



**DALMIA CEMENT (B) LIMITED – CEMENT PLANT  
ARIYALUR  
MECHANICAL DEPARTMENT**

Issue No. 02	Rev. No: 00	Effective Date: 01.11.2019	SOP/MEC/157
Issued By: M.R		Approved By: HOD MECHANICAL	
SOP FOR AIR COMPRESSOR DURING HYDRA MAINTENANCE			

**Scope** : This SOP is applicable to Safe working for Air Compressor during Hydra Maintenance.

**Responsibility** : Hydra maintenance Engineer

**Accountability** : Section Head – Utility operation

**PPE:**

1. Safety helmet,
2. Goggles,
3. Safety shoe,
4. Nose Mask,
5. Face shield,
6. Hand Gloves,
7. Ear plug.

**Tools:**

1. High pressure hose
2. Box Spanner set
3. Ring Spanner set
4. Waste oil collecting tray.
5. Waste oil collecting drum
6. Waste cloth for cleaning

**Hazards/Aspects & Impact:**

**Risks associated**

Hose/Pipe Burst

High pressure air  
exposure with human being for  
cleaning the dust  
Air receiver burst

High Noise level

**Mitigating Measures**

Switch OFF the pump and change the hose/Pipe.  
Monitor the pressure gauge and hose periodically.

Wear full body Apron and Face shield.  
Periodic maintenance of Safety relief valve.  
Periodic testing of High pressure vessels.  
Wear Ear plug

**Training needs:**

1. Lubrication handling system
2. Emergency preparedness
3. Compressor safe operating procedure



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**Procedure:**

➤ **Safe operation procedures:**

1. Always parking the Hydra vehicles in a designated area with proper wheel chocks.
2. Take General work permit for Cleaning or service activity.
3. Keep the servicing area neat and well organized. Sweep or pick up all trash and debris daily or as needed, before it is carried away during cleaning activity.
4. Inspect the parking vehicles having any fuel leakages or not. If any leakages are found inform your operator/Section Incharge/supervisor for taking necessary action to close or isolate the leakages.
5. Ensure no slip/trip hazards are present in workplaces and walkways.
6. Use proper PPE'S while cleaning the Hydra equipments.
7. Before starting the compressor, be sure that the manual and all warning signs have been completely read.
8. Delivery hose should be properly labeled that carry compressed air and the direction of air flow correctly labeled with an arrow. Shutoff valves should be properly labeled and identified so that air can be shut off quickly in an emergency situation.
9. Hoses, fittings, regulators, and valves should be inspected periodically for leaks, damage, and other defects.
10. Goggles must be worn over safety glasses when cleaning with compressed air.
11. Check that all fittings and connections are in good condition prior to starting.
12. Start the compressor noting pressure increase and cut-out/cut-in pressure.
13. Listen for any air leaks from any flexible airlines and immediately report if any leaks are observed.
14. Adjust pressure regulator to suit work requirements.
15. Check the compressor at regular intervals.
16. DO NOT use compressed air to:
  - a. Transfer flammable liquids.
  - b. Static electricity build-up can discharge and ignite the liquid.
  - c. Empty containers. The container could rupture due to excessive internal pressure.
  - d. Clean clothes, hair, or skin.
17. When using compressed air, direct air away from eyes and skin. Keep safe distance during cleaning activity.



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18. All necessary guards & safety devices are in place protecting operators from all moving & rotating parts.
19. Operators are required to remove all jewellery, tuck in loose clothing & tie back long hair.
20. Procedures are in place for the disposal of all waste materials around all workspaces where any air compressor activities are to be performed.
21. Wherever possible, practical work benches are planned & adjusted to a comfortable work height thus minimizing any unsafe or excessively strenuous manual tasks.
22. Air compressors are regularly maintained to help reduce high noise, vibration, temperature & dust levels.

**Emergency / Emergency Shut OFF:**

1. If any Electrical hazard is there, first switch OFF the main and inform to the Section Electrical Authority.
2. If any Emergency, Call Safety department or Call Emergency number 3108/9865152222/9750963761.
3. If any hose pipe got punctured or burst, then stop compressor with an Emergency switch.

**Records/Annexure:**

1. Refer General work permit register.
2. JSA as enclosed below.



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**JOB SAFETY ANALYSIS : (JSA)**

<b>Job Safety Analysis</b>	Job: Using Air compressor for Hydra maintenance.	Date: 15.5.2018	Analysis by: section engineer	Reviewed by: Section head
Title of employee doing job: Helper	Supervisor: Hydra incharge	Department: Mechanical	Section: Utility	Approved by: HOD
Req'd/recommended PPE: Ear plug, Safety helmet, Safety shoe, Nose Mask, Hand Gloves, Goggles and Face shield.				
<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>
Checking and operation of Compressor	Exposure of high air pressure to the body  High noise level	Use full body Apron suit  Use proper PPE	Body injury  Hearing Loss	Periodical checking tool box training & Pep talk
	Air hose hit the person	Check the tightness of the hose joints by checklists, Periodic hose maintenance and replacement. Maintained the safe distance.	Bursting of air hose and Body injury	Periodical checking tool box training & Pep talk
Cleaning of Air filter	Dust emission	Use proper PPE and use 2 bar pressure to clean the air filter	Dust inhalation	Ensure using of nose mask and use low pressure air to clean the filter