WRITTEN COMMENTS RECEIVED

AS OF MAY 1, 2014

ON PROPOSED CHANGES TO

SECTION 13.7, CHAPTER 13

1) Propane Gas Association of New England
2) Robert Leclair, Executive Director, Manufactured Housing Board and Peter Holmes, Senior Fuel Inspector
3) Mechanical Services
4) The Bath Group

1) PROPANE GAS
ASSOCIATION OF
NEW ENGLAND

WRITTEN COMMENTS

From: Joe Rose [mailto:jrose@pgane.org]
Sent: Monday, April 28, 2014 12:10 PM
To: Gray, Vickey L; DBurnell@NeMech.com; Mark.anderson@deadriver.com; propane@maine.rr.com; mmoya@cq.com; moody@uninets.net; dawn.slater@thomsonreuters.com; dardene@securespeed.us; Jamie@maineenergymarketers.com; GMcCarthy@pierceatwood.com; chriscgreen@mechanicalservices.com; Head, Anne L; timothy.stewart@lexisnexis.com; Perkins, Bob
Cc: Carroll, Catherine M.; Holmes, Peter T; Leclair, Robert V
Subject: RE: Maine Fuel Board Notice of Agency Rule-making

13.7.1 new section 3 makes no sense. I think it needs to be reworded!

Joe

PROPANE GAS
Association of New England
Joseph Rose
President / CEO
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2) Robert LeClair, Executive Director,
Manufactured Housing Board and
Peter Holmes, Senior Fuel Inspector

WRITTEN COMMENTS

From: Holmes, Peter T
Sent: Monday, April 28, 2014 1:17 PM
To: Leclair, Robert V
Cc: Carroll, Catherine M.
Subject: RE: Maine Fuel Board Notice of Agency Rule-making

There is a simple typo. The words "is no" should be before longer and should read:
In the case of an appliance the manufacturer of which is no longer available, the burner selection criteria included in ANSI Z21.8, and the burner manufacturer's combustion setup instructions may be used.

Peter T. Holmes
Senior Inspector
Maine Fuel Board
446-2826

From: Leclair, Robert V
Sent: Monday, April 28, 2014 12:13 PM
To: Holmes, Peter T
Cc: Carroll, Catherine M.
Subject: FW: Maine Fuel Board Notice of Agency Rule-making

I agree section 3 does not make sence

Robert LeClair
Executive Director
Maine Manufactured Housing
(207) 624-8678
robert.v.leclair@maine.gov
www.maine.gov/professionallicensing

From: Gray, Vickey L
Sent: Monday, April 28, 2014 11:48 AM
To: DBurnell@NeMech.com; Mark.anderson@deadriver.com; propane@maine.rr.com; mmoya@cq.com; moody@uninets.net; dawn.slater@thomsonreuters.com; dardene@securespeed.us; Jamie@maineenergymarketers.com; jrose@pgane.org; GMcCarthy@pierceatwood.com; chriscgreen@mechanicalservices.com; Head, Anne L; timothy.stewart@lexisnexis.com; Perkins, Bob
Cc: Carroll, Catherine M.; Holmes, Peter T; Leclair, Robert V
Subject: Maine Fuel Board Notice of Agency Rule-making

Dear Interested Parties,

Attached is the Notice of Agency Rule-making Proposal. A public hearing on the proposed rule is scheduled for Wednesday, May 14, 2014 at 1:00 p.m. at the Department of Professional & Financial Regulation, Central Conference Room, 76 Northern Avenue, Gardiner.

Please feel free to contact either Catherine Carroll, Administrator, at Catherine.m.carroll@maine.gov or me should you have any questions.

Sincerely,

Vickey Gray
Board Clerk

3) MECHANICAL

SERVICES

WRITTEN COMMENTS

Carroll, Catherine M.

From: Gavin McCarthy <GMcCarthy@PierceAtwood.com>
Sent: Tuesday, April 29, 2014 2:13 PM
To: Carroll, Catherine M.
Subject: Fuel Board Rule
Attachments: W4236786.docx

Catherine,

We appreciate the opportunity to be heard further on the new Fuel Board rule. Attached to this email are Mechanical Services' proposed changes to Section 13.7.2 in the form of a redline of the rule as ultimately approved by the Fuel Board at its last meeting. We propose these changes for the reasons previously described by Mechanical Services in its written and oral testimony provided to the Fuel Board on December 13, 2013, and in our correspondence to the Fuel Board dated February 27, 2014. If that latter letter with exhibits is not currently part of the record in front of the Fuel Board, we ask that it be added to the record; if you would prefer that we send a new copy, we would be happy to do so, just let us know. In short, however, Mechanical Services believes that these proposed changes to the rule will avoid imposing prohibitively expensive and unknown testing requirements on a burner manufacturer while still ensuring safety by requiring the burner manufacturer to select the burner to be used in accordance with accepted engineering practices. Representatives from Mechanical Services will be present at the May 14 meeting of the Fuel Board and would welcome the opportunity to discuss the reasons for their position and/or answer any questions the Board may have at that time.

Best,
Gavin

Gavin G. McCarthy
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BIO ▸

13.7.2 Greater than 400,000 btu

When converting to propane and natural gas from another fuel source where the input of the burner is over 400,000 btu, the burner must be listed by Underwriters' Laboratory or by an independent nationally recognized testing laboratory and the following requirements must be met:

1. The installer must verify from the manufacturer of the appliance to be converted that the appliance is capable of being used with gas as a fuel.

2. The burner must be ~~tested~~ selected for use in the make and model of appliance in which it is intended to be installed and must meet one of the following conditions:

   A. ~~The burner has been tested by the burner manufacturer in the make and model of appliance in which it is intended to be installed and has been approved for use in such appliance by a licensed professional engineer with the proper disciplines~~The burner manufacturer must provide written documentation that the burner has been approved, using accepted engineering practices, for use in the appliance intended to be converted;

   B. The burner has been tested by an independent testing laboratory in the make and model of appliance in which it is intended to be installed and has been certified for use in such appliance by the nationally recognized independent testing laboratory;

   C. The burner has been tested by the appliance manufacturer in the make and model appliance in which it is intended to be installed and has been approved for use in such appliance by the appliance manufacturer.

[NOTE: The appliance and or /burner manufacturer ~~or licensed professional engineer~~ must provide installation and combustion set-up instructions for the appliance.]

3. The installation must conform to the requirements of NFPA #54 and NFPA #211 for the installation of a gas appliance.

PIERCE ATWOOD LLP

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Admitted in: MA, ME

BY EMAIL ONLY

February 27, 2014

Members of the Maine Fuel Board
c/o Catherine M. Carroll, Board Administrator
35 State House Station
Augusta, ME 04333

Dear Members of the Fuel Board:

This submission is in response to the Basis Statement issued by the Maine Fuel Board ("Board") on February 10, 2013. As discussed below: (I) the Board is proposing substantial changes to the previously noticed draft rule, triggering new notice and opportunity to respond duties under 5 M.R.S. § 8052(5)(B); and (II) the rule as now proposed would, if adopted, be arbitrary, capricious, an abuse of discretion, and not based on sound science and evidence, and would raise constitutional concerns.

In brief, Section 13.7 of the rule as originally drafted referenced testing, without further substance or clarity. The changes to the rule identified in the Board's Basis Statement provide some clarity and substance, but they do so by proposing a cost-prohibitive test unwarranted by any legitimate technical or safety concern. This appears to be a product not of any policy disagreement, but rather due to a misunderstanding or overlooking of certain facts. Hence, Mechanical Services seeks the opportunity to provide the Board with the facts it needs, and to answer the questions it may have, in order to arrive at a sound, effective, fact-based rule.

BACKGROUND

1. The testing rule as originally proposed in 2013

In 2013, the Board, which derives its authority from 32 M.R.S. § 18123, proposed rules that would repeal and replace the existing combined rules of the Oil and Solid Fuel and Propane and Natural Gas Boards. Mechanical Services, along with its counsel, attended the Board's meeting on December 12, 2013, and submitted comments on the proposed rules in that meeting.

One rule Mechanical Services commented on is contained in Section 13.7, relating to the testing of propane and natural gas burning equipment. The 2013 proposed replacement rule provided in relevant part that when converting to propane or natural gas from another fuel source, "[t]he burner must be tested for use in the individual appliance in which it is intended to be installed ...." (Proposed 13.7.1(2), 13.7.2(2).)

Mechanical Service's comments to these proposed rules as originally noticed included observations as to the lack of clarity in the terms "test" and "individual appliance."

The record closed on comments on the propose rules on January 6, 2014.

2. The testing rule as proposed as of February 13, 2014.

The Board then issued its Basis Statement and Response to Comments on February 13, 2014 ("Basis Statement"). In that Basis Statement, among other things, the Board indicated that it agreed with Mechanical Services' comments that these terms were vague. (*E.g.*, "The Board agrees with the comment that the term 'test' is vague."; "The Board does accept the comment that the terms 'appliance' and 'individual appliance' should be defined.")

The Board then announced its decision to follow up on its acceptance of these comments by changing the text of the 2013 proposed rules. These substantive changes and additions to the proposed rules now require safety and combusting testing for each combination of a make and model of burner and make and model of appliance.

DISCUSSION

I. The February 13 text changes to the proposed rules trigger additional notice and comment requirements under 5 M.R.S.§ 8052(5)(B).

Section 8052(5)(B) provides that when the rule an agency intends to adopt is "substantially different" from the rule as previously proposed, the agency (a) must request comments from the public concerning the changes from the proposed rule; (b) may not adopt the rule for a period of 30 days from the date additional comments are requested; and (c) must publish notice of the new request in the same manner as the initial notice. 5 M.R.S. § 8052(5)(B).

The "substantially different" test is met here. The terms used in the originally proposed version were undefined and empty of meaning, as properly recognized by the Board. Only now, with its textual additions and amendments, has substance been provided. Hence, only now is Mechanical Services in a position to provide meaningful commentary as to the problems with this substance. The reason for the "substantially different" rule is to ensure proper notice and a meaningful opportunity to be heard, in conformance with the due process requirements of the Maine and U.S. Constitutions. Until someone knows the substance of a proposed rule, he or she cannot meaningfully comment on that rule.

In sum, Section 8052(5)(B)'s requirements have been triggered such that, *inter alia*, the record must reopen, and Mechanical Service's comments on the amended proposed rules (submitted with this letter, to be supplemented at the meeting February 28) must be accepted and reviewed.

II. The proposed new definitions of testing and appliance, if adopted as is, would be arbitrary, capricious, an abuse of discretion, and not based on an accurate factual predicate, and would raise constitutional concerns.

The fundamental problem with the Board's proposed definitions is that they impose costs amounting into perhaps millions of dollars for no technically supportable reason. The testing that the amended proposed rule envisions would simply be infeasible, and would effectively operate to exclude most burner manufacturers from the Maine market.

Under the most recent iteration of the rule, a burner manufacturer must do still unspecified "safety and combustion testing" on every combination of a model of burner and model of boiler it might use in a conversion. This definition of testing leaves unanswered a number of important questions. What sort of testing beyond the UL testing of the burner itself is envisioned? Does the Rule require physical testing of some sort, as opposed to computer modeling? What is meant by combustion testing – does this mean efficiency testing? The lack of a specific definition of the testing that is required makes it difficult, if not impossible, for manufacturers to know whether they are complying with the rule.

Moreover, regardless of the specific test required, the testing will be cost prohibitive. A typical burner manufacturer has dozens of burners (with various options that make the unique number of burners in the hundreds or perhaps thousands), and there are thousands of models of boilers. There are thus tens (or perhaps hundreds) of thousands of combinations to test. To run a test, the manufacturer would seemingly have to purchase each model of boiler (since few boiler manufacturers, if any, will be cooperative with their competition in permitting testing), which cost approximately $50,000 a piece. Thus, it would cost literally millions of dollars to test the boilers, before even considering the cost of the "test" itself, a cost that cannot currently be approximated because it is not apparent what "safety and combustion" testing could be done beyond that required to obtain the UL listing on the burner itself. This cost is plainly prohibitive to entry into the market – no burner manufacturer will pay millions of dollars for testing, with the effect that the market in Maine will likely be reduced to those companies that make both boilers and burners, creating an unfair competitive situation and reducing consumer choice.

