

Operating Instructions of Air tank

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The air tank is pressure vessel mainly used to store compressed air, control air using load, and supply air in retardation time. Its installation, using inspection and testing, repair and transformation all shall be strictly according to Supervision Regulation on Safety Technology for Stationary Pressure Vessel (hereinafter referred to as Vessel's Regulations) and the Special Type Equipment Safety Supervision Rules.

1. Installation of air tank

1.1 The unit which engages in air tank installation must be a unit which has obtained relevant pressure vessel manufacture qualification or an installation unit which has been approved by provincial grade safety supervision organization of the installation unit's seat.

1.2 The air tank shall be better to use concrete foundation. For foundation construction, the user can do determination according to the equipment's maximum weight, total height and as well as the soil compressive strength of the installation field etc. In installation correcting the non-perpendicularity of air tank body shall be controlled into the range of being $\leq 1/1000$.

1.3 If the installation distance of air tank and air compressor is too near, after long term of running, the positions of air tank support and intake pipe etc shall easily produce vibration crack. So the installation distance between the air tank and air compressor shall not be less than 2 meters.

1.4 The company engaged in installation for air tank shall be a corresponding manufacture license holder or a installation license holder.

1.5 Before air tank being used, the air tank user unit shall go to safety supervision organization or authorized department to transact registration procedure for the air tank one by one. Only after the inspection by the organization being qualified and the Use Permit for Pressure Vessel being issued the air tank can be used.

2. Use of air tank.

2.1 The air tank using unit shall establish pressure vessel safety management system, and technical files, completed technological operation regulations and post operation regulations for in-use air tank according to the Vessel's Regulations. And the major technical responsibility persons of the using unit shall take charge of the pressure vessel's safety technical supervisory work.

2.2 For oil lubrication compressor, the air shall be done oil and water removal treatment. Only after the oil content, water vapor content and as well as solid particle size and concentration grade of compressed air of the compressor meet with the regulations of appendix A of the GB/T13277-91 General Use Compressed Air Quality Grade, the air can be entered into air tank

2.3 For oil lubrication compressor, it shall do regular inspection to all pipelines, vessels(air container) and accessories between air vent and places where the compressed air is 80°C,all primer fouling shall be removed effectively (including primer fouling in cylinder end of compressor)--excerpted from article 23.13 Of GB10892-89.

2.4 The operating personnel of using unit must held post certificate to work at the relevant working post. And regular professional training and safety education shall be done. The over pressure and over-temperature using is strictly prohibited,it shall guarantee the air tank running at normal operating conditions. The operating personnel must do running check to guarantee the safety accessories have reliable sensitivity, and guarantee safety accessories run normally,in case of failure or accuracy not reaching the requirements of regulation, they shall be replaced immediately.

2.5 Whereas the oil and air contact in air compressor, in case of temperature being too high,it shall produce easily primer fouling and lead to primer fouling spontaneous combustion and oil explosion and taking fire. So the temperature of compressed air entering into air tank is strictly prohibited to exceed the design temperature of air tank. In order to avoid outlet temperature heightening, the air compressor must be done over-temperature stop device inspection on schedule and regular inspection to heat transfer surface(filter,separator and cooler) and cleaning. For to-and-fro piston air compressor, the after-cooler must be installed.

2.6 The in-use air tank of using unit shall be done regular inspection, evaluating safety condition and transacting registration according to regulations of the Pressure Vessel Regular Inspection Rules and the Pressure Vessel Use Registration Rules.

2.7 When the material of air tank is Q235-B,the operating ambient temperature shall exceed 20°C;when the material of air container is Q345R, the operating ambient temperature shall exceed-15°C(except for air container which needs increasing heat insulation measures).

3. Maintenance and safety accessories of air tank

3.1 According to actual service behavior, it is to do pollution discharge according to fixed time and regular cleaning, to guarantee the air quality in container. Using naked flame around and on air tank is strictly prohibited; Using naked flame to inspect the interior condition of air tank is prohibited.

3.2 The maintenance and repair and technological transformation to air tank must be carried out strictly according to regulations of the Vessel's Regulations. Without authorization the user unit shall not do repair technological transformation or changing the air container into pressure vessel which does not conform with the original design.

3.3 When air tank is in state of being pressed, it shall not do any maintenance and repair (including fastening bolts etc) and as well as hammer the air tank and impact other object.

3.4 When the maximum volumetric flow of compressor (that is the actual air input of air tank) exceeds the discharge volume of safety valve of air tank, the using unit shall install pressure-relieving device in its system.

3.5 The safety accessories of air tank (safety valve, pressure meter etc.) shall be done periodic inspection (the dates for periodic inspection shall be according to the manufacture date of safety accessories in general), the safety valve shall be checked once a year in general; and the pressure meter shall be checked once every 6 months.

4. Explanation

4.1 If there are air tank users who operate the air tank not according to the above clauses, the caused primer fouling spontaneous combustion and oil explosion all shall be in full charge of using unit.