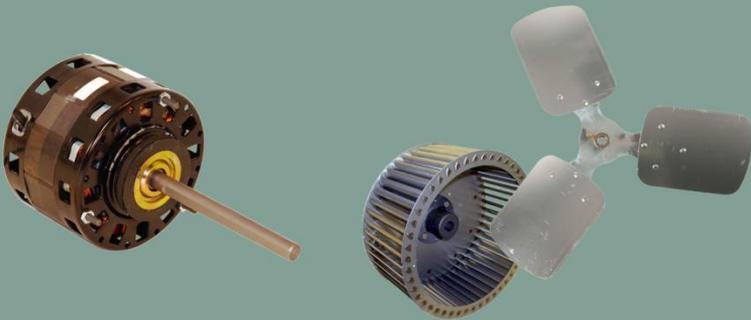




**Publishing Co., Inc.**

*The Successful Distributors' HVAC/R Information Source*

# XREF HVAC/R Encyclopedia



## USERS MANUAL

## TABLE OF CONTENTS

Introduction & Installation .....	1
Features & Controls .....	2
Search Box .....	2
Search History .....	3
Database Selection .....	4
Results Pages Controls.....	4
Combined Results Window .....	5
Word Wheel .....	5
Results Window .....	6
Searching In <b>Cross Reference</b> .....	7
Searching In The <b>Equipment Model</b> Database .....	8
Equipment Part Descriptions & Notes.....	11
Searching In The <b>Supplier</b> Database.....	11
Searching In The <b>Part Specification</b> Database.....	12
Searching for motor specifications .....	13
Searching for fan blade & blower wheel specifications .....	13
Searching for contactor specifications .....	14
Searching for compressor specifications .....	14
Searching In The <b>MSDS</b> Database .....	15
Advanced Search Tools (Boolean Terms & Wild Cards) .....	15
The File and Help Menu .....	16
Training and Support .....	16
Uniformity of Part Numbers & Exceptions.....	<b>Inside Back Cover</b>
Contact Information .....	<b>Inside Back Cover</b>
Non-Exclusive License Agreement .....	<b>Outside Back Cover</b>

## **I. Introduction**

Thank you for subscribing to the XREF™ HVAC/R Encyclopedia. You have now joined the ranks of 700+ happy subscribers throughout North America and Canada. The internal design goes far beyond traditional software data searches by indexing every word and number into large searchable databases. The number of times any word or part number appears is also kept track of, allowing XREF™ to recall any information in seconds upon request. In 30 minutes, you will master the basics of utilizing this program and save yourself endless hours in future cross-referencing endeavors because XREF™ Encyclopedia is the HVAC/R industry's ULTIMATE UNBIASED CROSS-REFERENCE!

There are 7 parts to this program: Cross Reference, Equipment Model, Supplier, Part Specification, Abbreviations & Codes, MSDS, and the Help section. If you are looking for part number to part number replacements (elements, motors, switches, controls, compressors, contactors, fan blades, blower wheels, etc.), you MUST be in the Cross Reference database. If you are looking for a part for a particular HVAC/R model # or commercial icemaker, then you need to be in the Equipment Model database. To find your area's supplier of a particular brand, use the Supplier database. To look up only part specifications, click on the Part Specification database. Any abbreviations or part codes can be found in the Abbreviations & Codes database. MSDS contains printable Material Safety Data Sheets relevant to the HVAC/R industry.

## **II. Installation**

### **Requirements**

- IBM Compatible PC
- Windows XP/Vista/7/8/10
- CD ROM drive
- Bi-directional parallel port or USB port

### **Installation Procedure**

- Turn your computer on and set to correct date and time
- Insert XREF™ Encyclopedia CD into your CD drive
- InstallShield will guide you through the install procedure
- If auto run does not initiate, navigate to the CD ROM drive, right click on the drive and select 'explore' or 'open', and double click on setup.exe
- Plug the attached dongle into your computer's parallel or USB port when prompted

- Wait for Windows to say that the hardware is installed and ready for use (Windows 8 & 10, wait 15 seconds after plugging in the dongle)
- Click OK and if a window is displayed and contains a serial number, click OK and then click “Finish” to launch the XREF Encyclopedia program

## Launching XREF™ Encyclopedia

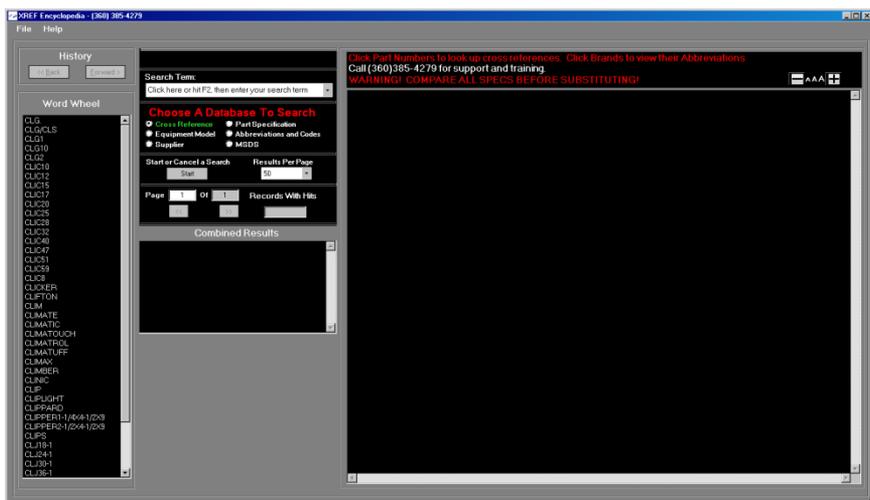
Double click on your desktop’s “XREF HVAC” icon during installation) to get started



