



Carlyle Compressor Company

www.carlylecompressor.com

Carlyle Solutions

Compressor Selection & Optimization software

Product Installation Manual

Date: March 2006

Covers Downloading Files from Website

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1. Introduction

This manual provides instructions for installing the Carlyle Compressor Selection & Optimizer software tool. This manual will provide system requirements of the tool and step-by-step installation procedure.

2. Minimum System Requirements

The current version is compatible to Microsoft Windows NT/2000/ME/XP environment. The minimum system configurations are:

Minimum System Requirements

Software

- Windows NT Workstation version 4 (Service Pack 4 or higher)
- Windows 2000 Professional
- Windows Millennium Edition (ME)
- Windows XP

Hardware:

- 300 MHz Pentium or higher processor
- 64 MB RAM (128 recommended)
- VGA- or higher-resolution monitor; Super VGA recommended
- Microsoft IntelliMouse®, or compatible pointing device
- 300 MB available disk space

3. Step-by-step installation guide

Setting up the Carlyle Solutions on a client Machine.

Follow the guidelines to install the **Carlyle Solutions** on the Client machine.

1. Download [Solutions.zip](#) from carlylecompressor.com and extract all files to a temporary directory on your hard-drive.
2. Close all open applications.
3. Remove (uninstall) all existing versions of Carlyle Solutions and Carwin software.
4. Use Windows Explorer to browse to the folder with the setup files downloaded from the website.
5. Run Setup by double clicking on the "setup.exe" icon.
6. Follow the instructions of the Setup Wizard, which will guide you through the installation.

