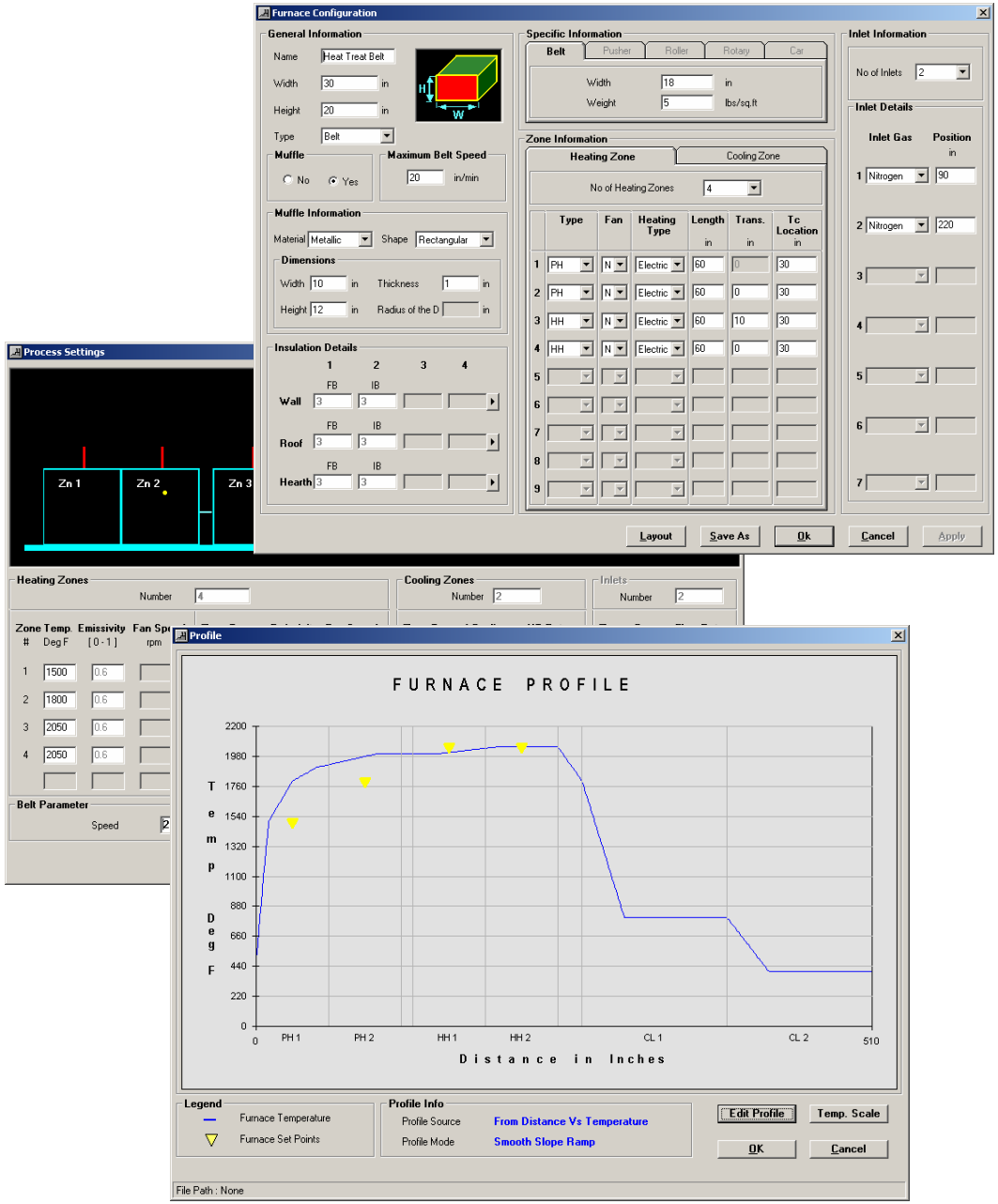
Specialists in Thermal Applications

FurnXpert Continuous Heat Treat

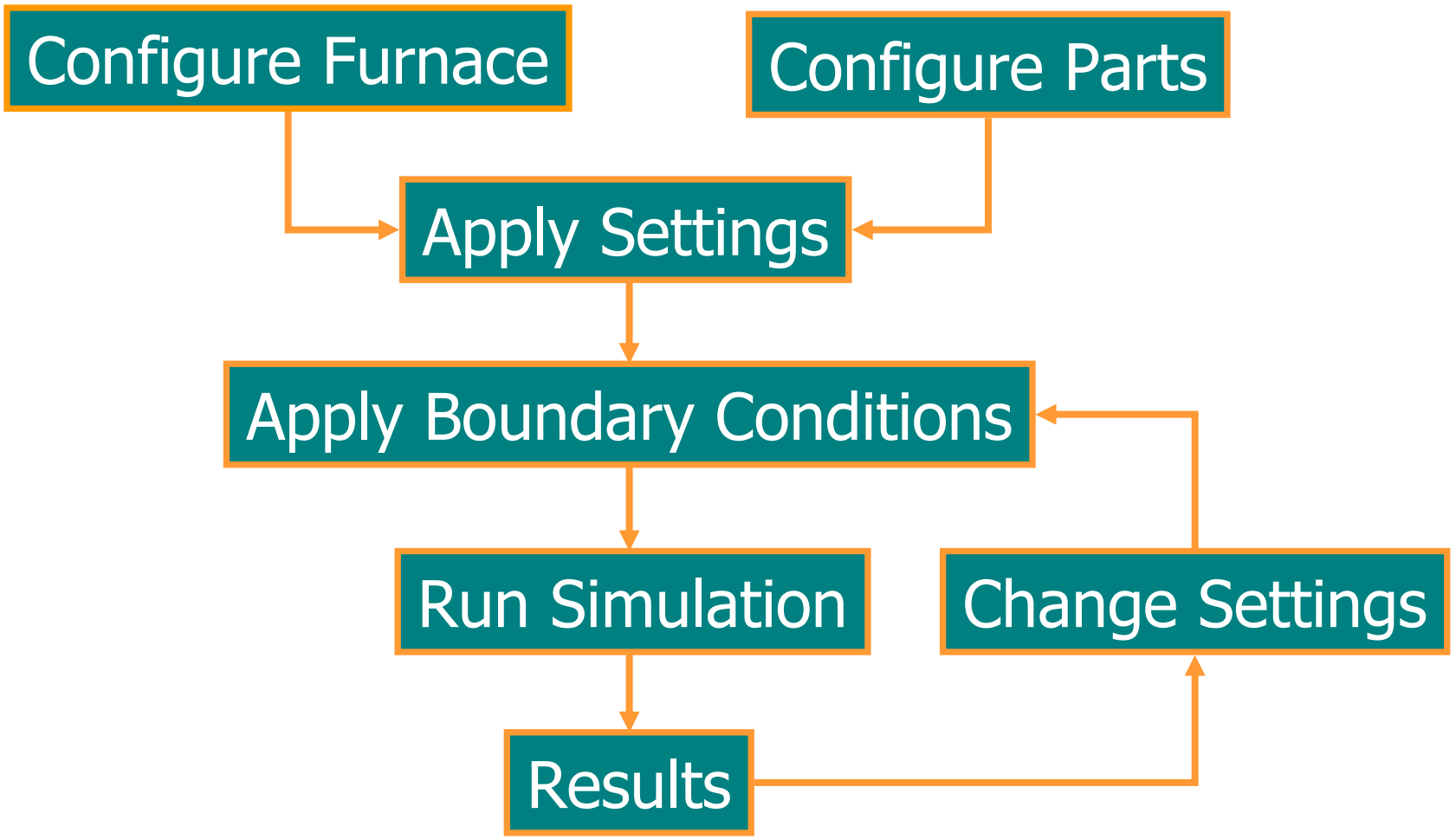
FurnXpert Continuous Heat Treat Application solves Heat Transfer and Thermal Issues in continuous heat treating furnaces to heat small charges like cylinders, bushings, blocks, flanges, etc.



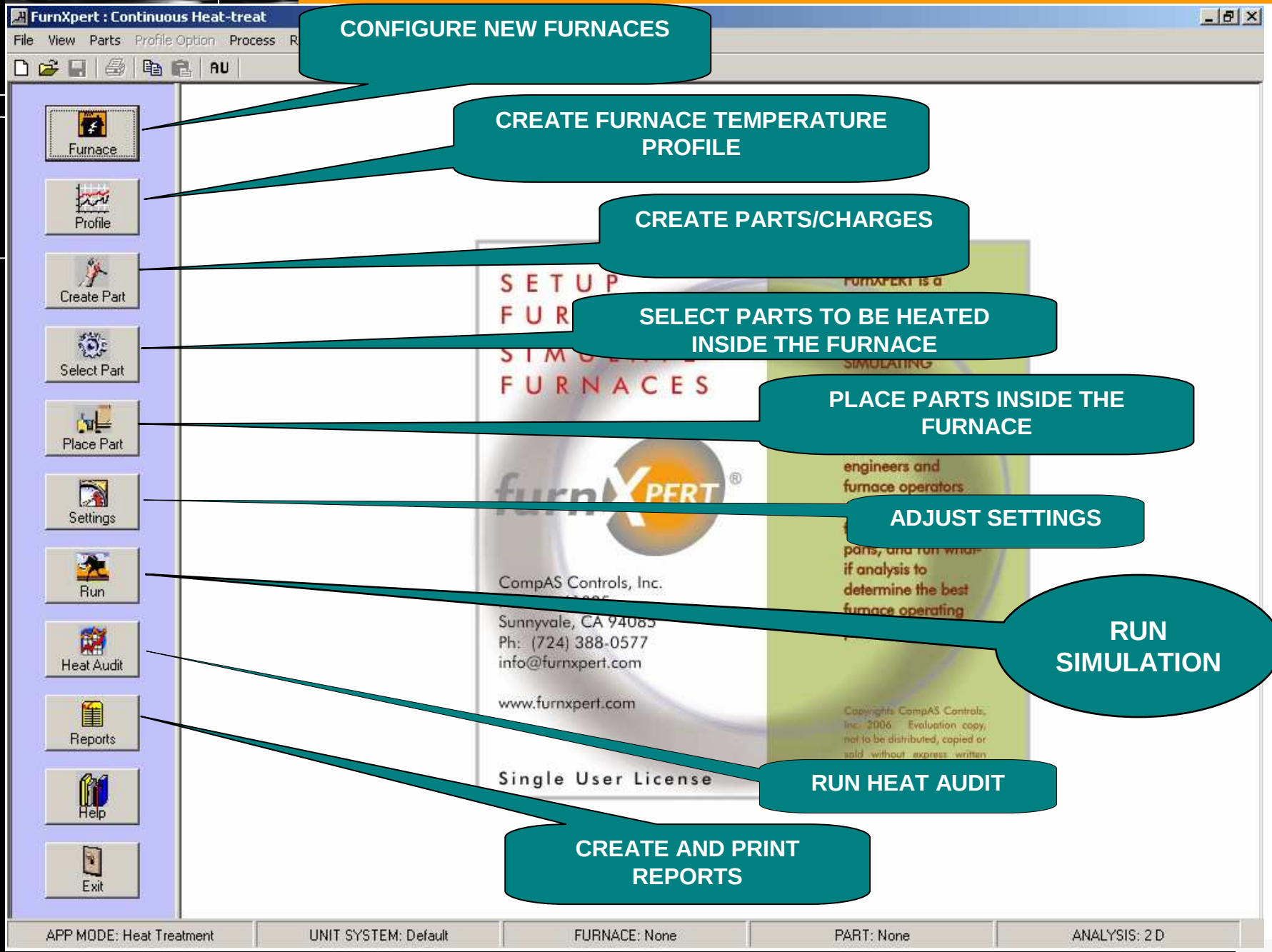
Benefits

- ⇨ Minimizes furnace design time
- ⇨ Reduces the requirements for test runs
- ⇨ Provides opportunity to quickly investigate multiple furnace designs
- ⇨ Enables viewing heat-treating process virtually
- ⇨ Offers platform for improved design accuracy
- ⇨ Bridges the gap between the furnace suppliers and furnace users
- ⇨ Can be used as a sales tool by furnace manufacturers as well as Heat-Treaters

How does it work ?



