

# Emerson Authorized Wholesaler Counter Guide

## Contents

### Administrative Policies and Programs

Warranty .....	3
Time Limits.....	3
Serial Number and Date Code.....	5
Sample Warranty Tag .....	5
Warranty Returns .....	5
Return Location .....	5
Paperwork Check List .....	5
Freight Procedures for Return .....	5
Parts Returns (field scrap or return) .....	5
Buy Back As Is Program.....	5
Compressor Inspection .....	6
Repeat Failures .....	8
New Product Returns.....	9
Order Cancellations and Changes .....	9
Errors or Shortages in Shipment .....	9
Replacement Parts Policy.....	9
Credit Adjustments .....	9
Shipments Lost or Damaged.....	9

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<b>Pricing</b> .....	10
General Policy .....	10

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<b>Order Procedure</b> .....	10
Terms and Conditions of Sale.....	11

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<b>Product Information</b> .....	13
Nomenclature/Bills of Material .....	13
Focused Parts .....	16
Application Engineering Bulletins .....	17
Online Product Information.....	19
Copeland Mobile .....	19

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<b>Training</b> .....	19
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## Contacts

### Wholesale Customer Service

866-298-2482

### Order and General Inquires

REFwholesale@emerson.com

### Warranty Administration

317-968-4263

MTCWarranty@emersonclimate.com

### Service Engineering

833-409-7505

Coldchain.technicalservices@emerson.com

### Training and Technical Education

800-748-2779 Option 2

# Administrative Policies and Programs

## Warranty Time Limits

Emerson Climate Technologies, Inc. (“Emerson”) warrants to its direct purchasers, and to no others, that those products manufactured and sold by Emerson, including products sold under the Copeland™ brand, direct to such customers shall, when properly applied and operated under normal conditions, be free from defect in material and workmanship. Upon claim to Emerson, this warranty applies when such defect appears in Emerson-manufactured compressors and condensing units within 12 months of service and which are returned to and received by Emerson within 20 months from the date of manufacture. Upon claim to Emerson, this warranty applies to defects in Emerson-manufactured parts or components if such defects appear in such manufactured parts or components which are returned to and received by Emerson within 12 months of date of sale by Emerson.

Any claim made pursuant to this warranty shall be conditioned upon Emerson’s inspection of the product upon which the claim is made and Emerson’s determination that there was defect in the material or workmanship. Those claiming under this warranty shall be warranted for the unexpired portion of the warranty applying to the original product. Any technical advice furnished before or after delivery in regard to the use or application of Emerson’s product is furnished without charge and on the basis that it represents Emerson’s best judgment under the circumstances, but that is used at the recipient’s sole risk.

Please refer to this link to ensure you have the latest information: <https://climate.emerson.com/en-us/training-support/warranty>

### WARRANTY

Emerson makes no warranty of merchantability and no warranty of fitness for any particular purpose, nor does it make any warranty, express or implied, of any nature whatsoever with respect to products sold by Emerson or the use thereof except as is specifically set forth on the face hereof even though it may have been negligent. Emerson shall in no event be liable for direct, indirect, special, incidental, consequential or penal damages, Emerson makes no warranty of any kind, either express or implied, to ‘consumers’ as that term is defined in SEC. 101 of public law 93-634, The Magnuson-Moss Warranty-Federal Trade Commission Improvement Act.

Any claim made pursuant to this warranty shall be conditioned upon Emerson’s inspection of product upon which the claim is made and Emerson’s determination that There was a defect in material or workmanship. Those claiming under this warranty, shall at Emerson’s option, have one of the following remedies against Emerson in substitution for all other remedies or rights. The right (a) to repayment, or if not paid, to credit of the purchase price, or (b) to replacement of said goods, or (c) to repair of said goods, and in any event Emerson’s maximum monetary liability hereunder shall be to refund, if paid, otherwise to credit, for that part of the product which is subject to the defect on which the claim is based.

Copeland™ products repaired or replaced pursuant to this warranty shall be warranted for the unexpired portion of the warranty applying to the original product.