(created

## III. Program Window Features and Controls

Let’s begin by first getting acquainted with the program window:

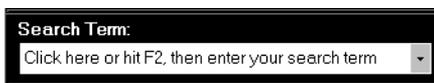


There are three main areas to get familiar with: the Word Wheel, the Control Surface, and the Results window. Each area has the ability to be manipulated in some way to return relevant search results.

The main interface for the program is the Control Surface and includes the Search Term box, the database selection controls, the results pages controls, and the History controls.

First let’s understand the search box with its functions and controls.

### Search Term Box & Making Queries

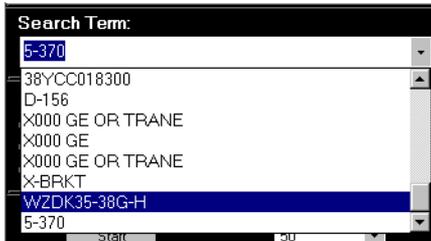


The previous is an image of the search box that you will use to enter all of your search terms. It is not case sensitive. To begin searching, click inside the box and start typing your search term(s). At any time you can return to the search Term box by hitting F2 on your keyboard or by clicking in the box. Doing so will highlight the previous search term and when you begin typing, you will delete the previous term(s). If you wish to add another term to the previous term, click the search box and then click a second time, just after the search term (as below) to remove the highlighting. Add a space and then you can type another term.



More than one term can be entered into the search box to narrow a search. You may enter a part number and a brand name (many are abbreviated such as SH for Sid Harvey's or HW for Honeywell – search in Abbreviations and Codes for a brand's abbreviation so you are sure you are entering the correct term). Entering a brand name along with a part number will return only results where the part number and brand you entered appear together in a record. See the example searches beginning on page 7 for more in-depth details about searching in the various databases.

Search history is stored in the search box drop-down list. To access it, click the small arrow in the far right of the search box (as below).



### **Search History Controls**

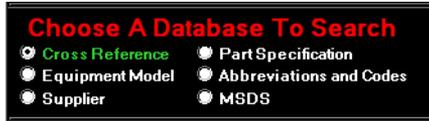
A set of History back and forward buttons can be found near the top left of the program window. The search history is cleared when you close XREF.



You may click these two buttons to move one search at a time backward and forward through your search history. These buttons can also be activated by holding down the Alt key on your keyboard and tapping the underlined letter corresponding to each of the two buttons (Alt + B for back and Alt + F for forward). Be sure to write down any searches you wish to return to if you need to close the program. If you go back to a previous history item and begin new searches from there, you will reset the search history to continue from that selected item forward (clearing

any search items that came after the one you jumped back to. See the File Menu section (Pg 16) to see how to use the Full Session Search History tool. This tool contains a list of everything you've searched for from the time you first opened the program until you close it.

## Database Selection Controls



These are the database selection controls. You will need to select the database you wish to search in. When the program opens, the focus is defaulted to the Cross Reference database. If you are opening the program to perform a part number to part number search, you need only hit F2 (or click in the search box) and begin typing your search term. Use the guide below to choose the appropriate selection for your search.

### TO FIND:

### CLICK ON:

Cross reference (part # to part #)



HVAC equipment parts lists



Suppliers & distributors



Specifications



Abbreviation definitions and codes

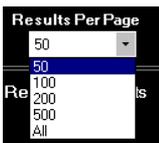


Material safety data sheets



## Results Pages Controls

To reduce the amount of time that it takes a search to return results, the entire results list is broken down into pages. Once results have been displayed in the results window, you may begin to scroll through them. If you wish to click on any part number in the results window so that it returns pertinent results, you will not need to wait for a search to finish, nor do you need to cancel the search. There are two results page controls: Results Per Page and Skip To Page.



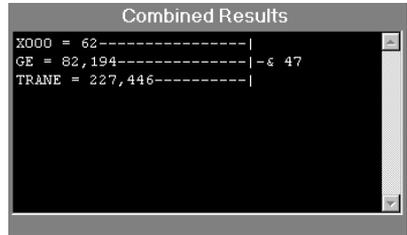
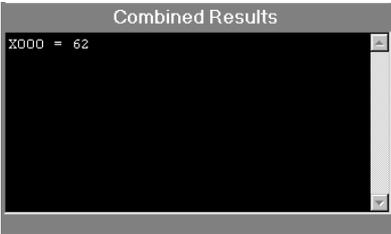
The results per page control allows you to choose how many results are displayed per page. Click inside this box to change the value. **TO KEEP SEARCHES RUNNING FASTER, IT IS BEST TO LEAVE THIS CONTROL SET TO 50.**

The Skip To Page control allows you to quickly jump ahead in the results pages. The records and pages are arranged alpha-numerically (numbers first and letters second). To get quickly to a record in the results list that starts near the end of the alphabet, such as Y36057 WCI, change the value of the page count to the last page and scroll up or down from there. This area also lists the total number of Records With Hits found.