FurnXpert Functions



CONFIGURE NEW FURNACES

CREATE FURNACE TEMPERATURE PROFILE

CREATE PARTS/CHARGES

SELECT PARTS TO BE HEATED INSIDE THE FURNACE

PLACE PARTS INSIDE THE FURNACE

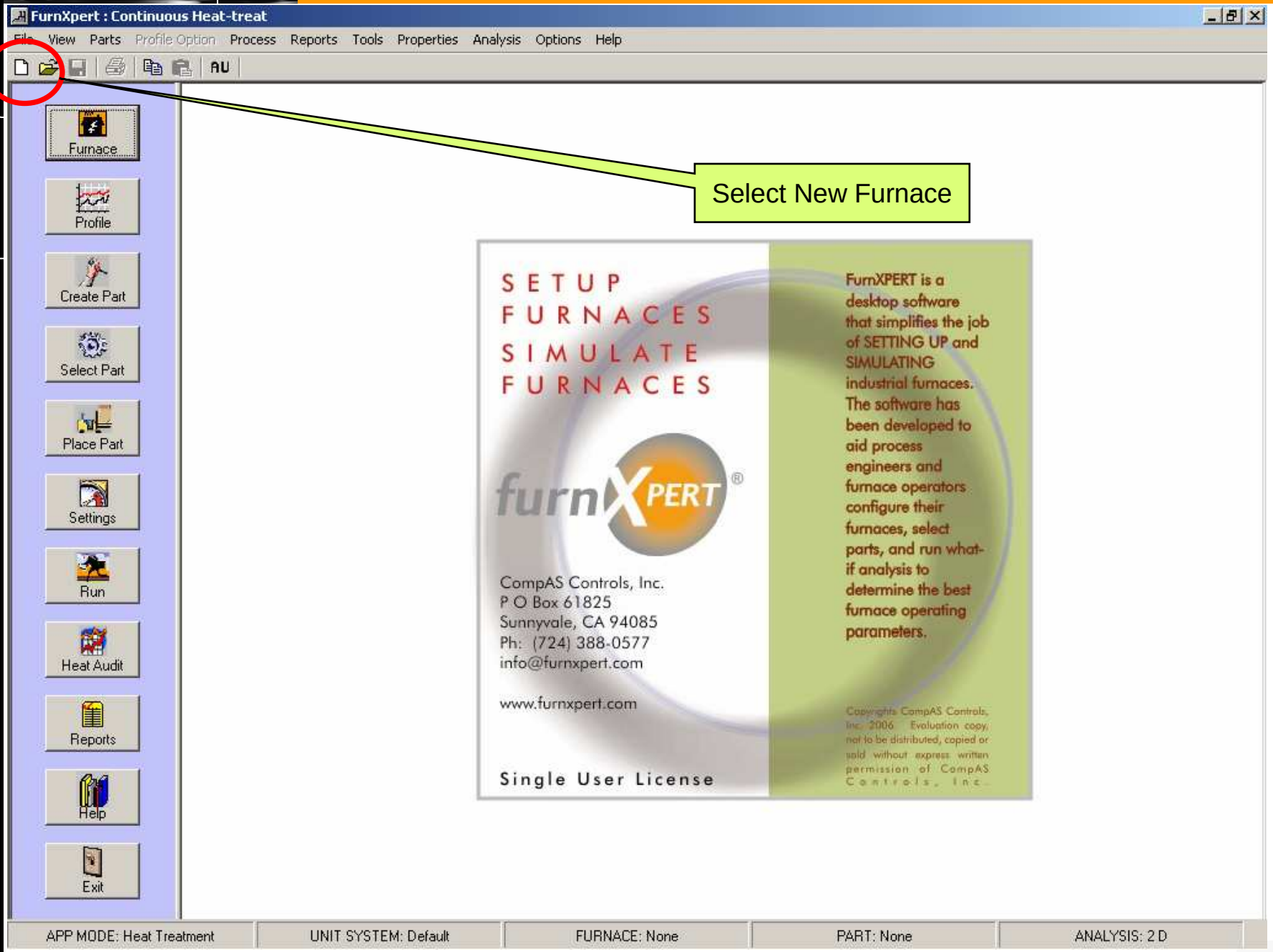
ADJUST SETTINGS

RUN SIMULATION

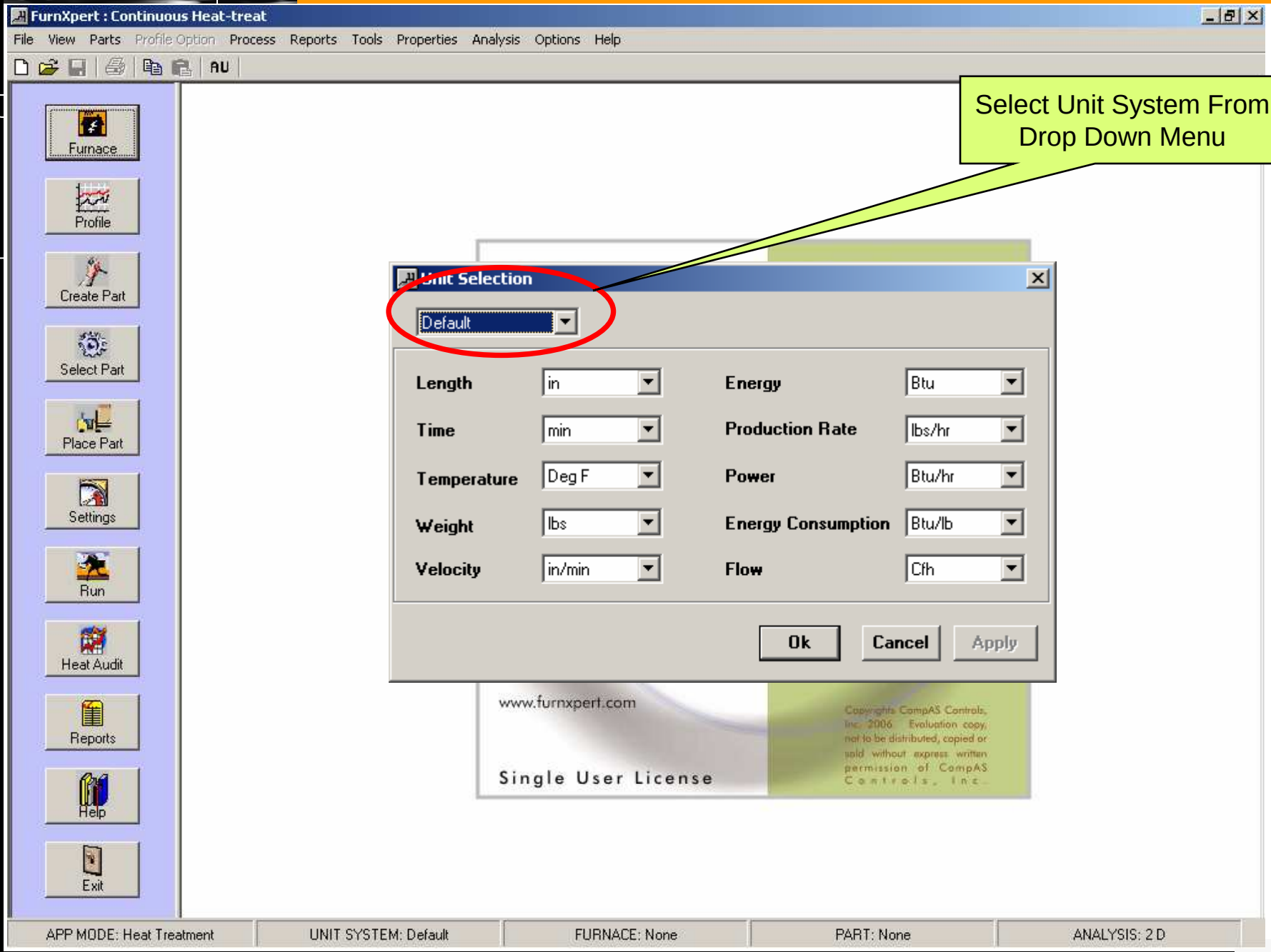
RUN HEAT AUDIT

CREATE AND PRINT REPORTS

