



Accurately Weighing Africa



# MULTI DECK WEIGHBRIDGE

(MP-DI)

Heavy Duty High Frequency Axle Weighing

MPDI-24-01

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## Multi deck Weighbridge (MP-DI)

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 multi deck weighbridge solutions Sasco has four options: -

	MP-SB	MP-PT	MP -DI	MP-BI
<b>Total Accuracy</b>	±99.55%	±99.95%	±99.95%	±99.95%
<b>Deck Type</b>	WB 80 LP	SPT Portable	WB 120 T	WB 120 T
<b>Lengths</b>	22m	24m	22m	25m
<b>Width</b>	3m	3m	3m	3m
<b>Deck Construction</b>	Steel	Steel	Steel	Steel
<b>Deck Plate Thickness</b>	8mm	10mm	12mm	12mm
<b>Number of modules</b>	4	4	4	5
<b>Size of Modules</b>	3m,6m,7m,6m	3m,6m,7.6m,6m	3m,6m,7m,6m	3m, 6m,7m,6m,3m
<b>Total Capacity</b>	80T	80T	120T	150T
<b>Axle Loadings</b>	9T	10T	25T	25T
<b>Colour</b>	Yellow	Red	Red	Red
<b>Volume Daily Weighing's</b>	<=60 p.d.	<=120 p.d.	No limit	No limit
<b>Indicator</b>	DD1055	DD1055	DD1055	DD1055
<b>Load Cells</b>	Sasco S16	CPD	S500 or CPD	S500 or CPD
<b>Number Load Cells</b>	16	16	16	20
<b>System</b>	Analogue	Digital	Digitised or Digital	Digitised or Digital
<b>Temp. Comp</b>	No	Yes	Yes	Yes
<b>Software</b>	ProWeigh	ProWeigh	ProWeigh	ProWeigh
<b>Axle Weighing Functionality</b>	Yes, one direction	Yes, one direction	Yes, one direction	Both
<b>Lightning &amp; Surge Protection</b>	Yes	No	Yes	Yes
<b>Installation</b>	Pit or above ground	Portable	Pit or above ground	Pit or above ground

In addition to these four multi deck weighbridges Sasco has a range of six Single Deck Weighbridges and Weigh-in-Motion solutions.