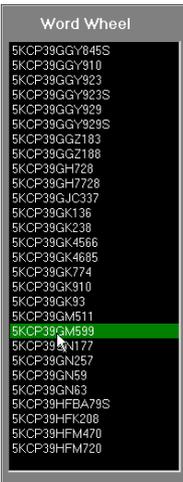
**Combined Results Window**

The Combined Results window shows you the number of hits (records) for the search term or terms you've entered. In the image below left, it shows the total number of hits after only one term was queried. The right side image shows a tree of three search terms. The search terms queried were: X000 GE OR TRANE. 62 records contain the part number X000. 82,194 records contain the brand GE. 227,446 records contain the brand TRANE. 47 records cumulatively contain X000 and GE, X000 and TRANE, and/or X000 and both GE and TRANE.



**The Word Wheel**

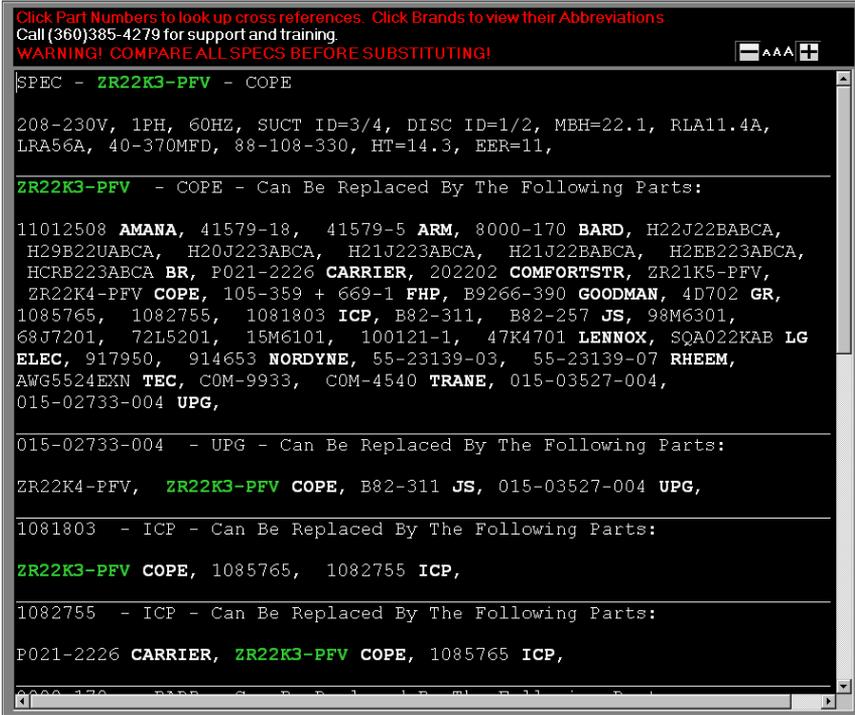
The word wheel is another control / reference feature of the program. As you type, it allows you to see what terms exist in the database you are searching in and also allows you to click on any term in the list which, in response, enters that term into the search box (below). Look here for close matches when you're not finding what you searched for. You may see that you need to enter a term differently.



If you have typed part of the number you are trying to search for and you see the full number in the Word Wheel, you need not finish typing the number. Simply click on the number in the Word Wheel and the program will auto-fill the rest of the number in the Search Box.

## The Results Window

Here is an example of the results window with a series of cross reference records.



In this case, the search term was ZR22K3-PFV, a common Copeland compressor. Instructions at the top instruct you to click on the part numbers to look up cross references. Clicking on any number will execute a cross reference search, as if you'd entered that number into the Search Term box. Clicking on a brand name abbreviation will take you to the **Abbreviations and Codes** database, executing a search for the abbreviation definition. The warning below our support phone number cautions the user to always check any available specs on a replacement part before ordering the part. Please read our Non-Exclusive XREF License Agreement on the back cover of this manual for warrantee and liability information.

Also visible in the top right of the results window is the Font Sizing Control. Clicking on the - or + boxes will reduce or increase the font to the users desired size.

If there is more than one page of results, when you reach the bottom of a page, you will see the following message:

More Results On Next Page  
Continue Scrolling With Page Down Or Mouse Wheel

Moving up and down through the results list can be accomplished in three ways.

- Use the Page Down and Page Up keys on your keyboard
- Use the scroll wheel on your mouse
- Use the scroll bar to the far right of the results window (functions the same as any other Windows program).

The program window can be resized to suit your needs. Hover over the bottom right corner of the program window until your mouse pointer becomes a double arrow. Then hold down the left mouse button and drag the mouse to resize as seen in this image.



#### IV. Searching In Cross Reference

To search in Cross Reference, first click on



to

Hit F2 on your keyboard or click in the Search Term box. Enter your part number and hit the <Enter> key or click the



button to execute the search.

Watch the search progress bar to monitor the search progress.