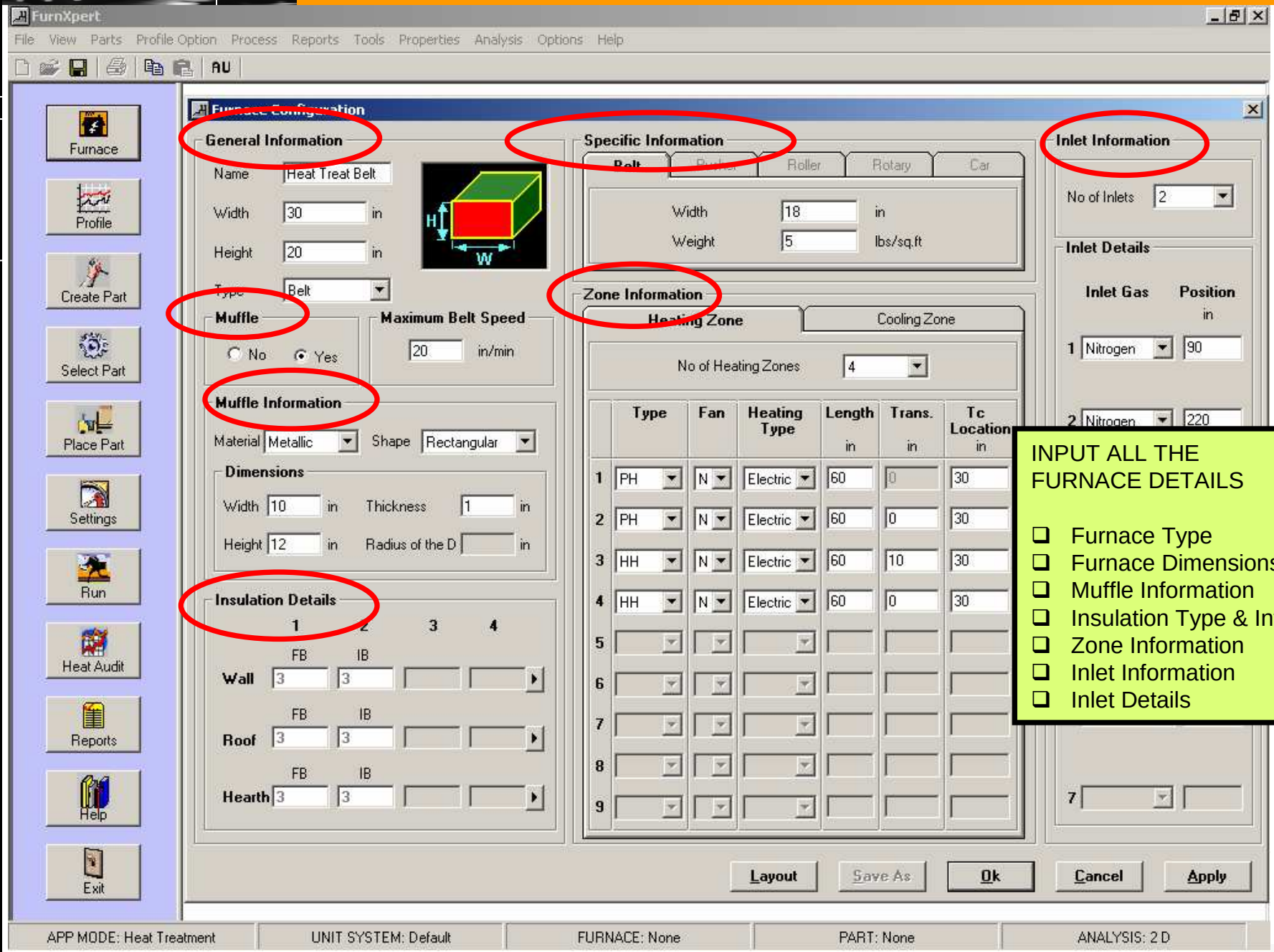
Select New Furnace



Select Unit System



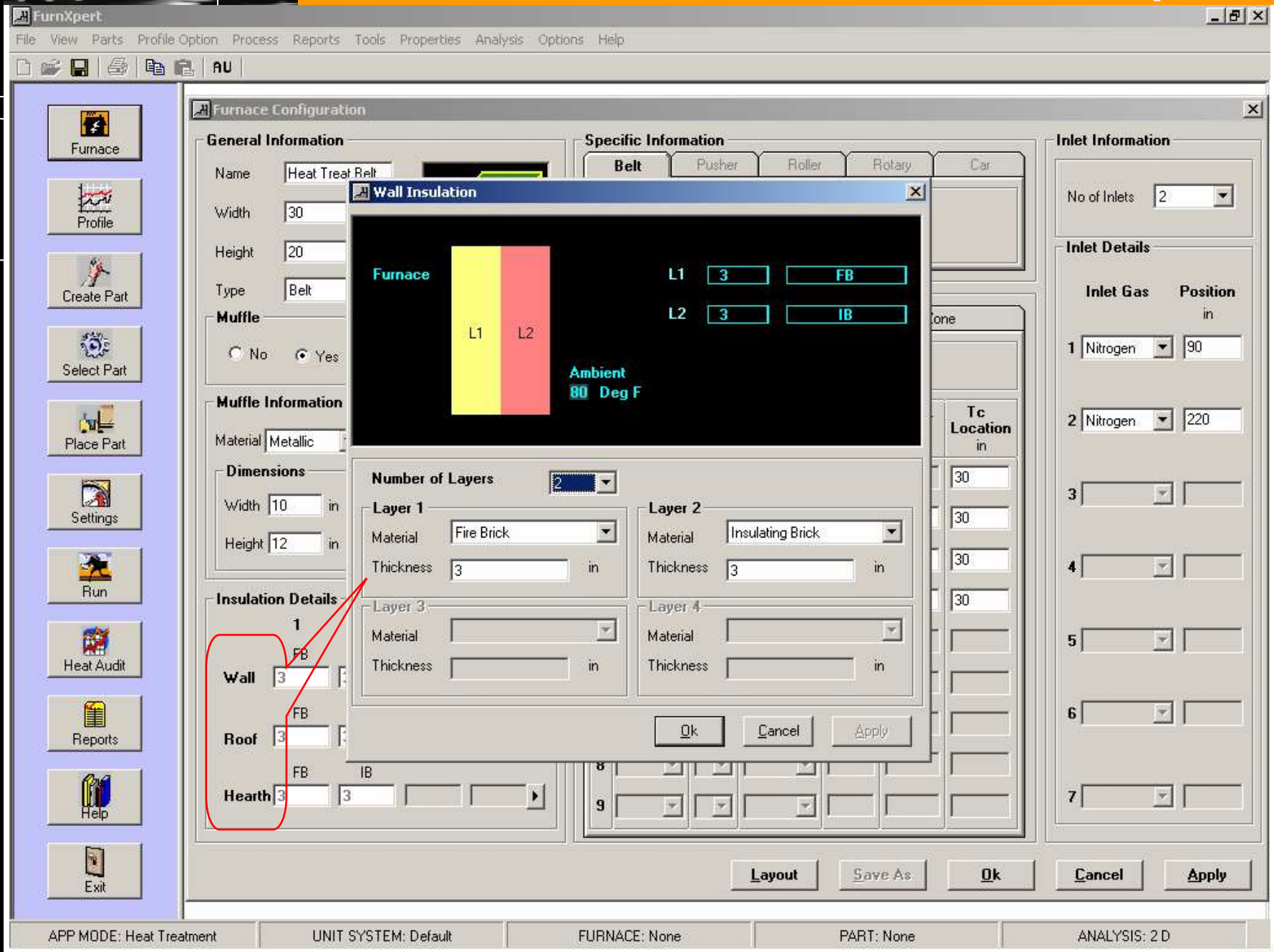
Enter Furnace Data



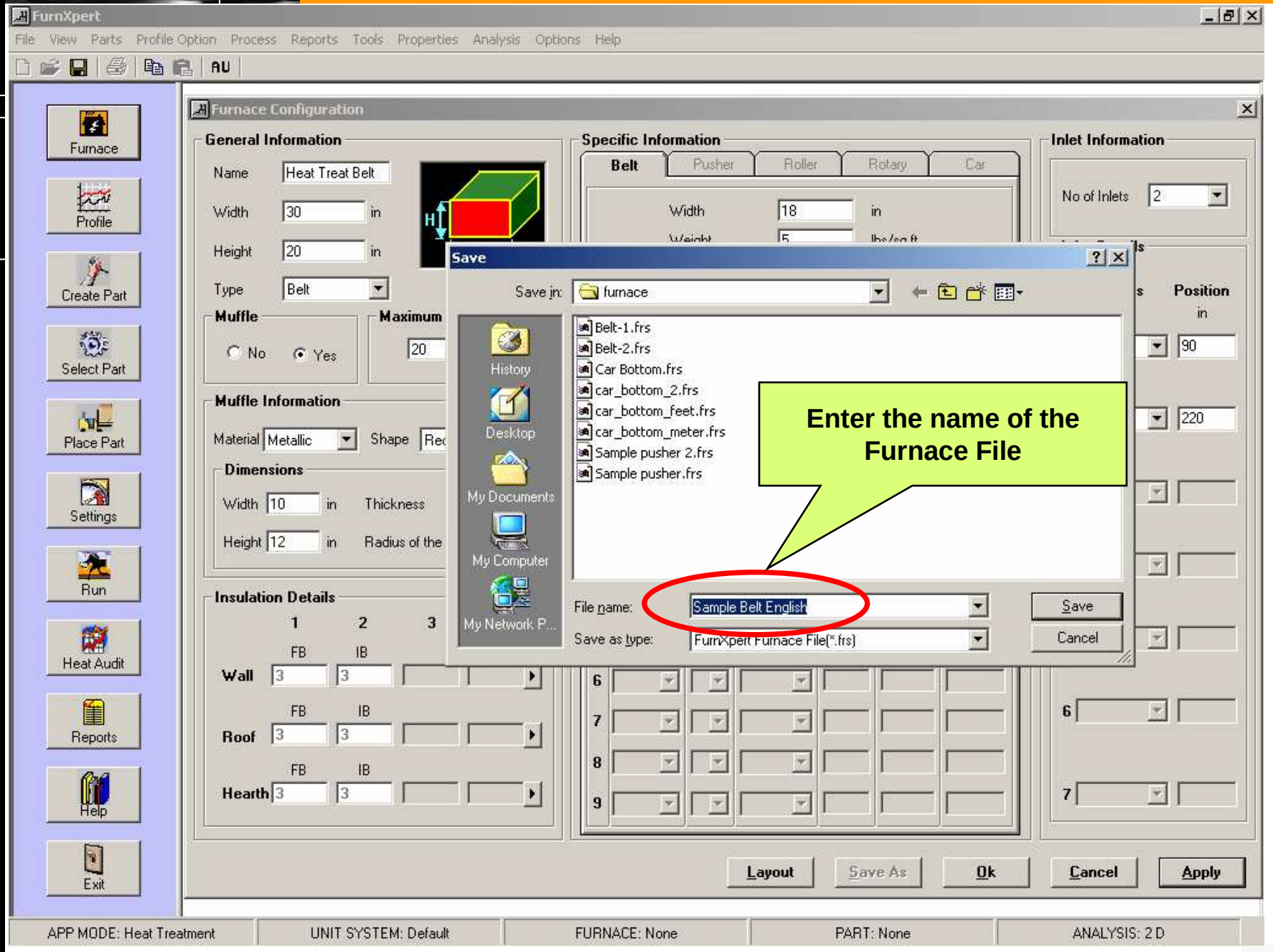
INPUT ALL THE FURNACE DETAILS

- ❑ Furnace Type
- ❑ Furnace Dimensions
- ❑ Muffle Information
- ❑ Insulation Type & Info
- ❑ Zone Information
- ❑ Inlet Information
- ❑ Inlet Details

