



What's new in this release of **RAE SOLUTIONS**?

- A revised welcome screen. From the welcome screen you can navigate to Start a New Project, Open a Project, Pricing/Drawings, or Selection/Ratings.
- Significant work has been done to enhance the ability of the RAE Solutions' user to work with data.
 - Save-as and Delete features for projects and individual project items.
 - Projects can be copied and renamed for back-up purposes
 - Back-up Projects can be used as Templates,
 - Features are available virtually anywhere in RAE Solutions by either right clicking on the item or project name in the Left Hand Panel or pulling down the file menu.
 - Full Project database backup tool, to save your Project database to another location or Server for safe keeping.
- The Open Project data box will now sort whichever column you select.
- A Search Filter has been provided so you can zero in on the project you are looking for.
- The data box has been resized to show more data.
- Navigation buttons have been added to make it easier to find your way to the other features in RAE Solutions from an open Project....Simply Click on 'Pricing/Drawing' and you jump to that module.
- Reports Section now contains filters to allow you to print the entire sales division, equipment series, or a specific model price sheet. The data is presented using Adobe Acrobat, so you have all the cool Acrobat features available to you. Save the price sheets as PDF, print them, or email to a customer.
- Unit Drawings are now available for the major product classes....Century PFC, DS, DD, DM, RS, Unit Coolers.....TSI 30AO, 20AO, 10 Series. The option selections drive the unit drawings.
- Air Handlers have updated pricing and we added natural gas heaters as an option.
- The unit selection combo box now sorts the units based on capacity, not the old alpha sort.
- We have added extended compressor warranty databases to allow the automatic pricing of this option. You can also get an extended warranty price sheet in the reports section.
- This PDF tutorial.

NEW SUPPORT Program!!!

Although every effort has gone in to making this release **RAE SOLUTIONS** as error free as possible, you may still run into a problem. If you do, please take a screen shot of any error message (Alt key and Print Screen key held down simultaneously). Then open your Outlook and send us an email to raesolutions@rae-corp.com. In the body of the message, describe as best you can what you were doing just previous to the error, and then do a PASTE function (Ctrl Key and C simultaneously) to place the screen shot into the message. Mail the message. Your error will be given a tracking number, a programmer assigned to your case, and you will be contacted by the next business day to get the problems resolved.

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Login

The screenshot shows a 'Login' window with a blue title bar and a close button. It contains four main sections: 'Authentication', 'Division', 'Role', and 'Credentials'. The 'Authentication' section has fields for 'Username' (containing 'dona') and 'Password' (containing '*****'), and a checked 'Remember login info' checkbox. The 'Division' section has two radio buttons: 'Century Refrigeration' (selected) and 'Technical Systems'. The 'Role' section has two radio buttons: 'Employee' and 'Rep' (selected). The 'Credentials' section has a 'Download Credentials' button. At the bottom are 'Login' and 'Cancel' buttons. Arrows from the text box on the right point to the Username field, the 'Technical Systems' radio button, the 'Rep' radio button, the 'Download Credentials' button, and the 'Login' button.

Login

Authentication

Username: dona

Password: *****

☒ Remember login info

Division

☒ Century Refrigeration

☐ Technical Systems

Role

☐ Employee

☒ Rep

Credentials

Downloads credentials over an internet connection.

Use if you recently were assigned a new username or password.

Download Credentials

Login Cancel

Logging in to RaeSolutions:

- Provide your USERNAME and PASSWORD in the appropriate spaces within the Authentication box. (Username and password are case sensitive!) If you wish to have the system remember you, you may click the Remember Login info box. Users that share their computer may be discouraged from doing this.
- Select the appropriate Division, Century Refrigeration or Technical Systems in the Division Box.
- If you are a Rep, select the Rep button in the Role Box.
- The first time you use RAE Solutions (or if something changed and you have been instructed to do so), click the Download Credentials button in the Credentials Box.
- Finally, Click the Login Button to complete the process

If you checked the 'Remember login info' box, all these decisions will be remembered the next time you use the login screen.

Overall Navigation

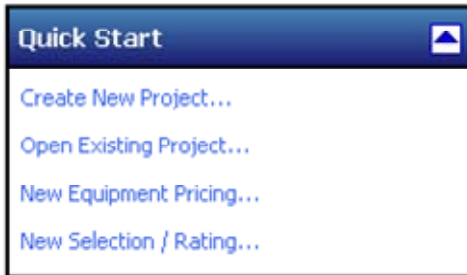
After login, you may:

[Create New Project](#) by clicking on the 'Create New Project...' link in the Quick Start Menu, or on the 'Start a New Project' icon in the Welcome Box.

[Open Existing Project](#) by clicking on "Open Existing Project.." link in the Quick Start Menu, or on the 'Open a Project' icon in the Welcome Box, or by finding your desired project in the 'Recent project..' section of the Welcome Box.

[New Equipment Pricing](#) by clicking on the 'New Equipment Pricing...' link in the Quick Start Menu, or by clicking on the 'Pricing and Drawings' icon in the Welcome Box.

[New Selection/Rating](#) a product by clicking on the 'New Selection / Rating..' link in the Quick Start Menu, or by clicking on the 'Selections and Ratings' icon in the Welcome Box.



The Quick Start Menu is always present in the upper left corner of your RAE Solutions screen. If you only see the Quick Start banner, and the arrow on the right of the box is pointing down, click on the arrow to toggle it to pointing up, and the contents of the box will become visible.





Start a New Project

Create a New Project

Step 1:

Provide RAESolutions a new name to know the project by.

The dialog box is titled "RAESolutions" and has a close button (X) in the top right corner. It contains a message: "Please choose project name before saving." with a floppy disk icon. Below the message is a text input field labeled "Project name" with the text "TestProject" entered. At the bottom right are "Save" and "Cancel" buttons.

Step 2:

For your new project,
Click the 'Add Contact'
Menu Item

The main interface has a top bar with "Status" set to "Project", a dropdown menu, and a text field containing "dona+20070716125423". To the right are buttons for "New equipment pricing..." and "New selection / rating...". Below this is a "Contact Manager" section with a header bar containing "Add Contact" and "Remove Contact" buttons. An arrow points from the "Add Contact" button to the "Step 2" text.



Start a New Project

Create a New Project

Step 3:

The Role defaults to Representative, but you have the option to select Contractor, End User, General Contractor, Engineer, Architect, or Employee.

Step 4:

Select your Company. The available companies will be associated with the Role.

Step 5:

Select your Contact.

My Test

Status Project dona+20070716125423

New equipment pricing... New selection / rating...

Contact Manager

Add Contact Remove Contact

Role Representative

Company abba co

Contact



Start a New Project

Create a New Profile

Adding a Company Profile.

Company profiles are added per ROLE. It is possible for one company to appear under several ROLES, and in that instance, they are completely independent of each other.

Role	Representative	+
Company	abba co	+
Contact		+

Step 1:

Select the Role you want this profile to be classified in, then click the +

Step 2:

Provide the Information important to the Profile Information. Items with 'R' beside them are required fields.

Rep Company

Rep Company Profile

Account #

Name

Line 1

Line 2

City

State

Zip

Phone ()

Ext.

Fax ()

Email

Website

Example 555 123-4567

OK

Cancel






Start a New Project

Create a New Contact

Adding a Contact.

Contacts are added per Company. It is possible for a contact appear under several Companies, and in that instance, they are completely independent of each other.

Role	<input type="text" value="Representative"/>	
Company	<input type="text" value="abba co"/>	 
Contact	<input type="text"/>	 


Step 1:


Select the Role and Company to classify the Contact in. Click the +

Step 2:

Provide the Information important to the Profile Information. Items with 'R' beside them are required fields.

Contact Profile

 **Contact Profile** Rep Id:

Company	<input type="text" value="abba co"/>				
First name	<input type="text"/>	R	Last	<input type="text"/>	R
Line 1	<input type="text"/>				R
Line 2	<input type="text"/>				
City	<input type="text"/>				R
State	<input type="text"/>	R	Zip	<input type="text"/>	R
			Example	12345	1234
Phone	(<input type="text"/>)	<input type="text"/>	Ext.	<input type="text"/>	
Example	555	123-4567		123	
Fax	(<input type="text"/>)	<input type="text"/>			
Email	<input type="text"/>				



Open a Project

Open Existing Project

Step 1:

Find your solution in the project list, click on it to highlight it, and then click the OK button.

Open Project

Select the project to open

Projects		
Project Name	Created By	Date Created
donFirstProject	caseyj	4/30/2007
project 1	caseyj	4/30/2007
TestProj_01-22-07	JOSHH	1/22/2007
test	JOSHH	1/18/2007
test	JOSHH	9/14/2006
test	JOSHH	9/14/2006
test	JOSHH	9/14/2006
Test Project	JOSHH	9/14/2006
test	JOSHH	9/14/2006
test	JOSHH	9/14/2006
Test Project	JOSHH	9/14/2006
	JOSHH	9/14/2006
test	JOSHH	9/14/2006

Search Project to open

OK Cancel

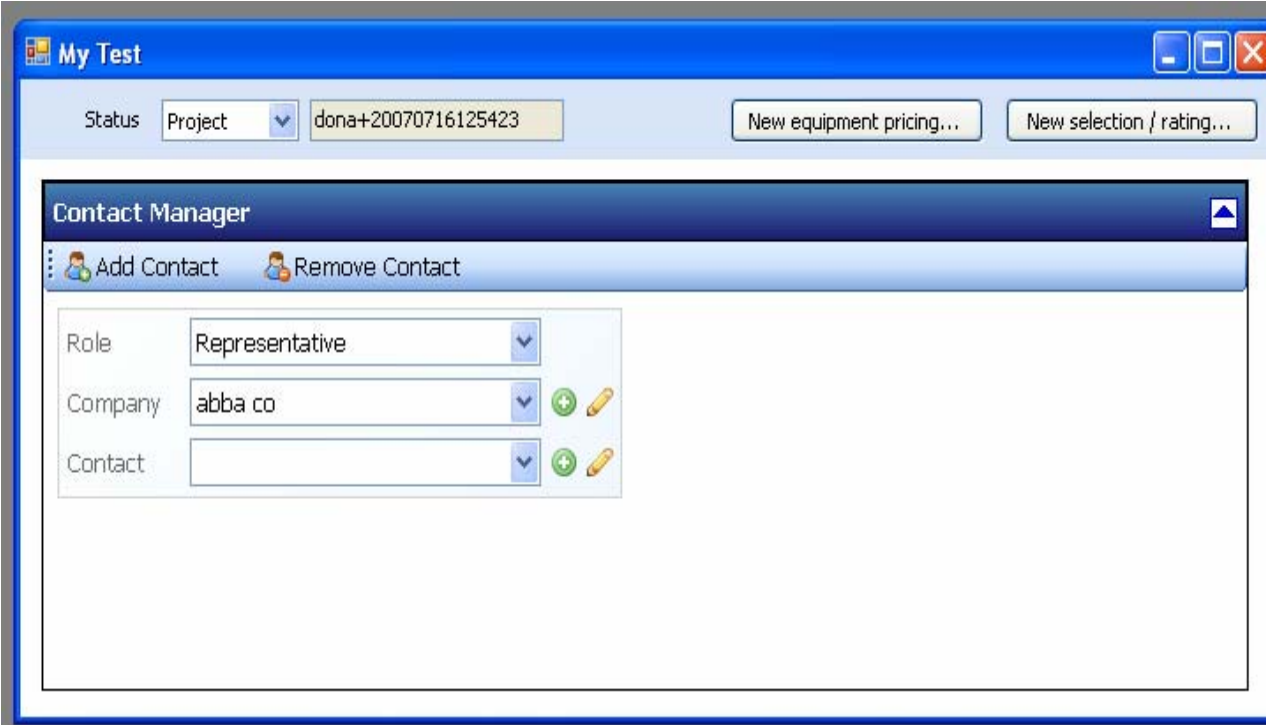
Open an Existing Project (cont)

If you don't get this screen.

