

WAC 296-826-50010 Nonrefrigerated stationary containers.

Important:

In addition to this section, you need to follow the Appurtenances requirements for all systems, WAC 296-826-50005.

(1) You must make sure all containers are equipped with all of the following:

- (a) An approved vapor return valve;
- (b) A fixed maximum liquid level gauge;
- (c) A pressure gauge that is both:
 - (i) Graduated from zero to 400 psig; and
 - (ii) Designed for use in ammonia service.

(2) You must provide one or more spring-loaded safety relief valves, or an equivalent type, on all containers.

(3) You must make sure safety relief valves do all of the following:

- (a) Discharge in the following ways:
 - (i) Away from the container in an upward, unobstructed manner into the atmosphere;
 - (ii) Not in or beneath a building.
- (b) Have raincaps that allow free discharge of the vapor and prevent the entrance of water;
- (c) Have a method for draining accumulated condensation;
- (d) Have a start to discharge, related to the design pressure of the container, according to Table 6, Safety Valve Start to Discharge Rate;
- (e) Are arranged to minimize the possibility of tampering;
- (f) Are provided, when the pressure setting adjustment is external, with a means of sealing the adjustment;
- (g) Have direct communication with the vapor space of the container.

Note: Vent pipes from 2 or more safety relief devices located on the same unit, or similar lines from 2 or more different units, may be run into a common header if the cross-sectional area of the header is at least equal to the sum of the cross sectional areas of the individual vent pipes.

(4) You must protect container appurtenances against physical damage and during transit of containers intended for underground installation.

(5) You must make sure shut off valves are not installed between the safety relief valve and the container or system. A shut off valve may be used if arranged so that the required capacity flow is maintained.

EXEMPTION: You are exempt from the requirement not to install the shut off valve between the safety relief valve and the container or systems in the following situations:

- 1. A three-way valve installed under two safety relief valves, each with:
 - a. The required rate of discharge; and
 - b. Installed to allow either of the safety relief valves to be closed off but not at the same time.
- 2. Two separate relief valves are installed with individual shut off valves.
- 3. The two shut off valve stems must be mechanically interconnected to allow the full required flow of one safety relief valve at all times.
- 4. When a safety relief valve manifold that allows:
 - a. One valve of two or more to be closed off; and
 - b. The remaining valve or valves will provide not less than the rate of discharge shown on the manifold nameplate.

(6) You must make sure vapor and liquid connections have either of the following:

- (a) An approved excess flow valve; or
- (b) An approved quick-closing internal valve that remains closed except during operation.

EXEMPTION: The following do not need to be fitted with excess flow valves:

- 1. Safety relief valves.
- 2. Liquid level gauging devices that require both of the following:
 - a. Bleeding of the product into the atmosphere;
 - b. Construction so that outward flow will not exceed that passed by a No. 54 drill size opening.Those with openings from the containers or through fittings that are attached directly onto the container where pressure gauge connections are made as long as: The openings are not larger than a No. 54 drill size.

(7) You must follow additional requirements found in Table 9, Appurtenances for Nonrefrigerated Stationary Containers.

Table 9
Appurtenances for Nonrefrigerated Stationary Containers

If you have:	Then make sure they:
Columnar-type gauges	<ol style="list-style-type: none"> 1. Are restricted to stationary storage installations. 2. Are shielded against the direct rays of the sun. 3. Are equipped with all of the following: <ol style="list-style-type: none"> a. Shut off valves having metallic hand-wheels; b. Excess flow valves; c. Extra heavy glass that is adequately protected with a metal housing applied by the gauge manufacturer.
Main shut off valves	<p>Are kept closed and locked when the installation is unattended.</p> <p>Exemption: Valve locks are not required if the facility is protected against tampering by fencing or other suitable means.</p>
Filling connections	<p>Are provided with one of the following:</p> <ol style="list-style-type: none"> 1. Combination back-pressure check valve and excess flow valve. 2. One double or two single back-pressure check valves. 3. A positive shut off valve in conjunction with either an internal back-pressure check valve or an internal excess flow valve.
Underground installations with a probability of the manhole or housing becoming flooded	<ol style="list-style-type: none"> 1. Have vent lines located above the high water level. 2. Have manholes or housings with ventilated louvers or their equivalent with the area of their openings equal or exceeding the combined discharge areas of the safety relief valves and vent lines which discharge their content into the manhole housing.
Hydrostatic relief valves	<p>Are installed between each pair of valves in the liquid ammonia piping or hose.</p>

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050. WSR 15-23-086, § 296-826-50010, filed 11/17/15, effective 12/18/15. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. WSR 06-10-067, § 296-826-50010, filed 5/2/06, effective 9/1/06.]