Nor is there is a technically sound basis to impose such cost-prohibitive expenses. To obtain a UL listing on the burner itself, a company must subject the burner to substantial safety testing. In addition, whenever a burner is to be replaced by a burner that is not identical to the one previously installed, a professional engineer must be involved. Thus, without any additional testing requirement, each burner will be tested and verified as safe. Since a boiler or other pressure vessel is essentially just a metal box, there is no safety or combustion testing that would vary from boiler to boiler – a safe burner will safely fire into any pressure vessel (presuming, of course, that the burner output is properly matched to the size of the pressure vessel, but that calculation is already controlled by other rules that require a professional engineer to certify that the proper matching has occurred). In short, there would be no additional benefit to the expensive testing that the current rule envisions. Underscoring that point, we are aware of no other state that requires testing similar to that which the Board is now proposing.

Finally, the vague language of the regulation, the lack of specificity in the scope of the Board's powers expressed in the statute, the cost-prohibitive nature of the current iteration of the rule, the profound and extraterritorial effect it would have on limiting the use of safe equipment, and the fact that no other state imposes such restrictions, would raise constitutional concerns should this version of the rule stand, *see Kassel v. Consolidated Freightways Corp. of Delaware*, 450 U.S. 662 (1981); *Healy v. Beer Institute*, 491 U.S. 324 (1989); *Pike v. Bruce Church*, 397 U.S. 137, 142 (1970); .*see also C & A Carbone, Inc. v. Town of Clarkstown*, 511 U.S. 383, 406 (1994) (O'Connor, J., concurring) (noting unconstitutional "balkanization" from local impeding local regulation), as well as excessive delegation and vagueness issues under the Maine and U.S. Constitutions. *See Kosalka v. Town of Georgetown,* 2000 ME 106 ¶¶ 13-17; 752 A.2d 183, 187; *Lewis v. State of Maine Dept. of Human Services*, 433 A.2d 743, 747 (Me. 1981). *See also Crosby v. Town of Ogunquit*, 468 A.2d 996, 1000 (Me. 1983) (striking down ordinance as arbitrary and capricious); *Buck v. Kilgore,* 298 A.2d 107, 110 (Me. 1972) (striking down an ordinance for lack of rational ends-means relationship).

Mechanical Services shares with the Board the goal of enacting logical, cost-effective rules that ensure safety while promoting competition and thus encourage lower pricing. It looks forward to the meeting to be held on February 28, at which it hopes, given the need for additional notice and opportunity to be heard under the Administrative Procedure Act, to provide further live testimony, and to answer any specific questions that the Board may have. It is apparent from the articulation of the Board's comments to date, that it simply has not yet been exposed to the certain key facts. Mechanical Services would like to make sure that the Board receives all the information it needs to make a considered decision on the facts.

Thank you for your attention to this matter.

Sincerely,

Gavin McCarthy

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MAINE CONTROLS
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Members of the Maine Fuel Board
c/o Catherine M. Carroll, Board Administrator
35 State House Station
Augusta, ME 04333

February 27, 2014

Members of the Fuel Board,

Mechanical Services, Inc., provides installation and service of commercial and industrial burners. We have concerns regarding the proposed language requiring testing by the burner or appliance manufacturer. The problem is that the most recent proposed rule requires such expensive testing that it will make it impossible for Mechanical Services to compete in the marketplace with companies that manufacture both burners and boilers, and the proposed rule will do so without improving safety. In effect, the Board will have largely abolished competition – only those companies that make both boilers and burners will be able to compete.

Mechanical Services uses burners made by a variety of different manufacturers. As shown on the enclosure, when it purchases a burner, it provides the burner manufacturer with specific details regarding the boiler or furnace that the burner will be firing into. Typical information provided is the appliance manufacture's required input both in BTU's and fuel amount and type. Mechanical Services provides appliance design, furnace pressure, combustion chamber dimensions, chimney draft, design of the boiler stack and breeching, number of boilers connected to stack and breeching, combustion air supply, combustion air temperature variations, fuel system design and pressures, boiler mounted operational and safety devices, equipment operation schedules, and so on. The burner manufacturer takes all of this information into account when selecting the correct burner.

When a burner is submitted for U.L. certification, the burner manufacturer provides U.L. with the range and application the burner has been designed for including product variation, firing rates, fuel types, boiler/furnace types, etc as part of an overall product matrix. The U.L. certification is issued to the burner manufacturer taking all of the information into account. U.L. performs field verifications to ensure the safety and reliability of the burner. This testing is done in a controlled environment and involves a representative from U.L. and the burner manufacturer.

Thus, Mechanical Services is able to offer customers the choice of a number of safe, reliable, and efficient burners, which allows each customer to find the right balance of

current price, future efficiency savings, and so forth. Under the new rules, however, Mechanical Services will be at a serious competitive disadvantage. Boiler or furnace manufacturers who manufacturer their own burners are unlikely to provide testing for every conceivable variation of a competitor's burner on their equipment. Why would a boiler/burner manufacturer allow competitors to use its equipment at all? The burner manufacturer could hardly be expected to buy a string of boilers from a series of manufacturers (at a cost of about $50,000 per boiler) just to be able to compete on some possible future bid, nor could boiler manufacturers be expected by buy hundreds of combinations of burners. Thus, Mechanical Services believes that the proposed changes would cause many – perhaps all – burner manufacturers to abandon doing business in Maine (or at least to substantially reduce the number of boilers for which their burners can be used), which would reduce competition and drive up prices, negatively affect the state's goal of reducing energy consumption, and potentially result in a loss of business for some burner installation and service companies, while giving essentially all the business to companies that manufacture both boilers and burners.

This result is not fair or justified. When a commercial or industrial U.L. certified burner is selected by the burner manufacturer for a specific application, the U.L. label is confirming that the burner will operate safely, the ASME stamp on the pressure vessel ensures the pressure vessel is safe, and a professional engineer is responsible for ensuring that the combination will work safely. Attaching the burner onto the appliance without simulating the exact conditions that will be encountered in the field does little to ensure the boiler/burner package will operate to any greater degree of safety than the U.L. certification on the burner alone. If qualified and licensed personnel select the burner for a commercial or industrial application there should be no need to require the proposed cost prohibitive pre-testing. Mechanical Services believes that is why no other state has required such testing, and why ASME does not require that the burner and boiler be tested together prior to installation.[1]

It is important to note that the combination of UL certified burners with ASME compliant boilers made by a different manufacturer is commonplace in this country and the world. As explained in the attached letter and accompanying installation materials, the Limpsfield burner that Mechanical Services often supplies has been combined, for example, with Cleaver-Brooks boilers in hundreds of installations in the US and other countries. Limpsfield reports that it has never been subjected to the type of boiler-by-boiler testing the Board is contemplating anywhere in the world. There is no reason why Maine should adopt a procedure that so requires, especially when it adds nothing and damages to ability of local suppliers to compete.

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[1] CSD-1-2002, Part CF-Combustion Side Control, CF-110 Burner Assemblies and boiler units, provides: "Burner assemblies for boiler units having inputs in excess of 400,000 Btu/hr shall comply with the provisions of this part. Burner assemblies, as part of a boiler unit or separately, shall bear a label and or be listed by a national recognized testing agency or other organization that is acceptable to the authority having jurisdiction as complying with the standards listed below. For a burner provided as an integral part of a boiler unit, the label on the boiler unit may serve as evidence that the burner is in compliance."

On a separate note, Mechanical Services also believes that Section 13.7.2 of the new proposed rule should apply to burners with BTUs greater than 400,000 but less than 12,500,000. The NFPA has standards that supersede the UL listing at 12,500,000, such that many burners of that size comply with the strict NFPA standards but are not UL listed. The rule as drafted would, we think unintentionally, create an additional requirement that would serve no purpose and would limit competition.

We appreciate the Board's consideration, and we look forward to discussing the matter further with the Board and answering any questions the Board might have at the February 28 meeting.

Sincerely,

Chris Green
President
Mechanical Services, Inc.

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Company registration no. 3016979
VAT Registration no. 644 5475 22

Ref 11D01kklcl1

1st April 2011

Limpsfield Combustion Retro - fitting of burners to Cleaver Brooks Boilers

For the attention of Mr. Jotham Pierce.

Dear Mr. Pierce,

Further to our recent conversation regarding the retro fitting of our Limpsfield burner range to Cleaver Brooks boilers in particular, I would like to detail the following for our joint records.

I have attached a project list of known Limpsfield burners / Cleaver Brooks boiler retro fits in the USA with this letter. This project list is accurate to my knowledge, although there may be many more burners sold than detailed that have been installed to Cleaver Brooks boilers. Limpsfield Combustion had sold many burners before I joined Limpsfield (6 years ago) but the serial number log was not as accurate in that site details were not always known or requested in the early days of Limpsfield Combustion selling burners to the USA. This has since been rectified as we are now accredited to the International Quality Standards ISO9001.

Our burner was originally designed to fire Cleaver Brooks boilers over 15 years ago in the UK as it was quite impossible to get spares to the UK from the USA. Since then we have been offering our burners to known and reputable combustion specialists in the USA. I am a combustion engineer by trade, having over 28 years of experience in this business; since I joined Limpsfield Combustion 6 years we have made a very conscious decision to only offer our burners to professional, experienced and proven combustion companies who have a good track record in our industry such as Mechanical Services in Maine. We have refused to sell our burners to unprofessional (in our opinion) companies on many occasions as we are very protective of our "Limpsfield Brand". We have worked with some large company names, such as Intel Corp (worldwide), Hershey Foods, Cadburys/Kraft, Freescale Semiconductors, Mobil, Exxon, Schreiber Foods, Novartis, Sanofi Pasteur to a name a few. A more recent and very successful project carried out for Millipore in Bedford NH, saved our customer 29% of their fuels costs as well as reducing harmful emissions to atmosphere by over 45%. I have attached the third party engineering report of this project.

Over this time of offering our burners to our Representatives, and alongside our Representatives to their customers we have never had a project rejected / denied / or not approved for code reasons in the context of retrofitting a Cleaver Brooks boiler with Limpsfield burners. I fact in all cases our customers are happy that they have been able to use an alternative burner which offers fuel savings and increased safety.

Limpsfield Combustion take our business very seriously, that is why we decided to send our burners and associated burner data to the world's major safety test houses for worldwide approval. In the case of the UK and Europe we have the CE approval, this allows us to sell our burners anywhere in the UK and Europe, as well as most of the old English Colonies as they look to the UK approval test houses as the higher authority of burner and product safety testing. In the case of the United States of America we chose to put our burners through UL, Underwriters Laboratories in Northbrook, Illinois and North Carolina. We chose UL as their exacting standards and safety approvals are unrivalled in the USA and Canada. Having the UL approval also allows us to sell into areas that the USA has sold to both past and present, such as the Far East, Middle East etc. where combustion products often have to meet UL and NFPA standards. Our UL file (MP4 134) and O & M manual refers to NFPA standards with regards to gas firing, oil firing and electrical installation. Our UL approval is for the installation to new boilers as well as the retro fitting to older boilers including Cleaver Brooks and is detailed as such.

I hope the above information is of use to you. Please feel free to contact me if I can be of further assistance to you with regards to this matter.