By enhancing our screen presentation and data structure, some older projects may need to have a short conversion done to them to bring in their previous Engineer, Contractor or Architect Information. If so, this screen will be replaced by the Contact Update information screen, which follows in the next page of this document

Step 2:

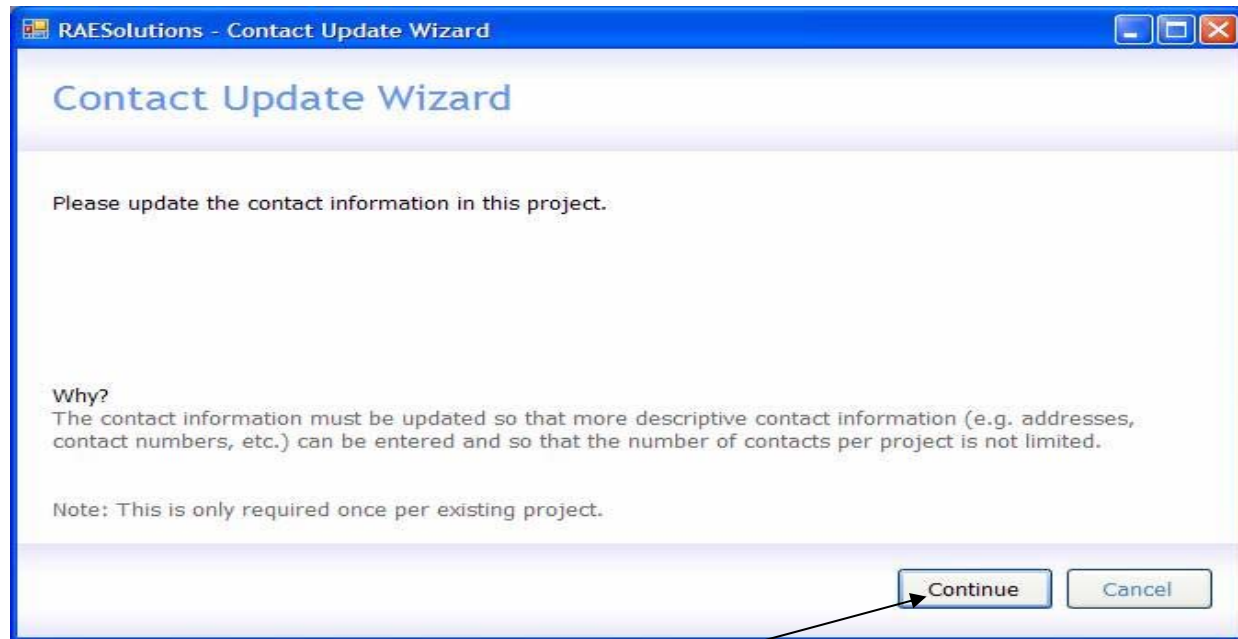
Confirm the data provided is correct in the Contact Manager Box.
You may add or remove Contact blocks as needed.



The screenshot shows a software window titled "My Test". At the top, there is a "Status" dropdown menu set to "Project" and a text field containing "dona+20070716125423". To the right of these are two buttons: "New equipment pricing..." and "New selection / rating...". Below this is a section titled "Contact Manager" with a blue header bar. Under the header, there are two buttons: "Add Contact" (with a person icon) and "Remove Contact" (with a person icon and a minus sign). Below these buttons are three input fields, each with a dropdown arrow and a green plus/pencil icon to its right. The first field is labeled "Role" and contains "Representative". The second field is labeled "Company" and contains "abba co". The third field is labeled "Contact" and is empty.

Open an Existing Project (cont)

When Contact information must be updated.



Step 3:
Click Continue

Open an Existing Project (cont)

For this project, a Contractor (Hughes Engineering) is in the previous data base and needs to be updated. Use the select button to review the list of previously added Contractors, and add from the list displayed. If the Contractor is not in your list, use the Create button to make a new Contractor entry.

Note: Contractor could be one of the several Role's allowed for a project (Contractor, End User, General Contractor, Engineer, Architect, or Employee.)

Step 4a:

Click the Find Button to select the desired Contractor from a list of previously added profiles.

Contact Name	Company Name	Role
✓ John Doe	John's Contracting	Contractor
⚠ James Johnson	Johnson Engineering	Engineer

Create -or- Find

Cancel

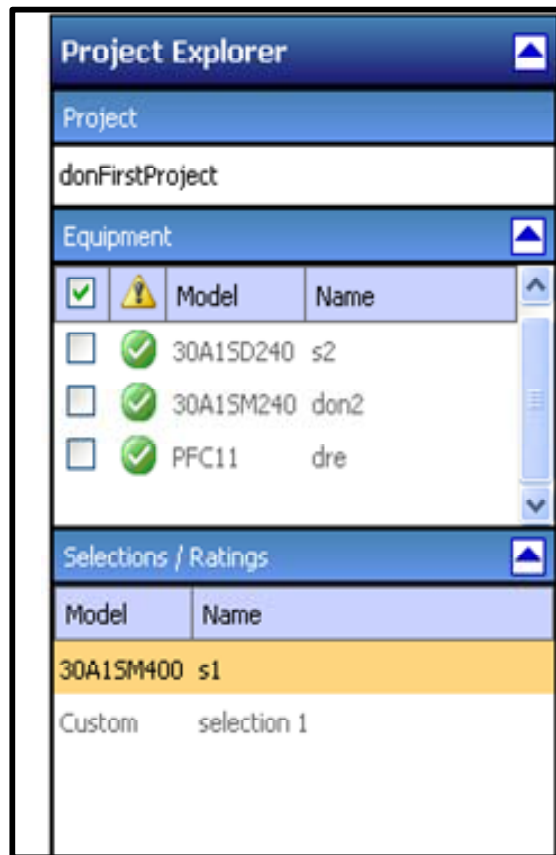
Step 4b:

Click the Create Button to make a new profile

Open an Existing Project (cont)

Step 5:

Review the list of previously saved Equipment items, and previously saved Selections /Ratings.





New Equipment Pricing – Product Offerings

Step 1:

Before the next form, you should be familiar with the Models you will have available for pricing. Use the chart below to help select the appropriate piece of Equipment.

Technical Systems

Chiller	Fluid Cooler	Condenser	Condenser Unit
---------	--------------	-----------	----------------

30A0CS 30A0CM 30A0LD 30A0LS 30A0CD 30A1SS 30A1SD 30A1SM 34W0LS 34W0LD 34W0CS 34W0CD 34W0CM 34W0SS 34W0SD 34W0SM 32A0CS 32A0CD 32A0CM 33A0CS 33A0CD 33A0CM	FC	10A0	20A0CS 20A0CD 20A0CM 20A0LS 20A0LD
--	----	------	--

Century Refrigeration

Condenser	Condenser Unit	Product Cooler	Unit Cooler
-----------	----------------	----------------	-------------

PFC	DS DD DM LUI LUO RS	HPC VPC	A BOC FH FV PFE BALV
-----	------------------------------------	------------	-------------------------------------



New Equipment Pricing (cont)

Step 2:

Choose the type of equipment you wish to Price and Configure, then click on the View button

Technical Systems

RAESolutions

Choose an equipment type to view.

Equipment type: Chiller

- Chiller
- Condenser
- Condensing Unit
- Fluid Cooler

Century Refrigeration

RAESolutions

Choose an equipment type to view.

Equipment type: Condenser

- Condenser
- Condensing Unit
- Product Cooler
- Unit Cooler

Note: Our example that follows is going to assume we used Century Refrigeration as our Division during Login, and we will pricing a Condenser.



New Equipment Pricing (cont)

Note: Using Century Refrigeration, Pricing a Condenser will yield a form with the following information required at the top.

Step 3:

Using the Equipment List Box, select the appropriate Series you wish to price (PFC for our example).

Step 4:

Now in the Model List Box, select the model from the list of appropriate models for the selected Equipment (136).

The screenshot shows a web interface for pricing equipment. At the top, there are five tabs: 'Specs' (highlighted with an orange border), 'Available Options', 'Special Options', 'Options Summary', and 'Pricing'. Below the tabs is a blue banner with the text 'Inputs required before available options can be determined'. Under the banner, there are three dropdown menus: 'Equipment' with 'PFC' selected, 'Series' with '136' selected, and 'Unit voltage' with '460/3/60' selected. A green checkmark is visible next to the 'Model' dropdown. Below these dropdowns is a text box labeled 'Custom model'.

Step 5:

Set the Unit Voltage List Box to the appropriate value. (460/3/60)



New Equipment Pricing (cont)

Note: Several of the fields in the following will be populated automatically. However the user is free to change these as required.

Step 6:

Set the values in the specifications section of the New Equipment Pricing page.

Specifications						
Ambient temp.	<input type="text" value="105"/>	°F	TD	<input type="text" value="10"/>	°F	
THR circuit 1	<input type="text" value="25"/>	BTUH	THR circuit 2	<input type="text" value="25"/>	BTUH	
THR circuit 3	<input type="text" value="50"/>	BTUH	THR circuit 4	<input type="text" value="50"/>	BTUH	
Refrigerant	<input type="text" value="R22"/>	<input type="button" value="v"/>	Altitude	<input type="text" value="0"/>	Feet	
Fins per inch	<input type="text" value="9"/>	<input type="button" value="v"/>	<input type="checkbox"/> Sub cooling			
Unit voltage	<input type="text" value="460/3/60"/>	<input type="button" value="v"/>	Control voltage	<input type="text"/>	<input type="button" value="v"/>	
MCA	<input type="text"/>	Amps	RLA	<input type="text"/>	Amps	
Est. shipping weight	<input type="text" value="4190"/>	Lbs.	Est. operating weight	<input type="text"/>	Lbs.	
Length	<input type="text" value="264"/>	Width	<input type="text" value="96"/>	Height	<input type="text" value="63"/>	In.
Tag / mark	<input type="text"/>					
Special instructions	<input type="text"/>					
Quantity	<input type="text" value="1"/>	Base list price		\$49830		



New Equipment Pricing (cont)

Step 7:

Select the options desired from the list provided. It may be necessary to click on the + symbol to open the category to find the item needed, or use one of the other methods of exposing the desired options. (see Available Options Page for a discussion).

Untitled

Specs Available Options Special Options Options Summary Pricing

Select options from this list of available options Unselect All Reset Layout

Available Options

Category

Select	Code	Price	Description
+ Category: Circuit Breakers, Disconnects & Fuses			
- Category: Coils			
<input type="checkbox"/>	MC08	\$3,531	Acrylic Coated Fin Coil
<input checked="" type="checkbox"/>	MC07	\$4,493	Ultra-Case Coil
+ Category: Head Pressure Controls			
- Category: Receivers			
<input type="checkbox"/>	MR06	\$2,477	Liquid Receiver - 10"x60"
<input checked="" type="checkbox"/>	MR07	\$2,725	Liquid Receiver - 12"x60"
<input type="checkbox"/>	MR02	\$922	Liquid Receiver - 6"x28"
<input type="checkbox"/>	MR03	\$947	Liquid Receiver - 6"x36"
<input type="checkbox"/>	MR04	\$1,395	Liquid Receiver - 8"x36"
<input type="checkbox"/>	MR05	\$2,544	Liquid Receiver - 8"x60"
+ Category: Refrigeration Components			



New Equipment Pricing (cont)

Step 8:

Click on the 'Add...' button to open the Special Option Creator Box. Provide the appropriate information, and when completed click the 'OK' button. You will now see the new Option added to the Special Options Listing.

You may select on any item in the list, and click on the 'Edit...' button to edit any information in the Option, or by clicking on the 'Delete' button to remove the option from the list.

Special Option Creator

Complete the form below and click OK to create a special option.

Code	12345	Price	1500
Authorized by	Don	Quantity	2
Description	Enter your description Here.		