When the search completes, you will see



and all results pertinent to your queried term(s) will be displayed in the results window as such:

When a series of part numbers for the same brand are listed, the first number is always the newest number entered into the database. The brand that follows multiple numbers, applies to all preceding numbers. Any message that may appear in parentheses after a part number will apply to using that number as a replacement. You will see (F) if it's a functional replacement (not exact).

```
8F8C - D-156 - FASCO
1/6HP, 115V, 6.6A, 1050RPM, 1SPD, OD, CW, SE, SHADE, AUTO, 42, RES,
A=3-7/8, 1/2X3-7/8, R=2-1/2,
D-156 - ICS - Can Be Replaced By The Following Parts:
38-1054 ALLPOINTS,
D-156 - FASCO - Can Be Replaced By The Following Parts:
OML6418, BL6412 A.O.S., 1127, 2166, 1612 EMER, 3M601, 3M402 GR,
888-232 JS, EM2-671 LF, 10809 MARS, 40849, 70851 PACK, R2326 ROTOM,
A20-302 SH, MOT-6302, MOT-6304 TRANE, U-345, U-326 UNIV, 2166 US,
78-9345-94262 WESCO,
D-156 - CCC - Can Be Replaced By The Following Parts:
26-3953 ALLPOINTS,
OML6418 - A.O.S - Can Be Replaced By The Following Parts:
2166 EMER, D-156 FASCO, 3151 GE, S88-434 JS, 10814 MARS, 70260 PACK,
R2326 ROTOM, A20-302 SH, MOT-6304 TRANE, U-326 UNIV,
78-9345-94262 WESCO,
103081000 - 3M - Can Be Replaced By The Following Parts:
D-156 FASCO,
10809 (MOTOR) - MARS - Can Be Replaced By The Following Parts:
BL6412 A.O.S, D-156, D-166 FASCO, 3151 GE, S87-400 JS, EM2-671 LF,
70851 PACK, MOT-6138 TRANE, U-98, U-345 UNIV,
```

Notice that in the results, the first record(s) displayed are the records where the term that was searched for appears on the top line of the record. These records will be the specifications (when available) and/or the main record showing the direct replacements for that part number. In the previous image, records appear for CCC, Fasco, and ICS brands because all 3 companies use that part number. However, identical numbers from different brands should *not* be considered as related. It is usually obvious when two brands are using the same number for the same part. The fifth record in the previous image is cross reference information for the A.O. Smith motor OML6418. It appears in the list because the number queried is a direct replacement for it. Look at both records or compare their specs to determine if these two parts are interchangeable.

In any database, you can narrow down your search results by adding the brand you are trying to replace the part with. Perhaps you want to replace a motor from a Carrier model with an Emerson motor. Enter the motor number and replacement brand into the Search Term box as such: HC31GE232 EMER. The following results will be returned:

```
3401 - EMER - Can Be Replaced By The Following Parts:
ORM5454F, OCA10086 A.O.S, HC31GE232 CARRIER, 4UY85, 5GD94 GR,
S89-222 JS, M0T-10222 TRANE, U-182A, U-182 UNIV,
-----
5KCP39BG8162 - GE - Can Be Replaced By The Following Parts:
HC31GE232 CARRIER, 3401 EMER, 3908, 5KCP39BGY825 GE, S89-222 JS,
03908 MARS, M0T-10222 TRANE, U-182, U-182A UNIV,
-----
HC31GE232 - CARRIER - Can Be Replaced By The Following Parts:
ORM5454F A.O.S, HC33GE233 CARRIER, 3401 EMER, 3908 GE, S89-222 JS,
03908 MARS, M0T-10222 TRANE, U-182, U-182A UNIV,
-----
End Of Results
```

The third record shows replacements for that motor (note that the HC31GE232 – CARRIER appears on the top line of that record). In addition, EMER is highlighted, drawing your eye to that replacement part number. You could further research the part’s compatibility by searching for “HC31GE232 OR 3401” in the  Part Specification database. Doing so will allow you to see the two spec records for these motors side by side. We will talk further about the Part Specification database on Pg 12.

## V. Searching In The Equipment Model Database:

In the Equipment Model database you will find hundreds of thousands of HVAC/R model and commercial icemaker model parts lists. You can search the data to find out what part numbers are listed for a given unit or to see a list of units that use a particular part.

### Equipment Model Example Searches

Click on  Equipment Model to begin searching in this database.

**Example 1:** Hit F2 on your keyboard or click in the Search Term box. Enter model number **38YCC018300** into the Search Term box and hit <Enter> on your keyboard. You are presented with the parts list of this model in the results window.

At the top of each equipment model record, you will find the Model number and Brand followed by the date. The model number may be followed by the model's voltage and phase. The Date is either the date printed on the source data, if available, or the date that the model was entered into the database. Often, this field is left blank if the source data date is unknown. The Description field is a general description of what type of model the equipment is. The Source field will contain the number that was assigned to the source data by the manufacturer. As models are revised, we will change this number to reflect which revision the source data is (i.e. on York UPG model HC60301CA the source field reads "035-22821-001 B", where 035-22821-001 is the source and B is the revision).

