

STANDARD INFORMATION

Standard Number: UL 296

Standard Name: Oil Burners

Standard Edition and Issue Date: 11th Edition Dated February 24, 2017

Date of Revision: February 24, 2017

Date of Previous Revision of Standard: 10th Edition Dated June 11, 2015

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **February 24, 2019**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: A review of all Listing Reports is necessary to determine which products comply with new/revise requirements and which products will require re-evaluation. **NOTE:** Effective immediately, this revised standard will be exclusively used for evaluation of new products unless the Applicant requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revise requirements.

Overview of Changes: This new edition of ANSI/UL 296 is being issued to revise requirements for programming and timing of burners. Specific details of new/revise requirements are found in table below.

If the applicable requirements noted in the table are not described in your report(s), these requirements will need to be confirmed as met and added to your report(s) such as markings, instructions, test results, etc. (as required).

Client Action Required:

Information – To assist our Engineer with review of your Listing Reports, please submit technical information in response to the new/revise paragraphs noted in the attached or explain why these new/revise requirements do not apply to your product (s).

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.



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CLAUSE	VERDICT	COMMENT
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Additions to existing requirements are underlined and deletions are shown ~~lined out~~ below.

30	Info	Primary Safety Controls
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New table added;

Required programming and timings for burners based on maximum fuel input rating

Table 30.1

Operation	Maximum firing rate per combustion chamber		
	3 gph ^a (11.4 liters/hr) or less	Above 3 gph (11.4 liters/hr) to 20 gph ^b (76 liters/hr)	Above 20 gph ^b (76 liters/hr)
Prepurge	Not required	to 7 gph (26.5 L/h), not required. Greater than 7 gph, four air changes ^{c,d}	Four air changes ^d
Postpurge	Not required	Not required	15 seconds minimum
Pilot type and flame establishing period	N/A	Interrupted, 10 seconds maximum	Interrupted, 10 seconds maximum
Main burner flame establishing period			
Ignited by pilot	N/A	15 seconds maximum	10 seconds maximum firing distillate fuel, 15 maximum firing residual fuel ^c
Direct ignition	90 seconds maximum	15 seconds Maximum ^a	10 seconds maximum firing distillate fuel, 15 maximum firing residual fuel ^e (Lowfire start required)
Flame failure reaction time ^f	90 seconds maximum	4 seconds maximum ^g	4 seconds maximum
Safety shutoff valve closing time after de-energization	Not specified	5 second maximum	1 second maximum
Action required on flame failure	One recycle permitted	One recycle permitted	Safety shutdown required
Proven low fire start	Not required	Not required	Required for direct ignition ^h
Combustion air proving	Not required	Required ⁱ	Required



Operation	Maximum firing rate per combustion chamber		
	3 gph ^a (11.4 liters/hr) or less	Above 3 gph (11.4 liters/hr) to 20 gph ^b (76 liters/hr)	Above 20 gph ^d (76 liters/hr)
Action required on loss of combustion air	Not required	Fuel shutoff with automatic restart when combustion air reestablished (See 12.10)	Safety shutdown (See 12.9)
Fuel pressure supervision	Not required	Not required	Required if oil pump operates independently of the burner. (See 12.13)
Low atomizing media supervision	Not required	Required unless atomization by air pump integral with burner. (See 12.14)	Required (See 12.14)
Oil temperature supervision	Not required	High and low temperature supervision required on preheated oil. (See 8.17)	High and low temperature supervision required on preheated oil. (See 8.17)

^a Approximately 400,000 Btu/hr (117 kW) firing distillate fuel
^b Approximately 3,000,000 Btu/hr (879 kW) firing distillate fuel
^c Prepurge is not required for a burner over 7 gph up to 20 gph if the oil pump is integral with the burner. See 13.1.
^d Accomplished by 30 seconds prepurge at air flow equivalent to maximum high fire input; or 60 seconds prepurge at air flow equivalent to 60% of maximum high fire input, see 13.2; or alternate method described in 13.3.
^e Where it can be demonstrated by tests that a burner equipped to burn a residual fuel needs a longer main flame establishing period so as to avoid nuisance shutdown, such MFEP may be more than 15 but not more than 30 seconds provided not more than 15 seconds of unburned fuel is discharged during an attempt to establish main flame.
^f The flame-failure reaction time is to be considered, the interval between the actual flame extinguishment and the time the safety shutoff device (such as an oil valve) is de-energized.
^g A flame-failure reaction time of more than 4 seconds, but not more than 15 seconds, is permitted if intermittent ignition is employed, or if the ignition system is reenergized in not more than 0.8 seconds after flame extinguishment occurs.
^h Low fire start is ignition of the main flame at an input not greater than 20 gph.
ⁱ Applicable when the combustion air is supplied by a forced or induced draft fan which is not integral with the burner motor shaft. See 12.10.

CUSTOMERS PLEASE NOTE: This Table and column “Verdict” can be used in determining how your current or future production is or will be in compliance with new/revised requirements.