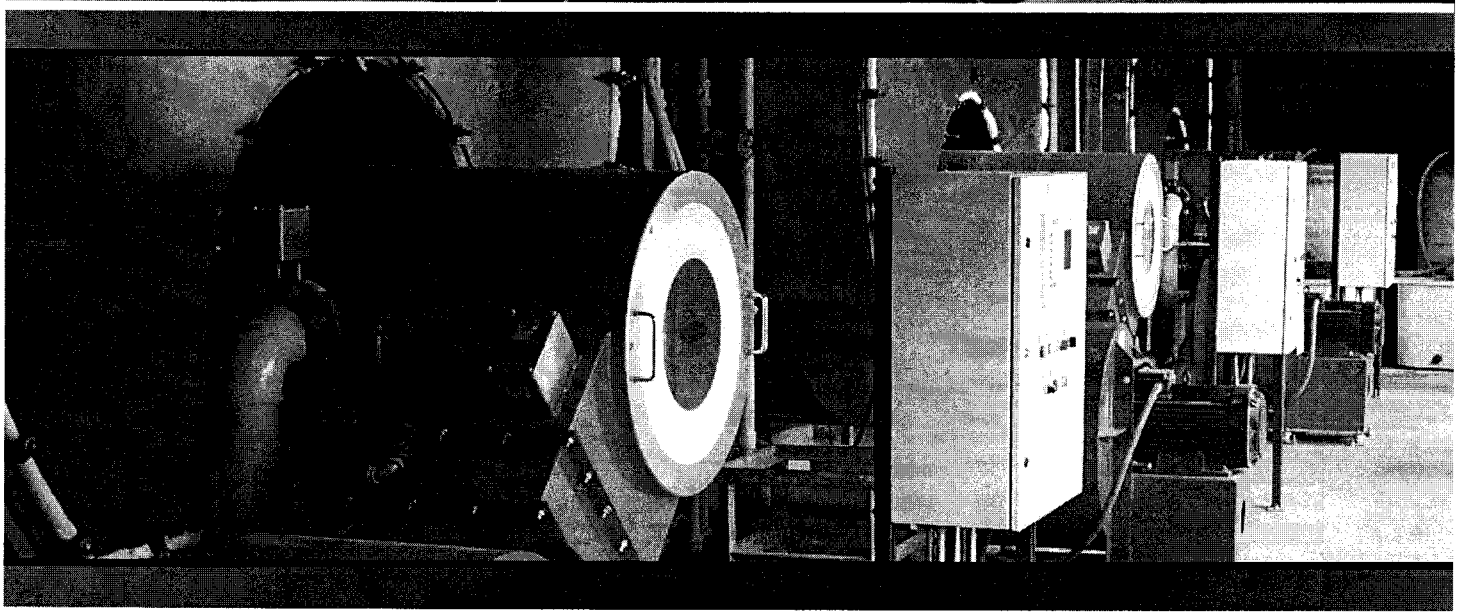
Yours Sincerely

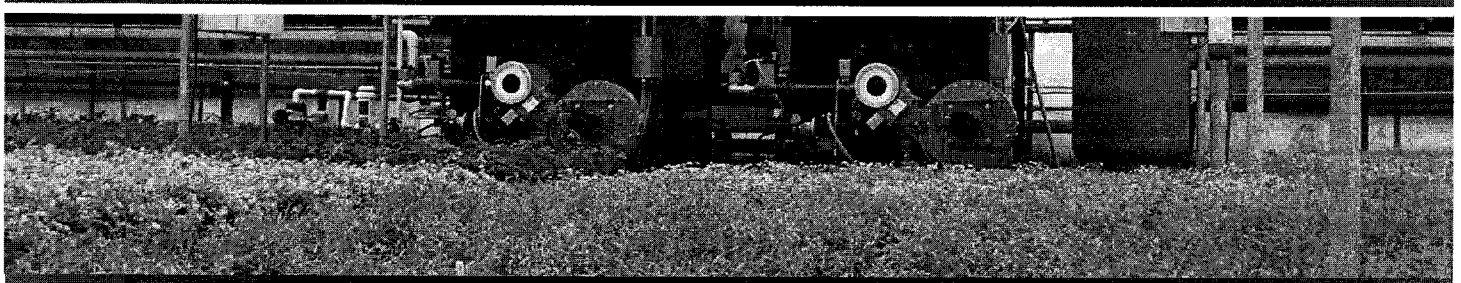
Keith Knowles
Managing Director – Limpsfield Combustion Engineering

Customer/Site	Burner Type No.	Fabrication No.	Date
CSI - Pennsylvania	LCN036	30-04-23	30/04/01
Trojan – (Nathan Lithiuer Hospital) New York State	LCN053	30-05-27 30-05-28	30/05/01
Sterling (Canada)	LCN036	25-06-29 25-06-30 25-06-31	26/06/01
Trojan (Lawrence Hospital) NYS	LCN073	00203 00204	24/07/02
Sterling (Telus) Canada	LCN073	00354	25/09/03
Trojan – (North Adams Hospital) NYS	LCN021	00374 00375	11/05/04
Sterling – (Telus) Canada	LCN073	00376	11/05/04
PVR – (Mobil) New Jersey	LCN062	00377	11/05/04
Calder Valley (UK)	LCN053	00410	01/12/04
Sterling – (Tonko) Canada	LCN036	00434	31/05/05
Freescale Semiconductors Texas	LCN0100	00454	22/05/06
PVR – (Washington Home) Maryland	LCN036	00457 00458	29/06/06
NW Industrial Mech (Treetops) Oregon	LCN062	00459	21/07/06
Rasmussen Mech (Novartis) NE	LCN053	00465	23/08/06
Freescale Semiconductors Texas	LCN0100	00466 00467	14/09/06
Freescale Semiconductors (E.D Bluestein) Texas	LCN0100	00468	01/10/06
CSI – (Cadbury's) New Jersey	LCN073	00476 00477	08/12/06
Arizona – Kingman Medical Centre	LCN036	00479 00480	05/02/07
Trojan – (Chevron) NYS	LCNH036 C.B	00481 00482	27/02/07

Customer/Site	Burner Type No.	Fabrication No.	Date
CSI – (Hershey Foods) PA	LCN62 C.B FGR	00483 00484	06/02/07
NW Industrial Mech (Treetops) Oregon	LCN073	00486 00487 00488	18/04/07
CSI – (Hershey Foods) PA	LCN100	00492 00493	16/05/07
GTW – (Boston University) MASS	LCN073	00503 00504 00505 00506 00507	06/08/07
GTW – (Wentworth Institute) MASS	LCN062	00512 00513	28/08/07
Ware Inc. – (Buffalo Trace) Kentucky	LCNOAL175	00514	04/09/07
Sterling – (Kuehue Chemicals) Canada	LCN036	00538	20/06/08
GTW – (Millipore) Mass	LCN036	00539 00540	03/07/08
GTW (Intel Corp) Hudson MASS	LCN088	00557 00558 00559 00560 00561	02/12/08
GTW – (Deans Foods) MASS	LCN062 LCN053 LCN036	00569 00570 00571	21/05/09
GTW – (Mordern Hospital) MASS	LCN036	00572 00573 00574	21/05/09
Hughes Machinery Kansas State Facilities Kansas	LCN021	00579 00580 00581	14/07/09
CSI – (Organics Unlimited) PA	LCNP15	00592	27/10/09

Customer/Site	Burner Type No.	Fabrication No.	Date
Hughes Machinery (JC Penney's) Kansas	LCN088	00604	08/01/10
PVR (PPPL) New Jersey	LCN044	00634	08/05/10
GTW – (Milton Academy) MASS	LCNP044	00635 00636	20/05/10
Brady – (Anjinomoto)	LCN100	00639	01/06/10
Hughes Machinery Penn Valley Kansas	LCN073	00668 00669	01/10/10
Trojan (Chevron) NYS	LCNH062	00671 00672	11/10/10
PBBS (100HP CB) Wisconsin	LCNP15	00673	20/10/10
Ware Inc. (Chem Group) Kentucky	LCNP36 LCNP44	00680 00681	21/10/10
GTW – (Wakefield Hospital) MASS	LCN062	00693 00694	23/11/10
Trojan (NYS)	LCN021	00695	26/11/10
Ware Inc. (Finish Line) Kentucky	LCN21P	00700	03/12/10
Ware Inc. (Freudenburg) Kentucky	LCNP36	00712	25/01/11





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Contents

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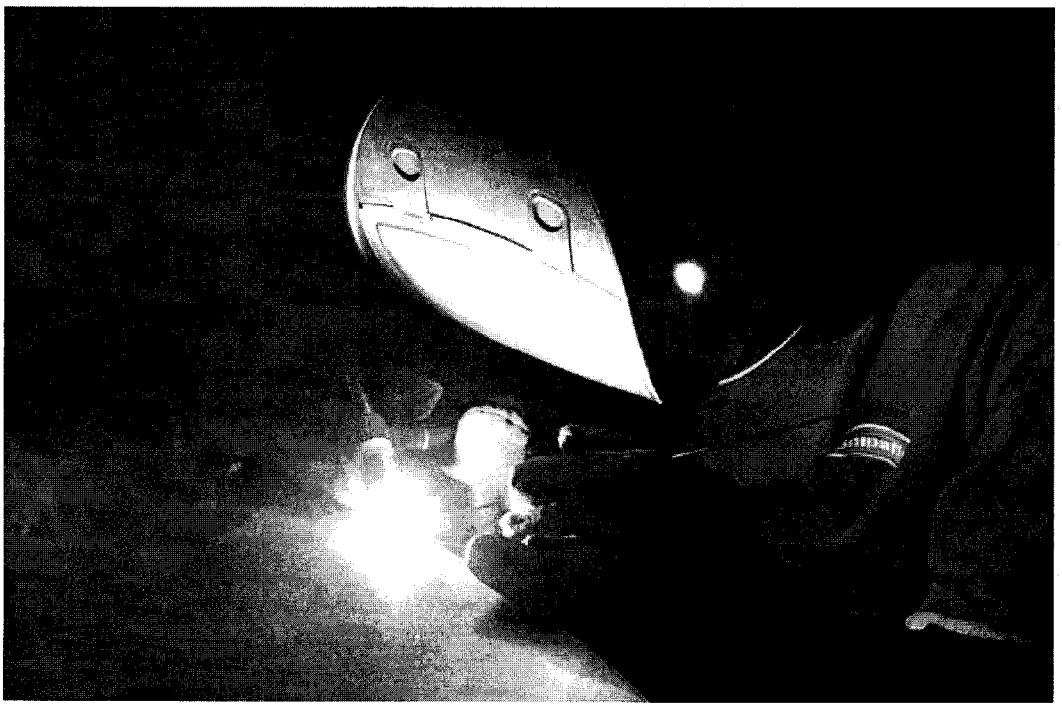
Introduction

Limpsfield Combustion is an industrial burner manufacturer, offering complete solutions to combustion requirements from standard burners to individually engineered solutions. Experienced in all common aspects and many more specialised areas of its field, Limpsfield offers experience, quality and competitive prices.

Limpsfield Burners are of an Industrial Forced Draft design, suitable for alternative or simultaneous firing of all types of gaseous fuels and mineral fuel oils. Limpsfield Combustion offers burners for a range of application inputs from 3 - 110 MmBtu/hr (0.9 - 31MW)

Designed and manufactured to exacting specifications, the Limpsfield LC burner line is an exceptional combination of form and function. Every feature, from the powder coated finish to the sealed damper bearings and large viewing port, exemplifies the commitment to quality and performance. With the ability to orient both the fuel and air inlets independently of one another the application possibilities are virtually unlimited

In addition to being easy to set up and adjust, the unique forced draft combustion design distributes the combustion air in the burner head so that the necessary static pressure is maintained for stable combustion and flame geometry, throughout the complete burner firing range. Therefore the burner achieves less than 3% O_2 throughout the complete firing range making the boiler more efficient with low emissions and assist with being "Green".



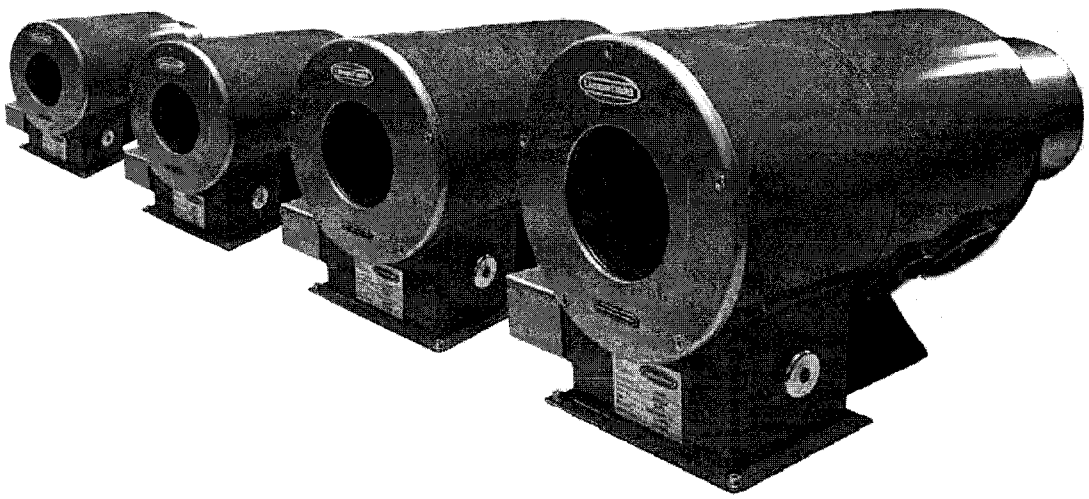
Burner Range

Limpsfield offer standard burners from 3,000,000 Btu/hr (0.9 MW) to 110,000,000 Btu/hr (31 MW), firing a wide range of fuels from natural gas, diesel, #2 oil to heavy fuel oil, waste oils, animal fats, fish oils, bio gases etc. Excellent results have been achieved when firing such fuels offering the end user substantial fuel savings through high performance.