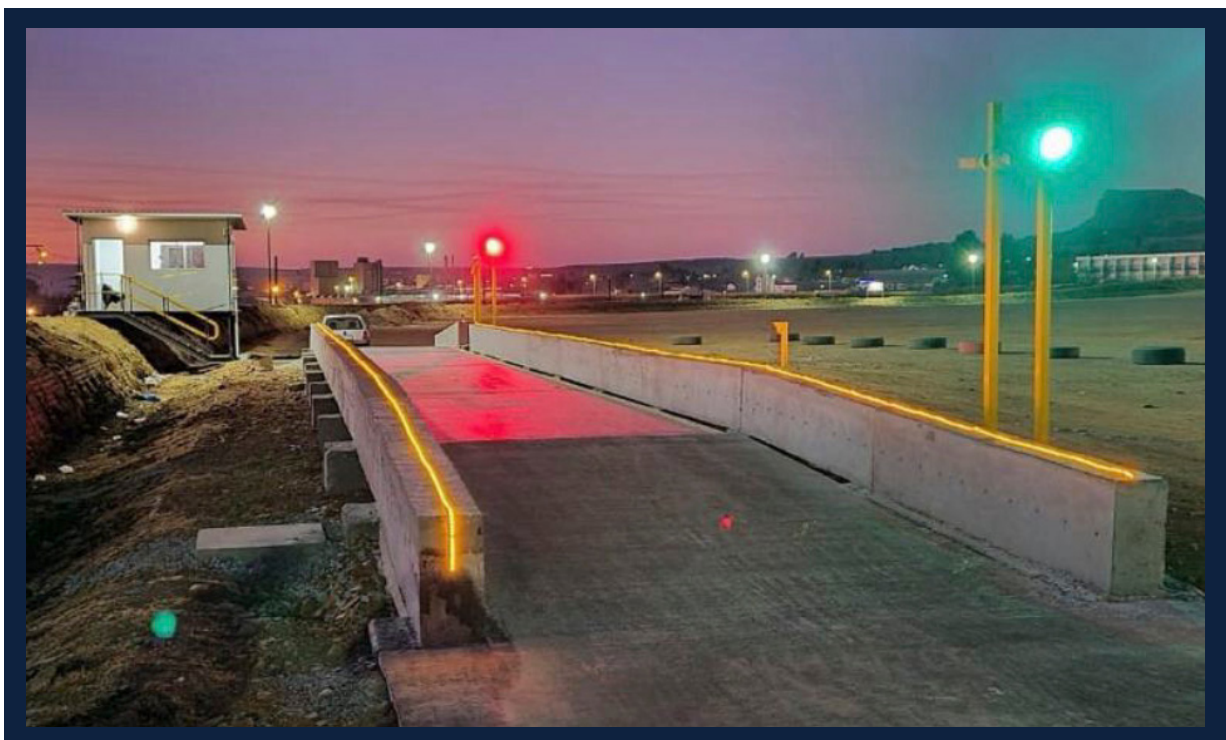
## Product Overview

The MP-DI weighbridge offers a balance in performance and cost, positioned between the MP-SB and MP-BI models.

It provides a middle ground in terms of specifications and price, making it an optimal choice for those seeking features from both ends of the spectrum.

Here's how the MP-DI compares to the MP-SB and MP-BI on various factors:

- **Price:** The MP-DI is priced to offer affordability while delivering more advanced features than the MP-SB, yet it remains more cost-effective than the high-end MP-BI.
- **Deck Strength:** The MP DI has a 10mm thickness deck plate while the MP-SB has 8mm and the MP-BI 12mm.
- **Total Capacity:** The MP-DI has a total capacity of 120 tonnes, while the MP-SB has 80 tonnes and the MP-BI 150 tonnes. All three multi deck weighbridges can provide total weights for trucks approaching from either direction.
- **Axle Loadings:** The MP-DI axle loadings are up to 25 tonnes, the same as the MP-BI but more than the MP-SB.
- **Load Cells:** As with the MP-BI, the MP-DI has the option of either digital CPD load cells or digitised S500 load cells.
- **Axle Weighing:** The MP-SB and the MP-BI only provide axle weights in one direction. The MP-BI is however truly bi-directional providing axle weighing functionality in both directions.



# Sasco DD1055 Indicator



- Diagnostic system.
- Fully business network integration
- Automatic device management
- Dual core 1 GHZ Dual Processor
- 512 Mbyte RAM and 1 Gbyte
- Ethernet 10/100 MBps
- 4 USB ports
- 3 x RS232/RS422 plus option of 2 more - runs for scales
- Connect to 12 analogue load cells
- Connect to 24 digital load cells
- Run 4 digital or analogue scales
- Material AISI 304 stainless steel
- 10 .4 inch display
- OIML, CE and NTEP
- IP69K

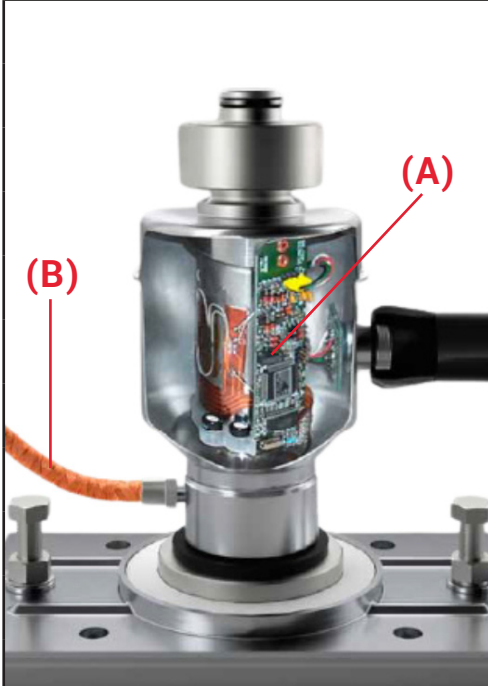
The DD1055 weighing indicator, designed and manufactured in Europe, boasts not only OIML approval but also multiple additional European certifications.

