

(Effective until July 1, 2020)

WAC 51-11C-403235 Table C403.2.3(5)—Minimum efficiency requirements—Gas- and oil-fired boilers.

**Table C403.2.3(5)
Minimum Efficiency Requirements—Gas- and Oil-Fired Boilers**

Equipment Type ^a	Subcategory or Rating Condition	Size Category (Input)	Minimum Efficiency	Test Procedure
Boilers, hot water	Gas-fired	< 300,000 Btu/h	82% AFUE	10 C.F.R. Part 430
		≥ 300,000 Btu/h and ≤ 2,500,000 Btu/h ^b	80% E_t	10 C.F.R. Part 431
		> 2,500,000 Btu/h ^a	82% E_c	
	Oil-fired ^c	< 300,000 Btu/h	84% AFUE	10 C.F.R. Part 430
		≥ 300,000 Btu/h and ≤ 2,500,000 Btu/h ^b	82% E_t	10 C.F.R. Part 431
		> 2,500,000 Btu/h ^a	84% E_c	
Boilers, steam	Gas-fired	< 300,000 Btu/h	80% AFUE	10 C.F.R. Part 430
	Gas-fired - All, except natural draft	≥ 300,000 Btu/h and ≤ 2,500,000 Btu/h ^b	79% E_t	10 C.F.R. Part 431
		> 2,500,000 Btu/h ^a	79% E_t	
	Gas-fired-natural draft	≥ 300,000 Btu/h and ≤ 2,500,000 Btu/h ^b	77% E_t	
		> 2,500,000 Btu/h ^a	77% E_t	
	Oil-fired ^c	< 300,000 Btu/h	82% AFUE	10 C.F.R. Part 430
		≥ 300,000 Btu/h and ≤ 2,500,000 Btu/h ^b	81% E_t	10 C.F.R. Part 431
		> 2,500,000 Btu/h ^a	81% E_t	

For SI: 1 British thermal unit per hour = 0.2931 W.

- E_c = Combustion efficiency (100 percent less flue losses).
- E_t = Thermal efficiency. See referenced standard document for detailed information.

- a These requirements apply to boilers with rated input of 8,000,000 Btu/h or less that are not packaged boilers and to all packaged boilers. Minimum efficiency requirements for boilers cover all capacities of packaged boilers.
- b Maximum capacity minimum and maximum ratings as provided for and allowed by the unit's controls.
- c Includes oil-fired (residual).

[Statutory Authority: RCW 19.27A.025, 19.27A.160, and 19.27.074. WSR 16-03-072, § 51-11C-403235, filed 1/19/16, effective 7/1/16. Statutory Authority: RCW 19.27A.020, 19.27A.025 and chapters 19.27 and 34.05 RCW. WSR 13-04-056, § 51-11C-403235, filed 2/1/13, effective 7/1/13.]

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		> 2,500,000 Btu/h ^a	82% E_c	
	Oil-fired ^c	< 300,000 Btu/h ^c	84% AFUE	10 C.F.R. Part 430
		≥ 300,000 Btu/h and ≤ 2,500,000 Btu/h ^b	82% E_t	10 C.F.R. Part 431

Equipment Type ^a	Subcategory or Rating Condition	Size Category (Input)	Minimum Efficiency	Test Procedure
		> 2,500,000 Btu/h ^a	84% E_c	
Boilers, steam	Gas-fired	< 300,000 Btu/h ^d	80% AFUE	10 C.F.R. Part 430
	Gas-fired - All, except natural draft	$\geq 300,000$ Btu/h and $\leq 2,500,000$ Btu/h ^b	79% E_t	10 C.F.R. Part 431
		> 2,500,000 Btu/h ^a	79% E_t	
	Gas-fired-natural draft	$\geq 300,000$ Btu/h and $\leq 2,500,000$ Btu/h ^b	79% E_t	
		> 2,500,000 Btu/h ^a	79% E_t	
	Oil-fired ^c	< 300,000 Btu/h	82% AFUE	10 C.F.R. Part 430
		$\geq 300,000$ Btu/h and $\leq 2,500,000$ Btu/h ^b	81% E_t	10 C.F.R. Part 431
> 2,500,000 Btu/h ^a		81% E_t		

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- a These requirements apply to boilers with rated input of 8,000,000 Btu/h or less that are not packaged boilers and to all packaged boilers. Minimum efficiency requirements for boilers cover all capacities of packaged boilers.
- b Maximum capacity minimum and maximum ratings as provided for and allowed by the unit's controls.
- c Includes oil-fired (residual).
- d Boilers shall not be equipped with a constant burning ignition pilot.
- e A boiler not equipped with a tankless domestic water heating coil shall be equipped with an automatic means for adjusting the temperature of the water such that an incremental change in inferred heat load produces a corresponding incremental change in the temperature of the water supplied.

[Statutory Authority: RCW 19.27A.020, 19.27A.025, 19.27A.160 and chapter 19.27 RCW. WSR 19-24-040, § 51-11C-403235, filed 11/26/19, effective 7/1/20. Statutory Authority: RCW 19.27A.025, 19.27A.160, and 19.27.074. WSR 16-03-072, § 51-11C-403235, filed 1/19/16, effective 7/1/16. Statutory Authority: RCW 19.27A.020, 19.27A.025 and chapters 19.27 and 34.05 RCW. WSR 13-04-056, § 51-11C-403235, filed 2/1/13, effective 7/1/13.]