



## Vaughn Featherweight Indirect Fired Water Heater Recovery Rates for 200 °F Boiler

**Ratings assume set point temperatures of 200°F for the boiler and 130°F for the water heater**

Model: P30F						
HX Flowrate= 6 GPM						
	Inlet Water Temp °F:					
	40	50	60	70	80	
Boiler BTU/Hr.	Recovery Rate (Gallons Per Hr.)					
170,000	228.2	245.3	266.9	301.6	332.2	
160,000	<b>228.2</b>	245.3	266.9	301.6	332.2	
150,000	<b>224.9</b>	<b>245.3</b>	266.9	301.6	332.2	
140,000	<b>210.0</b>	<b>236.2</b>	<b>266.9</b>	<b>301.6</b>	332.2	
130,000	<b>195.0</b>	<b>219.3</b>	<b>240.0</b>	<b>297.9</b>	<b>332.2</b>	
120,000	<b>180.0</b>	<b>202.5</b>	<b>234.0</b>	<b>275.0</b>	<b>329.2</b>	
110,000	<b>165.0</b>	<b>185.6</b>	<b>214.5</b>	<b>252.1</b>	<b>301.8</b>	
100,000	<b>150.0</b>	<b>168.7</b>	<b>195.0</b>	<b>229.2</b>	<b>274.4</b>	
90,000	<b>135.0</b>	<b>151.8</b>	<b>175.5</b>	<b>206.3</b>	<b>246.9</b>	
80,000	<b>120.0</b>	<b>135.0</b>	<b>156.0</b>	<b>183.3</b>	<b>219.5</b>	
70,000	<b>105.0</b>	<b>118.1</b>	<b>136.5</b>	<b>160.4</b>	<b>192.0</b>	
60,000	<b>90.0</b>	<b>101.2</b>	<b>117.0</b>	<b>137.5</b>	<b>164.6</b>	
50,000	<b>75.0</b>	<b>84.4</b>	<b>97.5</b>	<b>114.6</b>	<b>137.2</b>	
40,000	<b>60.0</b>	<b>67.5</b>	<b>78.0</b>	<b>91.7</b>	<b>109.7</b>	
30,000	<b>45.0</b>	<b>50.6</b>	<b>58.5</b>	<b>68.8</b>	<b>82.3</b>	
20,000	<b>30.0</b>	<b>33.7</b>	<b>39.0</b>	<b>45.8</b>	<b>54.9</b>	
10,000	<b>15.0</b>	<b>16.9</b>	<b>19.5</b>	<b>22.9</b>	<b>27.4</b>	

For First Hour Ratings, add 22 Gallons

Model: P55F						
HX Flowrate= 6 GPM						
	Inlet Water Temp °F:					
	40	50	60	70	80	
Boiler BTU/Hr.	Recovery Rate (Gallons Per Hr.)					
170,000	228.2	245.3	266.9	301.6	332.2	
160,000	<b>228.2</b>	245.3	266.9	301.6	332.2	
150,000	<b>224.9</b>	<b>245.3</b>	266.9	301.6	332.2	
140,000	<b>210.0</b>	<b>236.2</b>	<b>266.9</b>	<b>301.6</b>	332.2	
130,000	<b>195.0</b>	<b>219.3</b>	<b>240.0</b>	<b>297.9</b>	<b>332.2</b>	
120,000	<b>180.0</b>	<b>202.5</b>	<b>234.0</b>	<b>275.0</b>	<b>329.2</b>	
110,000	<b>165.0</b>	<b>185.6</b>	<b>214.5</b>	<b>252.1</b>	<b>301.8</b>	
100,000	<b>150.0</b>	<b>168.7</b>	<b>195.0</b>	<b>229.2</b>	<b>274.4</b>	
90,000	<b>135.0</b>	<b>151.8</b>	<b>175.5</b>	<b>206.3</b>	<b>246.9</b>	
80,000	<b>120.0</b>	<b>135.0</b>	<b>156.0</b>	<b>183.3</b>	<b>219.5</b>	
70,000	<b>105.0</b>	<b>118.1</b>	<b>136.5</b>	<b>160.4</b>	<b>192.0</b>	
60,000	<b>90.0</b>	<b>101.2</b>	<b>117.0</b>	<b>137.5</b>	<b>164.6</b>	
50,000	<b>75.0</b>	<b>84.4</b>	<b>97.5</b>	<b>114.6</b>	<b>137.2</b>	
40,000	<b>60.0</b>	<b>67.5</b>	<b>78.0</b>	<b>91.7</b>	<b>109.7</b>	
30,000	<b>45.0</b>	<b>50.6</b>	<b>58.5</b>	<b>68.8</b>	<b>82.3</b>	
20,000	<b>30.0</b>	<b>33.7</b>	<b>39.0</b>	<b>45.8</b>	<b>54.9</b>	
10,000	<b>15.0</b>	<b>16.9</b>	<b>19.5</b>	<b>22.9</b>	<b>27.4</b>	