OK Cancel

Completed
Option

Special Options

Quantity	Code	Description	AuthorizedBy	Price Each
2	12345	Enter your description Here.	Don	\$1,500

Total Price \$3,000.00

Price of all
Options
(Quantity *
Price Each)



New Equipment Pricing (cont)

This screen gives the user a final review of the items that have been configured for the Equipment.

Step 9:

Some review is required. In the instance an item has been selected, it may need a quantity to be provided. This is signified here: Provide any value that is needed.

Untitled

Specs Available Options Special Options Options Summary Pricing

Standard Options				
Quantity	Code	Description	Category	

Special Options Summary				
Quantity	Code	Description	AuthorizedBy	Price Each
2	12345	Enter your description here.	DA	\$1,500

Special options total \$3000

Review and enter quantities for selected available options

Selected Available Options Summary				
Quantity	Code	Description	Category	Price Each
1	MC07	Ultra-Case Coil	Coils	\$4,493
1	MR07	Liquid Receiver - 12"x60"	Receivers	\$2,725

Selected available options total \$7218

Price of all Special Options (Quantity * Price Each)

Price of all Available Options (Quantity * Price Each)



New Equipment Pricing (cont)

This screen gives the user a final Price review of the items that have been configured for the Equipment.

Step 10:

Set the Par multiplier to the desired value, enter any other needed information.

Total base list	(Qty 1)	\$49830	
Total special options	(Qty 1)	\$3000	
Total selected options	(Qty 1)	\$7218	
Total list		\$60048	
Par multiplier		0.265	
Par price		\$15913	
Add 4 year compressor warranty	<input type="checkbox"/>	Unavailable	(Total 5 year compressor warranty.) ⓘ
Freight		\$0	
Start up		\$0	
Other		\$0	Description <input type="text"/>
Commission rate		0%	
Commission price		\$0	
Total invoice		\$15913	



New Equipment Pricing (cont)

Order Write Up

File Tools Reports Windows Help Drawings

Step 11:

From the Menu Bar at the top of the page, Click on Reports, then on Order Write UP.

Condenser Order Write Up

Project TestProject
DONA+20070604146319
Job d5



Job Specifications

Representative	_____	Model number	PFC136
Architect	_____	Design ambient	105 °F
Engineer	_____	Approach	10 °F
Contractor	_____	Refrigerant	R22
	_____	Voltage - unit	460/3/60
	_____	Voltage - control	_____
	_____	THR - Circuit 1	25 BTUH
	_____	THR - Circuit 2	25 BTUH
	_____	THR - Circuit 3	50 BTUH
	_____	THR - Circuit 4	50 BTUH

Special instructions _____

Tag / mark _____

Base List (Qty 1): \$49830
Options \$10218
Total list price \$60048
PAR multiplier 0.265
PAR price \$15913
Warranty \$0
Freight \$0
Start up \$0
Other \$0

Commission rate 0
Commission \$ \$0

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Report Created On: Monday, June 4, 2007
Report Created By: DONA

Page 1 of 2
Version: 2007.5.19.1



New Equipment Pricing (cont)

Order Write Up (cont)

*These items were
previously selected
during pricing.*

Condenser Order Write Up

Project TestProject
DONA#20070804146319
Job d5



Options

Quantity	Code	Description	Price
1	MC07	Ultra-Case Coil	\$4493
1	MR07	Liquid Receiver - 12"x60"	\$2725
2	12345	Don - Enter your description here	\$1500

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Report Created On: Monday, June 4, 2007
Report Created By: DONA
Page 2 of 2
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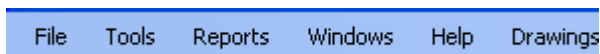
Total Page No.: 2

Zoom Factor: 75%



New Equipment Pricing (cont)

Cover Sheet



Step 12:

From the Menu Bar at the top of the page, Click on Reports, then on Cover Page.

Note: If you have multiple contacts, you will be asked to identify the recipient of the report.

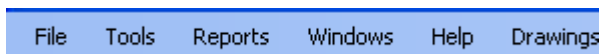
RAE Corporation
Project: TestProject
6/4/2007

RAE Corporation
John Doe
1st St
Las Angeles, CA



New Equipment Pricing (cont)

Cover Letter



Step 13:

From the Menu Bar at the top of the page, Click on Reports, then on Cover Letter.

Note: If you have multiple contacts, you will be asked to identify the recipient of the report.



6/4/2007

RAE Corporation
John Doe
4492 Hunt St.
Pryor, OK 74361

Reference: Submittal / Project: TestProject

Dear John,

If you have any further questions or comments, please contact me.

Best regards,

John Doe



New Equipment Pricing (cont)

Submittal Sheet

Condenser Accessories

Project: TestProject

Model PFC136

Quantity 1

Design Ambient 105°F

Temperature Difference 10°F

Voltage - Unit 460/3/60

Voltage - Control

Tag

Circuit 1 THR 25

Circuit 2 THR 25

Circuit 3 THR 50

Circuit 4 THR 50

File Tools Reports Windows Help Drawings

Step 14:

From the Menu Bar at the top of the page, Click on Reports, then on Submittal Sheet

UNIT ACCESSORIES

Ultra-Case Coil

Liquid Receiver - 12"x60"

Don - Enter your description here

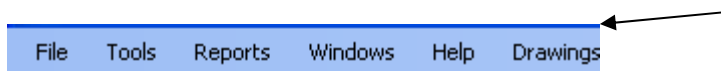


New Equipment Pricing (cont)

Submittal Sheet

Step 15:

From the Menu Bar at the top of the page, Click on Drawings, then on Print Unit Drawing.



MAIN POWER 460/3/60		MINIMUM RECOMMENDED SERVICE CLEARANCES <small>"Please refer to the Installation, Operation and Maintenance Manual for installation recommendations"</small>			
CIRCUIT 1 ELECTRICAL DATA					
MAX FUSE SIZE	0				
MCA	0				
RLA	NA				
SCCR	5				
2 1/2" DIA. RIGGING HOLES * 5/8" DIA. UNIT MOUNTING HOLES EST. SHIPPING WT. <u>4190</u> LBS. EST. OPERATING WT. <u>0</u> LBS. ALL DIMENSIONS +/- 1/4"					

		TITLE: UNIT DRAWING PFC-136	SCALE: NONE DATE: 6/4/2007 PR: NA	PROJECT NAME: TestProject SE App. QC App.	DRAWN BY: JDM FILE NO: 12 FAN HL DRAWING NUMBER: NA	REVISED BY: DATE: REV. NUMBER: NA NA NA RAE SOLUTIONS VERSION 2007.5.19.1
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We reserve the right to change or revise specifications and product design in connection with any feature of our product. Such changes do not entitle the buyer to corresponding changes, improvements, additions or replacement for equipment previously sold or shipped.



New Equipment Pricing (cont)

Step 16:

Select a Saving Option from the list provided.

RAESolutions

Select a saving option.

- ☒ **Save**
Save changes and close form
- ☐ **Save as revision**
Save changes to new revision and close form
- ☐ **Do not save**
Do not save and close form
- ☐ **Cancel**
Do not save and return to form

OK

Step 17b (No Project Open):

If No Project Open For 'Save' and 'Save as Revision', Enter the Project Name and the Equipment Name and Click the Save Button

Step 17a (Project Open):

If Project Open For 'Save' and 'Save as Revision', Enter the Equipment Name and Click the Save Button

RAESolutions

Choose a name for the equipment before saving.

Equipment name

Save Cancel

RAESolutions

Choose names for the equipment and project before saving.

Project name

Equipment name

Save Cancel

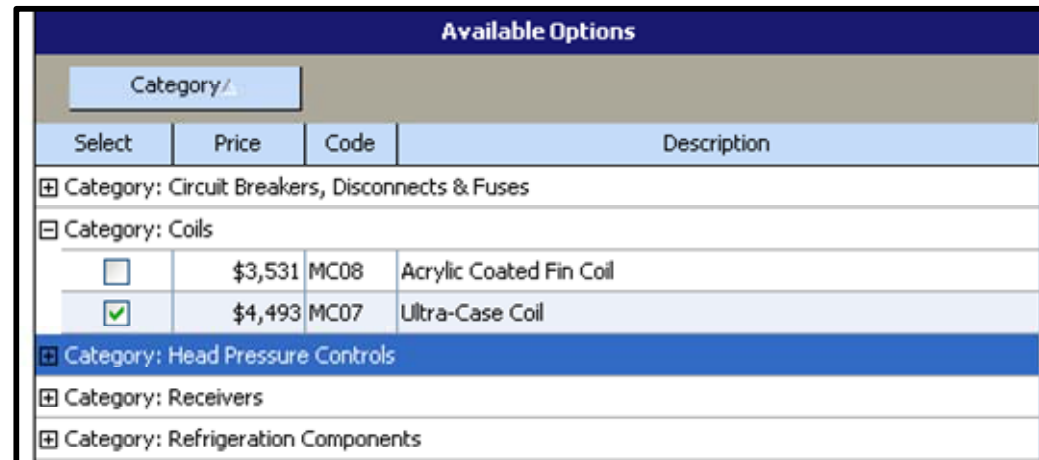
Available Options – Manipulating the Screen

By default, Available Options is displayed in the format as shown. It is a very powerful screen, and in the following pages we will see some of the options available to the user.



Re-Order the Menu Header Columns.

Click on the Menu Header 'Price', and drag it between the Menu Headers 'Select' and 'Code', and dropping it on the red arrow that will appear.



Available Options – Manipulating the Screen

Grouping:

Dragging one of the Menu Item Headers into the Gray box area will cause the list to be 'grouped' by that descriptions. This allows the user to see all the distinct values under that menu. This is most useful when 'Category' is the grouping item, and that is the value that is set by default.

Available Options			
Description ▾			
Select	Code	Category	Price
<input type="checkbox"/>		Description: Acrylic Coated Fin Coil	
<input type="checkbox"/>		Description: Condenser Pressure Relief Valve / Circuit	
<input checked="" type="checkbox"/>		Description: Fan Cycle 0°	
<input type="checkbox"/>		Description: Liquid Receiver - 10"x60"	
<input type="checkbox"/>		Description: Liquid Receiver - 12"x60"	
<input type="checkbox"/>		Description: Liquid Receiver - 6"x28"	
<input type="checkbox"/>		Description: Liquid Receiver - 6"x36"	
<input type="checkbox"/>		Description: Liquid Receiver - 8"x36"	
<input type="checkbox"/>		Description: Liquid Receiver - 8"x60"	
<input type="checkbox"/>		Description: Ultra-Case Coil	
<input type="checkbox"/>		Description: Unit Fused Disconnect 460 Volts	

Default Group List.

Available Options			
Category ▾			
Select	Code	Price	Description
<input type="checkbox"/>			Category: Circuit Breakers, Disconnects & Fuses
<input type="checkbox"/>			Category: Coils
<input checked="" type="checkbox"/>			Category: Head Pressure Controls
<input type="checkbox"/>			Category: Receivers
<input type="checkbox"/>			Category: Refrigeration Components

Available Options – Manipulating the Screen

Reset Layout:

Clicking on the Reset Layout button will cause the Available Options list to completely open. All options will then be available to the user.

Select options from this list of available options

Unselect All Reset Layout

Available Options				
Drag a column header here to group by that column				
Select	Code	Description	Price	Category
<input type="checkbox"/>	MC08	Acrylic Coated Fin Coil	\$3,531	Coils
<input type="checkbox"/>	MV04	Condenser Pressure Relief Valve / Circuit	\$268	Refrigeration Compon
<input type="checkbox"/>	EF02	Fan Cycle 0°	\$1,971	Head Pressure Control
<input type="checkbox"/>	MR06	Liquid Receiver - 10"x60"	\$2,477	Receivers
<input checked="" type="checkbox"/>	MR07	Liquid Receiver - 12"x60"	\$2,725	Receivers
<input type="checkbox"/>	MR02	Liquid Receiver - 6"x28"	\$922	Receivers
<input type="checkbox"/>	MR03	Liquid Receiver - 6"x36"	\$947	Receivers
<input type="checkbox"/>	MR04	Liquid Receiver - 8"x36"	\$1,395	Receivers
<input type="checkbox"/>	MR05	Liquid Receiver - 8"x60"	\$2,544	Receivers
<input checked="" type="checkbox"/>	MC07	Ultra-Case Coil	\$4,493	Coils
<input type="checkbox"/>	ED02	Unit Fused Disconnect 460 Volts	\$1,996	Circuit Breakers, Disco

Sort:

Clicking on any of the Menu Headers (Code, Description, Price or Category) will cause the list to be sorted in ascending order. Re-clicking the same Menu Header will cause the list to be sorted in descending order.