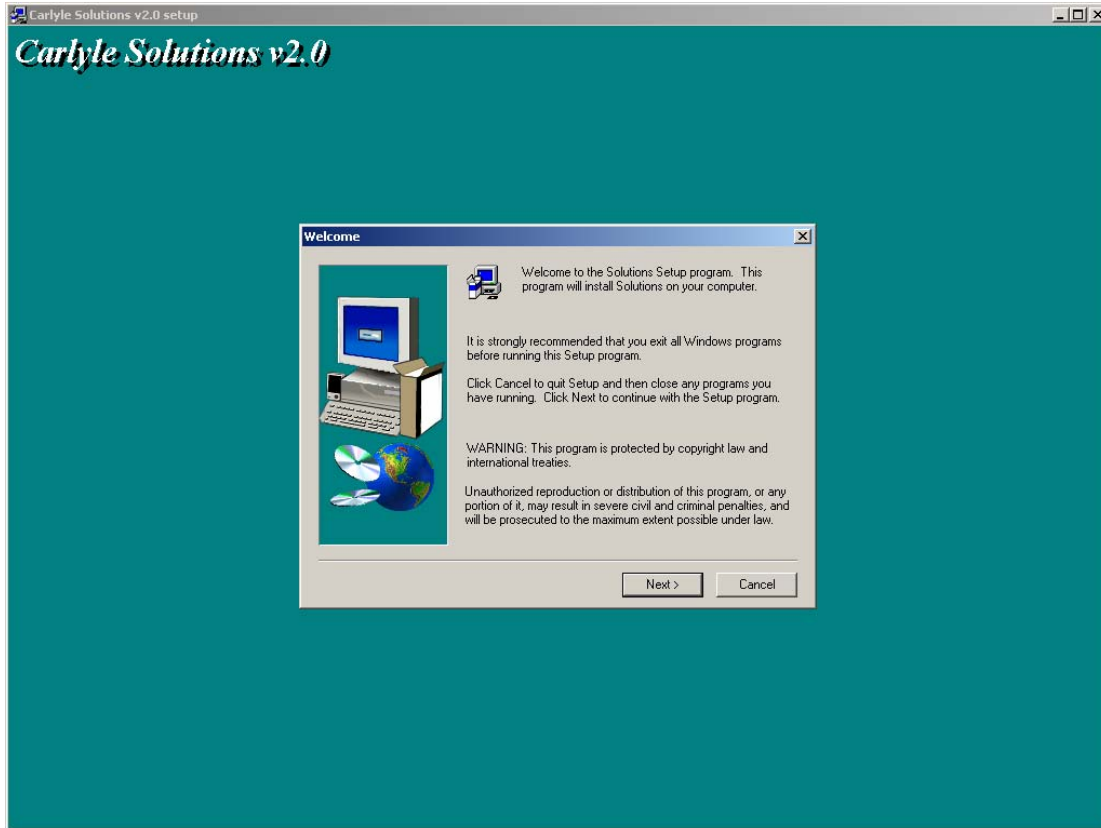


Fig 1 - Initial setup screen

Click on the **"Next>"** button

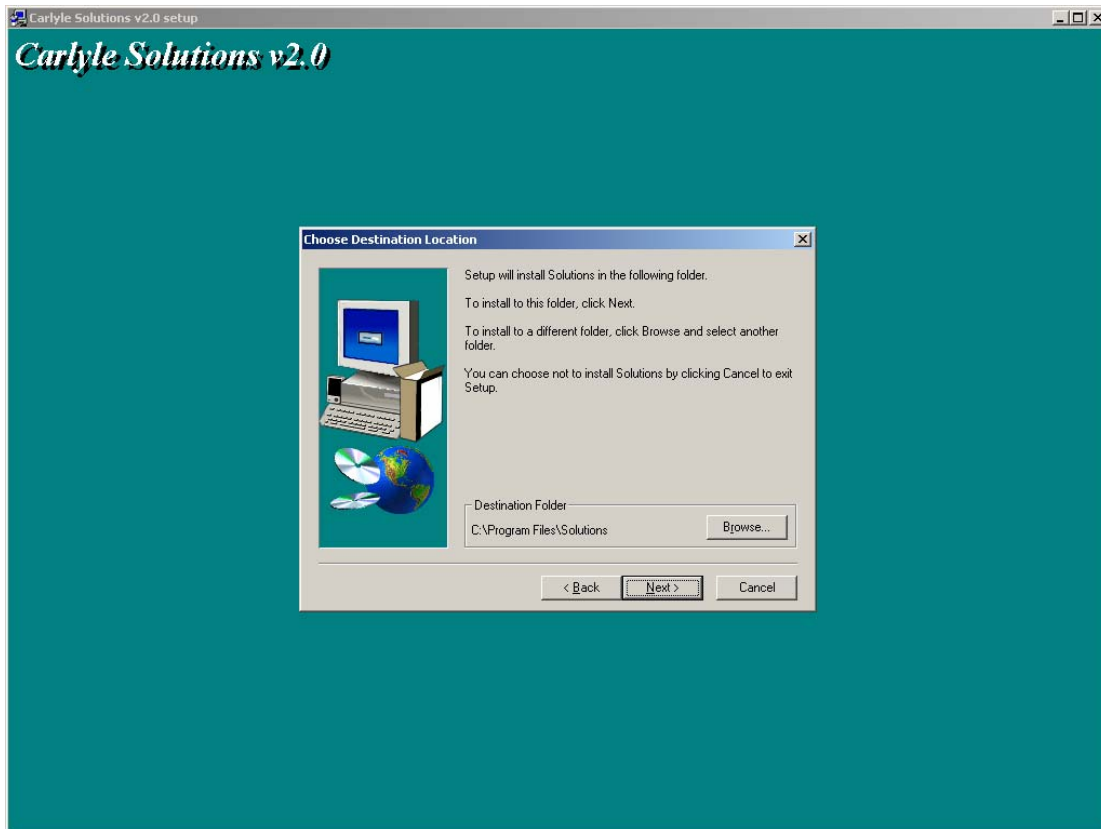


Fig 2 - Chose the installation directory

- ❑ Setup will prompt default directory.
- ❑ If a different directory is desired, click on the **"Browse"** button and choose the desired directory.
- ❑ Click on the **"Next>"** button.

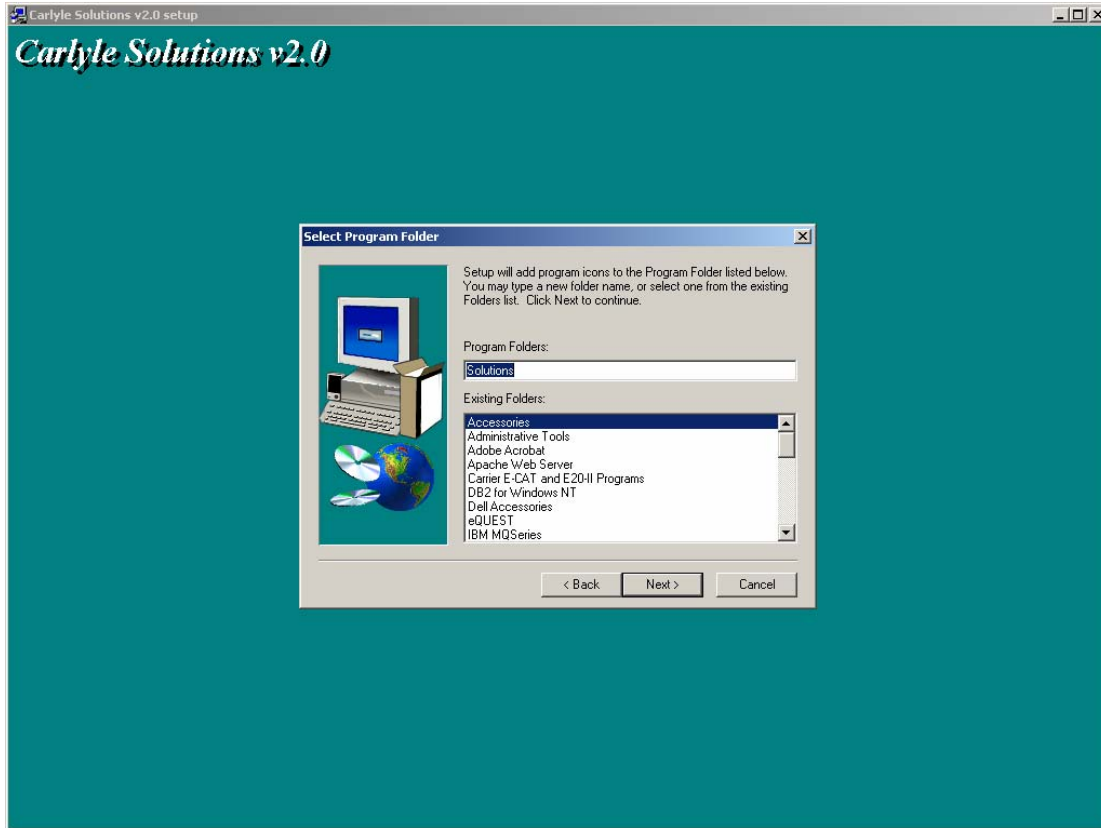


Fig 3 - Program display name and location

Choose the section for "Carlyle Solutions v2.0" to be displayed in "start menu" of windows.