For First Hour Ratings, add 40 Gallons

Model: P80DF						
HX Flowrate= 14 GPM						
	Inlet Water Temp °F:					
	40	50	60	70	80	
Boiler BTU/Hr.	Recovery Rate (Gallons Per Hr.)					
290,000	414.0	455.0	454.2	519.0	598.6	
280,000	<b>414.0</b>	455.0	454.2	519.0	598.6	
270,000	<b>400.0</b>	<b>455.0</b>	454.2	519.0	598.6	
260,000	<b>385.2</b>	<b>433.3</b>	<b>454.2</b>	519.0	598.6	
250,000	<b>370.4</b>	<b>416.7</b>	<b>437.0</b>	<b>519.0</b>	598.6	
240,000	<b>355.6</b>	<b>400.0</b>	<b>419.5</b>	<b>502.9</b>	<b>598.6</b>	
230,000	<b>340.7</b>	<b>383.3</b>	<b>402.0</b>	<b>482.0</b>	<b>569.6</b>	
220,000	<b>325.9</b>	<b>366.7</b>	<b>384.5</b>	<b>461.0</b>	<b>544.8</b>	
210,000	<b>311.1</b>	<b>350.0</b>	<b>367.1</b>	<b>440.0</b>	<b>520.0</b>	
200,000	<b>296.3</b>	<b>333.3</b>	<b>349.6</b>	<b>419.1</b>	<b>495.3</b>	
190,000	<b>281.5</b>	<b>316.7</b>	<b>332.1</b>	<b>398.1</b>	<b>470.5</b>	
180,000	<b>266.7</b>	<b>300.0</b>	<b>314.6</b>	<b>377.2</b>	<b>445.7</b>	
170,000	<b>251.9</b>	<b>283.3</b>	<b>297.1</b>	<b>356.2</b>	<b>421.0</b>	
160,000	<b>237.0</b>	<b>266.7</b>	<b>279.7</b>	<b>335.3</b>	<b>396.2</b>	
150,000	<b>222.2</b>	<b>250.0</b>	<b>262.2</b>	<b>314.3</b>	<b>371.5</b>	