The screenshot shows a terminal-style window with the following text:

```

Model:38YCC018300, 208-230V, 1PH Brand:CARRIER Date:
Description:10 SEER SPLIT SYSTEM HEAT PUMP Source:
SW TEMP: HH18HA280 DFRST SLND
SW PRSS: HK02EB038 LP DRIER
SW CRNK: HH18HA086 FILT
HTR CRNK: HT660001 COMP: P021-1829 ASY
***** THRM COUP
MOD IGN GRMT: P041-5102
MTR BLW PLG COMP: 312906-437
MTR IN COUP BODY: BC39DM061
MTR COND: HC31GE232 *****
FAN BLD: LA01EA026 *****
GRD FAN: 323746-401 VLV GAS
PLY MTR PLT
PLY BLW MANI
CTR ASY: 317496-721 TRANSF: HT01AW229
BOX CTR: 317407-401 INTER CTR: KHAIC0101AAA KT
CONT: HN51KB024 BOX CTR: 302495-702401
CAP DUAL: P291-2553RS BRD TRM: HY84HA074
BRRR LV: 317408-301 RLY FIR: HN61KP011
BRD DFRST: CBS0110063-02 RLY IR: HN61KL023
LUG GRND: HY90AZ009 RLY DIR: HN61KL023
THRM STRT: HC95XX020 RLY FLR: HN61KK324
HARN ASY: 317497-701 RLY BIR: HN61KK324
HOUS TRM: HY07AP007 *****
ORIF *****
BRN *****
HEAT EXC *****
  
```

Red arrows point from labels to the following fields in the screenshot:

- Model Number:** 38YCC018300
- Brand Name:** CARRIER
- Date Field:** (blank)
- Source Field:** (blank)
- Description Field:** 10 SEER SPLIT SYSTEM HEAT PUMP
- Part Abbreviation:** SW TEMP, SW PRSS, SW CRNK, HTR CRNK, MOD IGN, MTR BLW, MTR IN, MTR COND, FAN BLD, GRD FAN, PLY MTR, PLY BLW, CTR ASY, BOX CTR, CONT, CAP DUAL, BRRR LV, BRD DFRST, LUG GRND, THRM STRT, HARN ASY, HOUS TRM, ORIF, BRN, HEAT EXC
- Part Number:** HH18HA280, HK02EB038, HH18HA086, HT660001, P021-1829, P041-5102, 312906-437, BC39DM061, HC31GE232, LA01EA026, 323746-401, PLT, MANI, HT01AW229, KHAIC0101AAA, 302495-702401, HY84HA074, HN61KP011, HN61KL023, HN61KL023, HN61KK324, HN61KK324, \*\*\*\*\*

You may have noticed that some part abbreviations are not followed by a part number; our data entry forms for equipment records list many common parts in the same location on every record (i.e. motors, blades, pulleys, compressors, gas valves and components, and transformers). Some models do not contain these parts, or the part number for these components may not have been listed in the source data. This model has 4 parts sections; the functional parts followed by three sections of kits and options (scroll down). Most records consist of only one section.

**Example 2:** Click on the words for the part abbreviation “SW TEMP” at the top left. You will be taken to the Abbreviations & Codes database and shown any abbreviation record containing these words. The first record you see in the results gives you the definition for this abbreviation (SWITCH TEMPERATURE). Click  to return to the model parts list.

To find cross reference information for any part in the list, you *don't* need to switch to the Cross Reference database. That capability exists right on the parts list.

**Example 3:** Find the part number for the MTR COND in the left column of the parts list and click on the number (HC31GE232).

You are transferred to the Cross Reference database automatically and can view the part specifications (when available) as well as the list of replacement part numbers.

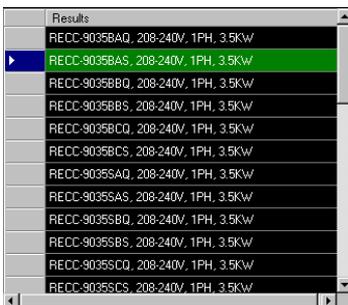
```
SPEC - HC31GE232 - CARRIER
1/12HP, 208-230V, 0.5A, 1075RPM, 18PD, TENV, PSC, AUTO, CW, SLV, 48,
VVRT, TL=5.7, 1/2X1.5, 5-370MED, STUD, 50-60HZ,
HC31GE232 - CARRIER - Can Be Replaced By The Following Parts:
0RM5454F A.O.S, HC33GE233 CARRIER, 3401 EMER, 3908 GE, 889-222 JS,
03908 MARS, M0T-10222 TRANE, U-182, U-182A UNIV,
```

To return to the equipment parts list, click on the History  button.

Perhaps you have a part sitting on the shelf that has sat for a long time. You'd like to sell this part. You can use the Equipment Model database to help move dead inventory by finding out not only what models it is used in, but also by finding out what other parts it can replace.

**Example 4:** Enter the part number **47-19554-11** into the Search Term box and hit the <Enter> key on your keyboard to see which Rheem units this limit control is used on.

The first record will appear in the results window. You can scroll down through this list to see the other equipment models this part is used in. Also, a “Results” list of models will appear beneath the Combined Results window (bottom, center).