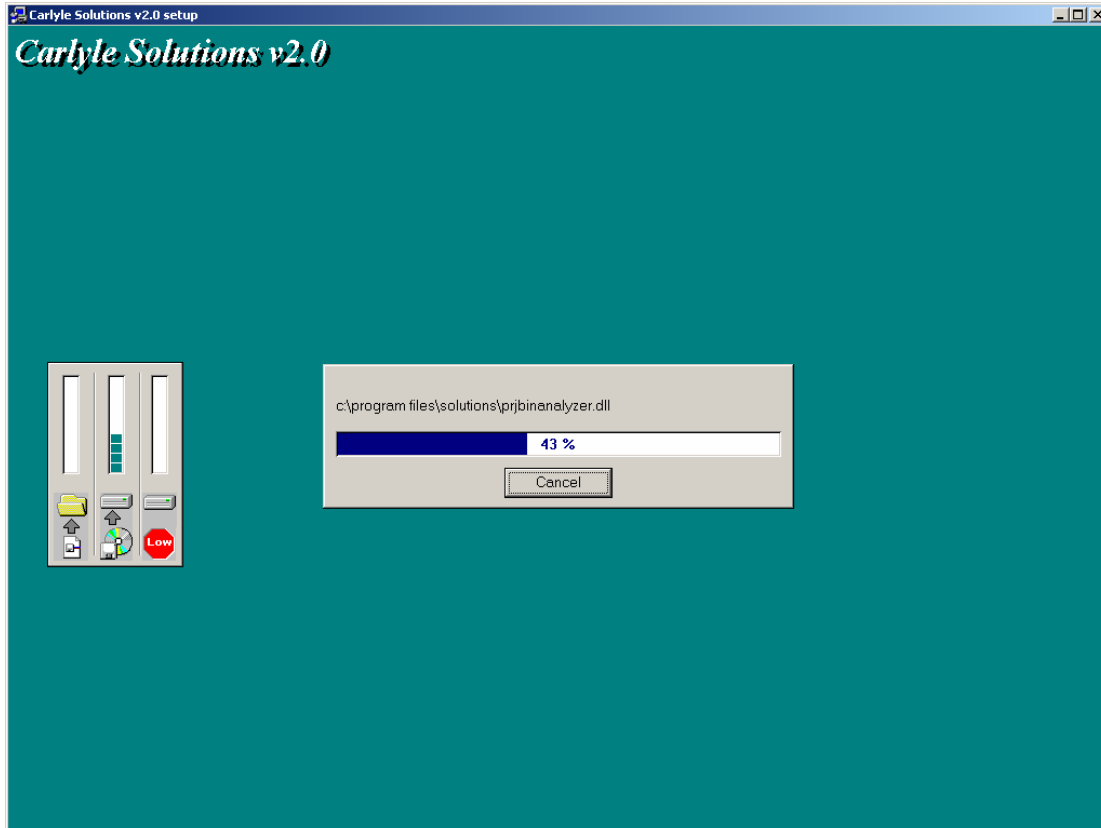


Fig 4 - Installation process

Observe that the installation process bar is progressing. The speed of installation will depend on your system configuration.