Burner Features

Standard burners have the following features:

- Autoflame burner control system fitted as standard to maximise efficiency and reliability of equipment.
- Large rear flame viewing port, enabling a unique view of the combustion process
- Fuel inlets on both sides of burner housing offering build flexibility to suit site application.
- Simple construction allows easy access to internal components for maintenance. All components can be accessed and replaced without the need to remove the burner from the boiler front.
- Stainless steel diffusers and blast tube cones.
- Split head combustion head design. Adjustable to alter gas injection velocity.
- Adjustable gas head/diffuser position for optimum performance.
- Multiple fixings on the burner rear section allows fan to be mounted in a variety of different positions to over come site space restraints.
- Remote combustion air fan. Allows forced draught fan to be sized for actual project and sized to meet turndown requirements.

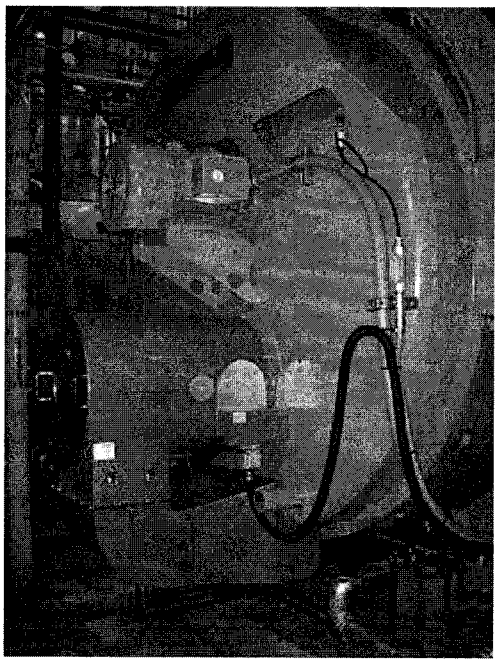


Retrofit package

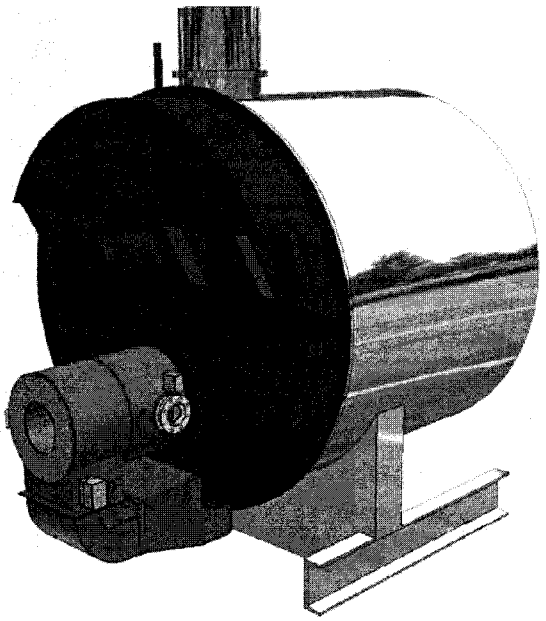
Limpsfield's engineered solutions enables all burners to be fitted to both new boilers as well as being retro fitted to existing boilers allowing fuel savings to be made by replacing an existing burner with this high efficiency burner.

The construction of the Limpsfield burner allows it to be easily retro fitted to the Cleaver Brooks boiler. A transitional duct is sized and designed to transfer combustion air using the original boiler front door fan impeller and motor assembly. Typical turndown rations of 5:1 and 6:1 on gas firing with O_2 levels less than 3% throughout the firing range make this retro fit have a very quick and realistic return on investment. Many customers have realised savings of over 10% when retro fitting their existing burner with a Limpsfield burner.

At a major Semiconductor manufacturer in Texas, USA further saving were made by data linking all burner controllers and sequencing the boilers. With the reliability of the Limpsfield burners and the gained confidence from the site operators, only one burner/boiler fires at any one time with the other two boilers in a warming status ready to produce steam when the demand dictates. Previously all three boilers would be in operation all the time as the boiler house operators did not have the confidence to leave only one boiler dealing with the demand as they had experienced many start up failures in the past.



Cleaver Brooks retrofit installation



3D Cleaver Brooks conversion

Applications

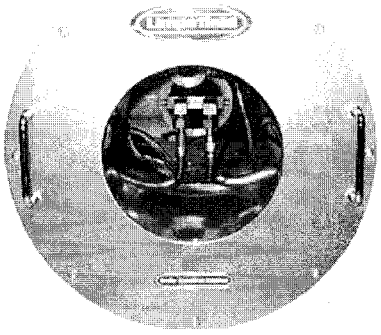
Limpsfield will engineer a project to suit the requirements whether it is single fuel, dual fuel, multi fuel, change over on the fly between fuels or burning waste stream fuels. The burner can be supplied as a low NOx burner for both gas and oils.

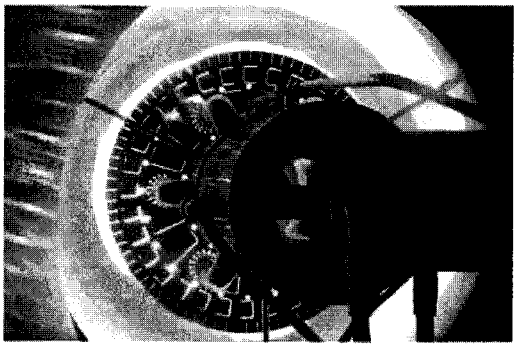
We have carried out many applications to suit our customers requirements and have extensive experience in firing many fuels in a wide range of applications including fire tube boilers, water tube boilers, kilns and dryers.

A selection of successful applications have been listed below;

- Change over on the fly between fuels (no boiler down time between fuel change over)
- Multi fuel firing
- Burning waste stream fuels
- Combined firing of waste stream fuels with a primary fuel
- Six fuels through one burner with out hardware changes
- We also offer a steam or air atomizing oil lance assembly
- Hydrogen
- Propane
- No6 oil with or without Low NOx
- No4 oil with or without Low NOx
- Methanol
- Isopropanol
- Toluene
- Bio Gas
- Bio Gas / Natural gas blends
- Tallow

We have engineered projects for many more fuels
Limpsfield offers a total engineered solution to meet the site application and specification with high performance and reduced O_2 levels. Contact us for more information.



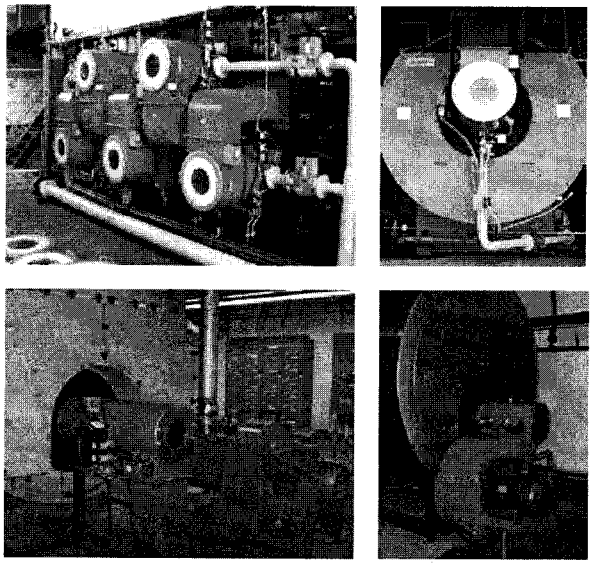


Combustion Air Control

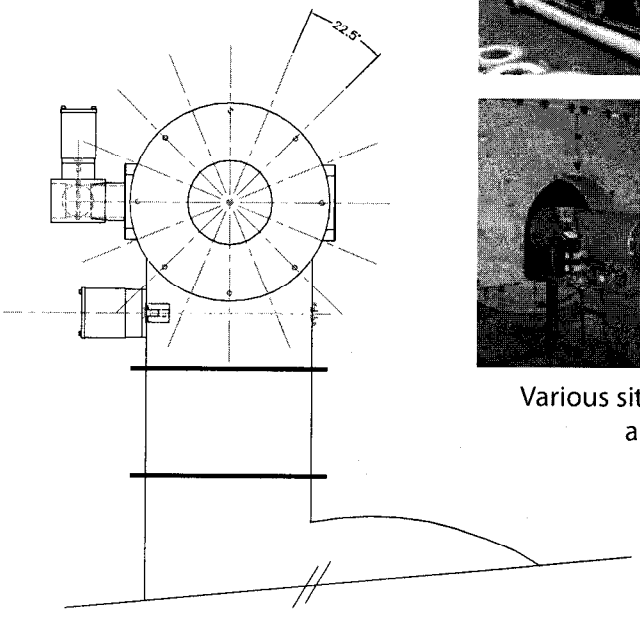
Combustion air is delivered via a remote or directly mounted medium volume high pressure fan. The fan has a direct coupled, backward curved impeller, and can be supplied with a flange mounted silencer. The air damper blades are operated using fully enclosed bearing assemblies, this allows hysterisis free operation with infinite repeatability.

The Limpsfield burner is supplied as standard with a split housing which allows the air inlet duct to be rotated 360 degrees in increments of 22.5 degrees, independent of the gas inlets illustrated in the drawings. This feature allows flexibility as to the position of the blower relative to the burner, which may be governed by specific site constraints. Installation arrangements are limitless. However, for arrangements not shown please contact the factory for consultation in proper air duct design. It is recommended that the pressure drop in the air duct between the outlet of the blower and inlet to the burner be no more than ½"WC.

To properly engineer and ensure job performance, Limpsfield combustion utilizes a vast array of fan types/sizes from several manufacturers. This allows for proper air delivery in both volume and pressure for installations of high altitude, elevated furnace pressures and varying ambient conditions which affect fan performance. Thus, blower arrangement is dependant upon jobsite conditions, which must be known at the time of placing the order.



Various sites with different combustion air inlet requirements.



Showing possible angles of rotation of air inlet

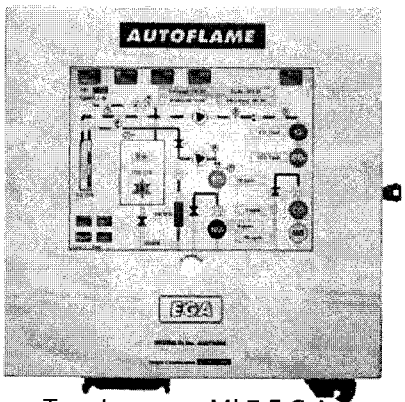
Combustion Control

Limpsfield offers its users control panels to accompany the burners. These are designed and built around advanced combustion control equipment which will further enhance the reliability and performance of the LC burner.

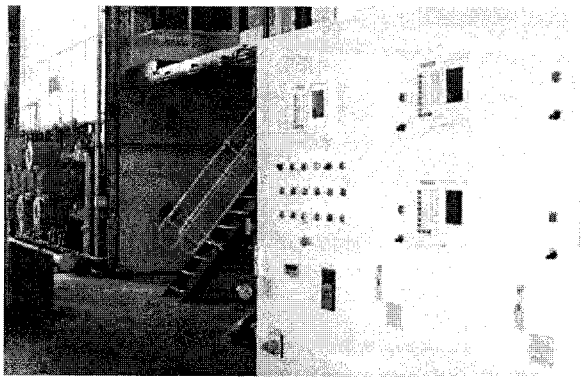
A range of products are available, from a stand alone micro modulation unit, to exhaust gas analysers with combustion trim functions, water level monitoring, variable speed drives and boiler sequencing packages.