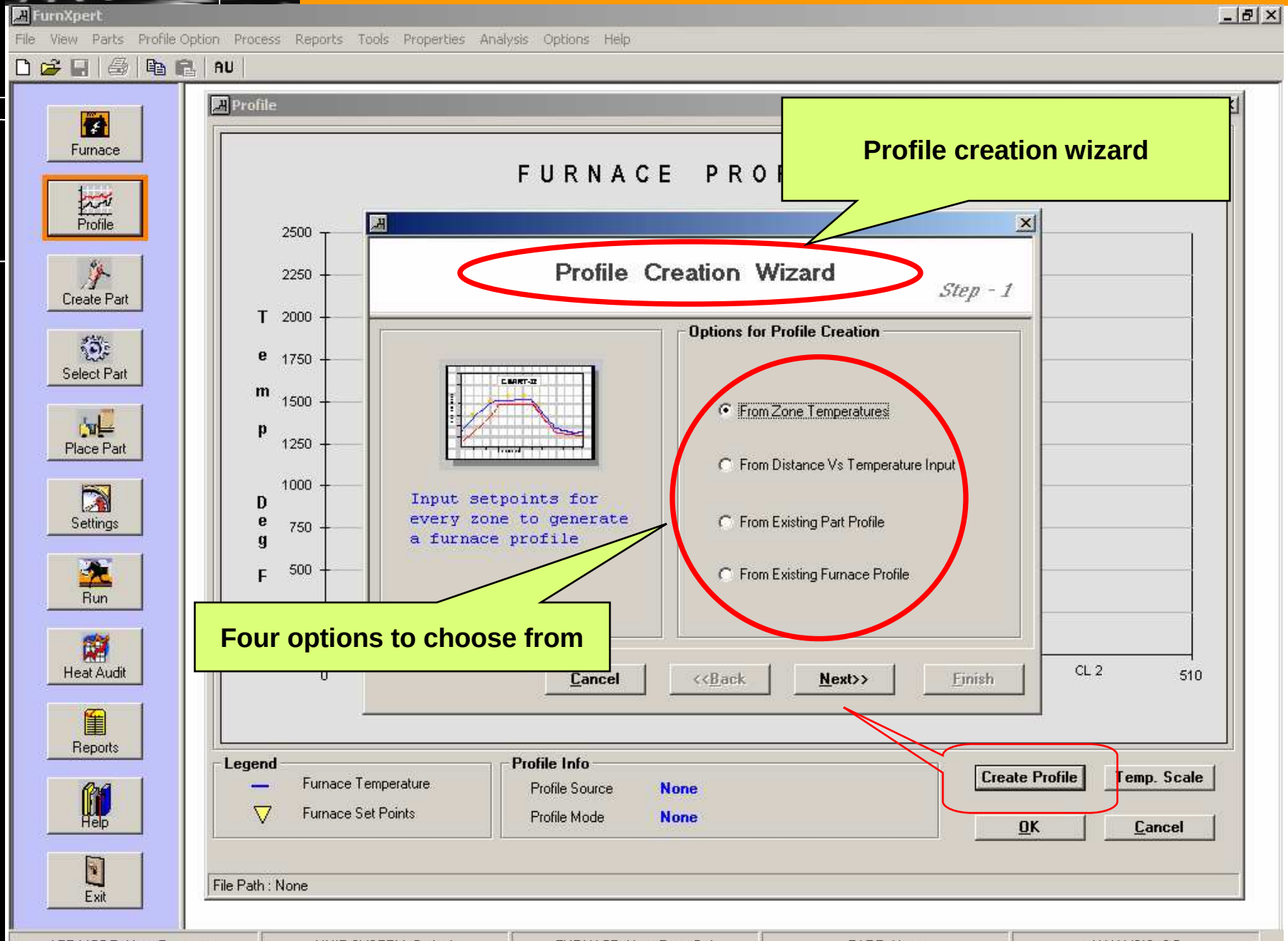
Enter Refractory Data



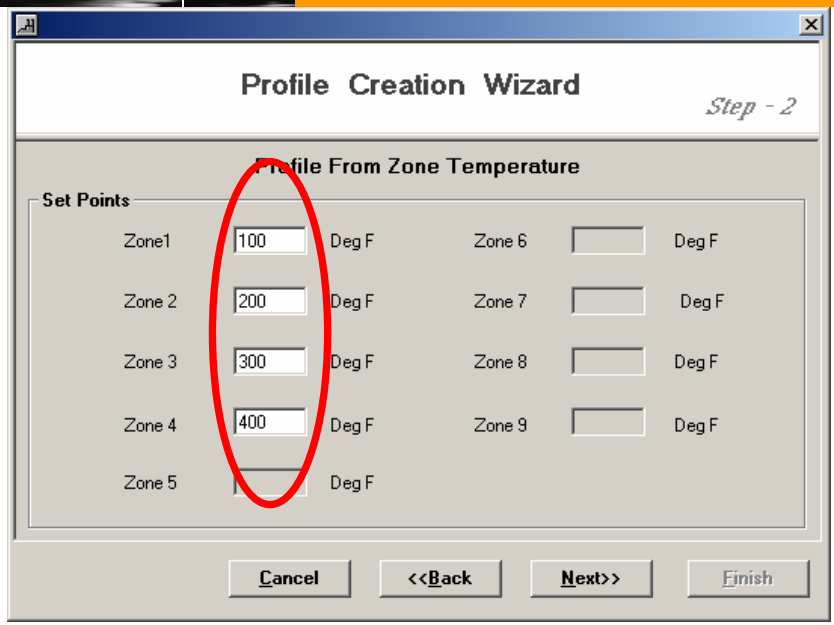
Enter File Name

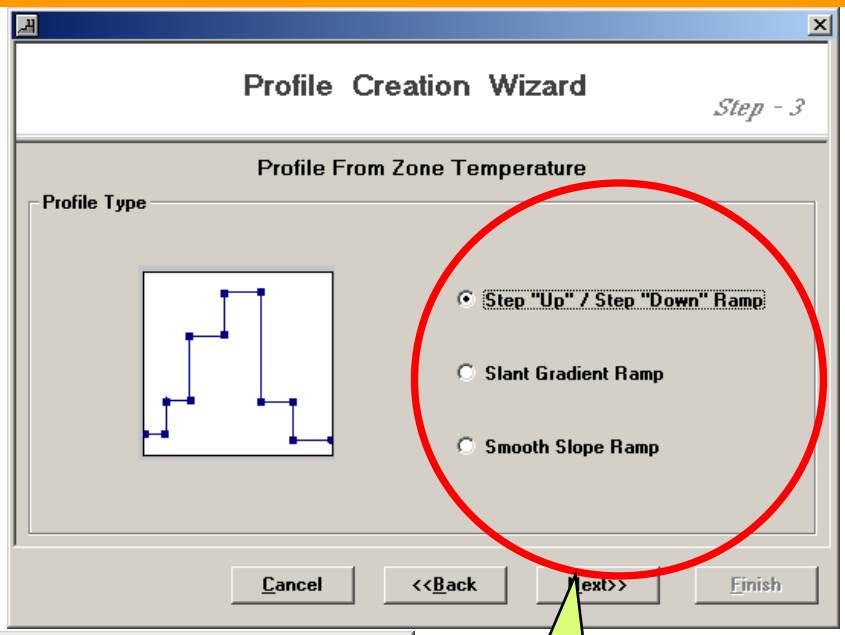


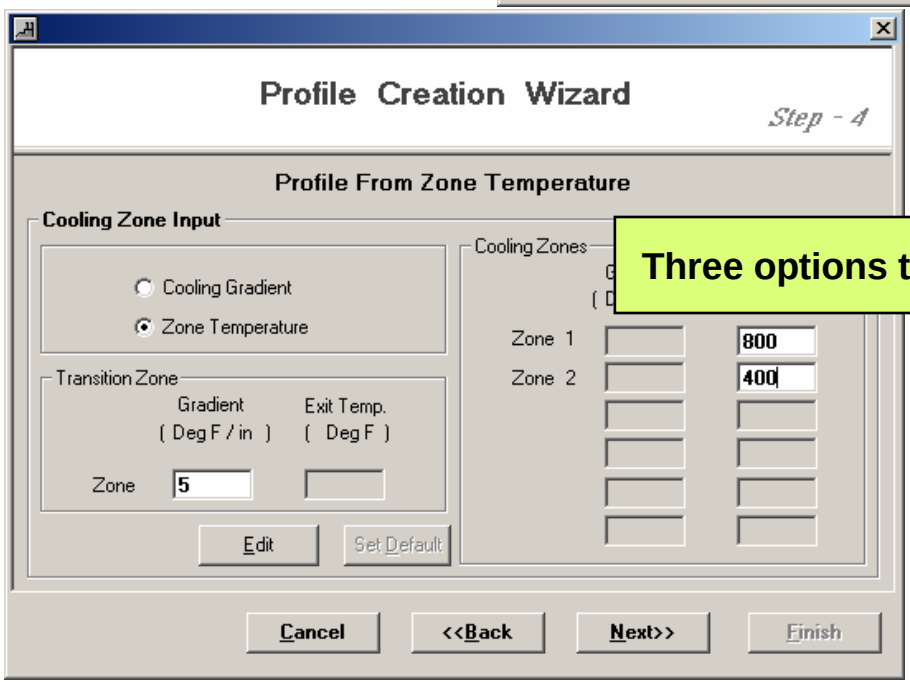
Enter Profile



Enter Profile

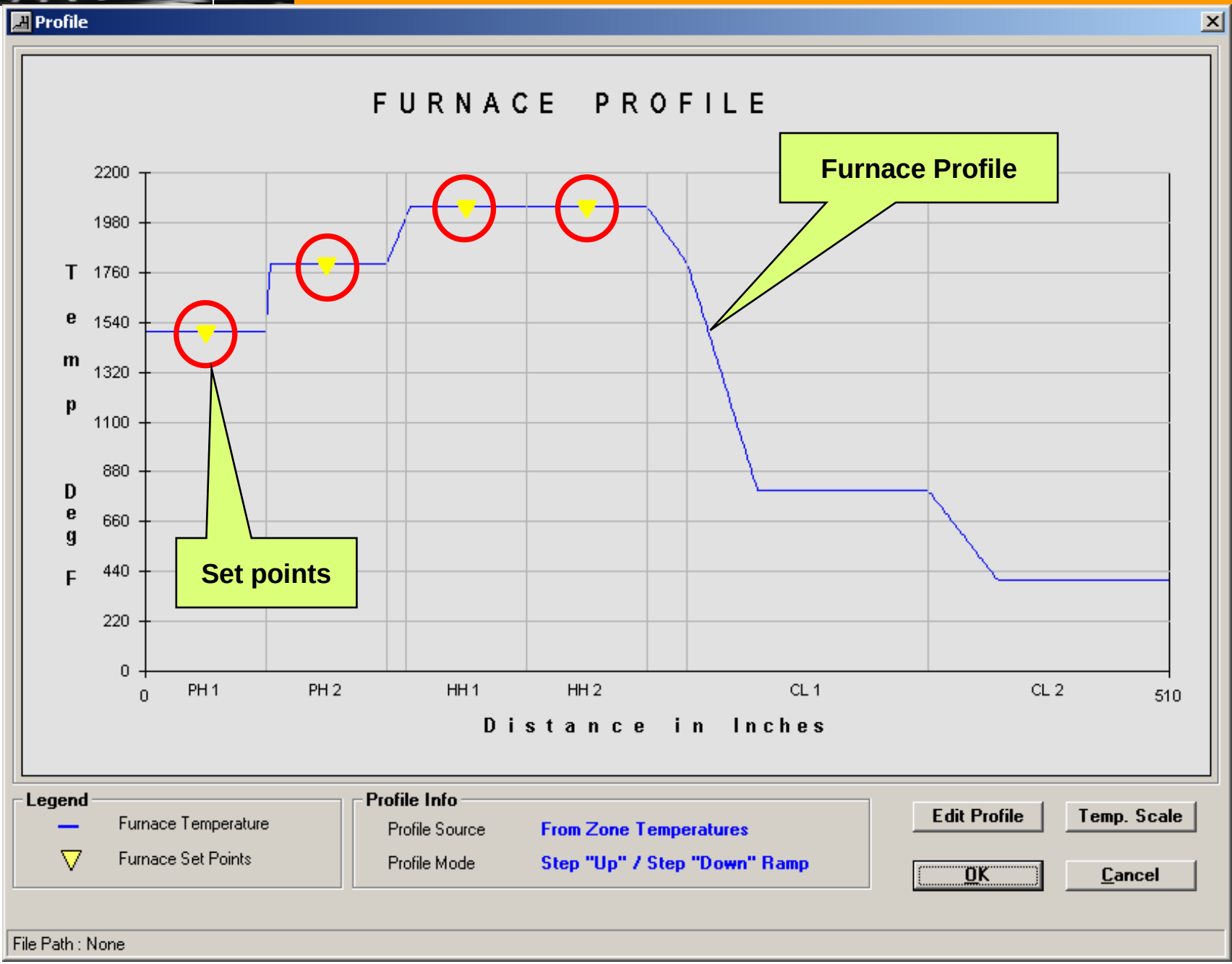