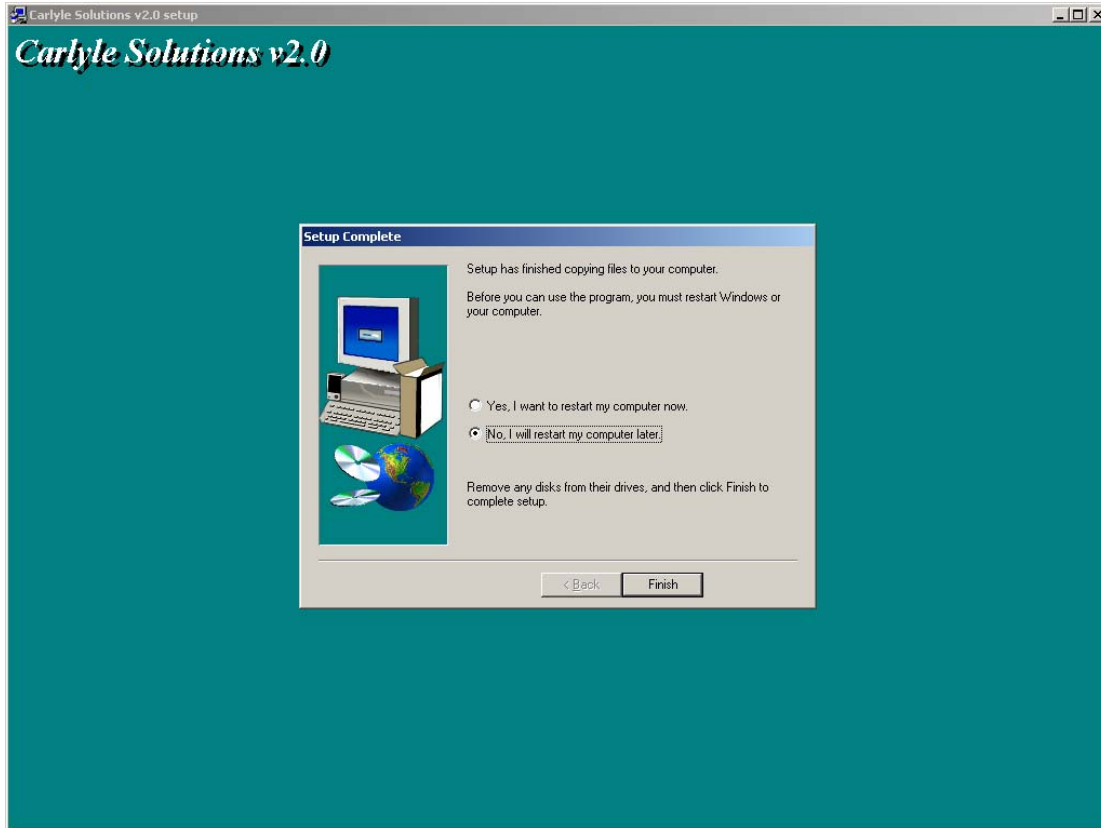


Fig 5 - Installation complete and request for restart

Please choose if you want to restart the computer now or later and click on **Finish**.

