hardware Options

ProWeigh + can accommodate the add-on of the following hardware devices:

- Robot
- Booms
- Cameras
- Electronic Display Board
- Bar Code Reader
- QR Code Reader
- RFID Reader
- Internet Communications Card

Application Example:

01 WIM-SA

Company A is a timber plantation owner. There are 3 exits from the planation onto a national road. Depending on the felling cycle trucks use one of these exits from time to time. There is no power at these locations. Approximately 30 trucks leave the plantation every day carrying logs to a timber mill 75 km away.

The optimal solution is the WIM-SA, with the installation of three Wimbridge, one at each of the field exits.

Depending on which one is being used Company A simply plugs the SW 1000 indicator onto the appropriate Wimbridge at the relevant exit. A person selects the correct truck configuration, then requests the truck to weigh, and then generates a weighing ticket. Weighing tickets are printed directly from the SW 1000. At the end of the day the stored weighing data is down- loaded from the SW 1000.

02 WIM-PW

Company B is the owner of a large steel manufacturing plant making steel structures. Company B has no requirement for trade weighing as the structures are sold per the design specifications. Once loaded on the dispatch trucks, Company B faces multiple fines for axle overloading at government weighing stations both in South Africa and in the region.

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02 WIM-PW

At the dispatch gate, there is a dispatch office which is manned 24/7 and no departing truck can leave without presenting dispatch documentation. All the trucks are owned by **Company B.**

The optimal solution is the WIM-PW, with add-on hardware comprising a robot, cameras, and a QR code reader. The Fleet Manager database functionality of ProWeigh+ is activated as is the business connector functionality.

At the departure gate, there is a WIM-PW with a computer in the dispatch gate office loaded with ProWim V4.1 which is linked to Company B's network. For all departing trucks, the security guard captures the truck registration details, selects and confirms the correct configuration, the light turns green and the truck weighs. The security guard prints the weighing ticket and gives it to the truck driver. An electronic version of the ticket is also transmitted to Company B's IT network.

03 WIM-UM

Group C is the owner and operator of a large chain of distribution centers with in excess of 200 trucks collecting goods from a given warehouse on a daily basis. Some of the vehicles are owned by Group C, while others are third party contractors. All Group facilities operate 24/7.

Group C has fully integrated IT systems that generates all receiving and dispatch documentation. This information includes a unique transaction number and particulars of the vehicle carrying the goods, including horse, trailer registrations and the types of units. This data is embedded in a barcode. Receiving and dispatch documentation is standard throughout the Group.

Managing, controlling and reconciling stock variances arising between warehouses is a critical control requirement.

In addition, both Group C and the owners of the third part vehicles are seeking to be compliant with the Road Traffic Act 22nd Amendment in terms of ensuring the total weight and axle group weights of all vehicles leaving the sit are within permissible limits. The third-party vehicle owners are prepared to pay for a compliant weighing ticket confirming compliance.

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03 WIM-UM

The optimal solution is the WIM-UM. On arrival at dispatch the driver is given a trip dispatch document. In addition to the normal trip and cargo information, also printed on this documentation is a QR Code which includes the unique trip number, the horse registration, the trailer registration and the Sasco VCC or vehicle configuration code (which is an application Sasco has provided to the IT department of the User).

On arrival at the Wimbridge the driver will see that the robot is red. The driver presents the trip documentation to the SW 3000, and the QR code reader reads all the required information. The robot then turns green; the driver drives over the Wimbridge at a speed of not more than 5 kmph and stops once all his axles have passed over the Wimbridge. The second robot will turn green confirming the weighing has been successfully completed at which point the weighing information will be transmitted to the User's IT system.

The driver then repeats this process at the receiving warehouse. The trip numbers along with the dispatch and arrival weights are, once received in the IT system, compared through a reconciliation program, and variances investigated.

The Weigh-in Motion Wimbridge is an important product within Sasco's range of Truck Weighing solutions.

Other products within Sasco's truck weighing range which offer a similar solution, include multi deck weighbridges, group axle weighers and weigh pads.

Technical Specifications

	WIM - SA	WIM - PW	WIM - UM
Deck Width	0.76 m	0.76 m	0.76 m
Deck Length	3.2 m	3.2 m	3.2 m
Required Length of Level Approach	7 m	7 m	7 m
Number of Load Cells	4	4	4
Maximum Weighing Speed	5 kmph	5 kmph	5 kmph
Minimum Weighing Speed	3 kmph	3 kmph	3 kmph
Weight Accuracy at Maximum Speed	± 99 %	± 99 %	± 99 %
Weight Accuracy at Minimum Speed	> 99 %	> 99 %	> 99 %
Maximum Number of Axle Groups	4	4	4
Maximum Vehicle Length	Unlimited	Unlimited	Unlimited
Weighing Indicator or Integrator	SW 1000	SW 2000	SW 3000
Manned or Unmanned	Manned	Manned	Unmanned
PC Required	No	Yes	Inbuilt
Mains Power Required	No	Yes	Yes
Printer Required	Inbuilt	Yes	Option
Robots	No	1	2
Other Peripheral Device Add-ons	No	Yes	Yes
QR Code Reader	No	Yes	Yes
Total Weight Generated	Yes	Yes	Yes
Axle Weights Generated	Yes	Yes	Yes
RTA Compliant Ticket Generated	No	Yes	Electronic
Vehicle Weighing Speed Provided	No	Yes	Yes
Direct IT Systems Interfacing Possible	No	Yes	Via Cloud
Cloud Interfacing Possible	No	Yes	Via Cloud
Pre- Loading of Fleet Possible	No	Yes	Via Cloud
Compliant Axle Weighing Ticket	No	Yes	Yes
Compliant SOLAS Ticket	No	Yes	Yes

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