Results
RECC-90358AQ, 208-240V, 1PH, 3.5KW
RECC-90358AS, 208-240V, 1PH, 3.5KW
RECC-90358BQ, 208-240V, 1PH, 3.5KW
RECC-90358BS, 208-240V, 1PH, 3.5KW
RECC-90358CQ, 208-240V, 1PH, 3.5KW
RECC-90358CS, 208-240V, 1PH, 3.5KW
RECC-90358AQ, 208-240V, 1PH, 3.5KW
RECC-90358AS, 208-240V, 1PH, 3.5KW
RECC-90358BQ, 208-240V, 1PH, 3.5KW
RECC-90358BS, 208-240V, 1PH, 3.5KW
RECC-90358CQ, 208-240V, 1PH, 3.5KW
RECC-90358CS, 208-240V, 1PH, 3.5KW

Clicking on any of the results listed will quickly bring those models up on screen. Once you've clicked on a model, you can use your up and down arrow keys on your keyboard to move up and down through the list in this window. Now you know which units can use this part. And clicking on this part in the results window shows which other parts it replaces.

To find a part within a parts list quicker, you can enter the model number *and* the part abbreviation at the same time into the Search Term box and the part will be highlighted in green in the results window.

**Example 5:** Type **12M12TA P1230809R COMP** into the Search Term box and hit <Enter> on your keyboard.

You are shown the parts list for this Amana room air conditioner and the compressor part abbreviation is highlighted in green in the right-hand column. Since the word comp also appears in reference to the grille, COMP is highlighted twice. Click on the compressor part number (11101508) to see its cross reference information.

### **Equipment Part Descriptions:**

You will frequently see additional information following part numbers in an equipment parts list. Abbreviations such as ASY or AS indicate that the part is an assembly or KT when there is not enough room for us to enter the full word – KIT. Pay attention to these descriptions. It could make the difference between ordering the wrong part or the right part. Look at the Lennox model OCS3-1853-5. You will see the first three parts (pressure switches) and each has a description to differentiate the three. The first SW PRSS is followed by LP (low pressure), the second has a note after the part number, DRFT (draft), and the third has HP in the part abbreviation (high pressure). If you are unsure about an abbreviation you can always click on the words (SW PRSS HP) or, if the abbreviation follows a part number (B735340 LP), click on the selection for  **Abbreviations and Codes** and type in the LP term and then hit <Enter> to see its definition. As a rule we abbreviate parts by removing the vowels.

### **Equipment Part Notes:**

If more room is needed to clearly identify a part, we will add a note (usually at the end of the parts list) and will footnote with an “N” number right after the part, such as N1, N2, etc. See Broan model 750R02 - it has many of these notes. Most refer to which serial numbers contain which part, what parts are included in a kit or assembly, or which parts are used for particular altitudes.

## **VI. Searching In The Supplier Database**

Let’s assume that you are a distributor in the state of New York and wish to locate a Carrier distributor in northwest Indiana to accommodate your customer who is doing business in Valparaiso.

**Example 6:** Click on the  **Supplier** database to select it. Type **CARRIER IN** and hit <Enter>.

The results will include locations in Michigan City, South Bend, and Valparaiso that you can contact to drop ship a part to your customer. Or search instead for **CARRIER VALPARAISO**. You will see the following record in the results window including the company name, address, contact numbers, and brands they carry (see next image).

This is what a supplier record looks like:

```
Harry Alter Co.  
656 S Washington St..  
Valparaiso IN, 46383  
  
Fax 219-531-9445  
Phone 219-531-9444  
  
CARRIER  
Totaline  
  
End Of Results
```

## VII. Searching In Part Specification

The part specifications database is an extremely useful tool for part replacement for three different reasons. First, it will allow you to see the product details for any part in that database. Secondly, it can be used to find a replacement part if you reach a dead end in the Cross Reference database. And, finally, it allows you to compare two or more part specs side-by-side.

Contained in this database are well over 100,000 spec records for blower wheels, contactors, compressors, fan blades, and motors. Of course, if you look up a part in the Cross Reference database and a spec record exists for it, it will be displayed in the results window of that database. But if you only want to see spec records, use this database to limit your results to only specifications. To see how we enter spec details, open the Help File by pressing F1 on your keyboard and skip to the section titled SPECIFICATIONS DATABASE INFO or simply browse through spec records by entering these search terms: **\*HP** to look at motors, **COMP** for compressors, **CONT** for contactors, **BLADE** for fan blades and **WHEEL** for blower wheels.

**Example 7:** Click on the **Part Specification** database to select it. Type **X000** and hit <Enter> to see this Marathon Electric motor.

```
SPEC - X000 - MEMC  
  
1/4HP, 115V, 3.4A, 1075RPM, 3SPD, OD, PSC, AUTO, BB, REV, 48Y, STUD,  
RES, A=4.25, 1/2X4, #12, L=30,
```

The details are as follows: ¼ horsepower, 115 volts, 3.4 amps, 1,075 revolutions per minute, 3 speeds, open dripproof enclosure, permanent split capacitor, automatic protection, ball bearings, reversible rotation, a 48Y frame, mounting studs, resilient ring mounting capability, body length of 4 and ¼ inches (A dimension), ½ inch diameter shaft, 4 inch

shaft length, it weighs 12 pounds, and the leads length is 30 inches. Searching for a replacement by specifications is a bit trickier than just searching for cross reference numbers, especially in the case of motors. Since motors can have multiple horsepower, RPMs, amperage ratings, and some acceptable variability in frames (48 vs 48Y, etc). So we need to stress the importance of using wild cards when searching to get the most results possible.