4. Post Installation scenario

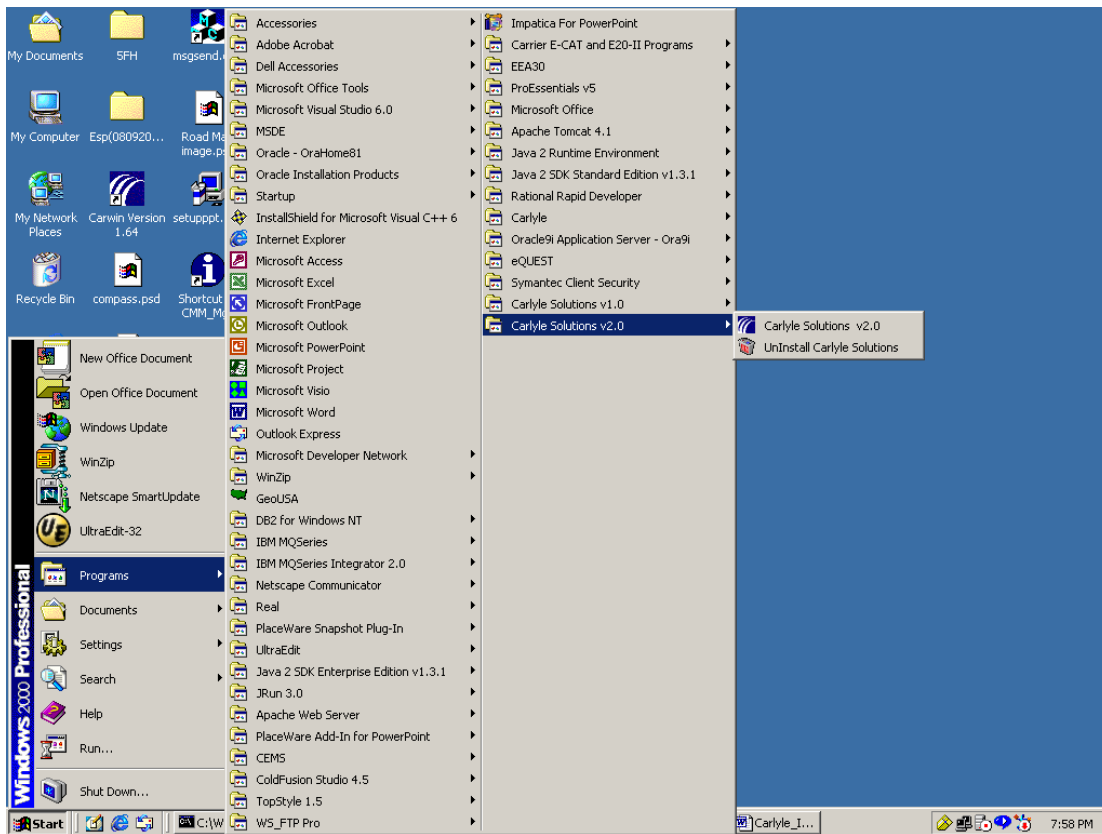


Fig 6 - Display in “Start” menu

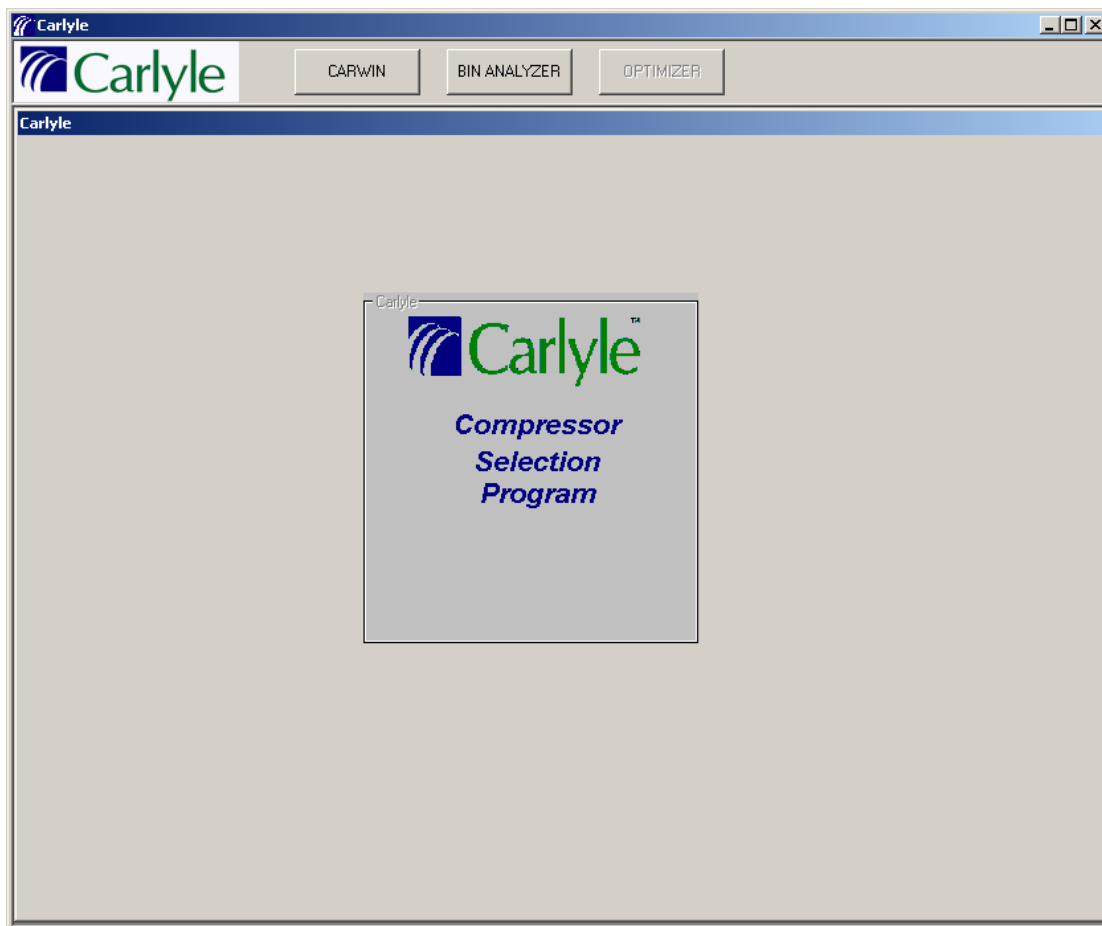


Fig 7 - Carlyle Compressor Selection Program main interface

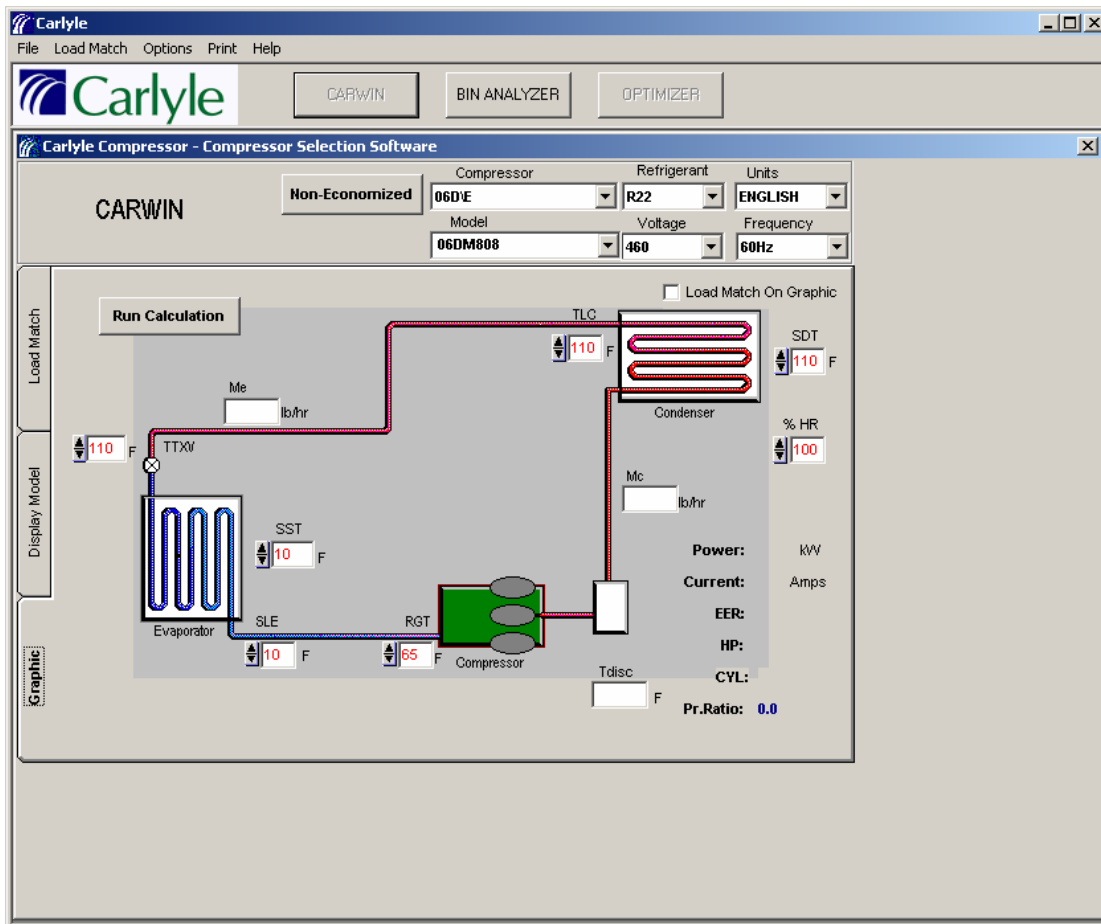


Fig 8 - Carwin Interface (before running calculations)