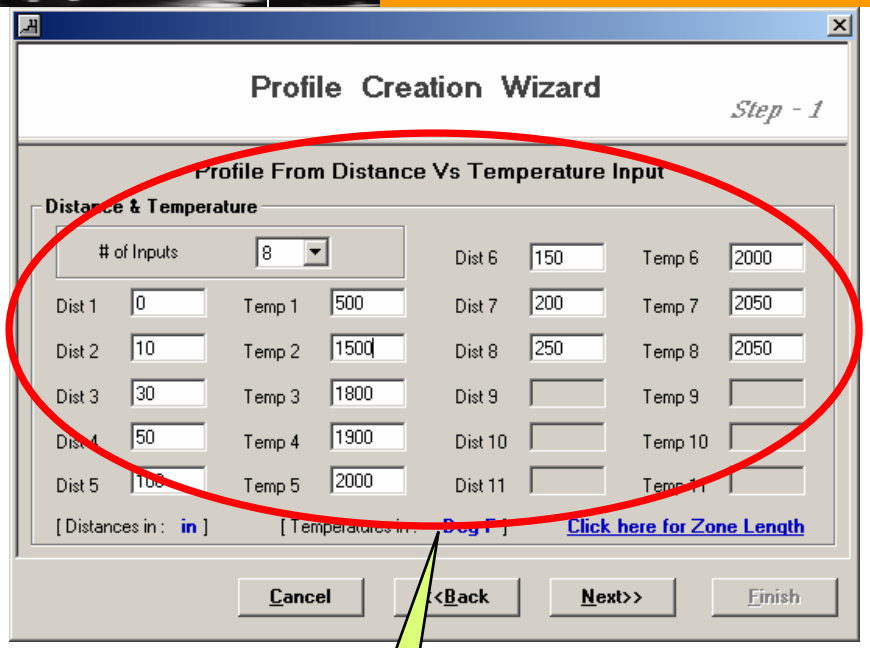


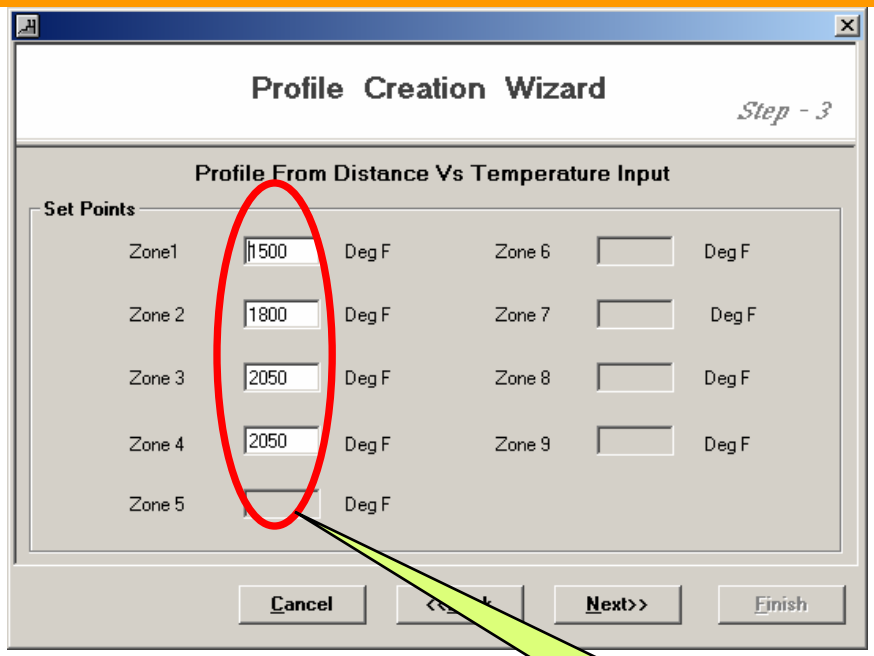
Three options to choose from

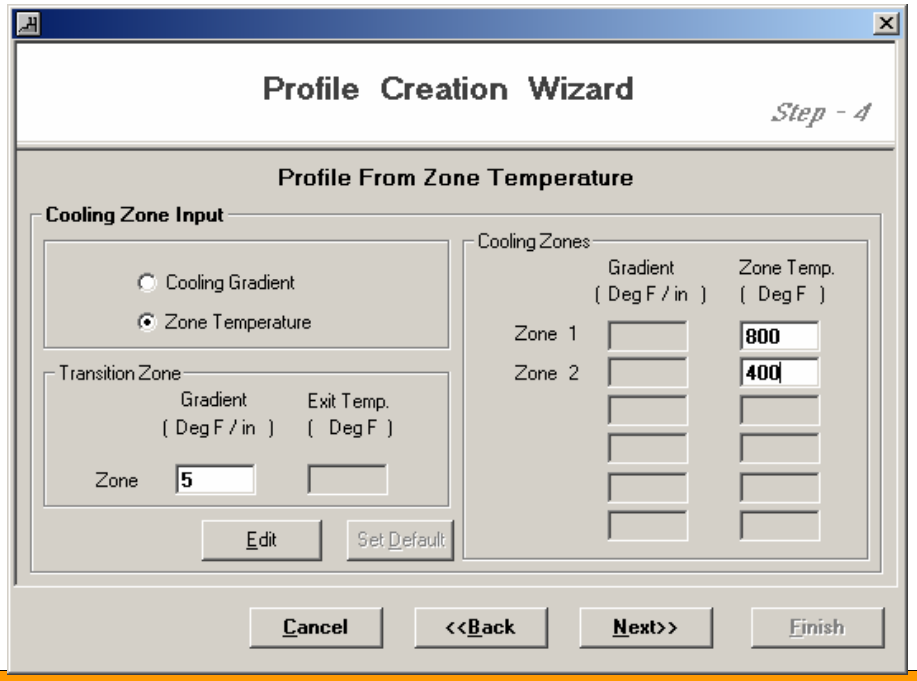
View Profile



Enter Profile



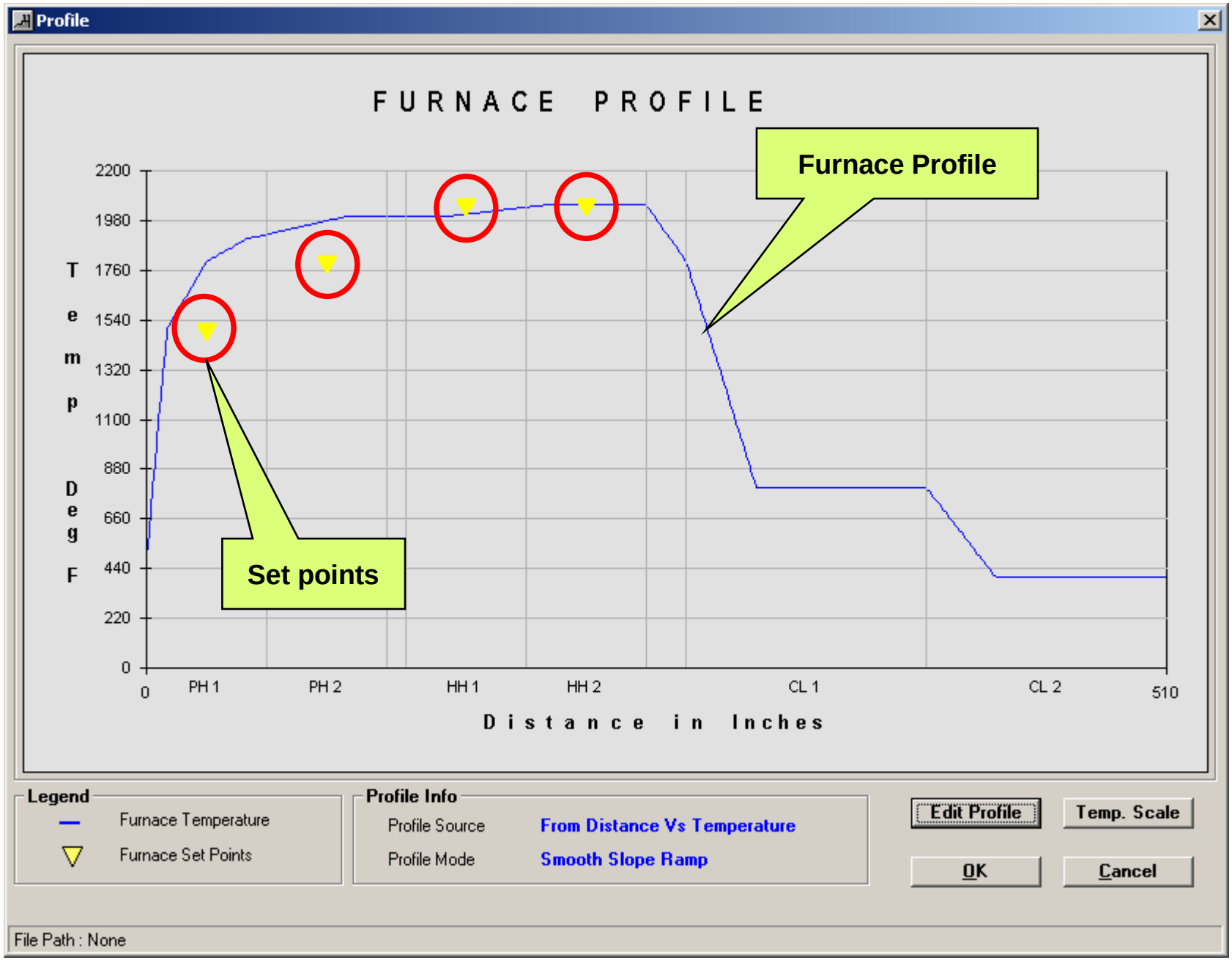




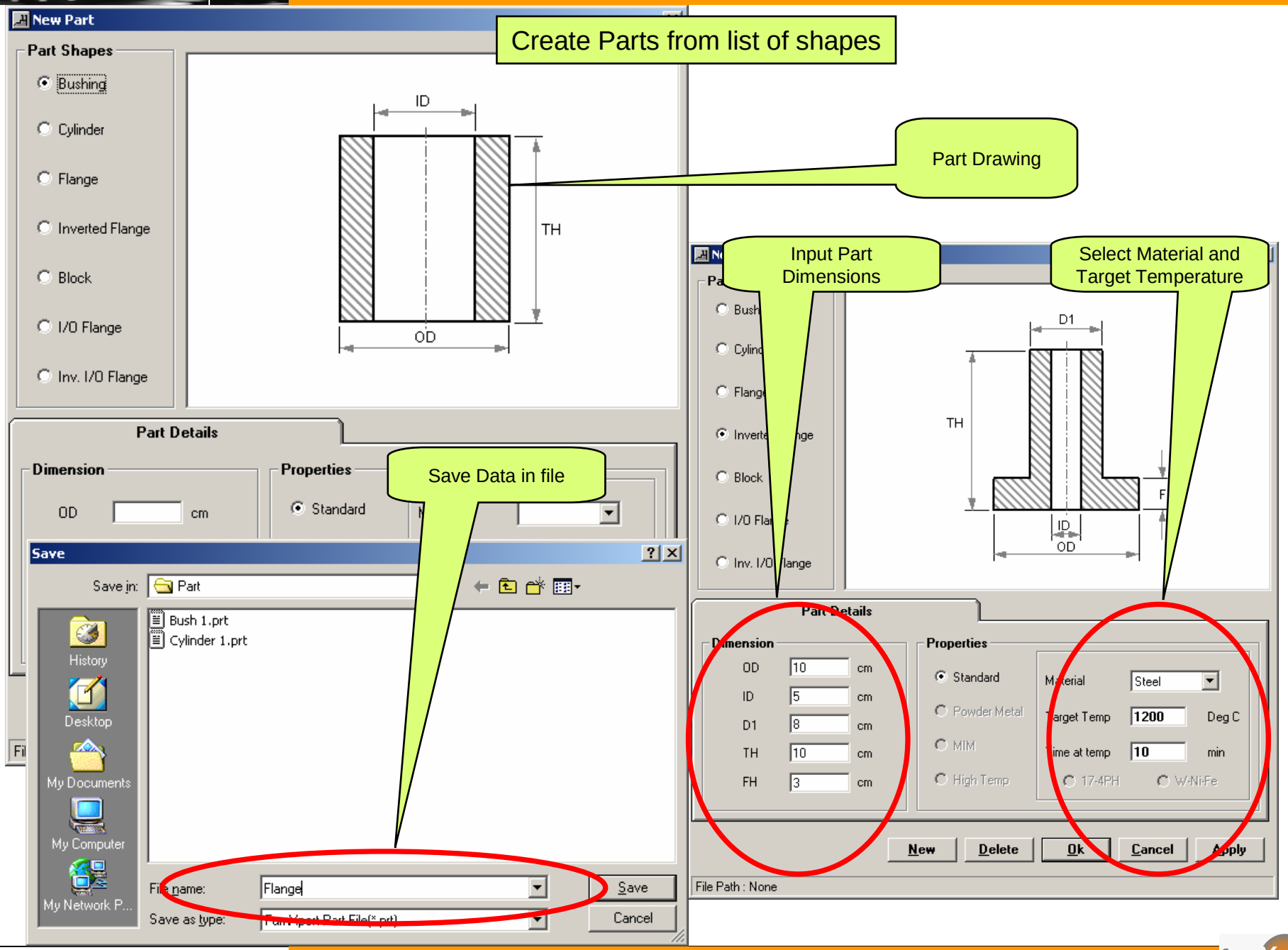
Distance Temperature Data

