

Automatic or manual alternation of pumps shall allow division of operating time. If automatic alternation of pumps is not provided, the facility staff shall arrange a schedule for manual alternation. [NFPA 99:5.1.3.6.6.1, 5.1.3.6.6.2]

1325.2 The medical–surgical vacuum pumps shall exhaust in a manner and location that will minimize the hazards of noise and contamination to the facility and its environment.

The exhaust shall be located as follows:

- (1) Outdoors.
- (2) Not less than 3m (10 ft.) from any door, window, air intake, or other openings in buildings.
- (3) At a level different from air intakes.
- (4) Where prevailing winds, adjacent buildings, topography, or other influences that would not divert the exhaust into occupied areas or prevent dispersion of the exhaust.

The end of the exhaust shall be turned down and screened or otherwise be protected against the entry of vermin, debris, or precipitation by screening fabricated or composed of a non-corroding material.

The exhaust shall be piped of materials approved for medical–surgical vacuum piping under Section 1315.1 (Vacuum tubes).

The exhaust shall be free of dips and loops that might trap condensate or oil. Where such low points are unavoidable, a drip leg and valved drain shall be installed. [NFPA 99:5.1.3.6.7.1 - .5]

1325.2.1 Vacuum exhausts from multiple pumps shall be permitted to be joined together to one common exhaust where the following conditions are met:

- (1) The common exhaust is sized to minimize back-pressure in accordance with the pump manufacturer's recommendations.
- (2) Each pump can be isolated by manual or check valve, blind flange, or tube cap to prevent open exhaust piping when pumps are removed for service and consequent flow of exhaust air into the room. [NFPA 99:5.1.3.6.7.6]

1325.3 Receivers for vacuum shall meet the following requirements:

- (1) Be made of ferrous and/or nonferrous materials.
- (2) Comply with Section VIII, Unfired Pressure Vessels, of the *ASME Boiler and Pressure Vessel Code* or equivalent International Standard(s) approved by the Authority Having Jurisdiction.
- (3) Be capable of withstanding a gauge pressure of 4.1bar (60 psi) and 76cm (29.9 in.) gauge HgV.
- (4) Be equipped with a manual drain.

- (5) Be of a capacity based on the technology of the pumps. [NFPA 99:5.1.3.6.3]

1325.4 Piping between vacuum pumps, discharges, receivers, and the vacuum main line valve shall be in accordance with Section 1315.0, except that stainless, galvanized, or black steel pipe shall be permitted to be used. [NFPA 99:5.1.3.6.1.2(5)]

Drains shall be installed and terminate in an approved location.

1326.0 Testing and Inspection.

1326.1 Inspection and testing shall be performed on new piped gas systems, additions, renovations, temporary installations, or repaired systems, to ensure the facility, by a documented procedure, that the applicable provisions of this document have been adhered to and system integrity has been achieved or maintained. [NFPA 99:5.1.12.1.1.]

1326.1.1 Tests and inspections required by this section shall not be interpreted to conflict with the requirements of NFPA 99, *Standard for Health Care Facilities* or equivalent International Standard(s) approved by the Authority Having Jurisdiction. For requirements of the portions of medical gas and medical vacuum systems testing and inspection not addressed in this chapter or medical gas and medical vacuum systems testing and inspection beyond the scope of this chapter, refer to NFPA 99, *Standard for Health Care Facilities* or equivalent International Standard(s) approved by the Authority Having Jurisdiction.

1326.2 Systems that are breached and components that are subject to additions, renovations, or replacement (e.g., new gas sources: bulk, manifolds, compressors, dryers, alarms) shall be inspected and appropriately tested. [NFPA 99:5.1.12.1.3]

1326.2.1 Systems shall be deemed breached at the point of pipeline intrusion by physical separation or by system component removal, replacement, or addition.

Breached portions of the systems subject to inspection and testing shall be confined to only the specific altered zone and components in the immediate zone or area that is located upstream for vacuum systems and downstream for pressure gases at the point or area of intrusion. [NFPA 99:5.1.12.1.4, 5.1.12.1.5]

1326.3 Advance Notice. It shall be the duty of the person doing the work authorized by the permit to notify the Authority Having Jurisdiction, orally or in writing, that said work is ready for inspection. Such notification shall be given not less than 24 hours before the work is to be inspected.