

Comparison of EN303-5 & EPA Method 28 WHH Results From a WHH Tested to Both Methods

Too much emphasis has been placed on perceived cleaner European hydronic heater technology when compared to U.S. hydronic heaters manufactured and tested to U.S. standards.

A direct comparison cannot be made between results of European and U.S. test methods because the test methods are drastically different. However, some States are attempting to.

Below are results from a U.S. manufactured Central Boiler hydronic heater that has been tested to both the EN303-5 and EPA Method 28 WHH.

| Comparison of EN303-5 & EPA Method 28 WHH Results | |
|---|------------------------------|
| | Emissions Per Heat Output |
| EN303-5 Results | 7.43 mg/MJ |
| EN303-5 Results Converted to US units | 0.017 lb/mmBTU |
| EN303-5 Results Converted to the State of Maine units | 0.046 lb/mmBtu |
| EPA Method 28 WHH (Cat. IV) Results | 0.18 lb/mmBTU |

- ✚ This model HH meets the cleanest class level attainable in EN303-5
- ✚ EN303-5 show results that are 1/10th that of the results from EPA Test Method 28 WHH.
- ✚ EN 303-5 results converted using the State of Maine's conversion show results 1/4th that of the results from EPA Test Method 28 WHH.
- ✚ Results from the EPA Phase 2 Program – 0.18 lbs/mmBTU heat output – coincidentally the Cat. IV results are the same as the Annual Average Emission Level.
- ✚ This model does not meet EPA's proposed Phase I level (because of the cap on highest individual test run - 11.9 g/hr), it does not meet the interim Phase or Phase II levels, yet meets the cleanest class level attainable in EN303-5.

European and Maine's measurement conversions should not be represented to demonstrate BSE for the proposed NSPS emission limits for hydronic heaters. While U.S. WHH testing can take a full week - testing 24/7; EN303-5 could be completed in 1 day.