Select options from this list of available options

Unselect All Reset Layout

Available Options				
Drag a column header here to group by that column				
Select	Code	Description ▾	Price	Category
<input type="checkbox"/>	ED02	Unit Fused Disconnect 460 Volts	\$1,996	Circuit Breakers, Disco
<input checked="" type="checkbox"/>	MC07	Ultra-Case Coil	\$4,493	Coils
<input type="checkbox"/>	MR05	Liquid Receiver - 8"x60"	\$2,544	Receivers
<input type="checkbox"/>	MR04	Liquid Receiver - 8"x36"	\$1,395	Receivers
<input type="checkbox"/>	MR03	Liquid Receiver - 6"x36"	\$947	Receivers
<input type="checkbox"/>	MR02	Liquid Receiver - 6"x28"	\$922	Receivers
<input checked="" type="checkbox"/>	MR07	Liquid Receiver - 12"x60"	\$2,725	Receivers
<input type="checkbox"/>	MR06	Liquid Receiver - 10"x60"	\$2,477	Receivers
<input type="checkbox"/>	EF02	Fan Cycle 0°	\$1,971	Head Pressure Control
<input type="checkbox"/>	MV04	Condenser Pressure Relief Valve / Circuit	\$268	Refrigeration Compon
<input type="checkbox"/>	MC08	Acrylic Coated Fin Coil	\$3,531	Coils



New Selection / Rating – Product Offerings

Step 1:

Before the next form, you should be familiar with the Models you will have available for selecting and rating. Use the chart below to help select the appropriate piece of Equipment.

Technical Systems

Chiller

Air
Handler

Condenser

Condenser
Unit

Spec
Builder

30A0
30A1

TPAH

10A0

20A0

Water
Chiller or
Condensing
Unit

Century Refrigeration

Condenser

Condenser
Unit

Unit Cooler
Balance

PFC

DS
DD
DM
LUI
LUO
RS

DS
DD
DM
LUI
LUO
RS



New Selection / Rating (cont)

Step 2:

Choose the type of equipment you wish to Select and Rate, then click on the View button.

Century Refrigeration

RAESolutions

Please choose a selection/rating type from the dropdown below:

Selection type: Condenser

- [Condenser](#)
- [CondensingUnit](#)
- [UnitCoolerBalance](#)

Technical Systems

RAESolutions

Please choose a selection/rating type from the dropdown below:

Selection type: EvapChiller

- [ACChiller](#)
- [AirHandler](#)
- [Condenser](#)
- [CondensingUnit](#)
- [SpecBuilder](#)

For each of the items in the Select and Rate boxes above, there is a unique page. Click on the Item to jump to the appropriate page for its discussion.



New Selection / Rating (cont)

For the sake of the example, we are logged on as TSI.

Step 1:

Select the Series, then Select Model Number from the List Box

Step 2:

Make modifications to fields as required.

Step 3:

Calculate Page, causing the information in the results box to be displayed.

Step 4:

View the Report (example on next page), or Click the 'New Equipment Pricing' button to go to the pricing module.

Air Cooled Condenser Rating

Series: ☒ 10A0 ☐ RAC

Model number:

Refrigerant:

Coil face: Width Length Inches

Sub cooling: Sub cooling %:

Altitude: Feet above sea level

Ambient temp.: °F

Temperature difference: °F

Fan description:

Number of fans:

Coil Description:

Add external static pressure:

☐ Catalog rating

General Info

Unit Dimensions: 52(L)x68(W)x63(H)
Shipping Weight: 610 (lbs.)
Connections: ODS Copper
Dual Circuit
Inlet = 7/8"
Outlet = 7/8"
Optional Single Circuit
Inlet = 1 3/8"
Outlet = 1 1/8"

Notes

FPI	Capacity	Face Velocity	Static Pressure	HP	CFM Actual	CFM Standard	BTUH/FT²
8	93,996	561	.16	.66	12,389	11,831	4,256
9	99,093	558	.18	.66	12,321	11,766	4,487
10	104,189	555	.19	.67	12,253	11,701	4,718
11	109,158	553	.2	.67	12,199	11,649	4,943
12	114,126	550	.21	.67	12,144	11,597	5,168
13	118,079	547	.22	.68	12,083	11,539	5,347
14	122,031	544	.23	.68	12,022	11,481	5,526



New Selection / Rating (cont)

TSI Condenser Sample Report

TECHNICAL

S Y S T E M S

Division of RAE Corporation

Air Cooled Condenser Rating Report

Model Number: 10A0-15
Coil Description: 0.5" Diameter, 2 Row(W) Condenser (66.25x48)
Fan Description: (2) 0.5 hp, 24" dia, 1140 rpm, 60 hz
Refrigerant Type: R22
Altitude: 0 [feet above sea level]
Ambient Temperature: 95 [°F]
Temperature Difference: 20 [°F]
Added External Static Pressure: 0 [Inches of Water]

General Information:

Unit Dimensions: 52(L)x68(W)x63(H)
Shipping Weight: 610 (lbs.)
Connections: ODS Copper
Dual Circuit
Inlet = 7/8"
Outlet = 7/8"
Optional Single Circuit
Inlet = 1 3/8"
Outlet = 1 1/8"

Notes:

FPI	Capacity [BTUH]	Face Velocity [FPM]	Static Pressure [Inches of Water]	HP	Total Air Flow Actual [CFM]	Total Air Flow Standard [CFM]	BTUH Ft ²
8	93,996	561	.16	.66	12,389	11,831	4,256
9	99,093	558	.18	.66	12,321	11,766	4,487
10	104,189	555	.19	.67	12,253	11,701	4,718
11	109,158	553	.2	.67	12,199	11,649	4,943
12	114,126	550	.21	.67	12,144	11,597	5,168
13	118,079	547	.22	.68	12,083	11,539	5,347
14	122,031	544	.23	.68	12,022	11,481	5,526



New Selection / Rating (cont)

TSI Condensing Unit – Selection

Step 1:

Select the Condensing Unit Series, from the List Box. Make any modifications to the remaining entries as required.

Step 2a:

Select the Unit Selection Button. This will select a recommended package for rating.

OR

Step 2b:

Select the Unit Rating Button. This will select a recommended package for rating.

Step 3:

Click the 'Step 1 – Run' Button.



New Selection / Rating (cont)

TSI Condensing Unit – Selection – Using Unit Selection (2a)

RAESolutions will present the suggested Condensing Units.

Step 4:

Select the Condensing Unit to be rated.

Condensing Units Selection Outputs

-	Closest Selection	Next Larger Selection	Next Smaller Selection
Condensing Unit Model	20A0LD15	20A0LS15	20A0LS13
Evaporator Temperatur	40	40	40
Ambient Temperature	95	95	95
Condenser Temperatur	122.2	126.7	129.7
Capacity [Tons]	15.1	15.3	12.8
Unit [kW]	16.86	17.75	15.83
Condenser Capacity	17.5	17.8	14.9

* Ø voltage, 60 Hz at design conditions.
** Ø voltage, 60 Hz for condensing unit only. Does not include any evaporator loads.

☒ Custom rate 20A0LD15 unit capacity = 15.1 Tons
☐ Custom rate 20A0LS15 unit capacity = 15.3 Tons
☐ Custom rate 20A0LS13 unit capacity = 12.8 Tons

Step 2 - Go To Rating Tab

Step 5:

Click the 'Step 2 - Go to Rating Tab'.\



New Selection / Rating (cont)

TSI Condensing Unit – Selection – Using Unit Rating (2b)

This page would be skipped if using the Unit Selection

In this example, the 20A0LD15 unit has been selected for purposes of continuing the example.

Step 6:

Select the Condensing Unit to be rated.

Condensing Unit Model to Use for Rating

Choose one condensing unit model

20A0 20A0LD15

Step 2 - Go To Rating Tab

Step 7:

Click the 'Step 2 - Go to Rating Tab'.



New Selection / Rating (cont)

TSI Condensing Unit – Selection

Step 8:

Change Data as appropriate.

Step 9:

The Compressor data is defaulted by RAESolutions with the optimized selection. The user may choose to override this selection, and choose another.

Step 10:

Click the 'Step 3 – Go To Results Tab'

Selection Rating Results

Condensing Unit Rating Data

Unit model number 20A0LD15 20A0LD15

Tons

Design ambient 95 °F Interval 10 °F Output steps 4

Saturated suction 40 °F Interval 5 °F Output steps 4

Refrigerant R22H

Altitude 0

Sub cooling Y 15 °F

Catalog or standard Catalog

Hertz rating 60 HZ

Compressor safety override N

Circuit 1 Circuit 2

Compressor Info

Compressor ZR90K3E HP: 7.5 Quantity 1

Coil Info

Quantity required 1 Rows 3 Sub cooling % 10.3

Fin height 32.5 Fin length 48 Fins per inch 14

Fan Info

Fan 1 hp, 28" dia, 1140 rpm Quantity 1

Step 3 - Go To Results Tab



New Selection / Rating (cont)

TSI Condensing Unit – Selection

Need working Condenser result page



New Selection / Rating (cont)

TSI ACChiller

Step 1:

Select the Series.

Series	30A0	▼
Model #	30A0CD100	▼
		30A0CD100

Step 2:

Select the Model #.

*In this example, the 30A0 Series, Model # 30A0CD100 has been selected for purposes of continuing the example.
Most of the information is defaulted to the optimized selection, but may be overridden by the user.*

☐ Rating Criteria

Step 3:

Confirm (modify if necessary) the initial parameters of the model.

Fluid	Water	▼	0	% Glycol	Refrigerant	R22H	▼
Cooling media					Range	10	5 to 20°F
Specific heat	1.0032				Ambient	95	°F
Specific gravity	1.0003				Leaving fluid	44	-40 to 75°F
Freeze point	32			°F	System	FULL	▼
Minimum suction	33			°F	Hertz	60	▼
Sub cooling	21.1			°F	Approach	9	



New Selection / Rating (cont)

TSI ACChiller

Step 4:

Confirm (modify if necessary) the Compressor parameters of the model.

☐ Compressor

☐ Safety override

☒ Circuit 1

Compressor8DP3-5000

Quantity1

6D408D50	HP: 90	▲
6DG3-3500	HP: 35	
6DH3-3500	HP: 35	
6DJ3-4000	HP: 40	
6DS34000	HP: 40	
8DP3-5000	HP: 50	▼

☐ Circuit 2

Compressor8DP3-5000

Quantity1

6D408D50	HP: 90	▲
6DG3-3500	HP: 35	
6DH3-3500	HP: 35	
6DJ3-4000	HP: 40	
6DS34000	HP: 40	
8DP3-5000	HP: 50	▼



New Selection / Rating (cont)

TSI ACChiller

☐ Condenser

Step 5:

Confirm (modify if necessary) the Condenser parameters of the model.