### **Compressors sold to refrigeration Original Equipment Manufacturers (OEMs) and replaced by Emerson Authorized wholesalers:**

Copeland refrigeration semi-hermetic, Discus, welded and scroll compressors, and parts - 12 months of service and received by Emerson within 20 months from date of manufacture.

### **Copeland products sold by Emerson Authorized wholesalers:**

**All products** – 12 months from date of sale by the wholesaler.

**Wholesaler sales invoices** – Required for any in-warranty claim when the product is a part, or a service compressor past 12 months from the original date of sale.

*Emerson Authorized wholesalers are obligated under terms of their wholesaler agreement to handle Emerson refrigeration product warranty transactions whether the wholesaler sold the item, or it was sold originally in Refrigeration OEM equipment.*

*If wholesaler is authorized to administer AC warranty on behalf of OEM for systems/components, then warranty claim should be filed directly through AC OEM based on agreement with direct distribution of product agreement.*

Please refer to this link to ensure you have the latest information: <https://climate.emerson.com/en-us/training-support/warranty>

## Replacement Option

All products not repaired or replaced with a competitive product will be handled, in-warranty, by sending a no charge Copeland replacement item to the wholesaler.

### Right to Change

Emerson reserves the right to make changes in design of, additions to, or improvements in its products without incurring any obligation to modify or make similar changes on products previously manufactured or sold. Emerson will charge an appropriate upgrade fee if an unimproved or unmodified product is replaced with an improved or modified product.

### Units

Emerson will assess handling charges if a complete condensing unit, instead of the inoperative component, is returned without written authorization.

### Other Factors

The protection of the Emerson warranty specifically does not extend to the following situations which are listed for illustration and NOT limitation:

1. Damage or failure to operate resulting from any accident misapplication, abuse, or misuse.
2. Damage occurring in transit.

3. Damage, deterioration, or failure to operate of a product determined by Emerson in its sole judgment, to have been caused by exposure to any chemical except refrigerants and/or oil approved by Emerson. (see form no. 93-11)
4. A product which has been disassembled in a manner which, in the sole judgment of Emerson, affects the performance, stability, or reliability.
5. Any product used with devices or accessories which have not been approved by Emerson.
6. Any removal or installation charge whatsoever, or charges arising out of removal or installation.
7. Compressors received less nameplates or with defaced nameplates.
8. A Copeland compressor received having been cut open or contaminated, will be scrapped with no salvage value or credit. If a Copeland compressor is received with a field-damaged body casting, it will be scrapped with no salvage value or credit.

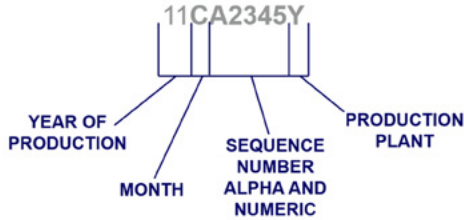
Brand	What Failed	Brand	Replaced With	Approved?
<b>Refrigeration</b>				
Copeland	Compressor - OEM BOM	Copeland	Compressor - service	Yes
Copeland	Compressor - service BOM	Copeland	Compressor - service	Yes
Copeland	Compressor	Copeland	M-Line units	Yes
Copeland	Compressor	Copeland	All other condensing units	No
Copeland	Compressor OEM BOM on condensing unit	Copeland	Compressor only processed, unit is actually replaced	No
Copeland	X-Line condensing unit - condenser	Copeland	X-Line condensing unit	Yes
Copeland	Compressor	Competitor	Condensing unit	No
Copeland	Compressor	None	No replacement supplied	No
Copeland	Condensing unit	Copeland	Condensing unit	No
REF OEM production unit > 12/20	REF OEM production unit	Copeland	Copeland direct service compressor	No
Copeland	Compressor multiple failures out of sequence	Copeland	Compressor replaced, but out of sequence	No
<b>Freight</b>				
Copeland	Compressor	Copeland	Damaged on arrival	No

## Serial Number and Date Code Data

### Date Coding - Compressors

Since the serial number on Copeland compressors is the only means of determining date of manufacture.