For First Hour Ratings, add 66 Gallons

Model: P120DF						
HX Flowrate= 14 GPM						
	Inlet Water Temp °F:					
	40	50	60	70	80	
Boiler BTU/Hr.	Recovery Rate (Gallons Per Hr.)					
400,000	581.3	607.0	616.1	680.0	816.6	
390,000	<b>581.3</b>	607.0	616.1	680.0	816.6	
380,000	<b>563.0</b>	<b>607.0</b>	616.1	680.0	816.6	
370,000	<b>548.1</b>	<b>607.0</b>	616.1	680.0	816.6	
360,000	<b>533.3</b>	<b>600.0</b>	616.1	680.0	816.6	
350,000	<b>518.5</b>	<b>583.3</b>	<b>616.1</b>	680.0	816.6	
340,000	<b>503.7</b>	<b>566.7</b>	<b>591.0</b>	680.0	816.6	
330,000	<b>488.9</b>	<b>550.0</b>	<b>573.6</b>	<b>680.0</b>	816.6	
320,000	<b>474.1</b>	<b>533.3</b>	<b>556.2</b>	<b>658.8</b>	<b>816.6</b>	
310,000	<b>459.3</b>	<b>516.7</b>	<b>538.9</b>	<b>638.2</b>	<b>795.4</b>	
300,000	<b>444.4</b>	<b>500.0</b>	<b>521.5</b>	<b>617.6</b>	<b>769.7</b>	
290,000	<b>429.6</b>	<b>483.3</b>	<b>504.1</b>	<b>597.0</b>	<b>744.1</b>	
280,000	<b>414.8</b>	<b>466.7</b>	<b>486.7</b>	<b>576.4</b>	<b>718.4</b>	
270,000	<b>400.0</b>	<b>450.0</b>	<b>469.3</b>	<b>555.8</b>	<b>692.7</b>	
260,000	<b>385.2</b>	<b>433.3</b>	<b>451.9</b>	<b>535.2</b>	<b>667.1</b>	
250,000	<b>370.4</b>	<b>416.7</b>	<b>434.6</b>	<b>514.7</b>	<b>641.4</b>	
240,000	<b>355.6</b>	<b>400.0</b>	<b>417.2</b>	<b>494.1</b>	<b>615.8</b>	
230,000	<b>340.7</b>	<b>383.3</b>	<b>399.8</b>	<b>473.5</b>	<b>590.1</b>	
220,000	<b>325.9</b>	<b>366.7</b>	<b>382.4</b>	<b>452.9</b>	<b>564.5</b>	
210,000	<b>311.1</b>	<b>350.0</b>	<b>365.0</b>	<b>432.3</b>	<b>538.8</b>	
200,000	<b>296.3</b>	<b>333.3</b>	<b>347.6</b>	<b>411.7</b>	<b>513.1</b>	
190,000	<b>281.5</b>	<b>316.7</b>	<b>330.3</b>	<b>391.1</b>	<b>487.5</b>	
180,000	<b>266.7</b>	<b>300.0</b>	<b>312.9</b>	<b>370.6</b>	<b>461.8</b>	
170,000	<b>251.9</b>	<b>283.3</b>	<b>295.5</b>	<b>350.0</b>	<b>436.2</b>	
160,000	<b>237.0</b>	<b>266.7</b>	<b>278.1</b>	<b>329.4</b>	<b>410.5</b>	
150,000	<b>222.2</b>	<b>250.0</b>	<b>260.7</b>	<b>308.8</b>	<b>384.9</b>	

For First Hour Ratings, add 96 Gallons



## Vaughn Featherweight Indirect Fired Water Heater Recovery Rates for 200 °F Boiler

**Ratings assume set point temperatures of 200°F for the boiler and 130°F for the water heater**

Model: P30F					
HX Flowrate= 4 GPM					
	Inlet Water Temp °F:				
	40	50	60	70	80
Boiler BTU/Hr.	Recovery Rate (Gallons Per Hr.)				
160,000	187.1	201.0	218.8	247.3	272.3
150,000	187.1	201.0	218.8	247.3	272.3
140,000	187.1	201.0	218.8	247.3	272.3
130,000	179.7	201.0	218.8	247.3	272.3
120,000	165.9	202.5	213.0	247.3	272.3
110,000	152.0	185.6	195.3	230.6	266.9
100,000	138.2	168.7	177.5	209.6	242.6
90,000	124.4	151.8	159.8	188.7	218.4
80,000	110.6	135.0	142.0	167.7	194.1
70,000	96.8	118.1	124.3	146.7	169.8
60,000	82.9	101.2	106.5	125.8	145.6
50,000	69.1	84.4	88.8	104.8	121.3
40,000	55.3	67.5	71.0	83.8	97.1
30,000	41.5	50.6	53.3	62.9	72.8
20,000	27.6	33.7	35.5	41.9	48.5
10,000	13.8	16.9	17.8	21.0	24.3