### **Searching For Motor Replacements Using Wild Cards:**

Within our spec data, a motor with multiple horsepower will be listed as 1/4/6/8HP representing 1/4th, 1/6th, and 1/8th horsepower ratings for the same motor. Multi-voltage motors are listed as such: 115-230V, 115-208-230V, or 208-230-460V. Multiple amperages will be entered like this: 3.9-2.5-1.9A. Also note that any decimal amounts for amperage that are less than 1, are entered as 0.5A, 0.75A, etc. Multiple speeds can be found in this format: 1075-925-775RPM. Using wild-card characters is the best way to ensure that records with these formats will be included in the results list.

**Example 8:** Type **1/4HP 230V 1725RPM** into the Search Term box and look at the Combined Results window in the center of the program window. There are around 86 records that contain all 3 search terms in the format we entered them. Remember the number you saw and now let's try another search for the same information, but this time, using wild cards.

We will add the asterisk (\*) and question mark to our search terms. Press F2 on your keyboard and type **1/\*4\*HP \*230\*V \*1725\*RPM** into the Search Term box. Looking at the Combined Results box we now see that there are about 851 results. Now let's narrow down our search. Add the following to the end of the three search terms: **48\*** for the frame, **REV** for rotation, **TE??** to return records with TENV, TEAO, and TEFC enclosures, and finally **\*2.\*A** to find anything with 2.1 through 2.9 amps. Now look at the Combined Results. There are potentially 45 replacements for this motor. Hit <Enter> to execute the search and view the results. With the results narrowed down to only 44, you can scan through the records visually and look at the other spec details to see things like brand, shaft length, mount type, and amperages to find the ones that will meet your replacement needs. You can look up most of the spec abbreviations in the Abbreviations & Codes database. To see printable information and a spec glossary, press the F1 key to open the Help File and skip to the section that starts with Section 3 - Motor Specifications Examples. You can also click on model numbers to execute a search in Cross Reference.

### **Searching For Fan Blades & Blower Wheels:**

As with motors, you can look up either fan blades or blower wheels in the

Part Specifications database by simply entering the part number, or you can enter spec details into the Search Term box to find replacements by specs. Fan blades and blower wheels are entered into the Part Specification database with simple terms referring to dimensions, rotation, and features. Diameters are put in as such D14, D9.5, etc. Fan blade pitch is entered as P20, P33, and the like. Bore is put in as B0.5, etc. Number of blades will be in as 3BLD, 5BLD, etc. Rotation is either CW or CCW.

**Example 9:** Type **D8 CW P40 5BLD** into the Search Term box and hit <Enter>. You will see a list of about four *fan blades* you could use as a suitable replacement.

**Example 10:** Type **0U841** into the Search Term box and hit <Enter>. The results window will display the specifications of a Torin fan blade.

**Example 11:** Type **B0.5 D5\* CW DOUBLE INLET** into the Search Term box and hit <Enter> to see a list of all *blower wheels* that match your search criteria. Notice we used the asterisk wild card (\*) to cover diameters D5 through D5.9 (5 inches through 5.9 inches).

### Searching For Contactors:

To find a replacement contactor you should be matching three main specifications; the control voltage, the resistive amps, and the number of poles. You can also just enter a contactor part number to see its specs.

**Example 12:** Type **COIL24V RESISTA40A 3P** into the Search Term box and hit <Enter>. You will be presented with over 60 replacements that match these specs. Consider adding a brand to narrow your search (**COIL24V RESISTA40A 3P TRANE**).

### Searching For Compressors:

If you are hitting a dead end finding a compressor in Cross Reference, the Part Specification database can be used to help you find a replacement model number. Search terms should include COMP (to find compressors only), voltage (i.e. \*230\*v – notice that we use the wild cards as described in example 8 to cover every combination of single and dual voltages that contain 230V), suction and discharge ID measurements (i.e. 3/4 and 3/8), MBH (i.e. 3?., using wild cards, since it is acceptable to be within 3,000 BTU/HR when selecting a replacement HVAC compressor), and brand name if desired (TEC for Tecumseh or COLE for Coleman, etc; find out the abbreviation for your brand of choice using the Abbreviations & Codes database). Remember, the more terms you enter, the more you limit your choices, so repeat the search without the brand name if you get no results.

**Example 13:** Type **COMP \*230\*V 3/4 3/8 3?.** into the Search Term box

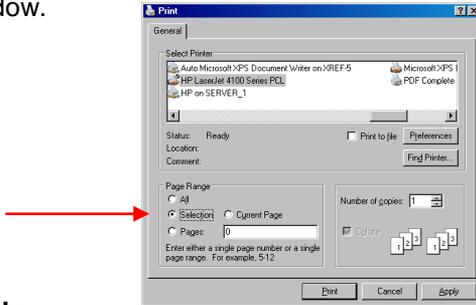
and hit <Enter> to see compressors that match these terms. You could look at compressor specs in the Cross Reference database by searching for the model number, however, if you want to compare two compressors' specs, use the Part Specification database and make sure to type the word OR between the model numbers.

**Example 14:** Type **H22J33ABCA OR 8000-165** into the Search Term box and hit <Enter> to compare the Bard compressor specs with that of the Bristol one. You may compare as many specs as you want this way.