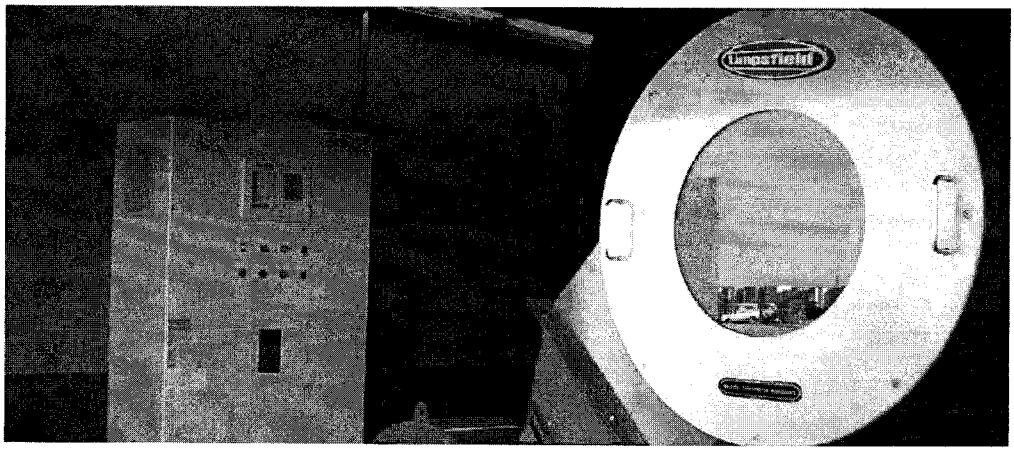
In addition, panel design and specification can be tailored to the end user's specific requirements.

All panels are UL approved and built in an ISO9001 environment.



Touch screen Mk7 E.G.A

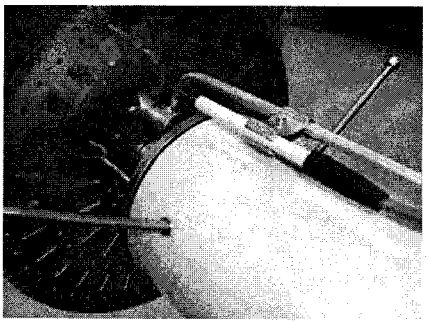

Control panel for a 5 burner application



LCN123 Burner on Johnston boiler

Burner Turndown

Limpsfield burners provide high turndowns typically between 4:1 and 10:1. This turn down is established by using a split gas head or a spider head. The split gas head can be used on most applications and provides excellent mixing to maintain good combustion throughout the firing range.



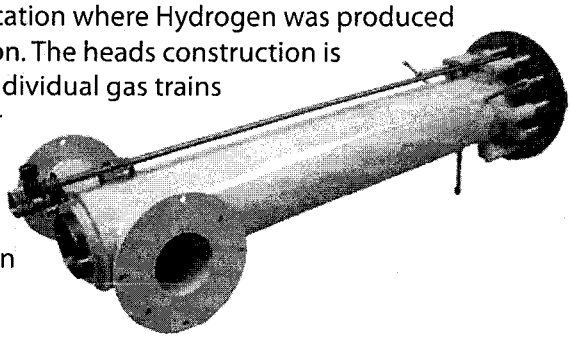
Split head assembly

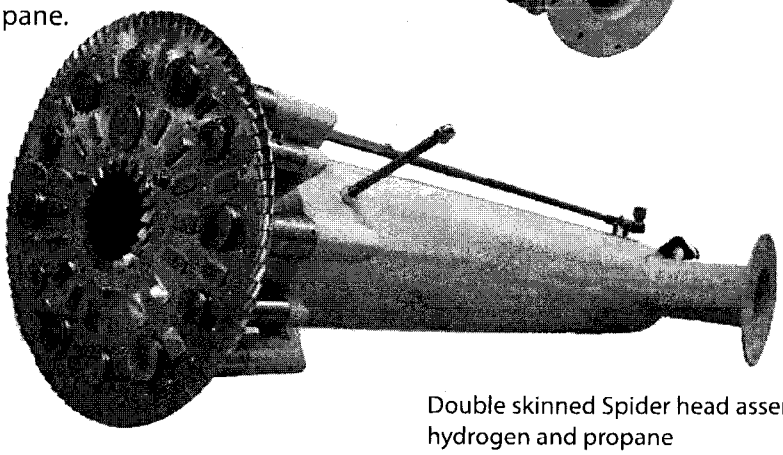
The unique spider head assembly offers the user high turn down ratios. It was initially designed to be fired when using fuels with high burning velocities such as Propane or Hydrogen. Unlike the split head, the fuel is introduced after the diffuser plate enabling the flame to establish good retention whilst maintaining excellent mixing.

Limpsfield will design and engineer the correct solution to suit your application.

An example of Limpsfield's in-depth engineering capabilities;

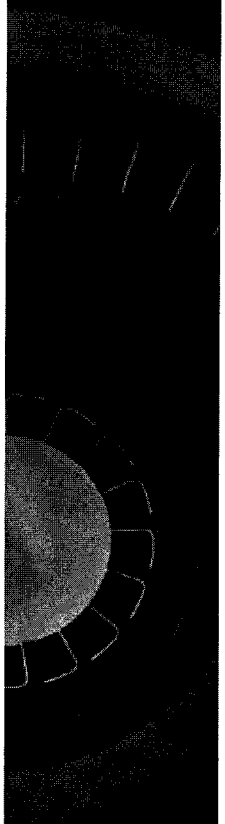
This spider head assembly was for an application where Hydrogen was produced on-site as a bi-product of a chemical reaction. The heads construction is such that the fuels are supplied from two individual gas trains to separate gas controlvalves, one on either side of the burner. The diffuser view shows two different sizes of main injector, these are used in order to accommodate the differences in the flame velocity of hydrogen and propane.





Double skinned Spider head assembly to fire hydrogen and propane

Emissions



Limpsfield burners have been designed to ensure minimal emissions are released into the atmosphere. This means less harmful emissions are created, but also means greater efficiency of the burner due to good combustion which in turn creates great fuel savings. Typically Limpsfield burners operate at <3% O_2 and <10ppm of CO. These figures continue throughout the firing range, from low fire to high fire.

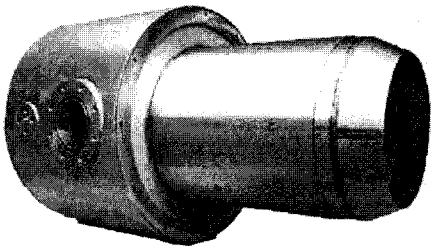
Low NOx Capabilities

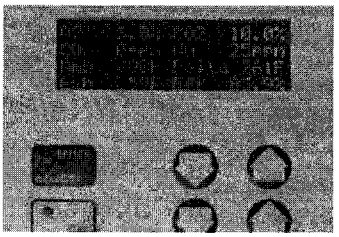
All burners are capable of meeting tough US federal codes regarding low NOx emissions. Numerous installations of this nature have been carried out with excellent results.

We believe that in order to meet local codes for low NOx requirements, efficiency should not be compromised; therefore our burners have been designed to operate at sub 30 ppm while operating at 3% O_2 or lower throughout the firing range. This is due to the utilisation of flue gas re-circulation and the superior flame retention and mixing achievable from the Limpsfield design.

Low NOx can be achieved by using 'Flue Gas Recirculation'. This is done by using one of two methods either forced FGR or induced FGR depending on application. FGR is accomplished by forcing the flue gases with a separate fan back into the combustion zone (forced FGR), or by drawing the flue gases through the combustion air fan (induced FGR). Both methods reduce the bulk flame temperature in the furnace to inhibit the chemical reaction between the nitrogen and oxygen. FGR systems reduce NOx emissions without reducing efficiency.

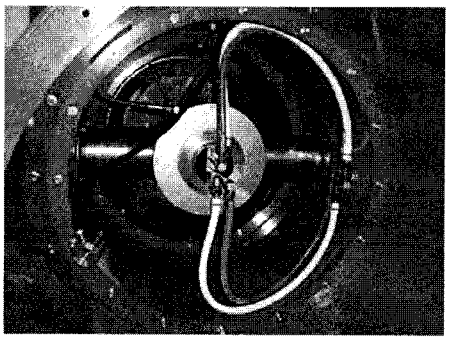
Tailor-made FGR stainless steel burner

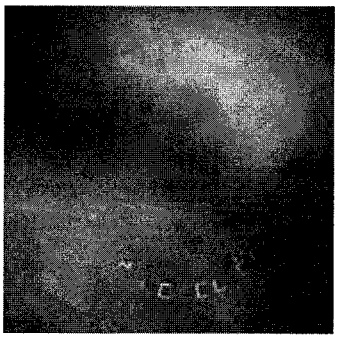




Typical Low Nox emissions

Stainless steel FGR connections inside burner





Low Nox Flame

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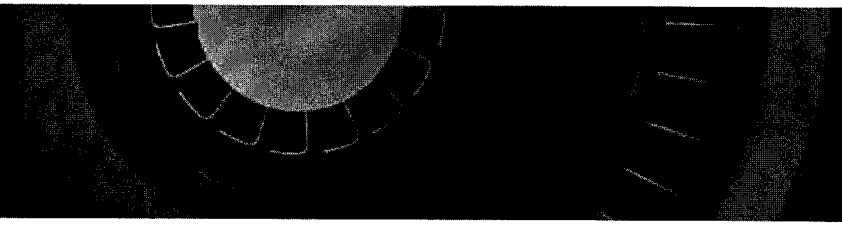

Specification

Burner Model Number		9	15	21	36	44	53	62	73	88	100	123	150	175	200	263	310
	Units																
Burner Rating	Mmbtu	3	5	7	12.3	15	18	21	25	30	35	42	50	60	70	90	110
	MW	0.9	1.5	2.1	3.6	4.4	5.3	6.2	7.3	8.8	10	12.3	15	17.5	20	26.3	31
Air at 15% Excess	Cuft/hr	33,465	55,775	78,085	137,206	167,325	200,790	234,255	278,875	334,650	390,425	468,510	557,750	669,300	780,850	1,003,950	1,227,050
Air + FGR @62.9°C / 145.22°F	Cuft/hr	41,831	69,718	97,606	171,507	209,156	250,987	292,818	348,593	418,312	488,031	585,637	697,187	836,625	976,062	1,254,937	1,533,812
No.2 Oil input rate (137,080 btu/gal)	GPH	21.88	36.47	51.06	89.72	109.43	131.31	153.19	183.38	218.85	255.33	306.39	364.75	437.7	510.65	656.55	802.45
Gas input rate (1000 btu/cuft)	Cuft/hr	3,000	5,000	7,000	12,300	15,000	18,000	21,000	25,000	30,000	35,000	42,000	50,000	60,000	70,000	90,000	110,000
Minimum Pilot pressure	"WG	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Delta P Air	"WG	7	10	11	12	12	12	12	12	12	12	12	12	12	12	12	12
	mbar	17.4	24.9	27.4	29.88	29.88	29.88	29.88	29.88	29.88	29.88	29.88	29.88	29.88	29.88	29.88	29.88
Delta P Air + FGR	"WC	N/A	N/A	16.5	18	18	18	18	18	18	18	18	18	18	18	18	18
	mbar	N/A	N/A	41	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8	44.8
Blast tube O.D	mm	176	189	254	299	314	361	386	417	456	490	540	582	638	687	775.5	852
	Inches	6.92	7.44	10	11.77	12.36	14.21	15.19	16.41	17.95	19.29	21.25	22.91	25.11	27.04	30.53	33.53
Gas Inlet	NPT	2"	2"	2.5"	2.5"	2.5"	3"	3"	4"	4"	4"	6"	6"	6"	6"	8"	8"
	lb	-	-	150lb	150lb	150lb	150lb	150lb	150lb	150lb	150lb	150lb	150lb	150lb	150lb	150lb	150lb
Mounting P.C.D	mm	240	240	355	355	355	440	440	570	570	570	785	785	785	785	998.5	998.5
	Inches	9.45	9.45	13.97	13.97	13.97	17.32	17.32	22.44	22.44	22.44	30.9	30.9	30.9	30.9	39.31	39.31
Mounting hole Ø	mm	8.5	8.5	10.5	10.5	10.5	10.5	10.5	17	17	17	14	14	14	14	21	21
	Inches	0.33	0.33	0.41	0.41	0.41	0.41	0.41	0.67	0.67	0.67	0.55	0.55	0.55	0.55	0.82	0.82
Quantity of mounting holes		4	4	8	8	8	8	8	8	8	8	12	12	12	12	8	8