For First Hour Ratings, add 22 Gallons

Model: P55F					
HX Flowrate= 4 GPM					
	Inlet Water Temp °F:				
	40	50	60	70	80
Boiler BTU/Hr.	Recovery Rate (Gallons Per Hr.)				
160,000	187.1	201.0	218.8	247.3	272.3
150,000	187.1	201.0	218.8	247.3	272.3
140,000	187.1	201.0	218.8	247.3	272.3
130,000	179.7	201.0	218.8	247.3	272.3
120,000	165.9	202.5	213.0	247.3	272.3
110,000	152.0	185.6	195.3	230.6	266.9
100,000	138.2	168.7	177.5	209.6	242.6
90,000	124.4	151.8	159.8	188.7	218.4
80,000	110.6	135.0	142.0	167.7	194.1
70,000	96.8	118.1	124.3	146.7	169.8
60,000	82.9	101.2	106.5	125.8	145.6
50,000	69.1	84.4	88.8	104.8	121.3
40,000	55.3	67.5	71.0	83.8	97.1
30,000	41.5	50.6	53.3	62.9	72.8
20,000	27.6	33.7	35.5	41.9	48.5
10,000	13.8	16.9	17.8	21.0	24.3

For First Hour Ratings, add 40 Gallons

Model: P30F					
HX Flowrate= 8 GPM					
	Inlet Water Temp °F:				
	40	50	60	70	80
Boiler BTU/Hr.	Recovery Rate (Gallons Per Hr.)				
190,000	248.6	267.2	290.8	328.6	362.0
180,000	248.6	267.2	290.8	328.6	362.0
170,000	243.4	267.2	290.8	328.6	362.0
160,000	229.0	269.9	290.8	328.6	362.0
150,000	214.7	253.1	275.8	325.7	362.0
140,000	200.4	236.2	257.4	303.9	351.8
130,000	186.1	219.3	239.0	282.2	326.7
120,000	171.8	202.5	220.6	260.5	301.6
110,000	157.5	185.6	202.2	238.8	276.4
100,000	143.2	168.7	183.9	217.1	251.3
90,000	128.8	151.8	165.5	195.4	226.2
80,000	114.5	135.0	147.1	173.7	201.0
70,000	100.2	118.1	128.7	152.0	175.9
60,000	85.9	101.2	110.3	130.3	150.8
50,000	71.6	84.4	91.9	108.6	125.6
40,000	57.3	67.5	73.5	86.8	100.5
30,000	42.9	50.6	55.2	65.1	75.4
20,000	28.6	33.7	36.8	43.4	50.3
10,000	14.3	16.9	18.4	21.7	25.1

For First Hour Ratings, add 22 Gallons

Model: P55F					
HX Flowrate= 8 GPM					
	Inlet Water Temp °F:				
	40	50	60	70	80
Boiler BTU/Hr.	Recovery Rate (Gallons Per Hr.)				
190,000	248.6	267.2	290.8	328.6	362.0
180,000	248.6	267.2	290.8	328.6	362.0
170,000	243.4	267.2	290.8	328.6	362.0
160,000	229.0	269.9	290.8	328.6	362.0
150,000	214.7	253.1	275.8	325.7	362.0
140,000	200.4	236.2	257.4	303.9	351.8
130,000	186.1	219.3	239.0	282.2	326.7
120,000	171.8	202.5	220.6	260.5	301.6
110,000	157.5	185.6	202.2	238.8	276.4
100,000	143.2	168.7	183.9	217.1	251.3
90,000	128.8	151.8	165.5	195.4	226.2
80,000	114.5	135.0	147.1	173.7	201.0
70,000	100.2	118.1	128.7	152.0	175.9
60,000	85.9	101.2	110.3	130.3	150.8
50,000	71.6	84.4	91.9	108.6	125.6
40,000	57.3	67.5	73.5	86.8	100.5
30,000	42.9	50.6	55.2	65.1	75.4
20,000	28.6	33.7	36.8	43.4	50.3
10,000	14.3	16.9	18.4	21.7	25.1

For First Hour Ratings, add 40 Gallons