



RIG COOLING SYSTEM

Skid mounted Rig Cooling System complete with heavy duty submersible pump interconnected with 60m long armoured cables to explosion proof electric starter control panel. Classified for application in Class I, II Grp C, D, F and G hazardous environment, the suction in-line filters sea water and discharge up 60m of hydraulic hose to rig deck into pressure accumulator to be discharged through copper nickel pipes into Wilson T48-170 non clog CuNi Spiral nozzles.

The equipments contained therein are as follows;

1) Type : Deep Submersible Pump

Model : 8080LM3.5

Driver Specifications : submersible electric motor

Power supply : 460VAC / 3phase / 60 Hz

Motor speed : 1800 rpm, Motor rating : 75 kw

Running current at max kw : 123 ampere

Rig breaker required : 150 motor rated breaker

Starting system : electric soft start

Pump Specifications

Volume capacity : 8080 liters per minute @ 35m head (3.5bar)

Submersible pump cable spec : 60 metre 4 core armoured cable

Outlet connection : 6 inch ANSI 150# flange

Enclosure class : UL and CSA approved explosion proof

Insulation : F class insulation with 1.15 service service factor

Material : Cast Iron

2) Starter system

2.1) Type : Electric Starter Control Panel

Manufacturer : Appleton c/w EJB684-N4 junction box,

Appleton snap switch, Weldmuller Klippon SAK2.5 terminals

Classifications : Class I, Grp C and D,

Class II, Grp F and G.

2.2) ABB Explosion Proof Armoured Cable

Type : BFCU 0.6 / 1 KV, 4 core, 2.5 mm black terminated

with Hawke type : ICG 653 flameproof barrier cable gland.

4) Skid Construction

Constructed of ASTM A36 structural steel material, sandblasted to bare white SA 2.5 and hot dipped galvanised to BS728. c/w 30 liter/sec inline bladder accumulator, 60m heavy duty hydraulic hose and stainless steel chain and lifting winch for pump. Slide rail system provides easy removal of pump unit without disturbing discharge piping. Unique flow design utilizes a locking cam action with locator lugs and a large O-ring for positive sealing (no leakage) while allowing a tangential discharge for high efficiency. This is an important feature when pump sea water or slurries; if a tight seal is not achieved, leakage can cause rapid and excessive wear of the mating flanges resulting in reduction of performance as well as increased maintenance costs.



Rig Cooling in Singapore Yard



3) Wilson Spray Nozzles

Type : Spiral Non Clog

Model : T48-170

Flow rate : 404 liter/sec @3.5 bar

Spray angle : 170 degrees Full Cone

Material : Copper Nickel (CuNi)

Connection : 1 inch (M) NPT

Qty : 20 pieces

Droplets Characteristics

D32 : 750u

Dv0.5 : 970u

Dv0.1 : 430u

Dv0.9 : 1800 microns



Submersible Motors

Model : 8080LM3.5

Rig Cooling submersible series motors are designed and built specifically for tough slurry pumping. Heavy-duty design features for reliability include:

- UL and CSA Approved Explosion Proof
- Epoxy encapsulated and butt-spliced cable entry system prevents liquid from entering top of motor and provides non-wicking design.
- Permanently lubricated and sealed ball bearings.
- F Class insulation and 1.15 service factor standard.
- Tandem mechanical seals provide complete protection for motor internals.
- Thermal protection standard.
- Dual moisture probes provide early warning of seal failure.
- Conforms to NEMA, IEEE, ANSI and NEC standards.
- High temperature option allows operation to 194° F (90° C).
- c/w 60 Metre Armoured Cable Type BFCU 0.6/1 kv, 4 core, 2.5 sq mm terminated with Hawke Type ICG 653 Flameproof Cable Barrier Gland.