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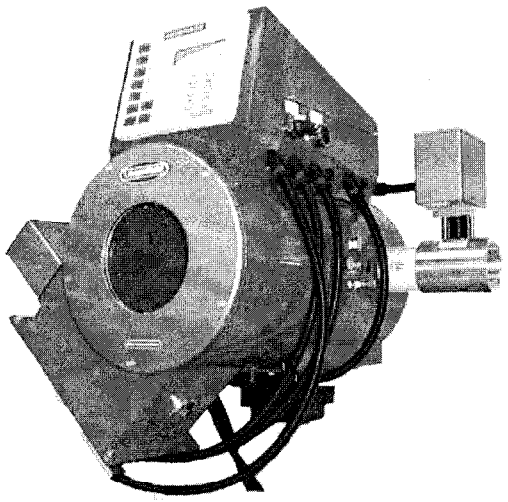
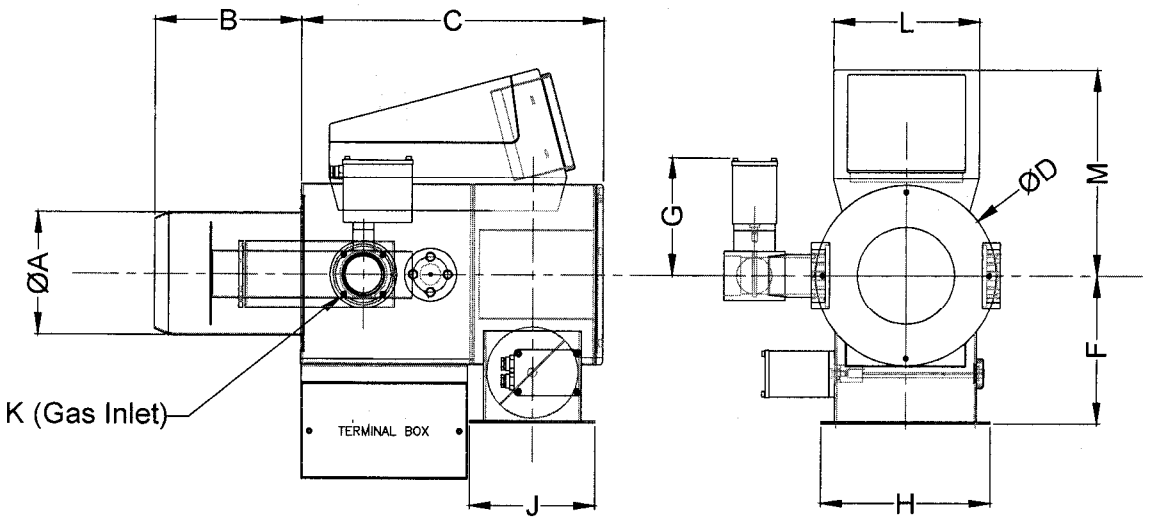
Package burner



LC9/15 package burner shown

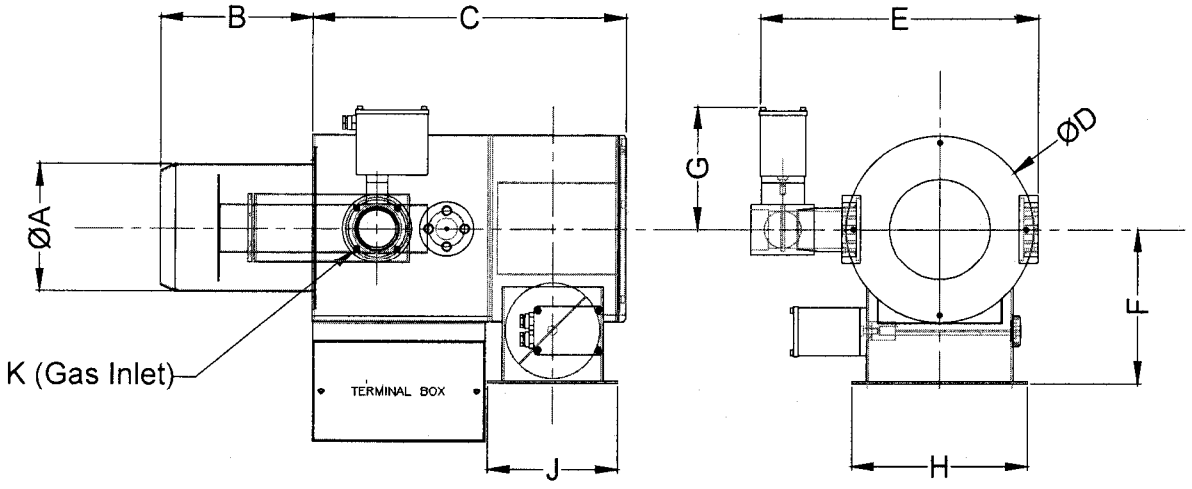
Limpsfield have launched a new package burner range. This consists of the smaller Lc9 (P) and goes through to the Lc62 (P) with outputs ranging from 3MBtu (0.9MW) to 21MBtu (6.2MW). In this range the burner is supplied with a pre-mounted digital control panel. The control panel supplied by Autoflame allows the user to commission and alter the combustion firing process quickly and easily. The control system is pre wired into the housing, reducing onsite installation time. The burners can be supplied as gas only, oil only or as dual fuel.



Burner Model Number	Burner Rating (Mmbtu)	(MW)	A	B	C	D	F	G	H	J	K	L	M
All dimension in mm and (inches) unless stated otherwise													
9 (P)	3	0.9	177 (6.97)	210 (8.27)	435 (17.13)	260 (10.24)	394 (15.51)	170 (6.69)	244 (9.60)	180 (7.09)	2" NPT	210 (8.27)	296 (11.65)
15 (P)	5	1.5	189 (7.44)	210 (8.27)	435 (17.13)	260 (10.24)	394 (15.51)	170 (6.69)	244 (9.60)	180 (7.09)	2" NPT	210 (8.27)	296 (11.65)
21 (P)	7	2.1	259 (10.19)	406 (15.98)	642 (25.28)	385 (15.16)	455 (17.91)	170 (6.69)	362 (14.25)	242 (9.53)	2.5" 150lb	210 (8.27)	359 (14.13)
36 (P)	12.3	3.6	299 (11.77)	408 (16.06)	642 (25.28)	385 (15.16)	455 (17.91)	170 (6.69)	362 (14.25)	242 (9.53)	2.5" 150lb	210 (8.27)	359 (14.13)
44 (P)	15	4.4	316 (12.44)	408 (16.06)	642 (25.28)	385 (15.16)	455 (17.91)	170 (6.69)	362 (14.25)	262 (10.31)	150lb	210 (8.27)	359 (14.13)
53 (P)	18	5.3	285 (11.22)	428 (16.85)	703 (27.68)	480 (18.90)	572 (22.52)	240 (9.45)	430 (16.93)	298 (11.73)	150lb	210 (8.27)	406 (15.98)
62 (P)	21	6.2	386 (15.19)	464 (18.27)	703 (27.68)	480 (18.90)	572 (22.52)	240 (9.45)	430 (16.93)	298 (11.73)	150lb	210 (8.27)	406 (15.98)

Technical Data

- Burner Dimensions



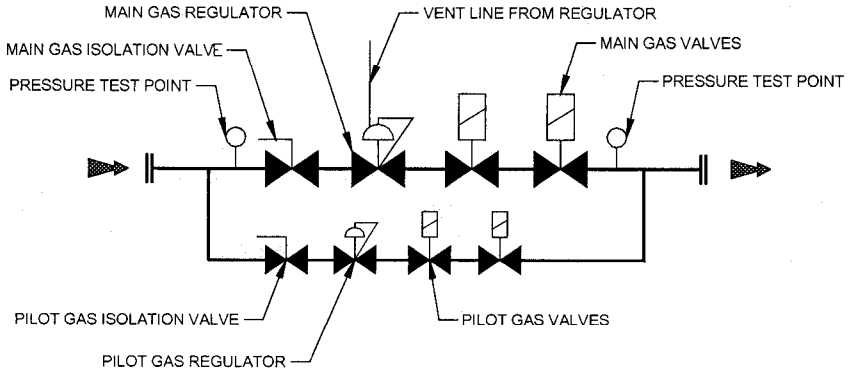
Burner Model Number	A	B	C	D	E	F	G	H	J	K
All dimension in mm and (inches) unless stated otherwise										
9	177 (6.97)	210 (8.27)	435 (17.13)	260 (10.24)	394 (15.51)	212 (8.35)	170 (6.69)	244 (9.60)	180 (7.09)	2" NPT
15	189 (7.44)	210 (8.27)	435 (17.13)	260 (10.24)	394 (15.51)	212 (8.35)	170 (6.69)	244 (9.60)	180 (7.09)	2" NPT
21	259 (10.19)	406 (15.98)	642 (25.28)	385 (15.16)	455 (17.91)	311 (12.24)	170 (6.69)	362 (14.25)	242 (9.53)	2.5" 150lb
36	299 (11.77)	408 (16.06)	642 (25.28)	385 (15.16)	455 (17.91)	311 (12.24)	170 (6.69)	362 (14.25)	242 (9.53)	2.5" 150lb
44	316 (12.44)	408 (16.06)	642 (25.28)	385 (15.16)	455 (17.91)	311 (12.24)	170 (6.69)	362 (14.25)	262 (10.31)	2.5" 150lb
53	285 (11.22)	428 (16.85)	703 (27.68)	480 (18.90)	572 (22.52)	347 (13.66)	240 (9.45)	430 (16.93)	298 (11.73)	3" 150lb
62	386 (15.19)	464 (18.27)	703 (27.68)	480 (18.90)	572 (22.52)	347 (13.66)	240 (9.45)	430 (16.93)	298 (11.73)	3" 150lb
73	412 (16.22)	556 (21.89)	814 (32.05)	630 (24.80)	721 (28.39)	460 (18.11)	253 (9.96)	550 (21.65)	396 (15.59)	4" 150lb
88	456 (17.95)	575 (22.64)	814 (32.05)	630 (24.80)	721 (28.39)	460 (18.11)	253 (9.96)	550 (21.65)	396 (15.59)	4" 150lb
100	490 (19.29)	595 (23.43)	814 (32.05)	630 (24.80)	721 (28.39)	460 (18.11)	253 (9.96)	550 (21.65)	396 (15.59)	4" 150lb
123	540 (21.26)	726 (28.58)	1205 (47.44)	838 (33.00)	942 (37.09)	561 (22.09)	264 (10.39)	721 (28.39)	594 (23.39)	6" 150lb
150	582 (22.91)	766 (30.16)	1205 (47.44)	838 (33.00)	942 (37.09)	561 (22.09)	264 (10.39)	721 (28.39)	594 (23.39)	6" 150lb
175	638 (25.12)	783 (30.83)	1205 (47.44)	838 (33.00)	942 (37.09)	561 (22.09)	264 (10.39)	721 (28.39)	594 (23.39)	6" 150lb
200	699 (27.52)	809 (31.85)	1205 (47.44)	838 (33.00)	942 (37.09)	561 (22.09)	264 (10.39)	721 (28.39)	594 (23.39)	6" 150lb
263	776 (30.55)	986 (38.81)	1608 (63.31)	1055 (41.54)	1187 (46.73)	731 (28.78)	314.8 (12.39)	893 (35.17)	710 (27.95)	8" 150lb
310	864 (34.02)	1035 (40.75)	1608 (63.31)	1055 (41.54)	1187 (46.73)	731 (28.78)	314.8 (12.39)	893 (35.17)	710 (27.95)	8" 150lb