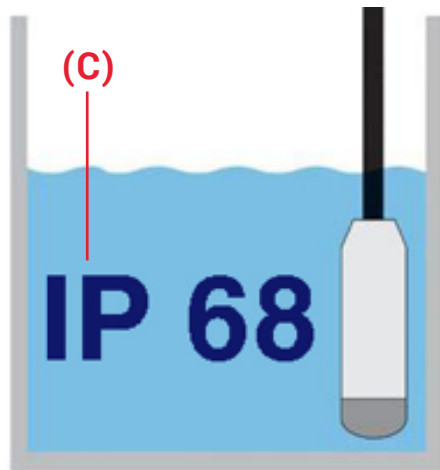
Setting it apart from other solutions on the market and proving pivotal for weighing applications in Africa, this indicator is equipped with comprehensive temperature compensation, ensuring the system maintains its accuracy even amidst significant temperature fluctuations and the ability to provide status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

## Option I: 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	

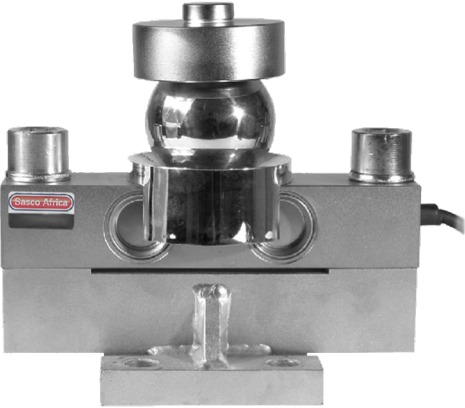


## Option II: Sasco S500 Load Cells

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:

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

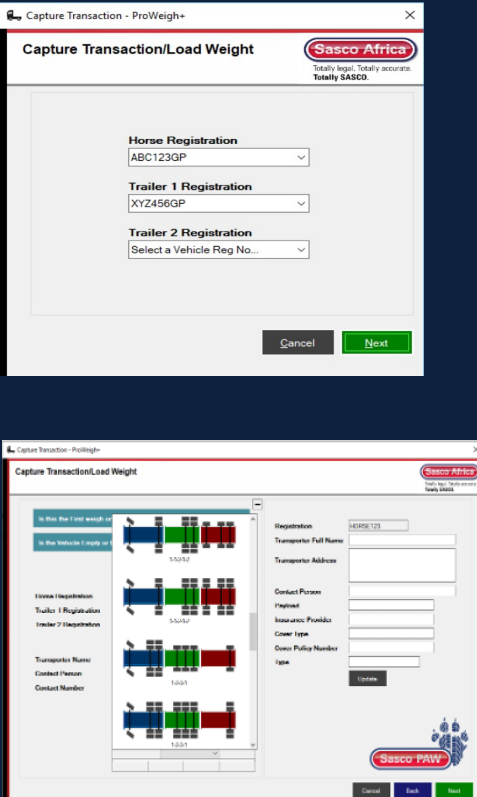
## Sasco Proweigh Software

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


**Version 4.6.2**

**WEIGHBRIDGE TICKET SLIP**

Horse Registration	VEHICLE
Weighbridge Name	Road train weighbridge2
Company Name	Assmang Blackrock Mine Operation
Site Name	****
Product	****