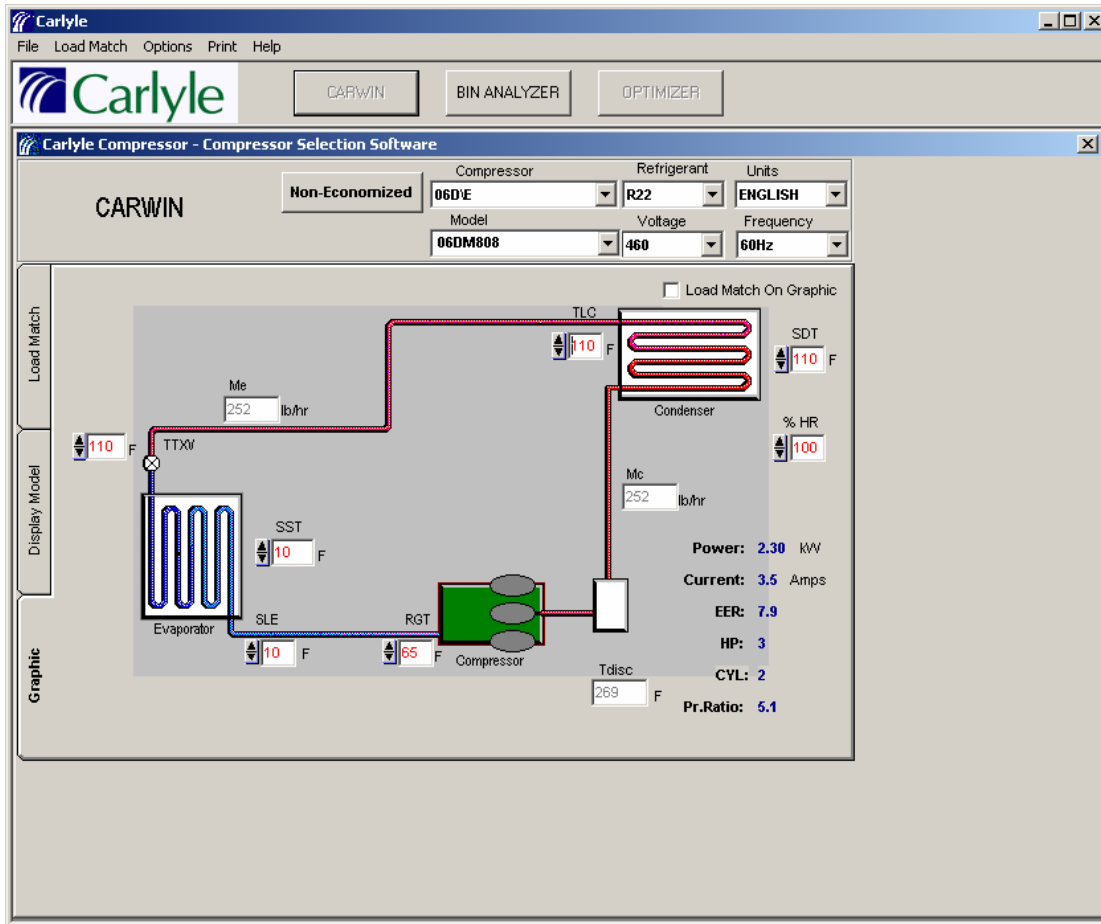


Fig 9 - Carwin interface (post running calculations)

Carlyle
File Load Match Options Print Help

Carlyle
CARWIN BIN ANALYZER OPTIMIZER

Carlyle Compressor - Compressor Selection Software

CARWIN Non-Economized

Compressor: 06D'E Refrigerant: R22 Units: ENGLISH
Model: 06DM808 Voltage: 460 Frequency: 60Hz

Load Match

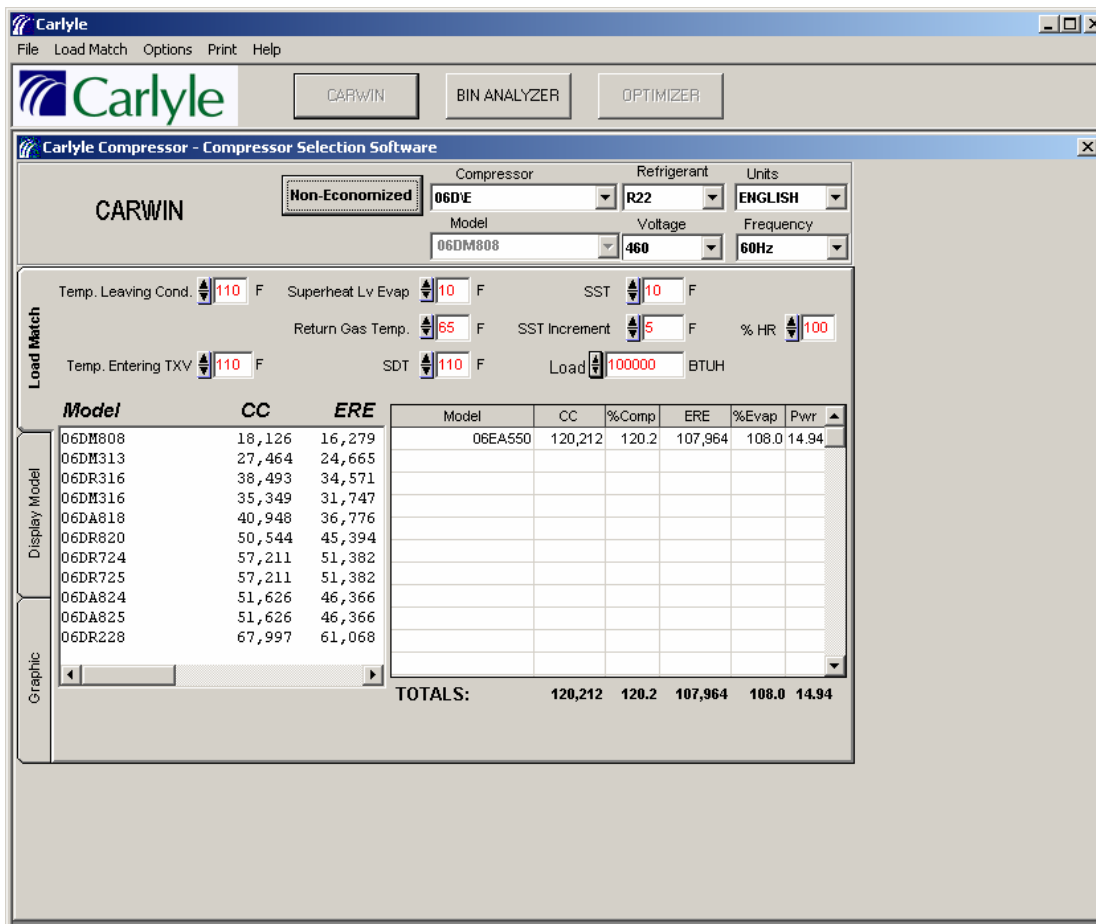
Temp. Leaving Cond. 110 F Superheat Lv Evap 10 F SST 10 F
Return Gas Temp. 65 F SST Increment 5 F % HR 100
Temp. Entering TXV 110 F SDT 110 F Even SST Increment ☒