Technical Data

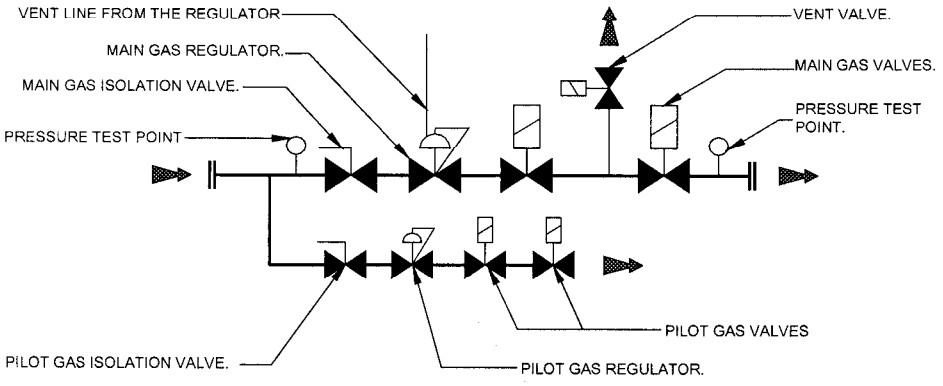
- Gas Trains

Burner Model Number	Gas Input rate		Minimum Pilot pressure		Typical gas train size		Typical valve manufacturer
Units	(1000 btu/cuft)	MW	"WG	mbar	Inches	mm	
9	3,000	0.9	8	20	2"	50.8	Dungs
15	5,000	1.5	8	20	2"	50.8	Dungs
21	7,000	2.1	12	30	2"	50.8	Dungs
36	12,300	3.6	12	30	2.5"	63.5	Dungs
44	15,000	4.4	12	30	2.5"	63.5	Dungs
53	18,000	5.3	12	30	3"	76.2	Dungs
62	21,000	6.2	12	30	3"	76.2	Dungs
73	25,000	7.3	12	30	4"	101.6	Dungs
88	30,000	8.8	12	30	4"	101.6	Dungs
100	35,000	10	12	30	4"	101.6	Dungs
123	42,000	12.3	12	30	5"	127	Dungs
150	50,000	15	12	30	TBA	TBA	TBA
175	60,000	17.5	12	30	TBA	TBA	TBA
200	70,000	20	12	30	TBA	TBA	TBA
263	90,000	26.3	12	30	TBA	TBA	TBA
310	110,000	31	12	30	TBA	TBA	TBA

Note: All gas train sizes shown are typical sizes as site pressures and applications may vary. This may result in a change in selection to meet the volume flow requirements of the application to obtain full input into the boiler. These gas control trains are typically sized at the time of quoting assuming the correct pressures and volumes are supplied on the engineering form. For more information please contact us.



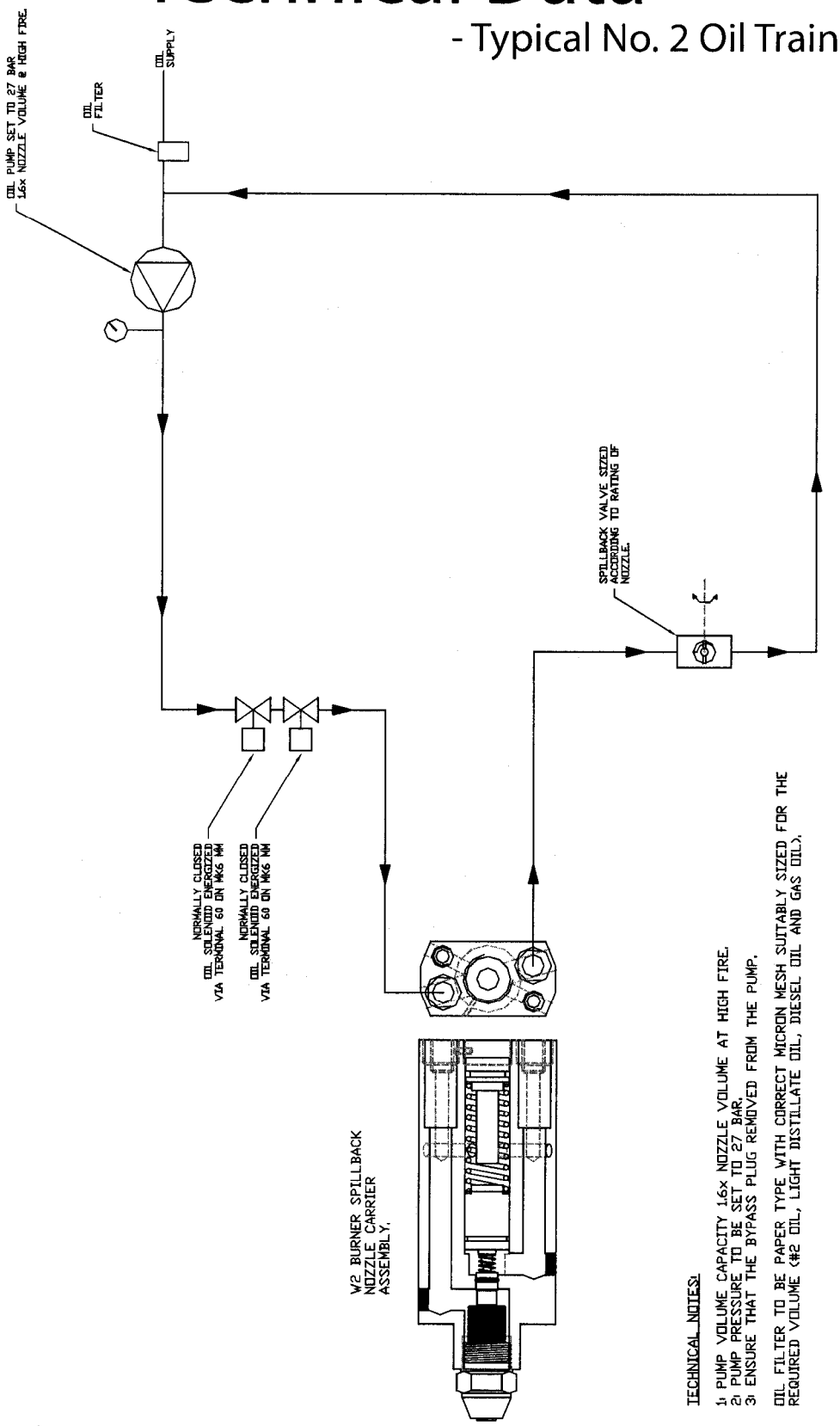
Schematic of a typical gas train (Lc9-15)



Schematic of a typical gas train (Lc21- 310)

Technical Data

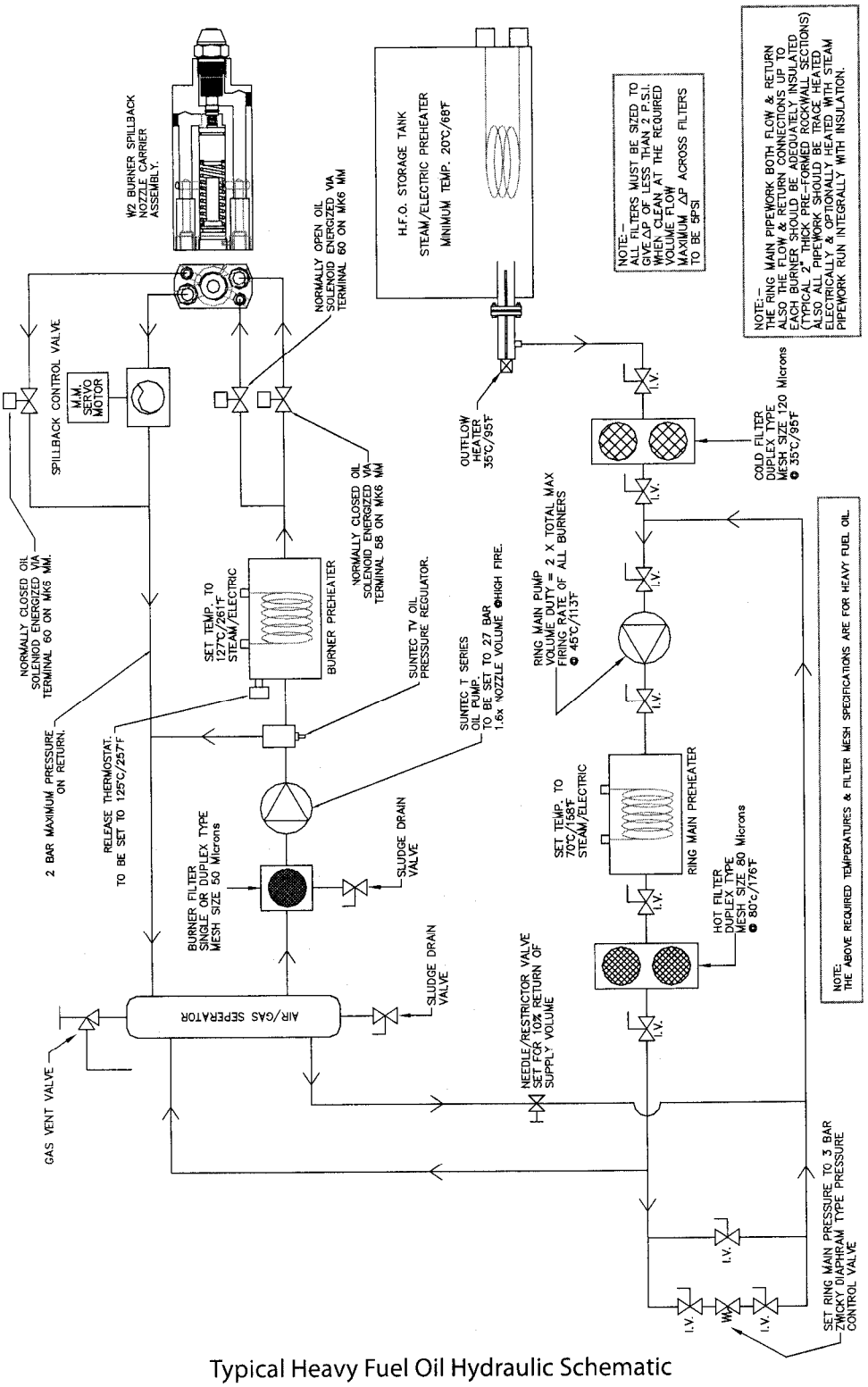
- Typical No. 2 Oil Train



Typical Light Fuel Oil Hydraulic Schematic

Technical Data

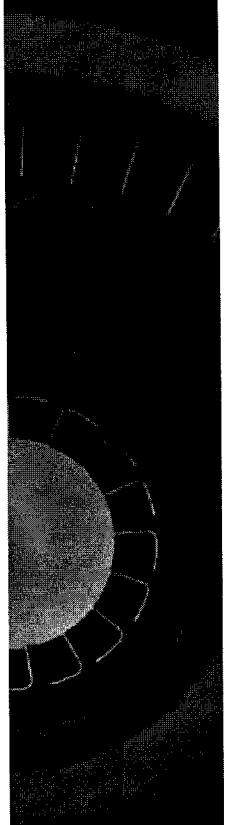
- Typical No. 6 Oil Train



Typical Heavy Fuel Oil Hydraulic Schematic

Approvals CE

In 2008 Limpsfield gained their CE BS EN 676 Certificate for the design, build and testing of the burner range. Limpsfield Combustion Engineering Limited is continuing to design and test new products, offering the combustion industry world beating products. This is achieved by enthusiastic and talented individuals working collectively as a team, this along with good sound investment by the owners of Limpsfield allow us to progress our products and people with confidence into the future.



ADVANTICA

EC Type Examination Certificate

Issued by Advantica Certification Services

Certificate No.	EC-87/08/073 Rev 1 (Page 1 of 1)
Notified Body No.	0087
Project No.	2/35134
Date	17 December 2008
Original/Supplementary	Supplementary
Applicant/Manufacturer	Limpsfield Combustion Engineering Limited Unit 10 Airport Industrial Estate Wireless Way Biggin Hill Kent TN16 3BW
Normative Reference	BS EN 676: 2003
EC Product Identification No.	87BT73

Product Type	Model Designation	Gas Category & Pressure	Destination Countries
Industrial Forced Draught Burner	LC9, LC15, LC21, LC36, LC44, LC53, LC62, LC73, LC88 & LC100	I_{2H} (20-350)	CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, NL, NO, PT, SE, SI & SK

Note: This revised certificate has been issued to include DE, LU, NL & FR and to clarify supply pressure.

