Nationwide™ Boiler Incorporated

Boiler Rentals & Sales • Environmental Solutions • Control Solutions

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24/7 • (800) 227-1966
www.nationwideboiler.com

50 HP FIRETUBE BOILER

Maximum BTU/hr Input (ie: Rated Input @ High Fire / 100% Input Rating)	50 x 42,000 = 2,100,000 BTU
Cubic Feet of Natural Gas Required	2,100,000 ÷ 1,000 = 2,100 Cu Ft
Cubic Feet of Vaporized Propane Required	2,100,000 ÷ 2,500 = 840 Cu Ft
Gallons of Liquid Propane Required	2,100,000 ÷ 91,600 = 22.9 Gallons
Gallons of #2 Diesel Oil Required	2,100,000 ÷ 140,000 = 15 Gallons
Minimum BTU/hr Input at a 4:1 Turndown Ratio (Low Fire)	2,100,000 ÷ 4 = 525,000 BTU
Cubic Feet of Natural Gas Required	525,000 ÷ 1,000 = 525 Cu Ft
Cubic Feet of Vaporized Propane Required	525,000 ÷ 2,500 = 210 Cu Ft
Gallons of Liquid Propane Required	525,000 ÷ 91,600 = 5.73 Gallons
Gallons of #2 Diesel Oil Required	525,000 ÷ 140,000 = 3.75 Gallons
Maximum Steam Production in lbs/hr (High Fire)	50 x 34.5 = 1,725 lbs/hr
Maximum Water Evaporation Rate	50 x .069 = 3.45 GPM
Minimum Feedwater Pump Flow (on / off pump strategy)	3.45 x 2 = 6.9 GPM
Minimum Feedwater Pump Flow (modulating pump strategy)	3.45 x 1.5 = 5.175 GPM
Minimum Feedwater Tank Storage Requirement	34.51 Gallons
Steam Temperature at 110 psi Saturated	344.22 °F
BTU/hr Output, Based on 80% Efficiency at High Fire	2,100,000 x .80 = 1,680,000 BTU
BTU/hr Output, Based on 80% Efficiency at Low Fire	525,000 x .80 = 420,000 BTU
Square Feet Heating Surface (sq. ft. HS) at 5 sq. ft. per HP	50 x 5 = 250 Sq Ft
Minimum Steam Safety Relief Valve Capacity at Boiler Design	1,725 x 1.10 = 1,897.5 lbs/hr
Minimum Water Softener Flow Capacity at High Fire (always based upon 100% input)	3.45 x 2 = 6.9 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.