\*\*\* COPY \*\*\*

<b>TICKET NUMBER</b>	SMS00000019	<b>TICKET DATE</b>	2022/09/02 13:47		
<b>VEHICLE DETAILS</b>					
Registration Number	VEHICLE	TRAILER123	TRAILER456		
Type	****	****	****		
Operator	Private	****	****		
Contact Person	****	****	****		
Insurance Provider	****	****	****		
Cover Type	****	****	****		
Policy Number	****	****	****		
<b>TRADE WEIGHING DETAILS</b>					
<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
<b>LOADING DETAILS</b>					
<b>Axle Groups</b>	<b>Actual (kg)</b>	<b>Permissible (kg)</b>	<b>Difference (kg)</b>		
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		
<b>TOTALS</b>	<b>56,000</b>	<b>61,700</b>	<b>-5,700</b>	Speed	0.00 km/h
<b>CONSIGNEE DETAILS</b>					
<b>Consignee Code</b>			<b>Address</b>		
<b>Consignee Name</b>					
<b>Document Number</b> ROA0000000002					
<b>Document Type</b> Sales			<b>Contact Name</b> ****		
<b>Document Weight</b> 0			<b>Contact Number</b> ****		
<b>CONSIGNOR DETAILS</b>					
<b>Consignor Name</b> Assmang Blackrock Mine Operation			<b>Contact Name</b> ****		
<b>Address</b> ****			<b>Contact Number</b> ****		
****			****		
****			****		

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 A** is a coal group with three coal mines effectively on one site. There are three separate entrances and departure gates. They have approximately 200 inter link trucks enter each site per day to collect coal. No PBS or other odd truck configurations enters the site.

All trucks are loaded to the maximum permissible weights. Departing trucks need to know not just their total weights but also axle weights. Conditions at the mine are extreme with very hot conditions in summer and a great deal of lightning. Summer storms are also significant, and flooding takes place.

Company A wants to replace all existing out bound weighbridges so as to provide axle weighing and add manned weighbridge automation devices on the entrance and exits to all three sites. The existing standard in bound weighbridges are to remain. All weighing data must directly interface with the groups ERP system.

The MP-DI combined with ProWeigh+ will be the optimal solution and would be configured as follows:

- Three MP-DI weighbridges, with CPD load cells will be installed above ground at the three exit gates.
- ProWeigh+ will be loaded on the PC's at the weighing stations at each of these sites.
- The automation and ERP interfacing functionality of ProWeigh + will be activated.
- Booms, cameras and robots and each gate will be controlled via ProWeigh+ via the DD1050 for the new MP-DI installations, and directly to the automation devices installed at the existing inbound weighbridges.



# Technical Specifications

	CPD Load Cells	S500 Load Cells
<b>Total Accuracy</b>	+ - 99.95%	+ - 99.95%
<b>Axle Weighing Accuracy</b>	+ - 99.95%	+ - 99.95%
<b>Installation</b>	Above ground or pit	Above ground or pit
<b>Deck Width</b>	3m	3m
<b>Deck Length</b>	22m comprising 4 modules	22m comprising 4 modules
<b>Number of Modules</b>	Four - 3m, 6m, 7m, 6m	Four - 3m, 6m, 7m, 6m
<b>Indicator</b>	DD1055	DD1055
<b>Indicator IP Rating</b>	IP 48/69	IP 48/69
<b>Load Cells</b>	16 - CPD	16 - S500
<b>Load Cell IP Rating</b>	IP68	IP68
<b>Dlink Required</b>	No	Yes
<b>Maximum Total Weigh</b>	120 tons	120 tons
<b>Maximum Axle Weigh 200 W.P.D</b>	25 tons	25 tons
<b>Reverse Calibration</b>	Yes	Yes
<b>Temperature Compensation</b>	Yes	Yes
<b>Maximum Number of Axle Groups</b>	Four	Four
<b>Total Weight Generated</b>	Yes	Yes
<b>Axle Weights Generated</b>	Yes	Yes
<b>RTA Compliant Ticket</b>	Yes	Yes
<b>SOLAS Weighing</b>	Yes	Yes
<b>Double or Single Weighing</b>	Yes	Yes
<b>Manned or Unmanned</b>	Manned	Manned
<b>PC Required</b>	Yes	Yes
<b>Option of Automation</b>	Yes	Yes
<b>Option of Unmanned</b>	Yes	Yes
<b>Option of Centralization</b>	Yes	Yes
<b>Direct IT Systems Interfacing Possible</b>	Yes	Yes
<b>Cloud Interfacing Possible</b>	Yes	Yes
<b>Pre-Loading of Fleet Possible</b>	Yes	Yes
<b>Deck Warranty</b>	6 Years	6 Years
<b>Instrumentation Warranty</b>	12 months	12 months
<b>Trade Approval</b>	Yes	Yes

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