Direct-Fired Emissions

Direct-fired heating refers to heating equipment that burns gas directly in the fresh air stream resulting in the most efficient method of heat transfer. Direct-fired heaters generate the lowest cost per BTU of heating when compared to indirect-fired and electric strip heaters. Rupp has been a leading manufacturer of high quality and efficient direct fired heating equipment since 1965. Every Rupp direct-fired heater is designed and tested to produce the highest level of efficiency, safety, and comfort for years of operation.

Rupp direct-fired units offer a lower up front capital expense in comparison to other heat sources, as well as a lower cost to install due to no exhaust flues as required on indirect-fired units. Direct-fired heaters are well suited and widely accepted for applications such as commercial kitchens, service garages, transit facilities, factories, warehouses and paint-booths.

Listed below are standard emissions based on the HMA-2 Midco burner used in all Rupp direct fired heaters:

1. All direct-fired gas heaters are certified and listed to meet the newest harmonized ANSI and CSA standards. These standards are ANSI Z83.4/CSA 3.7 for Non Re-circulating Direct-Fired Heaters and ANSI Z83.18 for Re-circulating Direct-Fired Heaters.

2. Based on the standards, Direct-Fired Heaters must produce less than 5 ppm CO (Carbon Monoxide) and 4000 ppm CO2 (Carbon Dioxide). Rupp Direct Fired Heaters have been tested out at 4 ppm CO and CO2 was calculated on average to be 2250 ppm.

3. The HMA-2 burners produce between 0.040 lbs and 0.080 lbs of NOx per million BTU depending on the firing rate and the pressure drop. It roughly equates to between 40 and 85 ppm NOx at 3% Oxygen

4. The HMA-2 burners produce between 0.023 lbs and 0.047 lbs of NO2 per million BTU depending on the firing rate and the pressure drop. It roughly equates to between 20 and 40 ppm NO2 at 3% Oxygen