The serial number stamped or printed on the compressor nameplate consists of eight or nine characters.



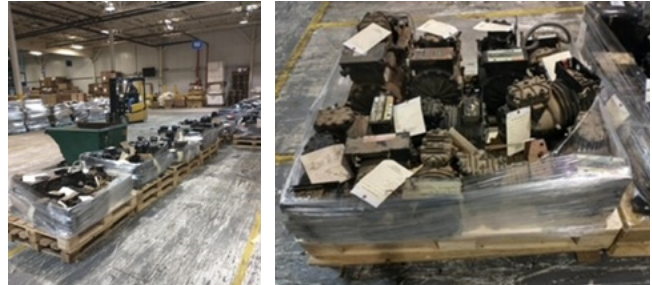
**A completed warranty claim tag is required for all such warranty claims.** Emerson products provided under terms of the Emerson warranty at no charge are warranted only for the unexpired portion of the warranty applying to the original item.

**The warranty tag should be completed in full and the hard copy attached to the compressor.** Warranty tags can be ordered by contacting customer service (part number 052-1957-01).

### Paperwork Checklist for Returning Compressors to Emerson Climate Technologies, Inc.

- Use an Emerson warranty claim tag for in-warranty returns. Do not fold, staple, or tape documents to the tags that may slow the handling process and may damage the paper-work when separated.
- The green or yellow special inspection sticker needs to be attached near but not covering the name plate.
- The bill of lading must state the number of compressors being returned in the shipment, not the number of skids. Please specify that freight company include the number of pieces on the freight bill.

- THE SHIPMENT (TRK) SHEET, LISTING ALL OF THE CLAIM NUMBERS. Order should be placed in a plastic packing envelope and attached to one of the compressors.
- Returned compressors must be totally sealed by use of shipping pads provided on re-placement compressors. Do not use tape, rags, or putty. (Leaking fluids are a safety hazard in work areas)
- Compressors should be skidded and stretch wrapped for shipment. Do not ship compressor back in boxes or bolted to the skid.



### Buy As Is Back Program Details and Return Procedures for Emerson Wholesaler Customers

Buy-Back compressors can be shipped with regular shipments. Paperwork on such a return must state 'Buy-Back' to distinguish this from normal returns. Buy Back As Is can be processed in the Copeland Compression Warranty Portal.

- Go into *claims*
- Select *NEW* button
- Choose claim type as *out of warranty*
- Under return type click on the drop down
- Choose *Buy Back As Is*

These compressors must be sealed with shipping plates or valves Contact Emerson if shipping pads are required. (Phone Number 866-298-2482). Any compressors received without a nameplate will be identified if possible. If the compressor is not in the Buy-Back program or cannot be identified, no credit will be allowed.

Freight cost is the wholesaler's responsibility.

Use this calculator to determine gross profit desired: <https://webapps.emerson.com/buybackcalculator/>

We reserve the right to scrap any compressors identified as being unusable and refuse to pay the buy-back price. Compressors with flash rust or weather rust will not be accepted. Flash rust occurs when a body has gone through a rebuilder's cleaning tank. Weather rust occurs when a compressor is exposed to the elements for years and no longer has any paint on it. These compressors will not be returned.

\* Claim Type  
 Out Of Warranty Go

---

\* Customer  
 Please select customer  Q  
 Please select customer

Add Ro

#	Type of Return *	Model Number *	Serial Number	Customer Reference	Tag Number
1	Buy back AS-IS	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**Buy-Back As Is Compressors must be returned to:  
 Emerson  
 616 Conrad C Harcourt Way, Rushville IN 46173**

Models	Buy-Back Price
KA	\$75.00
EA, ER	\$100.00
3A, 3R	\$100.00
LA	\$150.00
NR	\$125.00
3D	\$300.00

Models	Buy-Back Price
4D	\$350.00
4R	\$350.00
6D	\$400.00
6R	\$400.00
9R, 9T	\$200.00

**Warranty Returns for Collect Shipments**

- Emerson suppliers or customers shipping to Emerson Climate plants will need to email the following information to secure a truck for pickup.
- Allow up to 1 business day for a response with the BOL and transportation details. If you email before 9 am you will receive same day pickup, after 9 am you will receive next day pickup.

