MOWE
Chemical Injection Wash Water Water Skid

An ISO 9000, 18000, 14000, BIZ SAFE & SME 1000 company.
CHEMICAL INJECTION SYSTEM (CI)
REFERENCES
PETRONAS KINABALU
WASH WATER SKID - AQ6800A
The AQ 6800A named the wash water skid is the largest of the 3 skids.

- Main purpose to inject water into the wells.
- Max operation capability is 3m³/hr @ 750 BAR designed pressure from each pump.
- Pumps are designed for 2x100% redundancy. Discharge tubes are designed at 15000 PSI / 1000 bar with necessary safety relief valves.
- Key components as in Pressure transmitter for discharge, Level differential pressure transmitters and pressure gauges are all present to ease operations.
- HAZOP reviewed.
CI KINABALU WASH WATER SKID - AQ6800A

MAJOR COMPONENTS

- WASH WATER MIXING TANK
  - VOL. 27 m³

- OXYGEN SCAVENGER STORAGE TANK
  - VOL. 2 m³

- OXYGEN SCAVENGER GAUGUNG TANK
  - VOL. 35L

- INJECTION PUMP – 2 x 100% REDUNDANCY

- VALVES RATED AT ANSI 150 LBS AND INSTRUMENTATION

- WASH WATER MIXING AGITATOR

- SKID STRUCTURE GA OVERVIEW
CI Kinabalu

Wash Water Mixing Tank

Wash Water mixing tank like the name implies, purpose to inject produce / sea water into the wells. This tank’s water is to be premixed with Oxygen Scavenger Chemicals to inhibit corrosion during injection.

Equipment that is equipped with this tank

- Level Gauge
- Level transmitter
- Motor with Agitator
- Overfill / overflow discharge pipe
- Manhole

Tank is designed as Open Tank and not designed as pressure vessel.

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Oxygen Scavenger Storage Tank

This 2m3 oxygen scavenger storage tank stores this chemical with estimate for 30 days usage.

- Level Gauge
- Filling nozzle and cap
- Overfill open drain
- Manhole
- Gravity discharge to Oxygen Gauge tank volume 35L

Tank is non pressure vessel.
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OXYGEN SCAVENGER GAUGE TANK

- Estimated at 35L tank, therefore dosage to the wash water main tank will be 35L per dose.
- Tank is manually operated and located at tank top of the wash water tank. As it is fulfilled via gravitation filling, manual operator / operation is required during each filling.
- Only instrument outside tank is a level gauge.
- Tank is not pressure vessel.

Please refer to the GA of the Wash Water skid in the next skid for a better understanding of the tanks and location.
2 x 100% Wash Water Plunger injection pumps have been installed on skid

Max pressure tested in FAT is 900 BAR (Without pressure relief valves)

Pressure relief valve starts to ‘POP’ @ 750 bar and therefore no more pressure can be increased.

Each pump delivers 2m3/hr flowrate

There is no local control / start stop at local panel and therefore all start / stop controls will have to come from PCS (Process Control System)

There are 2 dampeners at each suction and discharge of pump.

Dampeners have to be pre-charged with the correct pressure before pump operation.

As this design do not come with Back Pressure regulator, therefore pressure regulation is manual.
Valves are from USA and all discharge valves, fittings, etc are rated at 15000 PSI.

Valve and fittings at discharge are of Cone and Thread design.

Valves and fittings at suction are rated at Ansi 150 lbs.

There is no filter at suction and only strainer. Water to be injected to be kept clean to avoid damaging the pumps.

Level transmitter at wash water tank added due HAZOP analysis to provide feedback to PCS.

Pressure transmitter at discharge nozzle of skid to provide discharge pressure reading to PCS.

Discharge fitting is custom made to fit Gilperti Pipe connection.

It is therefore a tube to pipe fitting.
GA OVERVIEW – AQ6800A WASH WATER SKID
ACCOLADES – TRUST IN REFERENCES
OUR LOCATIONS

MOWE Marine & Offshore Pte Ltd
Singapore HQ Office
Add: Blk 164 Bukit Merah Central #03-3655. Singapore 150164
Tel: +65 6652 6070
Fax: +65 6652 6071

MOWE Systems Pte Ltd
Branch Company
Address: 120 Lower Delta Road, #09-04, Cendex Center.
Singapore 169208
Tel: +65 66526070
Email: info@mowemo.com

MOWE Marine & Offshore Sdn Bhd
Branch Factory
Add: No. 15, Jalan Mutiara Emas 5/2,
Taman Mount Austin, 81100 Johor Malaysia
Tel: +607. 3507711
Fax: +607. 350 7117
Email for enquiry: info@mowemo.com, enquiry@mowemo.com

Website: www.mowemo.com