<u>Circuit 1</u>		<u>Circuit 2</u>	
Coil quantity	<input type="text" value="1"/>	Coil quantity	<input type="text" value="1"/>
Condenser	<input type="text" value="1/2 Diameter 4 Row"/> ▼	Condenser	<input type="text" value="1/2 Diameter 4 Row"/> ▼
Fins per inch	<input type="text" value="14"/> ▼	Fins per inch	<input type="text" value="14"/> ▼
Sub cooling	<input type="text" value="Yes"/> ▼ 9.1 %	Sub cooling	<input type="text" value="Yes"/> ▼ 9.1 %
Condenser TD	<input type="text" value="25"/> °F	Condenser TD	<input type="text" value="25"/> °F
Fin height	<input type="text" value="41.25"/>	Fin height	<input type="text" value="41.25"/>
Fin length	<input type="text" value="166"/>	Fin length	<input type="text" value="166"/>
Discharge line loss	<input type="text" value="1"/> ▼ °F	Circuit 1 applies for both circuits	
Suction line loss	<input type="text" value="1"/> ▼ °F	Circuit 1 applies for both circuits	
Altitude	<input type="text" value="0"/> ft.	Circuit 1 applies for both circuits	
Fan	<input 1140="" 60="" dia,="" hz"="" rpm,="" type="text" value="1 hp, 28"/> ▼		
Fan quantity	<input type="text" value="4"/>	Fan quantity	<input type="text" value="4"/>
Fan watts	<input type="text" value="1100"/>	Circuit 1 applies for both circuits	
Condenser capacity	<input type="text" value="456140"/> BTUH	Condenser capacity	<input type="text" value="456140"/> at 25°F TD



New Selection / Rating (cont)

TSI ACChiller

☐ Evaporator

Select Alternate Evaporators

Evaporator model # TX12-6443-2C

Fouling Factor .0001

☒ Tons or ☐ GPM

13.85

☐ Catalog rating

Step 6:

Confirm (modify if necessary) the Evaporator parameters of the model.

Evaporator Per Circuit
Capacity (BTUH)

<input type="radio"/> 6-8	0	4°F Approach	Fluid PD = 0 GPM = 0
<input type="radio"/> 7-9	40800	5°F Approach	Fluid PD = 1.1 GPM = 16.3
<input type="radio"/> 8-10	57600	6°F Approach	Fluid PD = 2 GPM = 23
<input checked="" type="radio"/> 8-10	67200	7°F Approach	Fluid PD = 2.7 GPM = 26.8
<input type="radio"/> 9-11	77400	8°F Approach	Fluid PD = 3.5 GPM = 30.8
<input type="radio"/> 10-12	87000	9°F Approach	Fluid PD = 4.4 GPM = 34.8
	97200	10°F Approach	Fluid PD = 5.4 GPM = 38.8
	108000	11°F Approach	Fluid PD = 6.5 GPM = 42.9
	0	12°F Approach	Fluid PD = 0 GPM = 0

☐ Other evaporator

Capacities (BTUH)

Circuit 1

Circuit 2

8 Degree Approach

10 Degree Approach

Step 7:

Click the 'Calculate Page' button.



Create Report



Calculate Page



New Equipment Pricing



New Selection / Rating (cont)

TSI ACChiller

Results of the 'Calculate Page' button.

Points outside operating limits omitted, contact factory for selection.

Leaving Fluid Temp. [°F]	Ambient Temp. [°F]	Evaporator Temp. [°F]	Condenser Temp. [°F]	Capacity [Tons]	Unit [KW]	GPM	Evaporator PD [psi]	Compressor EER	Unit EER
42.0	85.0	33.0	122.2	14.4	17.4	34.4	4.3	11.3	9.9
43.0	85.0	33.9	122.6	14.6	17.6	35.0	4.5	11.4	10.0
44.0	85.0	34.8	123.2	14.8	17.8	35.6	4.6	11.5	10.0
46.0	85.0	36.5	124.4	15.4	18.0	36.8	4.9	11.6	10.2
48.0	85.0	38.2	125.4	16.0	18.4	38.2	5.2	11.9	10.5
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
42.0	95.0	33.5	131.2	13.4	18.4	32.2	3.8	9.9	8.7
43.0	95.0	34.3	131.6	13.6	18.6	32.8	3.9	10.0	8.8
44.0	95.0	35.2	132.2	14.0	18.8	33.4	4.1	10.1	8.9
46.0	95.0	37.0	133.2	14.4	19.0	34.6	4.4	10.3	9.1
48.0	95.0	38.7	134.4	15.0	19.4	35.8	4.7	10.4	9.3

Step 8a:

Click the 'Create Report' button for a formal document. (see results on the next page)

Step 8b:

Click the 'New Equipment Pricing' button for equipment pricing.





New Selection / Rating (cont)

TSI ACChiller

TECHNICAL

S Y S T E M S

Division of RAE Corporation

Air Cooled Chiller Rating Report

Model Number: 30A0CD15

Condenser: (1)12C32.5X48-14-2-1C-S/C --- (1)12C32.5X48-14-2-1C-S/C

Evaporator: TX12-6443-2C Fouling= .0001

System: FULL

Compressor: (1)2DA30750.H2 --- (1)2DA30750.H2

Fans: (2) 1 hp, 28" dia, 1140 rpm, 60 hz Altitude= 0

Fluid: Water

Refrigerant: R22H

Hertz: 60

Leaving Fluid [F]	Ambient [F]	Evaporator [F]	Condenser [F]	Capacity [Tons]	Unit [kW]	GPM	Evaporator PD [psi]	Compressor EER	Unit EER
42.0	85.0	33.0	122.2	14.4	17.4	34.4	4.3	11.3	9.9
43.0	85.0	33.9	122.6	14.6	17.6	35.0	4.5	11.4	10.0
44.0	85.0	34.8	123.2	14.8	17.8	35.6	4.6	11.5	10.0
46.0	85.0	36.5	124.4	15.4	18.0	36.8	4.9	11.6	10.2
48.0	85.0	38.2	125.4	16.0	18.4	38.2	5.2	11.9	10.5
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
42.0	95.0	33.5	131.2	13.4	18.4	32.2	3.8	9.9	8.7
43.0	95.0	34.3	131.6	13.6	18.6	32.8	3.9	10.0	8.8
44.0	95.0	35.2	132.2	14.0	18.8	33.4	4.1	10.1	8.9
46.0	95.0	37.0	133.2	14.4	19.0	34.6	4.4	10.3	9.1
48.0	95.0	38.7	134.4	15.0	19.4	35.8	4.7	10.4	9.3
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
42.0	105.0	33.9	140.0	12.6	19.4	30.2	3.4	8.8	7.8

Points outside operating limits omitted, contact factory for selection.

Calculations based on 10°F Range

Capacity [BTUH]

8°F Evaporator: 154800

10°F Evaporator: 194400

Condenser @ 25°F Temperature Difference: 144610

Discharge Line Loss: 1 [°F]

Suction Line Loss: 1 [°F]



New Selection / Rating (cont)

TSI Air Handler

Step 2:

Click the 'Unit' Tab

Step 1:

Select the Project from the list (or create a new project).

You may update your information if needed, Clicking the 'Save' button below to store the new information

Air Handler Pricing - Project Information

Project Unit Summary

Click 'New Project' to add a new project.

Manage Projects

New Project... Open Project

ProjectName	QuoteNumber
donnew	050107.caseyj.00
GFGFS	012307.ADAMM.0
Gurwin	011707.ADAMM.0
HA Gray	110906.ADAMM.0
Interplastics	092906.ADAMM.0
Lawyer Trane	101006.ADAMM.0

Delete

Project Name: Quote #:

Location: Altitude (ft):

Sales Person: Engineer:

Owner: Voltage:

Contractor:

Customer Notes:

Job Notes:

Save Close



New Selection / Rating (cont)

TSI Air Handler

Step 4:

Provide appropriate values for Airflow, External Static Pressure etc. Click the 'Select Model' button

Step 3:

Click the 'Add Air Handler' button to create a new unit.

Air Handler Pricing - Project Information

Project Unit Summary

Click the 'Add Air Handler' button at the bottom, left portion of the tab.
Then enter the data in the table below, and click the 'Select Model' button.

Tag	Airflow	External Static Pressure	Location	Paint	Panel Thickness	Select Model
AHU-1	22000	5	Outdoor	<input checked="" type="checkbox"/>	2	Select Model
AHU-2				<input type="checkbox"/>		Select Model
AHU-3				<input type="checkbox"/>		Select Model

Add Air Handler

Save Close



New Selection / Rating (cont)

TSI Air Handler

Using 22000 CFM with 5" External Static Pressure, the following units are available.

Step 5:

Select the Model you wish to configure.

Our example will select the TPAH-44.

Cabinet Size Unit Layout Mixing Box / Filters Fans Coil Other

Select an air handler model.

Model	Fin Height	Fin Length	Coil Face Velocity	Filter Height	Filter Length	Filter Face Velocity
TPAH-44	36	88	500	72	96	458
TPAH-50	42	88	429	84	96	393

Step 6:

Click the 'Unit Layout' Tab



New Selection / Rating (cont)

TSI Air Handler

Step 8:

Click the 'Mixing Box / Filters' Tab

Step 7:

We will now graphically select the accessory items to be associated with this unit. For our example, we will pick a Mixing box, Filter, Plenum Fan, and a Discharge.

Items selected here, will be available for further configuration on the individual Tabs (Mixing Box /Filters, Fans, Coil, and Other).

Click the icon in the panel.

Drag and Drop it into the Drawing Panel.

Unit Info

Cabinet Size Unit Layout **Mixing Box / Filters** Fans Coil Other [Air Handling Units catalog](#)

Drag section drawings from the upper box to the lower box to include them in the air handler.

House Fan 2 Heating Coil Cooling Coil Electric Heater Space 1' Space 2' Space 3' Discharge 1 Discharge 2

Print Drawing...

Move >

< Move

Delete

Order Index	0	1	2	3
Abbreviation	MB1	FF2	PF1	D1
Length	46	18	98	28

Tag: AHU-1

Save Close



New Selection / Rating (cont)

TSI Air Handler

Breaking with our Example, All Mixing Boxes/Filters are displayed to allow for the discussion on the various parameters associated with each.
Each of these may show depending on the configuration selected by the user on the UNIT LAYOUT tab.

Mixing Box (MB1):

Select air (Outside Air, Return Air, or both) then Box Construction Material

Filter (FF1):

Holds frame for 2" or 4" filters.

Select No Filter, 2" 30% Pleated, or 4" 30% Pleated.
Number of Spare Sets is Optional.

Filter (FF2):

Holds frame for 2" or 4" pre-filters, and up to 22" bag filters

Select No Filter, 2" 30% Pleated, or 4" 30% Pleated for Pre-filter.

Select No Final Filter, 12" 65% Pleated, 12" 85% Pleated, or 12" 95% Pleated for Final Filter.

Number of Spare Sets is Optional.

Step 9:

Click the 'Fans' Tab

Unit Info

Cabinet Size Unit Layout **Mixing Box / Filters** Fans Coil Other [Air Handling Units catalog](#)

Mixing Box (MB1) 0

Air

Casing ☐ Aluminum ☐ Galvanized

Cost 0

Filter (FF1) 2

Filter

Number of spare sets

Filter cost 0

Filter (FF2) 3

Pre-filter

Number of spare sets

Final Filter

Number of spare sets

Filter cost 0

Tag: AHU-2

Save Close



New Selection / Rating (cont)

TSI Air Handler

Before the fan configuration page is displayed, some common nomenclature and configuration information will be presented.

Common Motor Information:

Motor Information is common to all fans selectable. The user may select High or Premium Efficiency, Open Drip Proof or Totally Enclosed Fan Cooled Enclosures, Horse powers ranging from 1-75 nameplate, and Motor RPM based on synchronous speeds of 3600, 1800, 1200 or 900 RPM (stated speed differs depending on efficiency, enclosure and power considerations)

Plenum Fans:

Plenum fans are Single Width, Single Inlet Air Foil, Class I, II, or III construction. They are belt driven, ranging in size from 12-49 inch.

Housed Fans:

Housed fans are either Double Width, Double Inlet Backward Inclined (DWDI-BI) or Double Width, Double Inlet Forward Curved (DWDI-FC) fans. Class Construction does not apply. DWDI-BI fans are belt driven fans ranging in size from 10-27 Inches. DWDI-FC fans are belt driven fans ranging in size from 7-36 inches.