Display Model

	10	15	20	25	30
Compressor Capacity (BTUH)	18,126	20,848	23,813	27,035	30,530
Evaporator Refrigeration Effect (BTUH)	16,279	18,933	21,869	25,112	28,689
Mass Flow (lb/hr)					
Condenser	252	291	333	380	431
Evaporator	252	291	333	380	431
Economizer	0	0	0	0	0
Power (kW)	2.30	2.41	2.52	2.60	2.67
Current (Amps)	3.5	3.6	3.7	3.8	3.9
EER	7.9	8.6	9.5	10.4	11.4
SIT (F)	N/A	N/A	N/A	N/A	N/A
Discharge Temperature (F)	269	254	240	226	214
HEAT REJECTED LOAD (BTUH)					
Oil Cooler	N/A	N/A	N/A	N/A	N/A
Condenser	25,982	29,090	32,397	35,914	39,652
Economizer Load (BTUH)	0	0	0	0	0

Graphic

Fig 10 - Carwin Models Display tab



Carlyle
 File Load Match Options Print Help

Carlyle CARWIN BIN ANALYZER OPTIMIZER

Carlyle Compressor - Compressor Selection Software

CARWIN **Non-Economized** Compressor: 06D'E Refrigerant: R22 Units: ENGLISH
 Model: 06DM808 Voltage: 460 Frequency: 60Hz

Temp. Leaving Cond. 110 F Superheat Lv Evap 10 F SST 10 F
 Return Gas Temp. 65 F SST Increment 5 F % HR 100
 Temp. Entering TXV 110 F SDT 110 F Load 100000 BTUH

Model	CC	ERE
06DM808	18,126	16,279
06DM313	27,464	24,665
06DR316	38,493	34,571
06DM316	35,349	31,747
06DA818	40,948	36,776
06DR820	50,544	45,394
06DR724	57,211	51,382
06DR725	57,211	51,382
06DA824	51,626	46,366
06DA825	51,626	46,366
06DR228	67,997	61,068

Model	CC	%Comp	ERE	%Evap	Pwr
06EA550	120,212	120.2	107,964	108.0	14.94

TOTALS: 120,212 120.2 107,964 108.0 14.94

Fig 11 - Carwin Load Match interface



CARWIN

BIN ANALYZER

OPTIMIZER

Bin Analysis

Carlyle Rack System Optimizer

Bin Analyzer

Project Name

Carlyle

Date

01/09/2004

Compressor Base Model Type

06D\E

Refrigerant Type

R22

Design Saturated Suction Temp. (SST)

10

F

Design Saturated Discharge Temp. (DSDT)

110

F

Design Return Gas Temperature (RGT)

65

F

Rack Controller SST 'DeadBand'

5

F

Comps. Equipped w/ Unl

Yes

Bin City

Custom Bin Hours

Custom Bin Hours

Design Load

100000

Btuh

Condenser Delta T

15

F

Minimum Saturated Discharge Temp.

70

F

Adjust Evap.Load Based on O.D.Ambient T.?

Yes

Oil Cooler In System?(applies to 06T only)

Addl. Subcooling Load(From Diff. Rack)

Btuh

Application Temperature

Med Temp

Frequency

60

Hz

Voltage

460

Motor Speed(RPM,applies to 5F\H only)

RPM

Motor Efficiency(applies to 5 F\H, 05T)

Economizer / SubCooler ?

No

Liquid Subcooling (Degrees F)

0

F

Variable Speed on Comp. # 1 ?

