



Bitumen Loading Module

Some of the hazards associated with bitumen loading include; working at heights - as top loading is utilised for bitumen products, loading at high temperatures - as typically loading temperature is greater than 140°C, compartment overfill and boil-over due to the presence of water and the safe removal of fumes that may occur.

In order to address these complexities, Diamond Key International has developed a standard Bitumen Loading Module which has the benefit of enhanced safety, ease of installation, cost optimisation, troubleshooting, availability of spare parts and technical services.

The DKI Bitumen Loading Module incorporates the following benefits:

- Safety features including ESD, 3 minute dead man, overfill system, vapour removal, safe fill limits (with Terminal Automation System only)
- Accommodates multiple truck sizes
- Addresses various weights and measures requirements by providing weighbridge and/or mass meter custody transfer loading
- A modular design that fits into a shipping container for a truly global solution and ease of installation
- Fully prewired
- Automated arm controls
- Easily incorporated within a Terminal Automation System
- Dual truck loading
- Built to Australian Standards

Features

- Prefabricated and pre-tested, incorporating all framework, galvanising, electrical, pipework, painting, instrumentation, hydraulics, air reticulation and computerisation.
- All manufacturing and fit out disciplines are completed, inspected and tested under AS/NZS ISO9001:2008 Quality Controlled procedures at Diamond Key International works.
- Complete customer Factory Acceptance Test reporting and witnessing if required. FAT covers complete turnkey solution from hydrostatic testing through to computerisation and network testing.
- All components are certified for use in Class 1 Zone 1 Hazardous areas.
- The Bitumen Loading Module is supplied complete with Bay Loading Controllers certified for installation in Class 1 Zone 1 areas. These devices integrate driver interface and custody transfer preset metering and control. The units allow a modular metering system to operate in full standalone mode or seamlessly with a Terminal Automation System (TAS).

Safety

- Integrated Overfill Protection System
- Emergency stop systems are fully integrated into the design and are installed and tested as part of the turnkey process.
- All pipework and wiring is constructed, inspected and tested to all relevant Hazardous Area Standards.
- Safety Cage
- Dual Exits
- Safety Shield
- Shower and eye wash
- Vapour Plate with Fume Extraction
- Multiple Safety Interlocks

Wiring

All wiring is carried out to Class 1, Zone 1 Hazardous Area Standards. Only specifically trained and qualified Electricians are employed and all work is carried out to AS/NZS ISO9001:2008 controlled procedures.

- Steel wire armoured cabling for all high voltage wiring.
- All Intrinsic Safe wiring to International Standards for separation, identification, termination and cable type.
- Mechanical protection and integrity for wiring provided by Integral wiring and cable trays designed for maximum simplicity of access and ease of maintenance.
- Specific vulnerable wiring is enclosed in rigid conduits.
- Cable tagging and identification of all terminations.
- 100% Factory testing of all wiring and terminations.
- Fully glanded Explosion Proof connections to all Ex'd enclosures.

Structural

- All framework Hot Dip Galvanised for maximum environmental protection.
- Full compliance and inspection to Australian Standards AS-1650.
 - Special designs allow for hot procession without distortion.
 - Large process availability means that gantry frames do not have to be fabricated in small pieces.
- Structure design has been fully developed and assessed compliant for use in Tropical Hurricane prone regions. Australian Standard Zone 4 cyclone rating.

Pipework

- All pipework constructed to International Standards ASME IX 2000 depending on requirement.
- Fully qualified pipework welders to International Standards ASME IX 2000. All welders are regularly reviewed and tested under AS/NZS ISO9001:2008 Quality Assurance procedures.
- X-ray welding inspection and testing of all gantries. Complete welding traceability records maintained.

Painting

- All Pipework is prepared for painting by shot blasting and/or sandblasting to AS1627.4 Class 2.5 and is primed with appropriate primer for top coat.
 - Top coat: Two Pack re-coatable polyurethane enamel.
 - Colour: RAL 7031 Blue Grey.
 - The three coat process is fully maintained to AS/NZS ISO9001:2008.

General

- Modular arm layout to facilitate latter addition of more loading arms.
 - Arm points can be pre-wired to even further simplify future upgrades.
- Adaptable assembly process to integrate customer supplied (free issued) or OEM supplied components if required.
- Integral air reticulation system for PIV's and Emergency shutdown systems if required.
- Fully wired Flame Proof Lighting.
- Vapour Removal System installed or provided for, to enable future upgrading.



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