New Selection / Rating (cont)

TSI Air Handler

Step 13:

Click the 'Coil' tab.

Cabinet Size Unit Layout Mixing Box / Filters **Fans** Coil Other [Air Handling Units catalog](#)

Step 10:

Select Motor Efficiency, Enclosure, Horsepower and RPM.

Fan (PF1)	4
Motor Information	
Efficiency	<input checked="" type="checkbox"/> High <input type="checkbox"/> Premium
Enclosure	<input checked="" type="checkbox"/> ODP <input type="checkbox"/> TEFC
Horsepower	<input type="text"/>
RPM	<input type="text"/>
Fan Information	
Type	<input type="text"/>
Class	<input type="text"/>
Size	<input type="text"/>
Drive	<input type="text"/>
Isolation	<input type="text"/>

Fan (HF1)	5
Motor Information	
Efficiency	<input checked="" type="checkbox"/> High <input type="checkbox"/> Premium
Enclosure	<input checked="" type="checkbox"/> ODP <input type="checkbox"/> TEFC
Horsepower	<input type="text"/>
RPM	<input type="text"/>
Fan Information	
Type	<input type="text"/>
Class	<input type="text"/>
Size	<input type="text"/>
Drive	<input type="text"/>
Isolation	<input type="text"/>

Fan (HF2)	6
Motor Information	
Efficiency	<input checked="" type="checkbox"/> High <input type="checkbox"/> Premium
Enclosure	<input checked="" type="checkbox"/> ODP <input type="checkbox"/> TEFC
Horsepower	<input type="text"/>
RPM	<input type="text"/>
Fan Information	
Type	<input type="text"/>
Class	<input type="text"/>
Size	<input type="text"/>
Drive	<input type="text"/>
Isolation	<input type="text"/>

Motor cost \$0.00

Fan cost 0

Isolator cost 0

Motor cost \$0.00

Fan cost 0

Isolator cost 0

Motor cost \$0.00

Fan cost 0

Isolator cost 0

Step 11:

Select Fan Type, Class, Size and Drive.

Step 12:

Select Isolation:

- None
- 1" Open
- 2" Open
- 1" Seismic
- 2" Seismic
- Rubber



New Selection / Rating (cont)

TSI Air Handler

Step 14:

Select Type:

- C1 - Hot Water or Std Steam
- C2 - Chilled Water or DX

Select # or Rows

- C1 - 1 or 2
- C2 - 1 thru 8

Select # of fins (4-14)

Select Fin Material

Select Fin Thickness

- .006
- .008
- .01

Select Tube Thickness

- .02
- .025
- .035
- .049

Select Casing

Step 17:

Click 'Other' Tab.

Step 15:

Select Duct Heater Kw

- 556.1
- 417.1
- 278
- 139

Select # Extra Stages

Step 16:

Select Natural Gas Heater Power

- 200
- 250
- 300
- 350
- 400
- 800
- 1200
- 1600

Select Type

Unit Info

Cabinet Size Unit Layout Mixing Box / Filters Fans Coil Other

Air Handling Units catalog

C1 0 7

Type

of rows

of fins

Fin material ☐ Aluminum ☐ Copper

Fin thickness

Tube thickness

Casing ☐ Stainless steel ☐ Galvanized steel

C2 0 8

Type

of rows

of fins

Fin material ☐ Aluminum ☐ Copper

Fin thickness

Tube thickness

Casing ☐ Stainless steel ☐ Galvanized steel

C3 0 9

Open Element Duct Heater

KW

Minimum # of stages

Operating temperature difference

☐ Disconnect ☐ SCR

Extra stages

C5 0 14

Power

Type ☒ Two stage ☐ Modulating

Tag: AHU-2

Save Close



New Selection / Rating (cont)

TSI Air Handler

Step 18:

Provide any changes to quantity or selectable item as required.

Unit Info [Air Handling Units catalog](#)

Cabinet Size Unit Layout Mixing Box / Filters Fans Coil **Other**

Sections	Quantity
BLD1	\$722.20
Air blender	1
SS1	
1-foot space	1
SS2	
2-foot space	0
SS3	
3-foot space	1
US1	
Unit split	1

Base Material
☐ Sheet metal
☒ Steel

Discharge (D1) 12
Location ☐ Ceiling discharge
☒ End wall discharge
☐ Floor discharge
☐ Grating
Grating cost 0

Materials	Quantity
Door	10
Air seal	9

Tag: AHU-2

Save **Close**

Step 19:

Click 'Save' Button



New Selection / Rating (cont)

CR Condensing Unit Balance

Step 1:

Select the appropriate
Condensing Unit Series for
Balancing.

Unit Cooler - Condensing Unit Balance

Condensing Unit Specifications

Condensing unit series	LUO	
Adjust capacity for run time	<input type="radio"/> Yes <input checked="" type="radio"/> No	Run time 16 [hr]
Compressor type	Best-optimized	
Refrigerant	R22H	
Compressors per unit	ALL	
Circuits per unit	ALL	
Total capacity required	28000	[BTUH]
Altitude	0	[ft] above sea level
Condensing units required	1	
Saturated suction temp.	35	range -40 to +50 [°F]
Number of rooms	<input checked="" type="radio"/> One <input type="radio"/> Multiple	
Ambient temperature	95	[°F]
Design room temperature	45	[°F]



New Selection / Rating (cont)

CR Condensing Unit Balance

Step 2:

Click the 'Find Condensing Units' Locator Bar. RAESolutions will present the most appropriate Condensing units.

The Best Selection is the default choice. If the user wishes, this choice may be changed.

Find Condensing Units

		Condenser Capacity Per Degree
Best selection <input checked="" type="radio"/>	LUO3.02H capacity 28,284 BTUH	1248
Selection 2 <input type="radio"/>	LUO3.52H capacity 34,294 BTUH	1427
Selection 3 <input type="radio"/>	LUO2.52H capacity 24,883 BTUH	1053
Custom <input type="radio"/>	Custom Model # <input type="text"/>	0

Condensing Unit Data

	Closest Selection	Next Larger Selection	Next Smaller Selection
Model number	LUO3.02H	LUO3.52H	LUO2.52H
Evaporator temp. [°F]	35	35	35
Air on temperature [°F]	95	95	95
Condenser temp. [°F]	124.3	126.5	126.1
Capacity [BTUH]	28284	34294	24883
Run time [Hr]	15.8	13.1	18
Unit kW	3.07	3.84	2.9
Condenser capacity [BTUH]	36494	44822	32650
Unit amps @ 230	9.95	11.97	9.26
Unit amps @ 460	9.95	11.97	9.26
Unit EER	9.2	8.94	8.59
Temperature difference	29.3	31.5	31.1
Unit MCA 230	15.6	18.7	15
Unit MCA 460	15	15	15
Dimensions	36" x 35" x 33 1/8"	36" x 35" x 33 1/8"	36" x 35" x 33 1/8"
Base list price (no options)	7253	7416	6753



New Selection / Rating (cont)

CR Condensing Unit Balance

Step 3:

Click the 'Find Unit Coolers' Locator Bar. RAESolutions will present the most appropriate Unit Coolers.

The Best Selection is the top choice. With the 'Unit Cooler 1' radio button on, Click on the Model of your choice. Note that that unit will be placed in the Unit Cooler 1 line.

The user can place additional Coolers into subsequent Unit Cooler Locations by clicking the radio button of the line to fill, and then clicking the model from the list above.

Clear any Unit Cooler Line by making its radio button on, and Clicking the 'Clear' button.

Unit Cooler Specifications

Unit cooler series PFE unit coolers not available

Suction line loss [°F]

☐ Override unit cooler capacity criteria

Find Unit Coolers

Select Unit Cooler

	Model	Quantity Required	Capacity [BTUH]
<input checked="" type="radio"/>	FH 452-202	1.57	21848
<input type="radio"/>	FH 522-74	4.28	8004
<input type="radio"/>	FH 522-96	3.3	10383
<input type="radio"/>	FH 532-114	2.78	12330
<input type="radio"/>	FH 532-146	2.17	15791
<input type="radio"/>	FH 542-192	1.65	20767

	Model Number	Capacity	Quantity	Per Degree	Evaporator Capacity
<input checked="" type="radio"/> Unit cooler 1	FH 452-202	21848	2	4040	<input type="button" value="Clear"/>
<input type="radio"/> Unit cooler 2		0	0	0	<input type="button" value="Clear"/>
<input type="radio"/> Unit cooler 3		0	0	0	<input type="button" value="Clear"/>
<input type="checkbox"/> Custom unit cooler		0	0	0	

Balance **-15412** [BTUH]



New Selection / Rating (cont)

CR Condensing Unit Balance



Step 3:

Click the 'Find Unit Coolers' Locator Bar. RAE Solutions will present the most appropriate Unit Coolers.

The Best Selection is the top choice. With the 'Unit Cooler 1' radio button on, Click on the Model of your choice. Note that that unit will be placed in the Unit Cooler 1 line.

The user can place additional Coolers into subsequent Unit Cooler Locations by clicking the radio button of the line to fill, and then clicking the model from the list above.

Clear any Unit Cooler Line by making its radio button on, and Clicking the 'Clear' button.



New Selection / Rating (cont)

SpecBuilder

When a selection is dependent on a another selection on the page, it will be displayed. Items will be grayed out or lined through if they are invalid because of other selected items.

Step 1:

Select Unit Type:

- Condenser
- Water Chiller

Step 2:

Condition: Unit type is Water Chiller (Only)

Select Cooling Solution:

- Water
- Ethylene Glycol
- Propylene Glycol

Step 3:

Condition: Cooling Solution is NOT Water (Only)

Supply Percentage Concentrate

Unit type: Water chiller

Cooling solution: Propylene glycol

Percentage concentrate: 0

For [Water Cooled](#) Unit, Click Here

For [Evaporative Cooled](#) Unit, Click Here

< Back Next > Cancel



New Selection / Rating (cont)

SpecBuilder

Step 4:

Select Base Frame:

- G-90 galvanized sheet metal 12 Ga. minimum Water Chiller
- epoxy coated structural carbon steel

Step 5:

Select Housing:

- heavy gauge G-90 Galvanized steel
- 304 stainless steel
- 316 stainless steel with 304 SS hardware

Step 6:

Condition: Housing is Heavy gauge G-90...

Select Epoxy Coated

Step 7:

Select Interconnecting Piping::

- Type L hard copper [through 4" pipe size]
- all ferrous Schedule 40 black piping with welded joints [6" pipe and larger]

Untitled - SpecBuilder - Housing and Interconnecting Piping

New Open Save Save As... Build Close Options

Base frame G-90 galvanized sheet metal 12 Ga. minimum

Housing heavy gauge G-90 galvanized steel

Epoxy coated ☐

Interconnecting piping Type L hard copper [through 4" pipe size]

< Back Next > Cancel



New Selection / Rating (cont)

SpecBuilder

Step 8:

Select Compressor Type::

- reciprocating (semi-hermetic)
- scroll (full hermetic)
- rotary screw (semi-hermetic)

Step 9:

Select Refrigerant::

- R-22
- R-404a
- R-134a
- R-407C

Step 10:

Condition: Compressor Type is Reciprocating (semi-hermetic)

Select Cylinder Unloading::

- Yes
- No

Step 11:

Condition: Cylinder Unloading is Yes

Select Cylinder Unloading text::

- an electronic signal based on return water temperature
- based on refrigerant suction pressure

Step 12:

Condition: Compressor Type is Rotary Screw (semi-hermetic)

Select Capacity Slide Valve Modulation:

- Infinite Control
- Step Control

The screenshot shows the 'Untitled - SpecBuilder - Compressor' window. The interface includes a menu bar with 'New', 'Open', 'Save', 'Save As...', 'Build', 'Close', and 'Options'. The main area contains the following settings:

- Compressor type:** reciprocating (semi-hermetic)
- Refrigerant:** R-22
- Cylinder unloading:** Yes (selected with a radio button)
- Cylinder unloading text:** an electronic signal based on return water temperature
- Capacity slide valve modulation:** Infinite control

At the bottom of the window are three buttons: '< Back', 'Next >', and 'Cancel'. Arrows from the text blocks on the left point to the corresponding fields in the window.



