Recommendations

1. Install the compressor on a level horizontal floor, suitable for taking the weight of the compressor. The location must be frost-free and preferably low dust location. The compressor unit must be installed on a level floor.

2. Compressed air outlet valve.

3. Delivery pipe. The pressure drop in the delivery pipe can be calculated from:
   - \( \Delta p = (L \times 450 \times Q_v \times 10^{-6}) / (d^4 \times P) \),
   - \( d \) = inner diameter of the pipe in mm
   - \( \Delta p \) = pressure drop in bar (recommended maximum: 0.1 bar (1.5 psi))
   - \( L \) = length of the pipe in m
   - \( P \) = absolute pressure at the compressor outlet in bar
   - \( Q_v \) = free air delivery of the compressor in l/s

4. Ventilation: The inlet grid(s) and ventilation fan should be installed in such a way that any recirculation of hot cooling air to the inlet gratings of the compressor/dryer is avoided. The air velocity to the grid(s) has to be limited to 5 m/s (16.5 ft/s).

   The maximum allowable pressure drop over the cooling air ducts is 50 Pa (0.12 in WC).

   When 50 Pa is exceeded, a ventilation fan is needed at the outlet of the cooling air ducts. The maximum air temperature at the compressor intake opening is 40°C (104 °F), the minimum is 0°C (32°F).

   Alternative 1 and 3: The required ventilation to limit the compressor room temperature can be calculated from:
   - \( Q_v = 0.92 \times \Delta t \) with
   - \( Q_v \) = required ventilation capacity in m³/s
   - \( N \) = nominal motor power of the compressor in kW
   - \( \Delta t \) = temperature increase in the compressor room in °C

   Alternative 2 and 4: The fan capacity should match the compressor fan capacity at a pressure head equal to the pressure drop caused by cooling air ducts.

5. Control cubicle with monitoring panel.

6. Mains cable entry.

7. Optional filters can be installed in the pressure line downstream the air outlet valve, e.g.:
   - A filter for general purpose filtration. The filter traps solid particles down to 1 micron.
   - A filter for filtration down to 0.01 micron. This filter must always be installed downstream of the general purpose filter.

   It is recommended to provide bypass pipes and valves across the filters in order to isolate the filters during maintenance without disturbing the compressed air delivery.

8. Safety valve.

9. The drain pipes to the drain must not dip into the water.

10. Compressor cooling air outlet.

11. Ventilation outlet.

12. Aftercooler and drying cooling air outlet.


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Reference Description
1 Minimum free area to be reserved for the compressor installation
2 Ventilation proposals