Setpoints

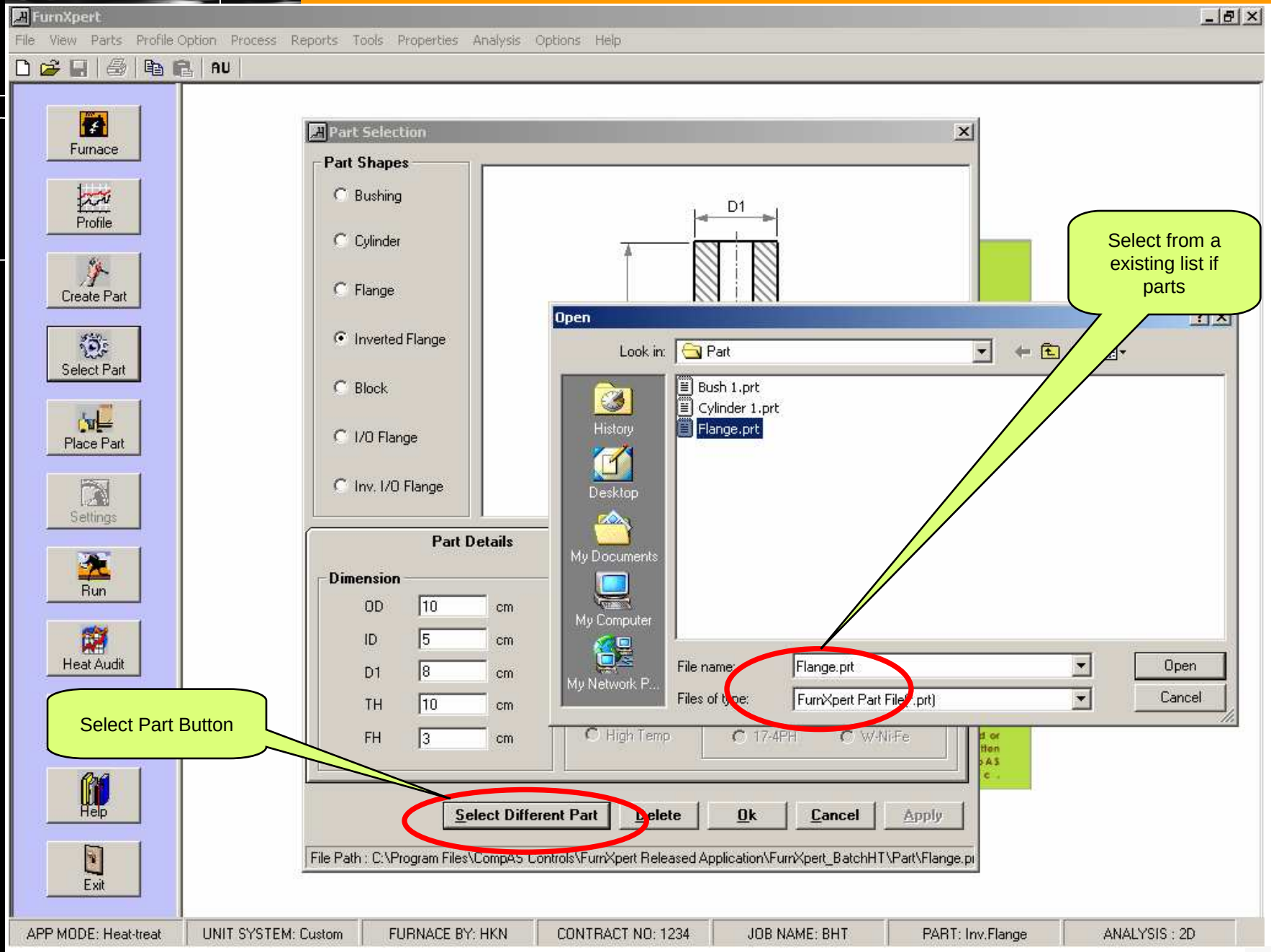
View Profile



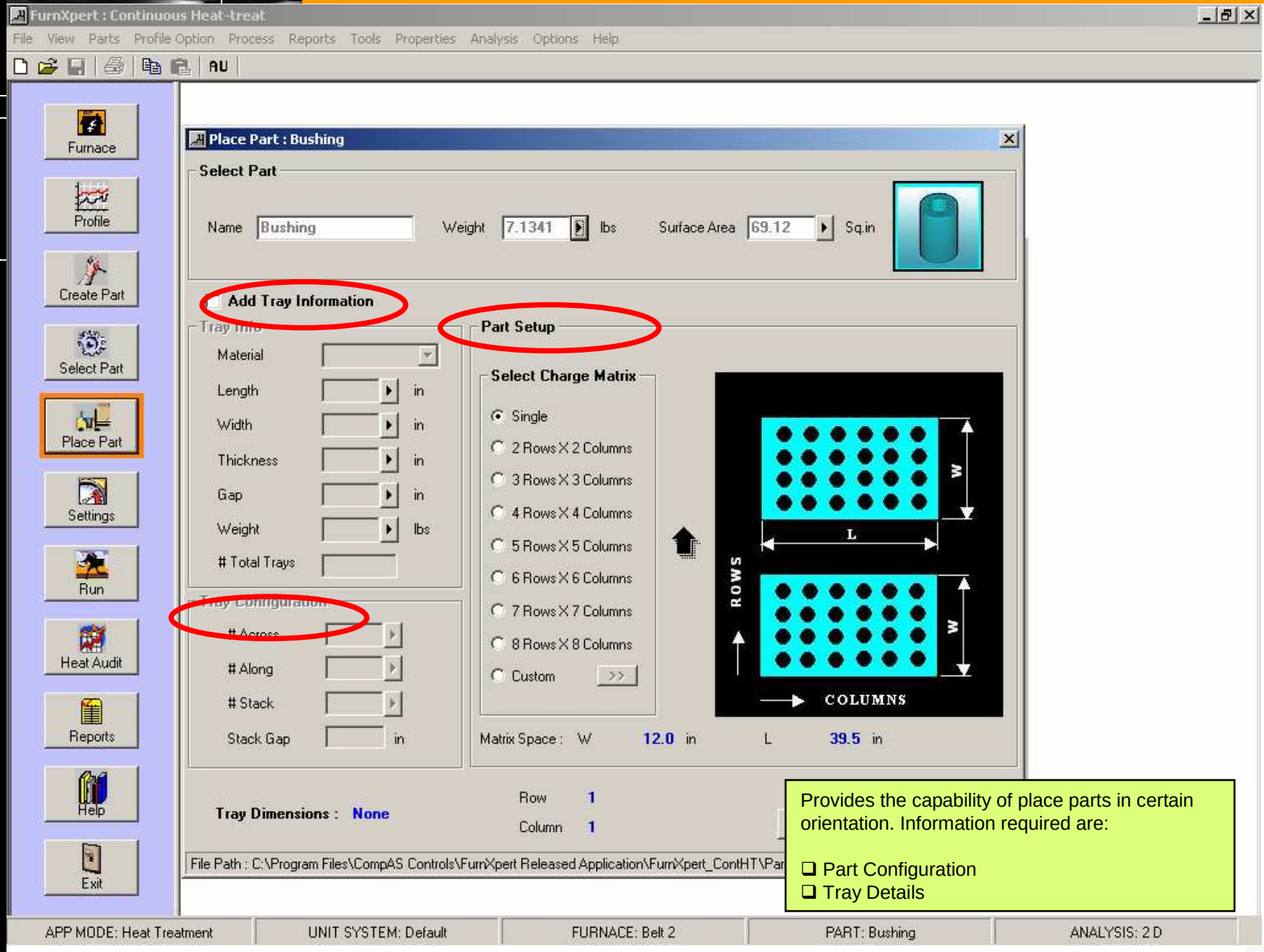
Part Creation



Select Part



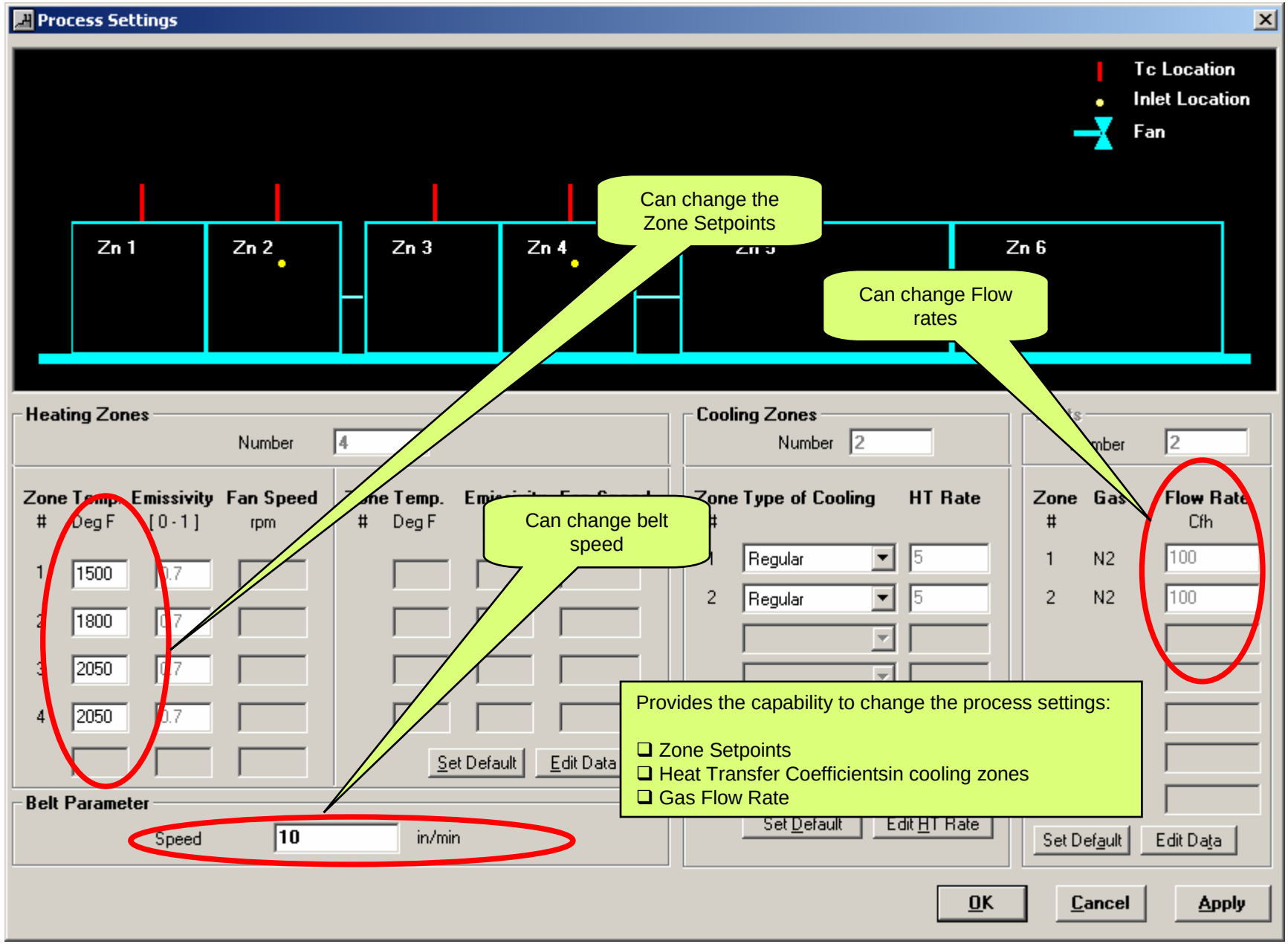
Part Placement - Trays



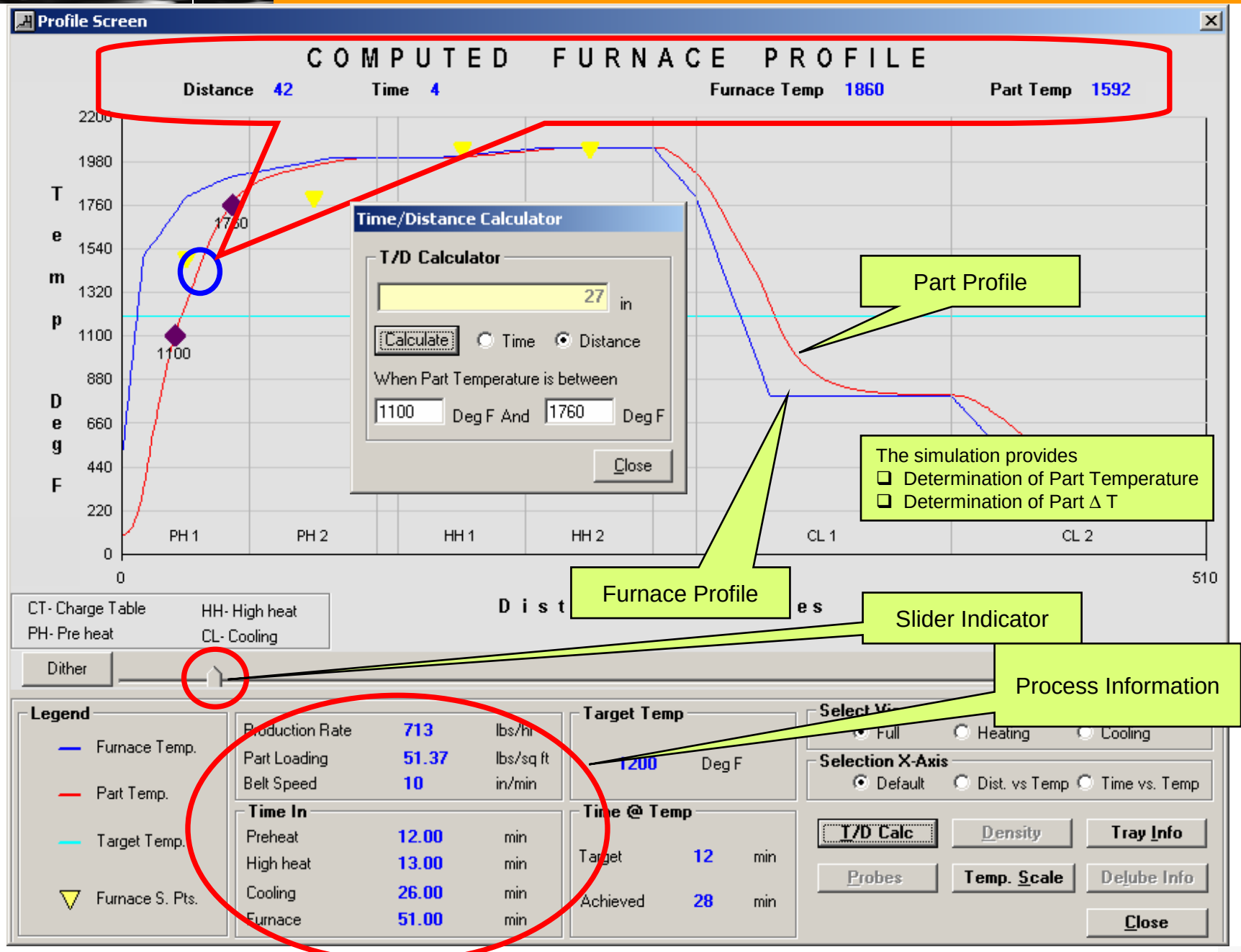
