Boiler Categories

Categories		Vent / Chimney Type
Category I Appliance		
A non-condensing appliance that operates with a non-positive vent pressure.		
Atmospheric Boilers		
CL /CLM Series	ASME Section IV Water & Steam [5] ASME Section I Water & Steam	Type B Vent or Listed Factory Built Heating Appliance Type Chimney or Unlisted Metal Chimney (see Table)
K Series	ASME Section IV Water & Steam [5] ASME Section I Water & Steam	
Power Fired Boilers		
CL /CLM Series	ASME Section I & IV Water & Steam	Listed Factory Built Heating Appliance Type Chimney or Unlisted Welded Metal Chimney (see Table)
HECL /HE-CLM Series	ASME Section IV Water	
Category II Appliance		
A condensing appliance that operates with a non-positive vent pressure.		
Category III Appliance		
A non-condensing appliance that operates with a positive vent pressure.		
Power Fired Boilers		
AB Series	ASME Section I Water & Section I & IV Steam	Listed Factory Built Heating Appliance Type Chimney or Unlisted Welded Metal Chimney (see Table)
DR Series	ASME Section I Water & Section I & IV Steam	
EB Series	ASME Section I Water & Section I & IV Steam	
HE-AB Series	ASME Section IV Water	
HE-RV Series	ASME Section IV Water	
RV Series	ASME Section I Water & Section I & IV Steam	
RW Series	ASME Section I Water & Section I & IV Steam	

Boiler Categories

Categories		Vent / Chimney Type
Category IV Appliance		
A condensing appliance that operates with a positive vent pressure.		
Power Fired Boilers		
TF Series	ASME Section IV Water	Listed Special Vent or Listed Factory Built Heating Appliance Type Chimney suitable for positive pressure & condensing

Clarifications:

1. A boiler operating at a steady state efficiency (output divided by input) over 83% may be placed in a Category II or IV depending on its flue gas outlet pressure.
2. The steady state efficiency is determined from the relationship between net flue gas temperature (rise above ambient) and the flue gas composition (%CO_2).
3. A condensing boiler is one in which, under continuous operation, water may collect within the boiler or in the venting system . Bryan Boilers with steady state efficiencies over 83 % will possibly condense in the venting system.
4. Depending on how the venting systems is sized (positive or negative pressure at boiler flue outlet) may result in a change in Category classification.
5. Type B Vents are for negative flue pressures and for flue gas temperatures not exceeding 400°F. Typically are utilized on listed gas appliances with draft hoods and other Category I Appliances specifically listed for use with Type B Vent. This would only apply to atmospheric *CL* /CLM & K Series Water and 15 PSIG Steam Boilers.

Boiler Categories

Obsolete Models

Boiler Series	Permissable Draft Range @ Boiler Outlet (i.w.c.)

ATMOSPHERIC NATURAL GAS-FIRED BOILERS

CL /CLM	-0.02 to -0.04
K	-0.02 to -0.06

FORCED DRAFT NATURAL GAS-FIRED BOILERS

AB	+0.25 to -0.06
CL /CLM	0.00 to -0.04
DR	+0.10 to -0.06
EB	+0.10 to -0.10
HE-AB	0.00 to -0.06
HECL /HE-CLM	0.00 to -0.06
HE-RV	+0.10 to -0.10
RV	+0.50 to -0.10
RW	+0.50 to -0.10
TF	+0.20 to -0.05

Minimum Thickness of Corrosion Resistant Sheet Steel for Unlisted Chimneys

Diameter	Minimum Thickness
≤14 in (356 mm)	16 ga - 0.053 in - 1.35 mm
> 14 in (356 mm) ≤ 16 in (406 mm)	14 ga - 0.067 in - 1.70 mm
> 16 in (406 mm) ≤ 18 in (457 mm)	12 ga - 0.093 in - 2.36 mm
> 18 in (457 mm)	10 ga - 0.123 in - 3.12 mm