## VIII. Searching In MSDS

The MSDS database will allow you to look up material safety data sheets for numerous chemicals, compounds, gases, and other products related to the HVAC/R industry. The sheets are also printable. Let's begin by clicking on the database selection **MSDS**

**Example 15:** Type **MERCURY SWITCH** into the Search Term box and hit <Enter> to see the existing data sheets. To print all of the documents, click on the **Print MSDS Information** button. To print any portion of the sheet(s), select the text you wish to print with your mouse and then click the print button. When your print window comes up, make sure that the Selection option is checked under Page Range (below), then click the Print button in that window.



## IX. Advanced Search Tools

### Searching Using Boolean Terms & Wild Cards:

At times you may want to search in a more specific fashion. Special terms called Boolean terms can be used in XREF Encyclopedia to bring back more or less *exactly* what you want. The three terms are as follows AND, OR, and AND NOT.

The AND term does not need to be typed into the search box; simply type two terms, separated by a space to return results that contain one search term AND another search term together. There is no limit to how many terms can be entered together in the same search.

The OR term allows you to see records in the results window that contain one OR another term, or both in the same record. For example, if you

enter the search terms **D-156 OR OML6418** in the Cross Reference database, you will see records that contain D-156 but not OML6418, OML6418 but not D-156, *and* OML6418 and D-156 together. Entering this same search in the Part Specification database will allow you to see both spec records, side by side. Compare HVAC models in the Equipment Model database by entering them as such: 

Search Term:
38VCC018310 OR 38VCC018320

 This will allow you to compare two or more models.

The AND NOT terms allow you to exclude whatever term follows. Searching for: 1/4HP 208-230V 1075RPM 2.1A 48 AND NOT FASCO will exclude any records for Fasco brand motors. Always add the term(s) to be excluded at the end of your search term string.

For information on using Wild Card characters see Example 8 and the section called Searching for compressors on pages 13-15.

## X. The File and Help Menu

At the top left of the program window, you'll find these two menus. The File menu is mainly useful for reading your dongle information (serial number, license expiration date, and usage statistics) and accessing a list of searches you've run since opening the program. Click on the Full Session Search History item.

Double click on any item, select one and click the Go To Item button, or arrow down through the list and hit your <Enter> key to bring up your previous search for that item.



Search Type	Search Term
Cross Reference	5-2PI RCDND
Cross Reference	765437
Appliance Model	38VCC018300
Cross Reference	HC31GE232
Cross Reference	34R1129PC71
Cross Reference	P-8-10044
Cross Reference	3841
Cross Reference	D-776

The Help menu allows you to access the on-board help file (click on View Help - *or press F1 on your keyboard*), access our online help resources (click on View Online Help), view our contact information (click on Contact Information), and see what version of XREF Encyclopedia you are using (click on About XREF Encyclopedia).

## XI. Training and Support

In addition to the support and training information on our website, training videos can be found on YouTube. We cannot stress the benefits of training enough. Our friendly and professional support staff can greatly increase your knowledge of how to use this program with a 15 minute over-the-phone training. We are also happy to help you find data both in the program as well as through our network of resources. Thousands of model nomenclatures, while not currently included in the program, are accessible by giving us a call or sending an email. We are here to help you. Please contact us to arrange individual or group training or for any additional help. Or visit the Resources page on our website. See the next page or click on the Help menu for contact info.

## **XII. Uniformity of Part Numbers & Exceptions**

For the purpose of uniformity, certain forms of part numbers are modified. Some brands are put in as-is, as you will see. If you're not finding a certain brand's numbers, try entering the brand name into a Cross Reference search (i.e. type Rheem into the Search Term box and hit the <Enter> key and then scroll through the records to see how Rheem numbers are entered into our databases). If a brand fails to come up in the results the way you entered it, it may be because the brand name is abbreviated in our system (EAT for Eaton, etc). To find a brand abbreviation, click on the Abbreviations & Codes database and enter a brand name (Searching for Mallory will return "MAL: Full Text = MALLORY"). Now you know to use MAL as your search term when searching for Mallory parts.

- #1: Dashes (-) are usually removed between a number and a letter
- #2: If a zero follows a letter or a dash, it is often removed: Vulcan part number 2750-A01 will be in as 2750-A1. GE part WJ0013X0001 will be in as WJ13X1. Norge 35-0023 will be in as "35-23"
- #3: When non-essential zeros begin a number, they are usually removed. Thermador 00-64-017 will be in as 64-17.
- #4: Emerson numbers like FA33AMGFB-287 are in as FA33GFB-287. Only the last three of the letters before the dash are retained.
- #5: Fedders number 50110056N001 is in as 5011-56N1
- #6: Universal Electric motor numbers such as 90 are entered as U-90
- #7: Fasco motor D158 will be in as "D-158"
- #8: UPG (York) numbers like S1-02532625000 are in as 025-32625-000
- #9: Older Broan numbers like 97014094 will be in as 97-01-4094
- #10: Unless it represents a fraction, a slash (/) in a part number is usually converted to a dash (-) as with Johnson Electric number 11V20138/0001. It becomes 11V20138-1.
- #11: List of some brands put in as-is: Baldor, Carrier, Lau, Lennox, Rheem, RobertShaw, and Tecumseh

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