

# Industrial Air Compressor Plant Safety Checklist

|                |       |         |       |
|----------------|-------|---------|-------|
| Site / Project | _____ | Address | _____ |
| Inspector name | _____ | Company | _____ |
| Date           | _____ | Time    | _____ |

*Documentation aid only. Adapt this resource to the site, manufacturer instructions, and applicable local requirements. It does not replace a competent person, professional judgment, legal advice, or a required statutory form.*

## Inspection checklist

### Air Receiver Inspection

|                                                                                                                                                       |                               |                               |                              |              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------|------------------------------|--------------|
| <input type="checkbox"/> Verify air receiver ASME nameplate indicates a pressure rating exceeding the compressor's maximum discharge pressure.        | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> Confirm the air receiver has undergone a hydrostatic test within the last 5 years, documented with a valid test certificate. | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> Inspect the air receiver exterior for signs of corrosion, pitting, or damage; document findings with photos.                 | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> If accessible, perform an internal inspection of the air receiver for corrosion and scale buildup; document findings.        | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> Check the air receiver supports for structural integrity, ensuring they are securely anchored and free from corrosion.       | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> Verify the air receiver drain valve operates freely and completely drains accumulated condensate.                            | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> Confirm the air receiver pressure gauge is accurate within +/- 2% of the actual pressure, using a calibrated test gauge.     | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> Ensure the pressure relief valve (PRV) has sufficient CFM capacity to relieve the compressor's maximum output.               | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |

|                          |                                                                                                            |                               |                               |                              |              |
|--------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------|------------------------------|--------------|
| <input type="checkbox"/> | Verify the PRV setpoint is at or below the air receiver's maximum allowable working pressure (MAWP).       | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Confirm the PRV has been tested within the last 12 months and is documented with a valid test certificate. | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Ensure the PRV discharge is piped to a safe location, away from personnel and equipment.                   | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |

## Air Compressor System Components

|                          |                                                                                                                |                               |                               |                              |              |
|--------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------|------------------------------|--------------|
| <input type="checkbox"/> | Check the air compressor oil level and ensure it is within the manufacturer's recommended range.               | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Inspect the air compressor for oil leaks around seals, fittings, and gaskets; repair as needed.                | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Examine the air compressor air filter and replace if dirty or clogged.                                         | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Verify the air compressor cooling system (air or water) is functioning correctly and free from obstructions.   | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | If applicable, check the air compressor belt tension and adjust as needed to prevent slippage.                 | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Monitor the air compressor discharge temperature and ensure it is within the manufacturer's recommended range. | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Verify the aftercooler is functioning correctly to reduce air temperature and moisture content.                | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Inspect condensate traps for proper operation; ensure they are discharging condensate effectively.             | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Monitor air compressor vibration levels; investigate and correct any excessive vibration.                      | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Inspect all electrical connections for tightness and signs of corrosion; tighten or replace as needed.         | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Test the air compressor emergency shutdown system to ensure it functions correctly.                            | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |

## Piping and Air Line Safety

|                          |                                                                                                 |                               |                               |                              |              |
|--------------------------|-------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------|------------------------------|--------------|
| <input type="checkbox"/> | Verify all air lines are rated for the maximum operating pressure of the system.                | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Ensure air line materials are compatible with the compressed air and any additives (e.g., oil). | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |

|                          |                                                                                                              |                               |                               |                              |              |
|--------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------|------------------------------|--------------|
| <input type="checkbox"/> | Inspect all air lines for leaks using a soap solution or ultrasonic leak detector; repair leaks immediately. | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Verify air lines are properly supported with adequate spacing to prevent sagging or stress.                  | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Ensure all air lines are clearly identified with their contents and pressure rating.                         | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Inspect flexible air line connections for wear, damage, or kinks; replace as needed.                         | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Check quick-disconnect fittings for proper locking and sealing; replace if damaged.                          | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Ensure safety whips are installed on all air hoses to prevent whipping in case of hose failure.              | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Verify all metallic air lines are properly grounded to prevent static electricity buildup.                   | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Ensure air lines are routed to avoid physical damage from traffic, equipment, or other hazards.              | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Verify air lines are sloped to allow for proper drainage of condensate.                                      | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |

## Noise and Environmental Controls

|                          |                                                                                                                                              |                               |                               |                              |              |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------|------------------------------|--------------|
| <input type="checkbox"/> | Conduct noise level monitoring around the air compressor plant to ensure compliance with OSHA permissible exposure limits (PELs).            | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Ensure appropriate hearing protection (earplugs or earmuffs) is readily available for personnel working in high-noise areas.                 | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Verify personnel are using hearing protection correctly in designated high-noise areas.                                                      | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | If noise barriers are in place, inspect them for damage or deterioration and ensure they are effectively reducing noise levels.              | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Check vibration dampening mounts on the air compressor to ensure they are in good condition and effectively reducing vibration transmission. | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Verify adequate ventilation is provided to prevent the buildup of heat or fumes in the air compressor plant.                                 | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |

|                          |                                                                                                                                       |                               |                               |                              |              |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------|------------------------------|--------------|
| <input type="checkbox"/> | Ensure oil spill containment measures are in place to prevent environmental contamination in case of leaks or spills.                 | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Verify waste oil is being disposed of properly in accordance with environmental regulations.                                          | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | If the air compressor is enclosed, check the enclosure for proper ventilation and access for maintenance.                             | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Ensure appropriate signage and warnings are posted in the air compressor plant, including noise hazard warnings and PPE requirements. | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |

## Documentation and Training

|                          |                                                                                                                                                       |                               |                               |                              |              |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------|------------------------------|--------------|
| <input type="checkbox"/> | Verify up-to-date operating procedures for the air compressor plant are readily available and accessible to all personnel.                            | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Review maintenance records to ensure regular maintenance is being performed on the air compressor and associated equipment.                           | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Review previous inspection reports to identify any recurring issues or trends.                                                                        | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Verify all personnel working in the air compressor plant have received adequate training on safe operating procedures and emergency response.         | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Ensure an emergency response plan is in place for the air compressor plant, including procedures for responding to fires, leaks, and other incidents. | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Verify lockout/tagout procedures are in place and being followed for all maintenance and repair work on the air compressor and associated equipment.  | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Confirm that pressure vessel inspection records are current and readily available for review.                                                         | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Verify that pressure relief valves have current certifications and are properly documented.                                                           | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Ensure that Material Safety Data Sheets (MSDS) or Safety Data Sheets (SDS) are readily available for all chemicals used in the air compressor plant.  | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |
| <input type="checkbox"/> | Verify that the air compressor plant is adequately secured to prevent unauthorized access.                                                            | <input type="checkbox"/> Pass | <input type="checkbox"/> Fail | <input type="checkbox"/> N/A | Notes: _____ |

## Findings

| # | Item | Location | Severity | Action required |
|---|------|----------|----------|-----------------|
| 1 |      |          |          |                 |
| 2 |      |          |          |                 |
| 3 |      |          |          |                 |
| 4 |      |          |          |                 |
| 5 |      |          |          |                 |
| 6 |      |          |          |                 |
| 7 |      |          |          |                 |
| 8 |      |          |          |                 |

## Signature

Inspector signature \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_