



**Concrete Equipment**  
Solutions and Technology

# BULKHEAD AND AGGREGATE SCRAPER SYSTEMS

## TECHNICAL SPECIFICATION SHEET:



### SUMMARY

PMSA provides complete weigh batching systems that are designed to customer requirements, taking into account the number of aggregates and size of the mixer, and a choice of manual or automated control.

The star bulkhead and scraper systems are mechanised options for handling and weighing aggregates and are the most cost-effective weigh batching systems available.

The bulkhead and scraper systems offer different options and sizes of scrapers to match the needs of your batching plant.

- Hand radial scraper – Used for mixer sizes up to 500 litres and incorporates a winch-powered, walk-behind scraper.
- Radius lift arm scraper (bucket scraper) – Used for mixer sizes up to 1 000 litres and incorporates an automated sprocket driven link chain with buckets for continuous aggregate feed.
- Cab operated boom scraper – Used for mixer sizes from 500 litres to 2 000 litres, incorporating a closed operator cabin with boom and winch powered scraper.

### FEATURES AND BENEFITS

PMSA offers a range of bulkhead and scraper systems that weigh quickly, accurately and repeatedly for every batch while compensating for varying flows in the aggregates. This results in the final product being consistent and of a high quality. Each system has a range of features and associated benefits.

#### Bulkhead

- PMSA supplies bulkheads up to 4 compartments, enabling accurate weighing of different materials.
- Each division of the bulkhead is fitted with a discharge gate, allowing for individual handling of aggregate.
- Material flows from each compartment into a single aggregate scale, suspended on 3 load cells, for accurate weighing of aggregates.
- Once all aggregates are weighed. the scale door is opened and aggregates are discharged into a mixer loading bucket (loader skip).
- The system is controlled from the mixer platform with a scale display for simple operation.
- It comes with the option of fully automatic PLC control with a touchscreen for recipe selection. This allows for higher precision operation when integrated with automatic batching, including cement, water and mixing sequences.

#### Hand radial scraper

- The walk-behind H53 hand radial scraper is used to

continually place aggregates above the bulkhead discharge gates and is an alternative to manually filling a loader skip.

- For easy operation while walking behind the scraper, using push button controls.
- A winch pulls the scraper towards the bulkhead for easy loading of aggregates.

#### Radius lift arm scraper (bucket scraper)

- The radius lift arm scraper is used to continually feed aggregate into the aggregate scale and is an alternative to manually filling a loader skip.
- The radial lift arm scraper is hydraulically driven and automatically controlled without the need for an operator.
- A sprocket driven link chain and bucket system continuously pulls aggregates into the scale for effective loading.

#### Cab operated boom scraper

- An operator seated in a closed cab control the movement of the boom and aggregate scraper, offering comfort and increased productivity compared to a walk behind HS3 hand radial scraper.
- The boom scraper is used to continually place aggregates above the bulkhead discharge gate. Depending on size of batch required or mixer being used, different sizes of electric drive (7.5 kW or 11 kW) and cab-operated boom scrapers are available.



## OPTIONS

The following options are available for bulkhead and scraper systems:

#### Automation

- Automation of the weigh batching can be integrated by adding PLC control and pneumatic operation of the discharge gates of the bulkhead and aggregate scale.

#### Moisture measuring and control

- Microwave moisture sensors can be fitted at the discharge points for each aggregate, which allows the automated weigh batching system to immediately compensate for the amount of moisture in each aggregate by changing the batch weight for each. This ensures consistency of each aggregate per mix, resulting in concrete with less variation in the flowability and strength, allowing for consistent production capacity and product strengths, which results in increased productivity and lower production costs.

#### Topping feed

- Directional belt feeding of both the base mix and topping feed loader skips can be added as an alternative to a mixer standing on the ground loading the topping feed feeder-box with an incline belt.

#### Oxide dosing

- Oxide dosing can be added if required for the automated colouring of pavers and concrete products.

Manufactured by PMSA in South Africa. Our professional and experienced technical support team will provide you with the assistance you require. Our comprehensive spare parts facility enables us to provide immediate dispatch globally. E&OE. [Rev\_2\_2021]

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