Declaration

Type samples representative of the products detailed have been tested and examined and found to comply with the Essential Requirements detailed in Annex I of the European Gas Appliance Directive (90/396/EEC).

Signed on behalf of the Advantica Notified Body (No. 0087)

Graham McKay, Manager, Certification Services
Advantica Limited, Ashby Road, Loughborough, Leicestershire LE11 3GR

Product Evaluation You Can Rely On

Approvals

In 2007 Limpsfield gained their UL Certificate for the design, build and testing of the complete burner range.

Underwriters Laboratories Inc.®

File MP4134 Vol 1 Issued: 2007-06-27
Revised: 2007-06-28

FOLLOW-UP SERVICE PROCEDURE
(TYPE L)

GAS-OIL BURNERS
(KYKR)
****
Complementary Product Category
COMMERCIAL/INDUSTRIAL GAS BURNERS
(KXWT)
OIL BURNERS
(KYXZ)

Manufacturer: LIMPSFIELD ENGINEERING UNIT
(100116-266) UNIT 10 AIRPORT INDUSTRIAL ESTATE
WIRELESS WAY
KENT
TN16 3BW UNITED KINGDOM

Applicant: SAME AS MANUFACTURER
(100116-266)

Listee: SAME AS MANUFACTURER
(100116-266)

This Procedure authorizes the above manufacturer to use the marking specified by Underwriters Laboratories Inc.(UL), or any authorized licensee of UL, only on products covered by this Procedure, in accordance with the applicable UL Services Agreement.

The prescribed Mark or Marking shall be used only at the above manufacturing location on such products which comply with this Procedure and any other applicable requirements.

The Procedure contains information for the use of the above named Manufacturer and representatives of Underwriters Laboratories Inc. and is not to be used for any other purpose. It is lent to the Manufacturer with the understanding that it is not to be copied, either wholly or in part, and that it will be returned to Underwriters Laboratories Inc. (UL) or any authorized licensee of UL, upon request.

This PROCEDURE, and any subsequent revision, is the property of Underwriters Laboratories Inc.(UL) and the authorized licensee of UL and is not transferable.

Underwriters Laboratories Inc.

Stephen Hewson
Senior Vice President
Global Follow-Up Service Operations

William R. Carney
Director
North American Certification Program

An independent organization working for a safer world with integrity, precision and knowledge.

Approvals

In 2007 Limpsfield gained their ISO 9001:2001 International Quality Management Certificate.

ADVANTICA

Quality Management System Certificate

Issued by Advantica Certification Services

Certificate No.	QMS/07/002
Certification Body No.	079
Date	6th November 2007
Applicant	Limpsfield Combustion Engineering Ltd. Unit 10 Airport Industrial Estate Wireless Way Biggin Hill Kent TN16 3BW
Standard	BS EN ISO 9001:2000
Expiry Date	1st September 2010

Declaration

This is to certify that the Quality Management System has been assessed and registered by Advantica Certification Services for the scope of:

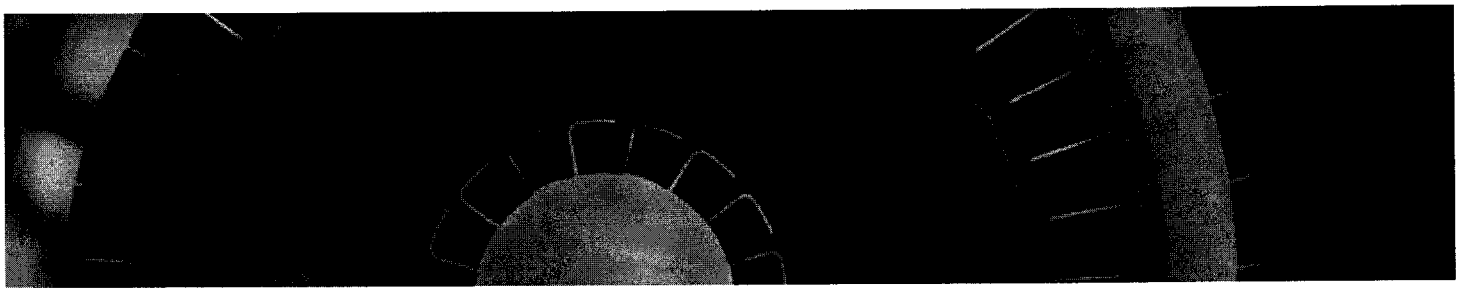
The design, manufacture & testing of gas & oil burners with associated valves, enclosures and housings

Signed on behalf of Advantica

Graham McKay, Manager, Certification Services
Advantica Limited, Ashby Road, Loughborough, Leicestershire LE11 3GR

UKAS QUALITY MANAGEMENT 079

Product Evaluation You Can Rely On



Limpsfield

Rep:

Limpsfield Combustion Engineering Co. Limited
Unit 10 Airport industrial Estate,
Wireless road,
Biggin Hill,
Kent,
TN16 3BW

Tel: +44 (0)1959 576 633
Fax: +44 (0)1959 576 644

e-mail: sales@limpsfield.co.uk
Website: www.limpsfield.co.uk

UKAS
QUALITY
MANAGEMENT

CE

UL

JOB REF: _____

Company name:		**Contact name:**	
Engineer responsible.		**Customer Tel:**	
Despatch date:		**Customer Fax:**	
Quantity:		**Delivery date:**	

Burner Details:		**Boiler Details:**	
Primary fuel:		Boiler type:	
Secondary fuel:		Boiler output::	
Burner input:		Furnace Ø:	
Burner type:		Furnace length	
Gas pressure available:		Furnace pressure:	
Oil pressure requirement:		Furnace volume:	
Air handing inlet::		Stack pressure:	
Gas handing inlet:		No. of passes:	
FGR handing inlet:		Stack temp:	
Terminal box handing:		Head Extension length:	
U.V. type:		Stack Ø:	
Pilot injector or Direct spark:		New or Existing:	
Air sensor or Air switch:		Boiler GA drawing:	

Specified performance:		**Site details:**	
Gas turn down ratio:		Country:	
Oil turn down ratio:		State/Province:	
N0x requirement, gas:		Application:	
N0x requirement, oil:		Altitude:	
Noise requirement:		Ambient temp: max.	
Local code requirements:		Ambient temp: min.	
		Voltage:	

Scope of supply (included with burner)			
Combustion air fan:	Yes ☐	No ☐	
FGR fan:	Yes ☐	No ☐	
Gas train:	Yes ☐	No ☐	
Oil pump set:	Yes ☐	No ☐	
Oil pre-heater:	Yes ☐	No ☐	
Sound attenuator:	Yes ☐	No ☐	
Air transition duct:	Yes ☐	No ☐	
Burner mounting plate:	Yes ☐	No ☐	
Anti-vibration mounts:	Yes ☐	No ☐	
Control panel:	Yes ☐	No ☐	
Variable speed drive	Yes ☐	No ☐	
EGA:	Yes ☐	No ☐	
Commissioning/Start-up	Yes ☐	No ☐	
Freight type:	Sea ☐	Air ☐	

SPECIAL INSTRUCTION: **All details must be complete before manufacturing can commence.**

Customer signature: **Date:**

Engineers signature: **Date:**

4) THE

BATH

GROUP

WRITTEN COMMENTS

Carroll, Catherine M.

From: John James <jwjamesiv@gmail.com>
Sent: Wednesday, May 07, 2014 12:15 PM
To: Carroll, Catherine M.
Cc: rcote@carlincombustion.com; JOHN SUNDERLAND
Subject: I Withdraw My Recommended Wording to Section 13.7

Catherine,
This is to notify you that you will be receiving an e-mail this afternoon from John Sunderland, a retired Ohio trial attorney who now lives in Bath and is a member of our Bath North-End Natural Gas Working Group.

As a result of a meeting here last Friday attended by 20 installers, distributors, Maine Natural Gas, and Carlin burner's northern New England rep, Ron Cote, ...John Sunderland has drafted a more encompassing and clearly-worded recommendation for changes to the "Under 400,000 BTU" portion of Section 13.7. I hereby request that my submission be removed for consideration.

I believe Ron Cote has reviewed Mr. Sunderland's recommendations as well.
Thank you.
Sincerely,
John
John W. James IV
Coordinator, Bath North-End Natural Gas Working Group
30 Garden Street,
Bath, ME 04530
207-443-3833

Catherine M. Carroll

Board Administrator

Office of Professional and Occupational Regulation

www.maine.gov/pfr/professionallicensing

☎ Tel: (207) 624-8605 (direct)

☎ Tel: Maine relay 711 (TTY)

Fax: (207) 624-8636

✉ Address: Department of Professional and Financial Regulation

35 State House Station, Augusta, Maine 04333-0035

Office Located At: 76 Northern Avenue, Gardiner, Maine

From: JOHN SUNDERLAND [mailto:jtsunderland@myfairpoint.net]
Sent: Wednesday, May 07, 2014 1:44 PM
To: Carroll, Catherine M.
Cc: John James; rcote@carlincombustion.com
Subject: Recommended Wording to Section 13.7

Ms. Carroll,

Attached is a Word document with the comments by the Bath North-End Natural Gas Working Group (the "Bath Group") to the language proposed for Maine Fuel Board Chapter 13, section 13.7.1. These comments supercede the previous submission by John James IV.

As a starting point, I pulled the latest proposed rule change language from the state's web site and saved the proposed language AFTER the changes from the earlier draft. The language on the web has track changes showing, and I didn't want to confuse things by tracking my suggested changes on top of the existing track

changes. Thus, the initial language on the attached represents the clean version of the proposed rule language, and the Bath Group's suggested changes show as deletions and additions from that clean version.

The Bath Group's draft deletes the "testing" language from proposed section 13.7.1 subsection 2 because that language eliminates the ability of many members of the Bath Group to convert our systems to natural gas unless we purchase entirely new heating systems. The boiler manufacturers will never test our existing boilers with gas burners because they have absolutely no financial incentive to do so. The specific "make and model" requirement in proposed subsection 2 would thus require burner manufacturers to identify every single make and model of heating plant in our homes and then separately test each one, a time and money burden that no burner manufacturer would undertake. Retaining this "testing" requirement thus denies many of us the option to convert our existing heating systems from fuel oil to natural gas.

Moreover, in subsection 3, the state has already proposed a safe harbor eliminating the testing requirement if the boiler manufacturer is no longer in business, so long as the conversion installation meets the applicable code requirements. The Bath Group fails to see how the boiler manufacturer's continued existence should be the determining factor; instead, complying with the relevant code provisions should provide the necessary safety assurance. Because the state is already satisfied that compliance with the burner manufacturer's installation instructions and the relevant code provisions provides sufficient assurance that the conversion installation will be safe for homeowners whose boiler manufacturers are no longer around, why would it impose an impossible testing burder for those homeowners whose boiler manufacturers remain in business? Under the changes the Bath Group proposed, the standards are the same whether the boiler manufacturer is in business or not.

In addition the code requirements not only provide the necessary safety standard, they are national in scope. The proposed individual testing requirement says nothing about testing standards or how they are to be implemented or evaluated. Thus, the testing would end up being company by company and unit by unit, a standard far more likely to create problems than simply following the national code standards.

The Bath Group does not understand why the state would adopt a rule that would require its citizens to continue to retain fuel oil for heat or spend an excessive amount for the opportunity to convert. The state's rules and regulations should exist to benefit the citizenry of Maine, not to make life more cumbersome and expensive.

John T. Sunderland

John T. Sunderland
1062 Washington St.
Bath, ME 04530
207-443-3169
jtsunderland@myfairpoint.net

13.7.1 400,000 btu or less

When converting to propane or natural gas from another fuel source where the input of the burner is 400,000 btu or less, the following requirements must be met:

1. The conversion burner must be a listed conversion burner;

2. The ~~burner must be tested by the burner or appliance manufacturer to ensure safe operation in the make and model of the appliance to be converted. The~~ burner manufacturer must supply installation ~~and combustion set-up~~ instructions for ~~that~~ operation in the appliance for which the burner is to be installed; and

~~3. In the case of an appliance the manufacturer of which longer available, the burner selection criteria included in ANSI Z21.8, and the burner manufacturer's combustion setup instructions may be used.~~

~~4.~~3. The installation must conform to NFPA #54 (2012) and ANSI Z 21.8, as incorporated by reference into NFPA #54 (2012).