New Selection / Rating (cont)

SpecBuilder

Step 13:

Select Evaporator:

- Shell and tube
- Brazed plate heat exchanger

Step 14:

Condition: Evaporator is Shell and Tube.

Select Water Side Pressure Rating:

- 250 psig [up to 30 ton loads]
- 150 psig [over 30 ton loads]

The screenshot shows the 'Untitled - SpecBuilder - Evaporator' window. The menu bar includes 'New', 'Open', 'Save', 'Save As...', 'Build', 'Close', and 'Options'. The main area has two dropdown menus: 'Evaporator' set to 'Shell and tube' and 'Water side pressure rating' set to '250 psig [up to 30 ton loads]'. At the bottom are buttons for '< Back', 'Next >', and 'Cancel'. Arrows from the text on the left point to these two dropdown menus.



New Selection / Rating (cont)

SpecBuilder

Step 15:

Select Condenser:

- Air-Cooled
- Water-Cooled
- Evaporative-Cooled

Step 16:

Select Condenser Design:

- Packaged System
- Remote Condenser

Step 17:

Select Fin Material:

- aluminum
- Copper
- phenolic coated
- Electro-coated
- acrylic coated

Step 18:

Select Casing and Tube Sheets:

- galvanized steel
- 304 stainless steel

Step 19:

Select Tube Thickness:

- .017
- .025
- .035

Untitled - SpecBuilder - Condenser

New Open Save Save As... Build Close Options

Condenser: Air-cooled

Condenser design: Packaged system

Fin material: aluminum

Casings and tube sheets: galvanized steel

Tube thickness: 0.017"

Fin thickness: 0.006"

Condenser type: Prop fans

Discharge: horizontal ☐ rain hood

Integral sub-cooling circuit: ☐ Yes ☒ No

Motor type: Open drip proof

Low ambient operation: fan cycling 20 F

☐ Flooded condenser control

☐ Heated and insulated receivers

< Back Next > Cancel



New Selection / Rating (cont)

SpecBuilder

Step 20:

Select Fin Thickness:

- .006
- .008
- .010

Step 21:

Select Condenser Type:

- Prop Fans
- Centrifugal Blowers

Step 22:

Condition: Condenser Type is Centrifugal Blowers.

Select Discharge::

- horizontal
- vertical

Step 23:

Condition: Condenser Type is Centrifugal Blowers.

Select RainHood

Step 24:

Select Integral sub-cooling circuit:

- Yes
- No

Untitled - SpecBuilder - Condenser

New Open Save Save As... Build Close Options

Condenser Air-cooled

Condenser design Packaged system

Fin material aluminum

Casings and tube sheets galvanized steel

Tube thickness 0.017"

Fin thickness 0.006"

Condenser type Prop fans

Discharge horizontal ☐ rain hood

Integral sub-cooling circuit ☐ Yes ☒ No

Motor type Open drip proof

Low ambient operation fan cycling 20 F

☐ Flooded condenser control

☐ Heated and insulated receivers

< Back Next > Cancel



New Selection / Rating (cont)

SpecBuilder

Step 25:

Select Motor Type:

- Open Drip Proof
- Totally enclose - air over
- Severe duty rated

Step 26:

Select Low Ambient Operation:

- fan cycling
- variable speed control on last stage

Step 27:

Select Low Ambient Operation Temperature:

- 20F
- 0F

Step 28:

Select Flooded Condenser Control:

Step 29:

Condition: Flooded Condenser Control is Checked On.

Select Heated and Insulated Receivers:

Condenser	Air-cooled	
Condenser design	Packaged system	
Fin material	aluminum	
Casings and tube sheets	galvanized steel	
Tube thickness	0.017"	
Fin thickness	0.006"	
Condenser type	Prop fans	
Discharge	horizontal	<input type="checkbox"/> rain hood
Integral sub-cooling circuit	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Motor type	Open drip proof	
Low ambient operation	fan cycling	20 F
	<input type="checkbox"/> Flooded condenser control	
	<input type="checkbox"/> Heated and insulated receivers	

< Back Next > Cancel



New Selection / Rating (cont)

SpecBuilder

Step 30:

Condition: Condenser is water-cooled.
Select Condenser water regulating valves:

- Yes
- No

Step 31:

Condition: Condenser is water-cooled.
Select Heat exchanger design:

- shell and tube
- brazed plate

Untitled - SpecBuilder - Condenser

New Open Save Save As... Build Close Options

Condenser Water-cooled

Condenser water regulating valves ☐ Yes ☒ No mounted at factory

Heat exchanger design shell and tube

< Back Next > Cancel



New Selection / Rating (cont)

SpecBuilder

Step 32:

Condition: Condenser is Evaporative-cooled.

Select Condenser material:

- G-235 galvanize sump
- 304 stainless steel sump
- 304 stainless steel water-touch (sump and wet surfaces)
- All stainless constructions (sump, wet surfaces, cabinet)

Step 33:

Condition: Condenser is Evaporative-cooled.

Select Head pressure control:

- 2 speed fan motors
- VFD fan control

Step 34:

Condition: Condenser is Evaporative-cooled.

Select Condenser Coil:

- Steel Tube
- Copper Tube

Step 35:

Condition: Condenser is Evaporative-cooled.

Select Acoustic attenuators:

- Intake
- Discharge

Untitled - SpecBuilder - Condenser

New Open Save Save As... Build Close Options

Condenser: Evaporative-cooled

Condenser material: G-235 galvanize sump

Head pressure control: 2 speed fan motors

Condenser coil: Steel tube

Acoustic attenuators (shipped loose): ☐ Intake ☐ Discharge

< Back Next > Cancel



New Selection / Rating (cont)

SpecBuilder

Step 35:

Condition: Unit type is Condenser.
Select Liquid Line Solenoid

Step 36:

Condition: Unit type is Condenser.
Select Liquid Line filter drier with sight glass

Step 37:

Condition: Unit type is Condenser.
Condition: Liquid Line Filter drier with sight glass is Yes.

Select Liquid Line filter drier with sight glass type:

- sealed type
- replaceable core type
- replaceable core type with 3-valve bypass

Step 38:

Condition: Unit type is Water Chiller.
Select Expansion Valve:

- thermostatic
- electronic with internal controller

Untitled - SpecBuilder - Refrigerant Circuit

New Open Save Save As... Build Close Options

Liquid line solenoid	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Liquid line filter drier with sight glass	<input checked="" type="radio"/> Yes <input type="radio"/> No	replaceable core type
Expansion valve		thermostatic
Pressure relief device	<input type="checkbox"/> High side <input type="checkbox"/> Low side	
Suction accumulators	no suction accumulator	Recommended for low temperature applications
Hot gas discharge muffler	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Oil separator with oil reservoir	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Suction filter	<input type="radio"/> Yes <input checked="" type="radio"/> No	sealed type
Vibrators mounted		Discharge only
Hot-gas bypass	<input type="radio"/> Yes <input checked="" type="radio"/> No	
		standard design
		4.1 Tons
Liquid receiver per circuit		5 in. x 14 in.
	<input type="checkbox"/> with hand valves	

< Back Next > Cancel



New Selection / Rating (cont)

SpecBuilder

Step 39:

Select Pressure Relief Device

- High side
- Low side

Step 40:

Select Suction Accumulators

- no suction accumulator
- without heat exchanger
- with heat exchanger

Step 41:

Select Hot gas discharge muffler:

- Yes
- No

Step 42:

Select Oil separator with oil reservoir:

- Yes
- No

Step 43:

Select Suction Filter:

- Yes
- No

Step 44:

Condition: Suction Filter is Yes.

Select Suction filter type:

- sealed type
- replaceable core type
- replaceable core type with 3-valve bypass

Untitled - SpecBuilder - Refrigerant Circuit

New Open Save Save As... Build Close Options

Liquid line solenoid	<input checked="" type="radio"/> Yes <input type="radio"/> No	
Liquid line filter drier with sight glass	<input checked="" type="radio"/> Yes <input type="radio"/> No	replaceable core type
Expansion valve	thermostatic	
Pressure relief device	<input type="checkbox"/> High side <input type="checkbox"/> Low side	
Suction accumulators	no suction accumulator	Recommended for low temperature applications
Hot gas discharge muffler	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Oil separator with oil reservoir	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Suction filter	<input type="radio"/> Yes <input checked="" type="radio"/> No	sealed type
Vibrators mounted	Discharge only	
Hot-gas bypass	<input type="radio"/> Yes <input checked="" type="radio"/> No	
	standard design	
	4.1 Tons	
Liquid receiver per circuit	5 in. x 14 in.	
	<input type="checkbox"/> with hand valves	

< Back Next > Cancel



New Selection / Rating (cont)

SpecBuilder

Step 45:

Select Vibrasorbers mounted:

- Discharge only
- Suction only
- Suction and discharge

Step 46:

Select Hot gas bypass:

- Yes
- No

Step 47:

Condition: Hot gas bypass is Yes.

Select Hot-gas bypass design:

- standard design
- desuper heated (includes suction accumulator and liquid injection valve)

Step 48:

Condition: Hot gas bypass is Yes.

Select Hot-gas bypass Capacity:

- 4.1 Tons
- 11.3 Tons
- 25 Tons

Step 49:

Select Liquid Receiver per circuit:

- 5 in. x 14 in.
- 6 in. x 28 in.
- 6 in. x 36 in.
- 8 in. x 36 in.
- 8 in. x 60 in.
- 10 in. x 60 in.
- 12 in. x 60 in.

Step 50:

Select with Hand Valves

Untitled - SpecBuilder - Refrigerant Circuit

New Open Save Save As... Build Close Options

Liquid line solenoid ☒ Yes ☐ No

Liquid line filter drier with sight glass ☒ Yes ☐ No replaceable core type

Expansion valve thermostatic

Pressure relief device ☐ High side ☐ Low side

Suction accumulators no suction accumulator Recommended for low temperature applications

Hot gas discharge muffler ☐ Yes ☒ No

Oil separator with oil reservoir ☐ Yes ☒ No

Suction filter ☐ Yes ☒ No sealed type

Vibrasorbers mounted Discharge only

Hot-gas bypass ☐ Yes ☒ No

standard design

4.1 Tons

Liquid receiver per circuit 5 in. x 14 in.

☐ with hand valves

< Back Next > Cancel



New Selection / Rating (cont)

SpecBuilder

Step 51:

Select Controls.

- Electronic
- DDC Control

Step 52:

Select Power Connection:

- Single Point
- Dual Point

Step 53:

Select Disconnect Option:

- Yes
- No

Step 54:

Condition: Disconnect Option is Yes.

Select Disconnect Option text

- Fused
- Non-Fused

Step 55:

Select Indicating Lights

- Compressor Status
- Failure Status
- Pump Status

Untitled - SpecBuilder - Controls

New Open Save Save As... Build Close Options

Controls: Electronic

Power connection: Single Point

Disconnect option: ☐ Yes ☒ No Non-fused

Indicating lights: ☐ Compressor Status ☐ Failure Status ☐ Pump Status

Molded case disconnect switch: ☐ Yes ☒ No

Compressor lead-lag switch: Manual

Unit phase monitor: ☐ Yes ☒ No For Entire Unit

Refrigerant and oil gauges: ☐ Yes ☒ No

LCD: ☐ Yes ☒ No

☐ Demand Limiting Setpoint

☐ Chilled Water Setpoint

☐ Compressor Operating Amps

< Back Next > Cancel



New Selection / Rating (cont)

SpecBuilder

Step 56:

Select Molded case disconnect switch

- Yes
- No

Step 57:

Select Compressor lead-lag switch:

- Manual
- Auto

Step 58:

Select Unit Phase Monitor:

- Yes
- No

Step 59:

Condition: Unit Phase Monitor is Yes.

