

REGISTRATION FORM

NAME: _____
TITLE: _____
COMPANY: _____
ADDRESS: _____
CITY: _____ ST: _____ ZIP: _____
PHONE: _____ FAX: _____

FEES: \$750.00 per person (Includes lunches, seminar materials, and continental breakfast). Accommodations not included in registration fee. Contact Hauck for hotel information.

**ADVANCED COMBUSTION SEMINAR
BASED ON E-SOLUTIONS FOR COMBUSTION**

November 3-5, 2003
Class Size is Limited.

Send Completed Form with Registration Fee
by 10/15/03 to:

Brad Smith
Hauck Manufacturing Company
PO Box 90
Lebanon, PA 17042
717-272-3051 ext. 3101
bsmith@hauckburner.com



*Hauck Manufacturing
Technical Seminars*

Hauck Manufacturing Company conducts customer training classes throughout the year at its Customer Technical Center located adjacent to the main plant on Hauck's 15 acre campus. Additionally, Hauck offers private company seminars at customer locations both domestically and abroad. Topics span the range of simple product maintenance sessions to advanced sessions on combustion theory and system design utilizing Hauck's e-Solutions® for Combustion engineering software.

Contact Hauck or your local representative for additional information about seminar schedules or to request a proposal for a custom tailored private seminar for your company. The latest seminar info is posted on Hauck's corporate website at www.hauckburner.com.



*Advanced
Combustion
Seminar*

*utilizing
e-Solutions for Combustion®*

November 3-5, 2003

Hauck Manufacturing Company
Customer Technical Center
100 North Harris Street
Cleona, PA 17042



*Combustion Expertise...Quality Products
...World-Class Customer Service...*

DAY 1

8:00-8:15 Registration and Coffee
8:15-9:00 Problem Formulation
9:00-9:30 Fuel
9:30-10:15 Company Tour
10:15-10:30 Break
10:30-12:00 Air
12:00-1:00 Lunch
1:00-2:00 Review—Problem Solving
2:00-3:00 Lab
3:00-3:15 Break
3:15-4:30 System Design and Controls

DAY 2

8:00-9:00 Piping Design
9:00-10:15 Lab
10:15–10:30 Break
10:30-12:00 Blowers and Sound
12:00-1:00 Lunch
1:00-2:00 Review—Problem Solving
2:00-2:45 Emissions
2:45-3:15 Break
3:15-4:15 Lab

DAY 3

8:30-10:00 Burner Sizing for Transient Processes
10:00-10:30 Break
10:30-11:30 Review—Problem Solving
11:30-12:00 Q&A—Review
12:00 Adjourn

SEMINAR PREVIEW



E-SOLUTIONS FOR COMBUSTION:

This advanced seminar is based on the latest release of Hauck's software product used to facilitate the design of combustion systems. Students are expected to bring a laptop and work with our instructors to solve combustion design problems using the 2.x version of e-Solutions which will be installed free of charge on each attendee's computer— a **\$295 value**. Seminar topics include:

BURNER SIZING: Learn how to calculate the total fuel input needed for your furnace and process requirements and relate that to a burner selection. Work on a sample problem with several different design criteria.

SYSTEM DESIGN: Discover the advantages and disadvantages to various air/fuel ratio control methods. Determine optimum furnace zone configurations and burner selection.

PIPING DESIGN: Learn about basic air and fuel piping design practices, control component selection, fluid mechanics, and orifice meters.

BLOWERS AND SOUND: Using fan laws, perform blower sizing and performance for standard and non-standard conditions. Calculate sound pressures at distances and determine blower sound levels with silencers.

EMISSIONS: General discussion of emissions and design decisions that impact emission levels.

LAB: Class work is supplemented by more than 3 hours of hands-on exercises in Hauck's Combustion Laboratory demonstrating real-world design issues.

HEAT TRANSFER PROCESSES: Bonus discussion of Hauck's experience with radiation and convective heat transfer technology and system modeling.

AIR/FUELS

CONTROLS

BLOWERS

EMISSIONS

For More Information Contact:

BRAD SMITH
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PO BOX 90 100 NORTH HARRIS STREET
LEBANON, PA 17042
Ph: 717-272-3051 Fax: 717-273-9882
bsmith@hauckburner.com

**Seminar Registration Fee
\$750.00 / per attendee**

Registration fee includes Welcoming Reception, continental breakfast and lunch on seminar days, and seminar manual.

Class size is limited. Accommodations not included in registration fee. Transportation to/from hotel can be provided.

Includes free copy of 2.0 version of e-Solutions for Combustion®—a \$295 value.