Nationwide™ Boiler Incorporated

Boiler Rentals & Sales • Environmental Solutions • Control Solutions

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475 HP FIRETUBE BOILER

Maximum BTU/hr Input (ie: Rated Input @ High Fire / 100% Input Rating)	475 x 42,000 = 19,950,000 BTU
Cubic Feet of Natural Gas Required	19,950,000 ÷ 1,000 = 19,950 Cu Ft
Cubic Feet of Vaporized Propane Required	19,950,000 ÷ 2,500 = 7,980 Cu Ft
Gallons of Liquid Propane Required	19,950,000 ÷ 91,600 = 217.8 Gallons
Gallons of #2 Diesel Oil Required	19,950,000 ÷ 140,000 = 142.5 Gallons
Minimum BTU/hr Input at a 4:1 Turndown Ratio (Low Fire)	19,950,000 ÷ 4 = 4,987,500 BTU
Cubic Feet of Natural Gas Required	4,987,500 ÷ 1,000 = 4,987.5 Cu Ft
Cubic Feet of Vaporized Propane Required	4,987,500 ÷ 2,500 = 1,995 Cu Ft
Gallons of Liquid Propane Required	4,987,500 ÷ 91,600 = 54.44 Gallons
Gallons of #2 Diesel Oil Required	4,987,500 ÷ 140,000 = 35.6 Gallons
Maximum Steam Production in lbs/hr (High Fire)	475 x 34.5 = 16,387.5 lbs/hr
Maximum Water Evaporation Rate	475 x .069 = 32.7 GPM
Minimum Feedwater Pump Flow (on / off pump strategy)	32.7 x 2 = 65.4 GPM
Minimum Feedwater Pump Flow (modulating pump strategy)	32.7 x 1.5 = 49.05 GPM
Minimum Feedwater Tank Storage Requirement	328 Gallons
Steam Temperature at 200 psi Saturated	387 °F
BTU/hr Output, Based on 80% Efficiency at High Fire	19,950,000 x .80 = 15,960,000 BTU
BTU/hr Output, Based on 80% Efficiency at Low Fire	4,987,500 x .80 = 3,990,000 BTU
Square Feet Heating Surface (sq. ft. HS) at 5 sq. ft. per HP	475 x 5 = 2,375 Sq Ft
Minimum Steam Safety Relief Valve Capacity at Boiler Design	16,387.5 x 1.10 = 18,026.25 lbs/hr
Minimum Water Softener Flow Capacity at High Fire (always based upon 100% input)	32.7 x 2 = 65.4 GPM

HQ - Fremont, CA (510) 490-7100 **- Visalia, CA** (559) 623-9318
Washougal, WA (360) 335-1443 / **Alvin, TX** (800) 227-1966
True Nationwide Coverage & Beyond. Representatives Located Worldwide.

*For general use only, please contact Nationwide Boiler for equipment specific information.