Provides the capability of place parts in certain orientation. Information required are:

- ❑ Part Configuration
- ❑ Tray Details

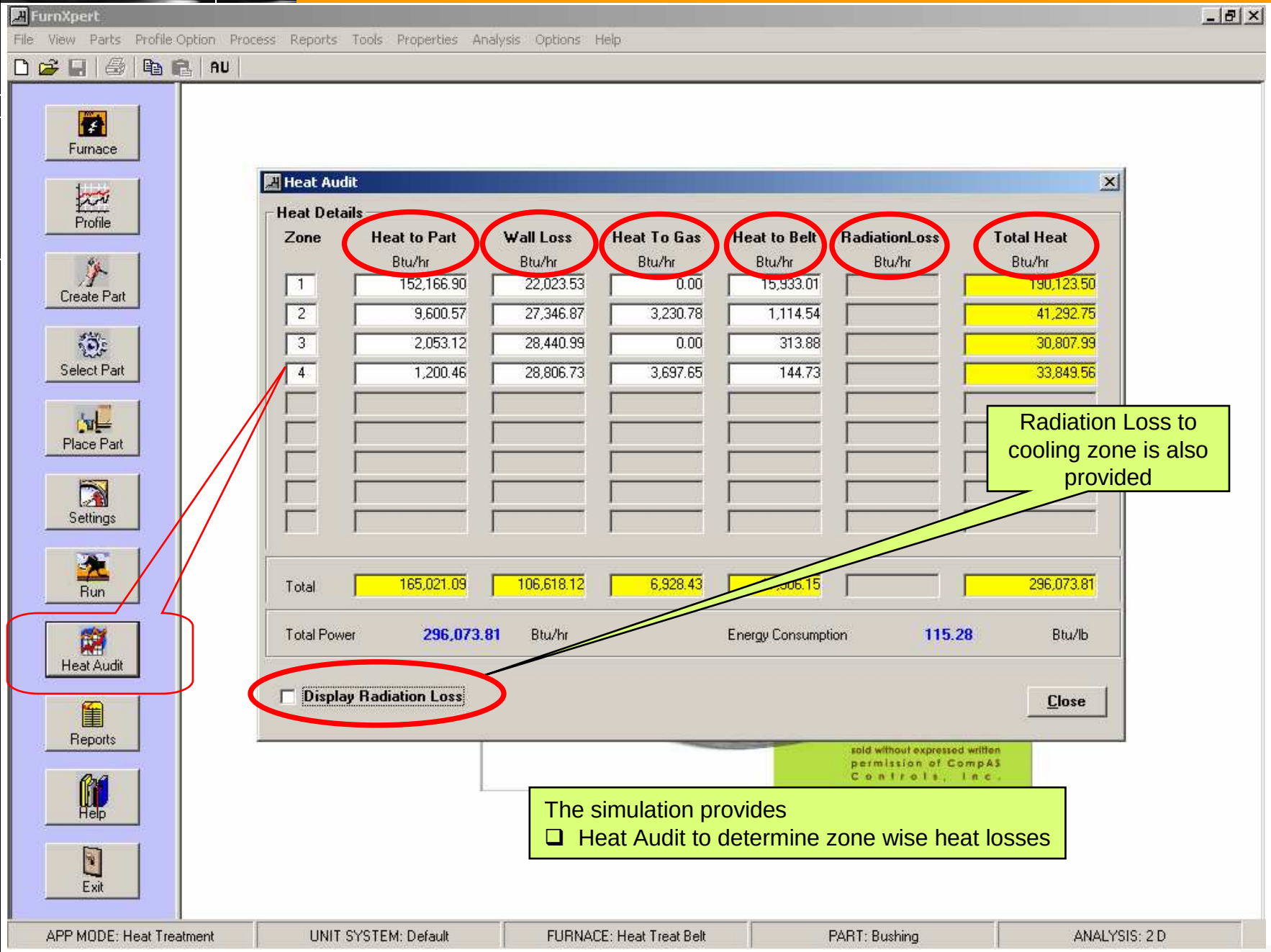
Process Settings



Simulated Results



Heat Audit



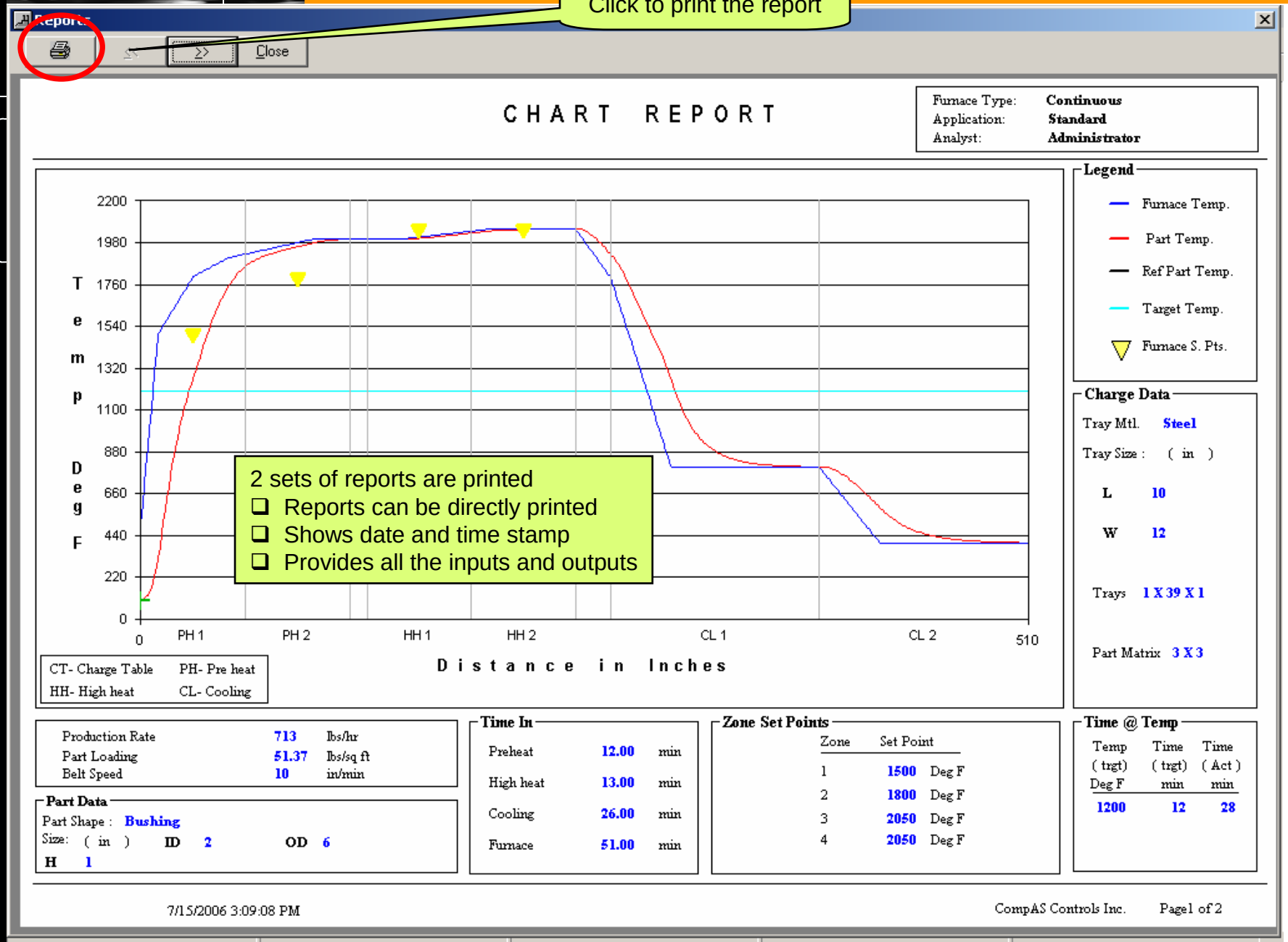
Radiation Loss to cooling zone is also provided