Select Unit Phase Monitor application

- For Entire Unit
- Per Compressor

The screenshot shows the 'Untitled - SpecBuilder - Controls' window with the following settings:

- Controls: Electronic
- Power connection: Single Point
- Disconnect option: ☐ Yes ☒ No (Non-fused)
- Indicating lights: ☐ Compressor Status, ☐ Failure Status, ☐ Pump Status
- Molded case disconnect switch: ☐ Yes ☒ No
- Compressor lead-lag switch: Manual
- Unit phase monitor: ☐ Yes ☒ No (For Entire Unit)
- Refrigerant and oil gauges: ☐ Yes ☒ No
- LCD: ☐ Yes ☒ No
- ☐ Demand Limiting Setpoint
- ☐ Chilled Water Setpoint
- ☐ Compressor Operating Amps

Navigation buttons at the bottom: < Back, Next >, Cancel.



New Selection / Rating (cont)

SpecBuilder

Step 60:

Select Refrigerant and Oil Gauges

- Yes
- No

Step 61:

Condition: Controls is DDC Controls.

Select LCD:

- Yes
- No

Step 62:

Condition: Controls is DDC Controls.

Condition: LCD is Yes.

Select LCD for:

- Demand Limiting Setpoint
- Chilled Water Setpoint
- Compressor Operating Amps

Untitled - SpecBuilder - Controls

New Open Save Save As... Build Close Options

Controls: Electronic

Power connection: Single Point

Disconnect option: ☐ Yes ☒ No Non-fused

Indicating lights: ☐ Compressor Status ☐ Failure Status ☐ Pump Status

Molded case disconnect switch: ☐ Yes ☒ No

Compressor lead-lag switch: Manual

Unit phase monitor: ☐ Yes ☒ No For Entire Unit

Refrigerant and oil gauges: ☐ Yes ☒ No

LCD: ☐ Yes ☒ No

☐ Demand Limiting Setpoint

☐ Chilled Water Setpoint

☐ Compressor Operating Amps

< Back Next > Cancel



New Selection / Rating (cont)

SpecBuilder

Step 63:

Select Integral Pump Package

Step 64:

Condition: Integral Pump Package is Checked.

Select Design Criteria:

- Single
- Dual

Step 65:

Condition: Integral Pump Package is Checked.

Condition: Design Criteria is Dual

Select Dual Pump Option:

- Primary/Standby Design (100% Redundancy)
- Primary/Secondary (Simultaneous Operation)

Step 66:

Condition: Integral Pump Package is Checked.

Select Package Design:

- Integral with Chiller
- Stand Alone (Separate Base)

Step 67:

Condition: Integral Pump Package is Checked.

Select Pump Speed:

- 1750 RPM
- 3500 RPM

Untitled - SpecBuilder - Pump Package

New Open Save Save As... Build Close Options

Integral pump package ☒

Design criteria Single

Dual pump option Primary/Standby Design (100% Redundancy)

Package design Integral with Chiller

Pump speed 1750 RPM

Pump type End-Suction Centrifugal

Air separator ☐ In-Line

Expansion tank ☐ Diaphragm Type

Suction strainer Basket Type

Suction trim Ball Valve, through 2 1/2" Pipe Size

Mass storage tank ☐ Open, Vented Tank

Storage tank volume 0 Up to 1000 gallons

Storage tank rating Non-ASM 75 psi Pressure rating

< Back Next > Cancel



New Selection / Rating (cont)

SpecBuilder

Step 68:

Condition: Integral Pump Package is Checked.

Select Pump Type

- End-Suction Centrifugal
- In-Line

Step 69:

Condition: Integral Pump Package is Checked.

Select Air Separator Option:

Step 70:

Condition: Integral Pump Package is Checked.

Condition: Air Separator Option is Checked.

Select Air Separator configuration

- In-Line
- Tangential

Step 71:

Condition: Integral Pump Package is Checked.

Select Expansion Tank:

Step 72:

Condition: Integral Pump Package is Checked.

Condition: Expansion Tank is Checked.

Select Expansion Tank configuration

- Diaphragm Type
- Compression Type

Untitled - SpecBuilder - Pump Package

New Open Save Save As... Build Close Options

Integral pump package ☒

Design criteria Single

Dual pump option Primary/Standby Design (100% Redundancy)

Package design Integral with Chiller

Pump speed 1750 RPM

Pump type End-Suction Centrifugal

Air separator ☐ In-Line

Expansion tank ☐ Diaphragm Type

Suction strainer Basket Type

Suction trim Ball Valve, through 2 1/2" Pipe Size

Mass storage tank ☐ Open, Vented Tank

Storage tank volume 0 Up to 1000 gallons

Storage tank rating Non-ASM 75 psi Pressure rating

< Back Next > Cancel



New Selection / Rating (cont)

SpecBuilder

Step 73:

Condition: Integral Pump Package is **Checked**.

Select Suction Strainer

- Basket Type
- Wye Type

Step 74:

Condition: Integral Pump Package is **Checked**.

Select Suction Trim

- Ball Valve, through 2 1/2" Pipe Size
- Butterfly valve, 3" pipe size and larger

Untitled - SpecBuilder - Pump Package

New Open Save Save As... Build Close Options

Integral pump package ☒

Design criteria Single

Dual pump option Primary/Standby Design (100% Redundancy)

Package design Integral with Chiller

Pump speed 1750 RPM

Pump type End-Suction Centrifugal

Air separator ☐ In-Line

Expansion tank ☐ Diaphragm Type

Suction strainer Basket Type

Suction trim Ball Valve, through 2 1/2" Pipe Size

Mass storage tank ☐ Open, Vented Tank

Storage tank volume 0 Up to 1000 gallons

Storage tank rating Non-ASM 75 psi Pressure rating

< Back Next > Cancel



New Selection / Rating (cont)

SpecBuilder

Step 75:

Condition: Integral Pump Package is Checked.

Select Mass Storage Tank

Step 76:

Condition: Integral Pump Package is Checked.

Condition: Mass Storage Tank is Checked.

Select Mass Storage Tank configuration

- Open, Vented Tank
- Closed, Pressurized Tank

Step 77:

Condition: Integral Pump Package is Checked.

Condition: Mass Storage Tank is Checked.

Select Storage Tank Volume.

Step 78:

Condition: Integral Pump Package is Checked.

Condition: Mass Storage Tank is Checked.

Select Storage Tank Ratings

- Non-ASM
- ASM Rated
- 75 psi
- 125 psi

Integral pump package ☒

Design criteria Single

Dual pump option Primary/Standby Design (100% Redundancy)

Package design Integral with Chiller

Pump speed 1750 RPM

Pump type End-Suction Centrifugal

Air separator ☐ In-Line

Expansion tank ☐ Diaphragm Type

Suction strainer Basket Type

Suction trim Ball Valve, through 2 1/2" Pipe Size

Mass storage tank ☐ Open, Vented Tank

Storage tank volume 0 Up to 1000 gallons

Storage tank rating Non-ASM 75 psi Pressure rating

< Back Next > Cancel



New Selection / Rating (cont)

SpecBuilder

Step 79:

Select Corrosion Resistance/Hazardous Duty Options

Step 80:

Condition: Corrosion Resistance/Hazardous Duty Options is Checked.

Select Cabinetry and Structural Base

- 304 Stainless
- 316 Stainless
- Epoxy Coated Inside and Out

Step 81:

Condition: Corrosion Resistance/Hazardous Duty Options is Checked.

Select Condenser Casings

- 304 Stainless
- Epoxy Coated

Untitled - SpecBuilder - Corrosion Resistance/Hazardous Duty Options

New Open Save Save As... Build Close Options

☒ **Corrosion resistance/hazardous duty options**

Cabinetry and structural base 304 Stainless

Condenser casings 304 Stainless

Condenser fins Aluminum

Control enclosure NEMA 7

Hazardous duty classification ☐

< Back Next > Cancel



New Selection / Rating (cont)

SpecBuilder

Step 82:

Condition: Corrosion Resistance/Hazardous Duty Options is Checked.

Select Condenser Fins

- Aluminum
- Copper
- Phenolic Coated
- Electro-Coated
- Acrylic Coated

Step 83:

Condition: Corrosion Resistance/Hazardous Duty Options is Checked.

Select Control Enclosure

- NEMA 7
- NEMA 4X
- NEMAX with Purge Manifold

Step 84:

Condition: Corrosion Resistance/Hazardous Duty Options is Checked.

Select Hazardous Duty Classification

Untitled - SpecBuilder - Corrosion Resistance/Hazardous Duty Options

New Open Save Save As... Build Close Options

Corrosion resistance/hazardous duty options ☒

Cabinetry and structural base 304 Stainless

Condenser casings 304 Stainless

Condenser fins Aluminum

Control enclosure NEMA 7

Hazardous duty classification ☐

< Back Next > Cancel



New Selection / Rating (cont)

SpecBuilder

Step 85:

Select Acoustic Treatment

Step 86:

Condition: Acoustic Treatment is Checked.

Select Compressors

Step 87:

Condition: Acoustic Treatment is Checked

Condition: Compressors is Checked

Select Compressor Covering

- None
- Compressor Wraps
- Acoustically Lined Compressor House

Step 88:

Condition: Acoustic Treatment is Checked

Condition: Compressors is Checked

Select Install compressor on spring isolators

Option	Checked	Value
Acoustic Treatment	<input checked="" type="checkbox"/>	
Compressors	<input checked="" type="checkbox"/>	
Compressor covering		None
Install compressor on spring isolators	<input type="checkbox"/>	
Condenser fans	<input checked="" type="checkbox"/>	850 RPM
18" acoustic perimeter shroud	<input type="checkbox"/>	



New Selection / Rating (cont)

SpecBuilder

Step 89:

Condition: Acoustic Treatment is Checked.
Select Condenser Fans

Option	Value
Acoustic Treatment	<input checked="" type="checkbox"/>
Compressors	<input checked="" type="checkbox"/>
Compressor covering	None
Install compressor on spring isolators	<input type="checkbox"/>
Condenser fans	850 RPM
18" acoustic perimeter shroud	<input type="checkbox"/>

Step 90:

Condition: Acoustic Treatment is Checked

Condition: Condenser fans is Checked

Select Condenser fans speed

- 850 RPM
- Low Speed Centrifugal

Step 91:

Condition: Acoustic Treatment is Checked.
Select 18" Acoustic Perimeter Shroud



New Selection / Rating (cont)

SpecBuilder

Step 92:

Select Waterside Economizer

Step 93:

Select Additional Warranty

Step 94:

Select Factory Supervised Startup

The screenshot shows a software window titled "Untitled - SpecBuilder - Other". The window has a menu bar with the following options: New, Open, Save, Save As..., Build, Close, and Options. The main content area contains three selection options, each with a checkbox:

- Waterside economizer ☐
- Additional warranty ☐ Additional 4 yr warranty on parts for compressor only
- Factory supervised startup ☐

At the bottom of the window, there are three buttons: "< Back", "Next >", and "Cancel".

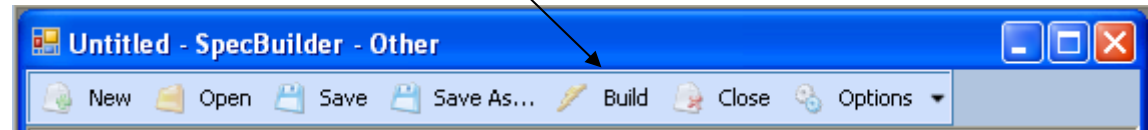


New Selection / Rating (cont)

SpecBuilder

Step 95:

Select Build to create the specification document



Additional:

NEW: Select **New** to start a new specification document.

OPEN: Select **Open** to retrieve a previously saved specification document.

SAVE: Select **Save** to save the current specification document

SAVE AS: Select **Save As** to save the current specification document to a file name that is different from what it was retrieved from.

CLOSE: Select **Close** to close the current document. You will be asked to save the current specification document.