



## DALMIA CEMENT (B) LIMITED – ARIYALUR



### MECHANICAL SOP

Issue No. 01	Rev. No: 02	Effective Date: 17/10/2017	SOP/MEC/058
Issued By: M.R		Approved By: HOD Mechanical	
PFISTER PUMP OVERHAULING			

#### Scope:

This SOP is applicable for Pfister pump over hauling safely.

**Responsibility** : Section Engineer – Mech

**Accountability** : Section head – Mech

#### PPE:

1. Helmet,
2. Safety shoe,
3. Goggles
4. Gloves.
5. Nose mask

#### Tools:

1. Spanner set
2. Hammer

#### Hazards:

##### Risks associated

1. Body injury
2. Leg injury
3. Hand injury

##### Mitigating Measures

1. Safe and tested tools and tackles
2. On job training



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#### Isolation matrix:

Sl: No	Activity	Description	Electrical Energy		Other Energy	
			Pfister Drive	Pfister Gear box drive	Pneumatic shutoff gate to be closed	Air line valve to be locked in close condition
01	Pfister pump over hauling	Name and Tag for the Equipment				
			Firing Blower Drive	Firing Blower Drive 481 BL1/ 451 BL1		

#### Procedure:

##### a) Dismantling:

1. Take the electrical work permit of Pfister pump as well as connecting air blower
2. Ensure the use of PE & hand gloves etc
3. Ensure the Pfister pump inlet slide gate close
4. Lock the load cell by means of tightening the load cell stud
5. Remove the bracing members of Pfister structure
6. Remove all the holding bolts except Red colored 3 no bolts
7. Disconnect the aeration airlines connection
8. Fix the dismantling fixture at 3 positions & take the load on the fixture
9. Loose Red colored bolts
10. Start lowering the Pfister pump equally by means of fixture
11. Take out the Pfister Rotor.



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#### b) Assembly:

1. Take the Pfister pump in position
2. Fix the fixture at 3 positions & take the load on the fixture
3. Start lifting the Pfister pump equally by means of fixture
4. After complete lifting take the load on 3 no's red colored bolts.
5. Maintain the gap of 0.30mm(0.25 to 0.35mm) by adjusting the red color bolts.
6. Ensure the free rotation of Pfister pump by rotating with handle.
7. Fix all the remaining bolts.
8. Take the load on red color bolts only, remaining all the bolts must be free.
9. Assemble the air header
10. Connect the aeration air lines.
11. Fix the bracing members of Pfister structure
12. Unlock the load cell by means of loosening the load cell stud
13. Connect the motor terminal connection & Tacho connections
14. Take the trial run & release for the operation.

#### **Emergency / Emergency Shut OFF:**

If any injury takes place, provide First aid and inform to the Safety department or Call  
Emergency number 3108/9865152222

#### **Records/Annexure:**

1. Refer Line clearance/permit in mech department.
2. JSA is enclosed below.



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### JOB SAFETY ANALYSIS :( JSA)

<b>Job Safety Analysis</b>	Job:	Date: 01/09/2014	Analysis by: Section Engineer	Reviewed by: Section Head
Title of employee doing job: Section Engineer	Supervisor: Section Head	Department: Mech	Section: PYRO	Approved by: HOD Mechanical
Req'd/ recommended PPE: Safety helmet, Safety shoe, Gloves, Goggles, Gloves& Nose mask				
<b>Sequence of Basic Job Steps</b>	<b>Potential Hazards</b>	<b>Recommended Safe Job Procedure</b>	<b>What Could Go Wrong</b>	<b>Corrective Action</b>
Lock the load cell by means of tightening the load cell stud	Leg and hand injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of TOOLS AND TACKLES.
Remove the bracing members of Pfister structure	Leg, hand & body injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of TOOLS AND TACKLES.
Remove all the holding bolts except Red colored 3 no bolts	Leg, hand & body injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of TOOLS AND TACKLES.
Disconnect the aeration airlines connection	Health, Leg, hand & body injury	Use goggles & nose mask	During disconnect dust may come out.	Ensure air line is in close condition
Fix the dismantling fixture at 3 positions & take the load on the fixture	Leg and hand injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of TOOLS AND TACKLES.



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Loose Red colored bolts	Leg and hand injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of TOOLS AND TACKLES.
Start lowering the Pfister pump equally by means of fixture	Health, Leg, hand & body injury	Use goggles, proper tools & nose mask	During lowering dust may come out.	Ensure no body below the rotor assembly
Take out the Pfister Rotor.	Leg and hand injury	Use proper tools and tackles so that fasteners will not slip	Rotor may unbalance /slip and tools may hit to the hand and leg	Ensure Use/working condition of TOOLS AND TACKLES.
Reposition& lift the rotor and assemble all the dismantled parts.	Leg, hand & body injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg & negligence may lead to accident	Ensure Use/working condition of TOOLS AND TACKLES.
Remove the load cell lock	Leg and hand injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of TOOLS AND TACKLES.
Re fix the fixture and open the slide gate and set air pressure.	Leg, hand & body injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg & negligence may lead to accident	Ensure Use/working condition of TOOLS AND TACKLES.
Remove all the energy isolation	Leg and hand injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of TOOLS AND TACKLES.