The simulation provides

- ❑ Heat Audit to determine zone wise heat losses

Report

Click to print the report



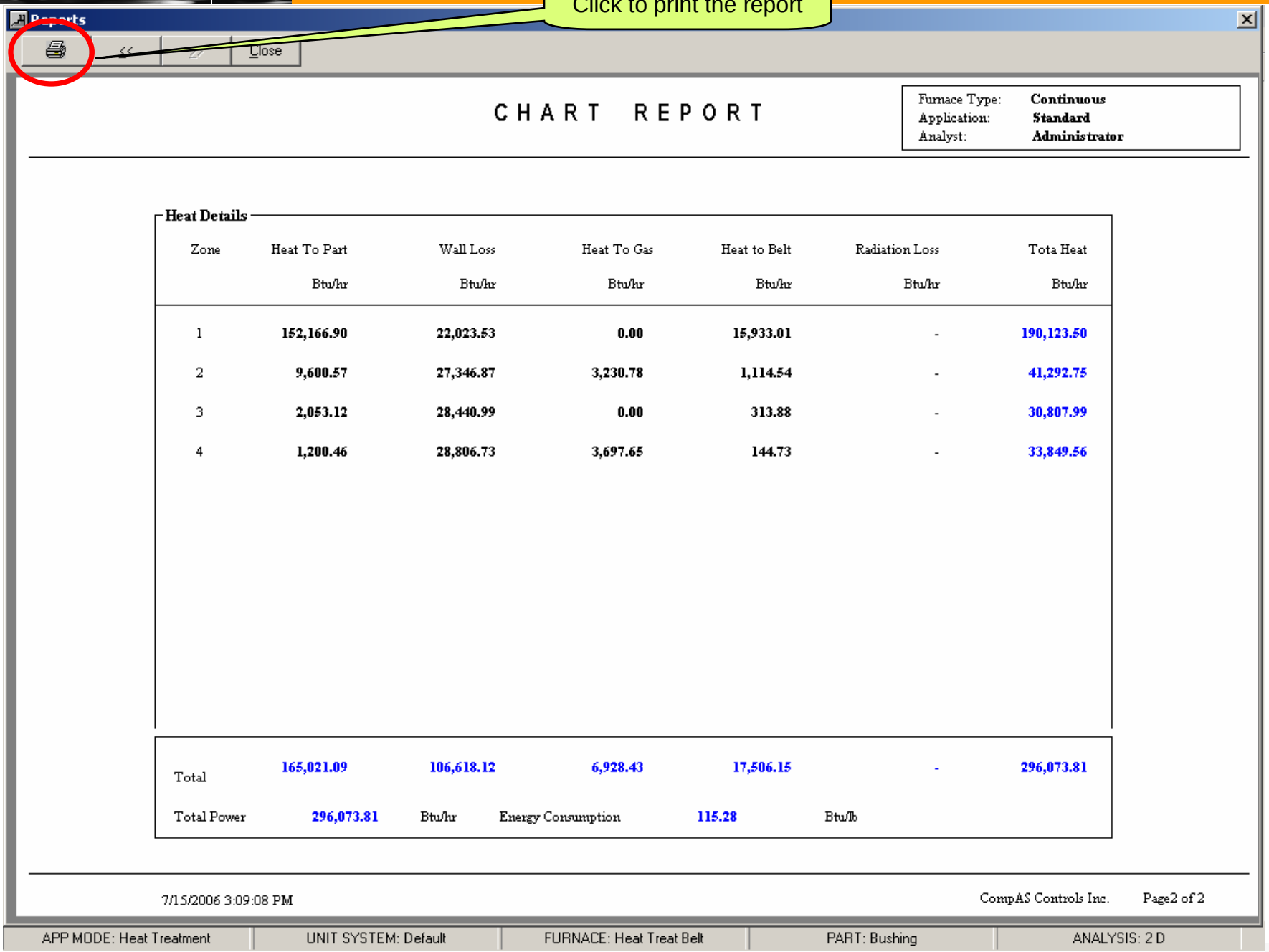


CHART REPORT

Furnace Type:	**Continuous**
Application:	**Standard**
Analyst:	**Administrator**

Heat Details

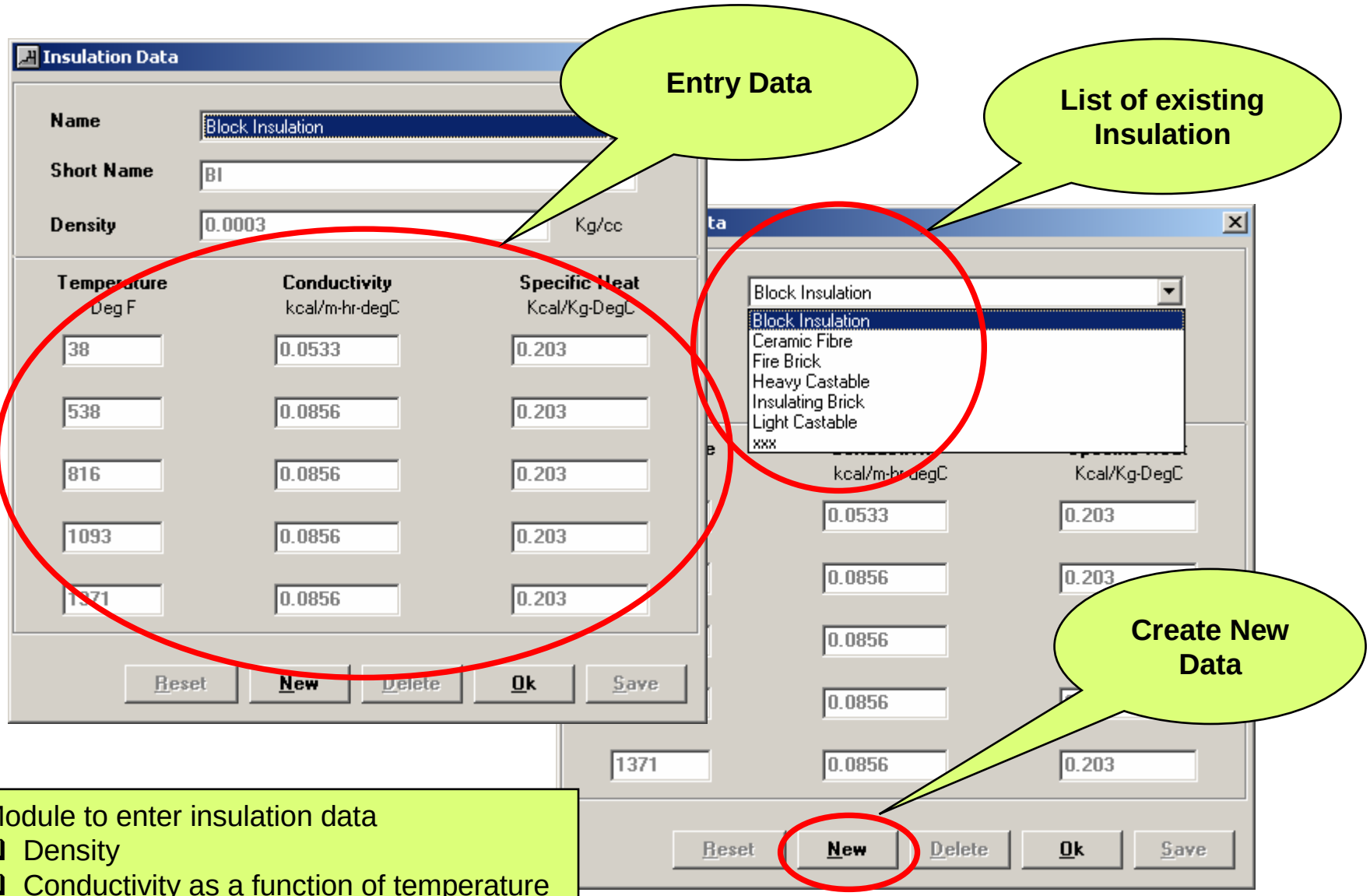
Zone	Heat To Part Btu/hr	Wall Loss Btu/hr	Heat To Gas Btu/hr	Heat to Belt Btu/hr	Radiation Loss Btu/hr	Tota Heat Btu/hr
1	**152,166.90**	**22,023.53**	**0.00**	**15,933.01**	-	**190,123.50**
2	**9,600.57**	**27,346.87**	**3,230.78**	**1,114.54**	-	**41,292.75**
3	**2,053.12**	**28,440.99**	**0.00**	**313.88**	-	**30,807.99**
4	**1,200.46**	**28,806.73**	**3,697.65**	**144.73**	-	**33,849.56**
Total	**165,021.09**	**106,618.12**	**6,928.43**	**17,506.15**	-	**296,073.81**

Total Power **296,073.81** Btu/hr Energy Consumption **115.28** Btu/lb

7/15/2006 3:09:08 PM CompAS Controls Inc. Page2 of 2

APP MODE: Heat Treatment | UNIT SYSTEM: Default | FURNACE: Heat Treat Belt | PART: Bushing | ANALYSIS: 2 D

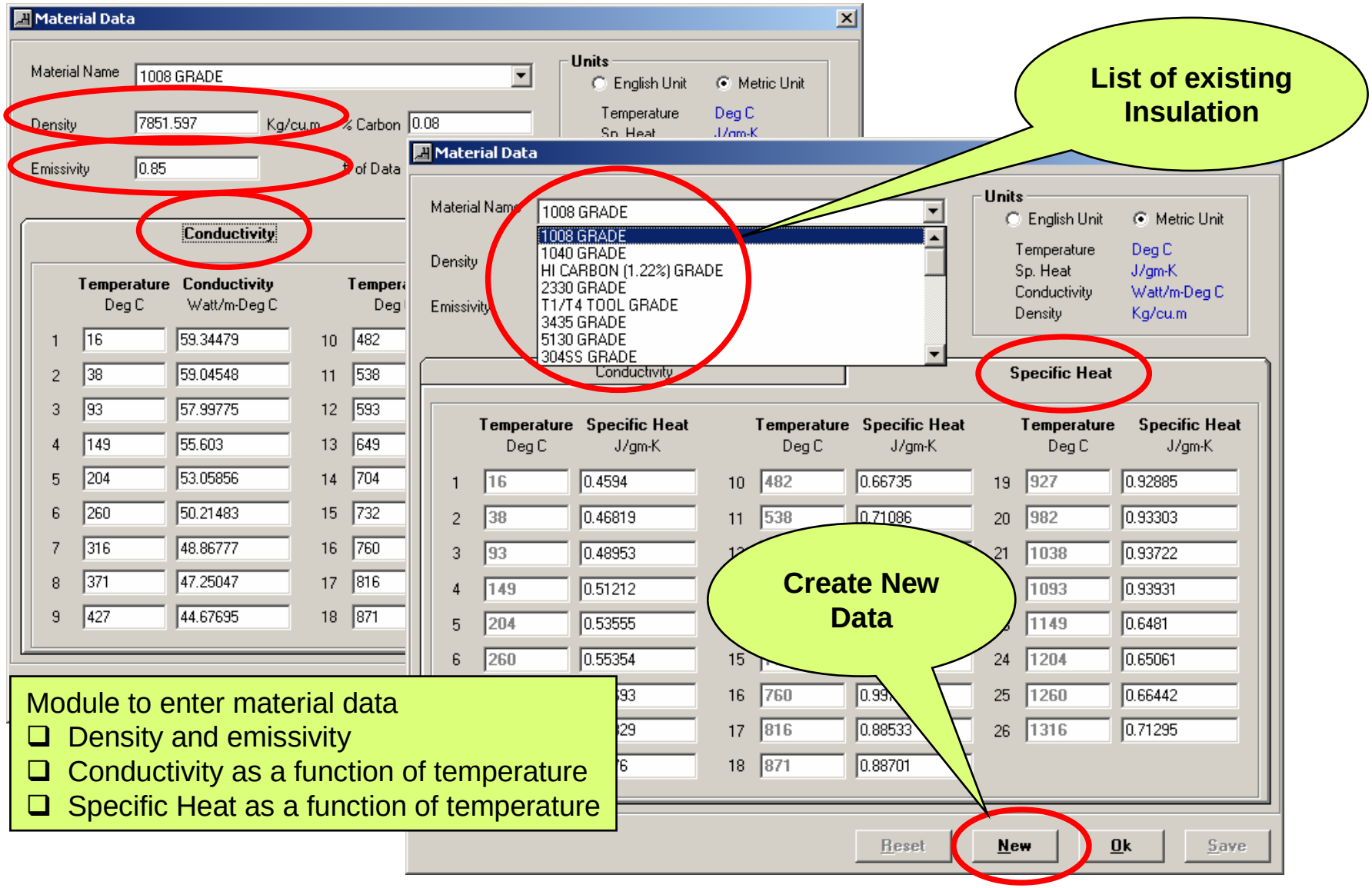
Data creation - Insulation



Module to enter insulation data

- ❑ Density
- ❑ Conductivity as a function of temperature
- ❑ Specific Heat as a function of temperature

Data creation - Material



List of existing Insulation

Create New Data

Module to enter material data

- ❑ Density and emissivity
- ❑ Conductivity as a function of temperature
- ❑ Specific Heat as a function of temperature

Data creation - Fuel