No

	Capacity	Load %
Compressor # 1	Unl ☒ Btuh	
Compressor # 2	Unl ☒ Btuh	
Compressor # 3	Unl ☒ Btuh	
Compressor # 4	Btuh	
Compressor # 5	Btuh	
Compressor # 6	Btuh	

Run Analysis

Optimize

Exit

* Compressors limited to one step of capacity control

Fig 12 - Bin Analysis Interface



CARWIN

BIN ANALYZER

OPTIMIZER

Custom Bin Hours

Bin Temperature	Hours
132	0
127	0
122	0
117	0
112	0
107	0
102	4
97	40
92	158
87	342
82	499
77	703
72	926
67	925
62	811
57	723
52	648
47	639
42	589
37	542
32	478
27	333
22	186
17	102
12	53
7	35
2	13
-3	6
-8	2
-13	1
-18	0
-23	0
-28	0
-33	0
-38	0

Total Bin Hours

8758

ADD

DELETE

MODIFY

City , State

Custom Bin Hours

OK

Exit

Rack System Optimizer

Bin Analyzer

Application Temperature

Med Temp

Frequency

60

Hz

Voltage

460

Motor Speed(RPM,applies to SFH only)

RPM

Motor Efficiency(applies to 5 F\H, 05T)

Economizer / SubCooler ?

No

Liquid Subcooling (Degrees F)

0

F

Variable Speed on Comp. # 1 ?

No

Bin Hours

Custom Bin Hours

	Compressor #	Model	Unl	Capacity	Load %
Btuh	Compressor # 1	06EA550	☒	120212	120.21
F	Compressor # 2		☒		
F	Compressor # 3		☒		
	Compressor # 4				
	Compressor # 5				
Btuh	Compressor # 6				

Optimize

Exit

sors limited to one step of capacity control

Fig 13 - Bin Analyzer / Custom Bin Hours Interface

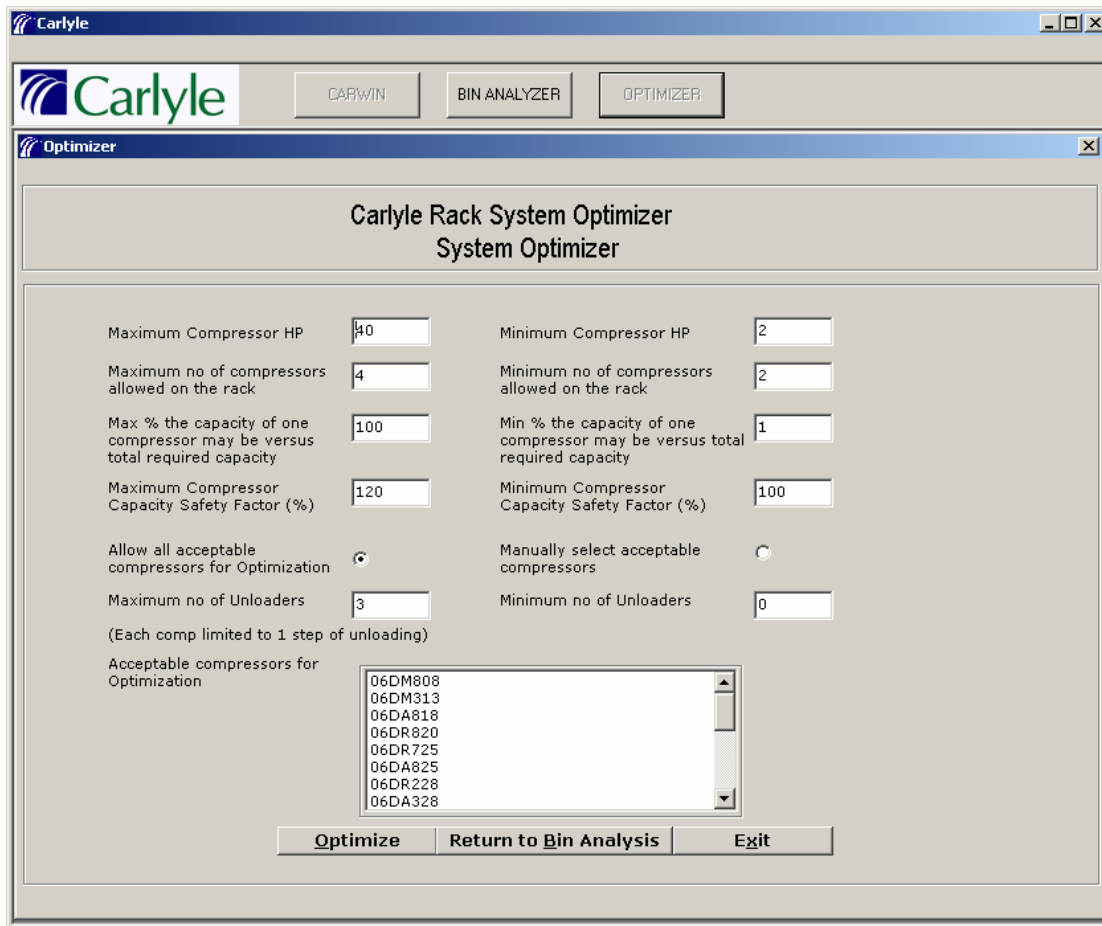


Fig 14 - Optimizer primary Interface

5. Post Installation checks

- ❑ Check for “Fluids”, “Mixtures” & “Output Sheets” folders under the directory chosen in figure 1.0
- ❑ Fluids directory should contain 81 files and mixtures should contain 38 files
- ❑ Check whether “BinAnalyser_outputTemplate.xls” and “Optimizer_outputTemplate.xls” exist under directory chosen in figure 1.0