

**2021 ASSE 6000 Worksheet #2**

- 1) Dedicated sources of oxygen USP and nitrogen NF, which supply a medical air proportioning system, \_\_\_\_\_ require \_\_\_\_\_ sources.
- a) shall; reserve
  - b) shall not; reserve 5.1.3.6.3.14(A)(7)**
  - c) shall; redundant
  - d) shall not; local signal alarm
- 2) Medical air dryers shall be designed to provide air at a maximum dew point that is below the frost point of \_\_\_\_\_ at 50 to 55 PSI.
- a) 32° F 5.1.3.6.3.7(1)**
  - b) 35° F
  - c) -32° F
  - d) -40° F
- 3) The medical air intake shall be located a minimum distance of \_\_\_\_\_ ft. from ventilating system exhausts, fuel storage vents, combustion vents, plumbing vents, and vacuum discharges.
- a) 10
  - b) 20
  - c) 25 5.1.3.6.3.11(B)**
  - d) 30
- 4) A category 1 medical air proportioning system shall produce medical air with an oxygen concentration of \_\_\_\_\_ percent.
- a) 19.5 to 21.5
  - b) 19 to 23.5
  - c) 19.5 to 23.5 5.1.3.6.3.14(A)(1)(C)**
  - d) 19.5 to 20.5
- 5) Medical air proportioning systems shall have mixing devices with at least \_\_\_\_\_ oxygen analyzers.
- a) 1
  - b) 2 5.1.3.6.3.14(C)(2)(A)**
  - c) 3
  - d) 4

- 6) Liquid ring medical air compressors shall have service water and seal water treated to control:
- a) Particulate
  - b) Hydrocarbons
  - c) Waterborne pathogens 5.1.3.6.3.4(B)**
  - d) Waterborne particulate
- 7) The medical air intake shall be located a minimum distance of \_\_\_\_\_ ft. from any door, window, or other opening in the building.
- a) 25
  - b) 10 5.1.3.6.3.11(D)**
  - c) 15
  - d) 20
- 8) Medical air intakes for separate compressors which are joined together to one common intake may have each compressor isolated by:
- a) Manual valve
  - b) Check valve
  - c) Blind flange
  - d) Any of these 5.1.3.6.3.11(G)**
- 9) Medical air dewpoint shall be monitored and shall activate a local alarm and all master alarms when the dewpoint at system pressure exceeds:
- a) 32° F
  - b) 35° F 5.1.3.6.3.13(1)**
  - c) 39° F
  - d) 40° F
- 10) Medical air quality shall be monitored for carbon monoxide and shall activate an alarm when the CO level exceeds:
- a) 5 PPM
  - b) 10 PPM 5.1.3.6.3.13(2)**
  - c) 20 PPM
  - d) 2 PPM

11) Medical air supply systems shall be required to:

- a) Meet the requirements of medical air USP
- b) Have no detectable liquid hydrocarbons
- c) Have less than 25 PPM gaseous hydrocarbons
- d) All of these 5.1.3.6.1(2)(3)(4)**

12) Medical air sources shall be used only for:

- a) Human respiratory applications 5.1.3.6.2**
- b) Air-operating devices
- c) Instrument air
- d) All of these

13) Medical air compressor systems shall have a(n) \_\_\_\_\_ means to prevent backflow through all off-cycle compressors.

- a) manual
- b) automatic 5.1.3.6.3.2(2)**
- c) semi-automatic
- d) all of the above

14) Medical air compressor systems shall have a pressure relief valve set at \_\_\_\_\_ percent above line pressure.

- a) 20
- b) 30
- c) 40
- d) 50 5.1.3.6.3.2(5)**

15) Receivers for medical air shall be equipped with:

- a) Relief valves
- b) Automatic and manual drains
- c) Sight glass
- d) All of these 5.1.3.6.3.6(3)**

16) When the backup or lag compressor is running, a(n) \_\_\_\_\_ alarm shall activate.

- a) master
- b) area
- c) local 5.1.3.6.3.12(F)**
- d) all of these

17) Medical air filters shall be located immediately upstream of the:

- a) After coolers
- b) Receiver
- c) Pressure indicator
- d) Final line regulator 5.1.3.6.3.8(2)**

18) Medical air filters shall be sized for 100 percent of the system peak calculated demand and be rated for a minimum of \_\_\_\_\_ percent efficiency at \_\_\_\_\_ micron or greater.

- a) 95; .5
- b) 98; 1 5.1.3.6.8(3)**
- c) 100; .1
- d) none of these

19) Medical air shall be sampled at a \_\_\_\_\_ NPS valved sample port downstream of the final line pressure regulator.

- a) 3/4"
- b) 1/2"
- c) 1/4" 5.1.3.6.3.9(K)**
- d) 1/8"

20) Where medical air piping systems at different operating pressures are required, the piping shall separate after the:

- a) Filters 5.1.3.6.3.9(M)**
- b) Final line regulators
- c) Relief valve
- d) Source valve

21) Medical air compressors shall be provided with a \_\_\_\_\_ restart function such that the compressors will be restarted after a power interruption.

- a) manual
- b) automatic 5.1.3.6.3.10**
- c) manual or automatic
- d) none of the above

22) The compressor air intakes shall be located outdoors above roof level at a minimum distance of \_\_\_\_\_ above the ground.

- a) 40 ft.
- b) 30 ft.
- c) 20 ft. 5.1.3.6.3.11(C)**
- d) 10 ft.

23) Where liquid ring compressors with air-water separators are used, when the liquid level is above the design level, a sensor activates a(n) \_\_\_\_\_ alarm.

- a) local 5.1.3.6.3.12(C)**
- b) area
- c) master
- d) all of the above

24) Compressors that are monitored for gaseous hydrocarbons shall be monitored on a(n) \_\_\_\_\_ basis.

- a) annual
- b) quarterly 5.1.3.6.3.12(E)(4)**
- c) monthly
- d) daily

25) All medical air source system controls shall manage the operation of the air compressors to:

- a) Equalize wear on all compressors 5.1.3.6.3.10**
- b) Measure contaminant levels at each compressor
- c) Ensure that only one compressor operates at a time
- d) All of these