Please send the information below in an email to [example: first.last@emerson.com].

- Origin Name:
- Origin Address:
- Origin Contact and Phone Info:
- PKUP Date and Time:
- Destination Name:
- Destination Address:
- Destination Contact and Phone Info:
- Delivery Date and Time:
- Hazmat- Yes or No:
- Ship Method- LTL or TL:
- Skid Quantity:
- Dimension of Skids:
- Skid Weight in Lbs.:
- Total Weight of All Skids in Lbs.:
- Stackable- Yes or No:
- Description of Material:
- Freight Class of Material:
- Special Equipment Needed (flatbed, curtain side, dedicated truck, etc.):
- Special Instructions Needed:

For questions contact:  
 Supply Chain Logistics  
 International Logistics Manager  
 or email [EmersonTMS.Climate@Emerson.com](mailto:EmersonTMS.Climate@Emerson.com)

**Compressor Inspection Information**

(Customer Requested)

Emerson encourages wholesalers and servicing contractors to inspect semi-hermetic compressors in the field to analyze and determine whether there are system problems. A teardown inspection does not affect a warranty claim, simply replace the parts in the compressor before returning it to Emerson. We will also provide a special inspection and analysis, by request, on in- warranty or out-of-warranty compressors to assist in solving field problems. A special inspection sticker must be on the compressor when received to assure an inspection.

- Service engineering will mail out the sticker promptly.
- The compressor must be received at Rushville, IN, with a special inspection sticker on it along with any returned goods paperwork and a warranty tag for information even when it might be an out-of-warranty situation. **(Do not cover name plate)**
- Inspection reports will be reviewed and letters sent out by Service Engineering after each inspection. For an out-of-warranty compressor inspection there will be a nominal charge of \$150.00.

**COMPRESSOR INSPECTION REQUEST FORM**

Please fill out all information below and return to Emerson Climate Technologies, Inc. Service Engineering. The return authorization tag will be mailed to you after receipt of this form.

INSPECTION #  
(For internal use only)

--	--	--	--	--	--	--	--	--	--

DATE \_\_\_\_\_

**WHOLESALE INFORMATION**

Wholesaler Name \_\_\_\_\_ ATTN: \_\_\_\_\_ Customer Code \_\_\_\_\_  
 Address \_\_\_\_\_ Fax Number \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Email Address \_\_\_\_\_

CUSTOMER \_\_\_\_\_ REF NUMBER \_\_\_\_\_

FAILED MODEL \_\_\_\_\_ (Please limit request to one model) FAILED S/N(s) \_\_\_\_\_ (Please limit request to one serial number)  
 REPLACEMENT MODEL \_\_\_\_\_ REPLACEMENT S/N(s) \_\_\_\_\_

**REASON FOR RETURN (check one)**

Seized  Low capacity  Won't start  Leaks at: \_\_\_\_\_  
 Motor Burn  Noisy  Other (state reason) \_\_\_\_\_

**REFRIGERANT**

22  12  502  Other \_\_\_\_\_

**LENGTH OF SERVICE**

Installation Date \_\_\_\_\_ Failure Date \_\_\_\_\_  
 Month Day Year Month Day Year

**SPECIAL REMARKS**

\_\_\_\_\_  
 \_\_\_\_\_

**RETURN METHOD**

FAX TO: Emerson Climate Technologies, Inc. Service Engineering (937) 498-3070  
 MAIL TO: Emerson Climate Technologies, Inc. Service Engineering 1675 W. Campbell Road P.O. Box 669 Sidney, OH 45365-0669

**NOTE: INSPECTIONS WILL NOT BE PROCESSED WITHOUT A COMPLETED FORM AND INSPECTION TAG ATTACHED TO THE COMPRESSOR.**



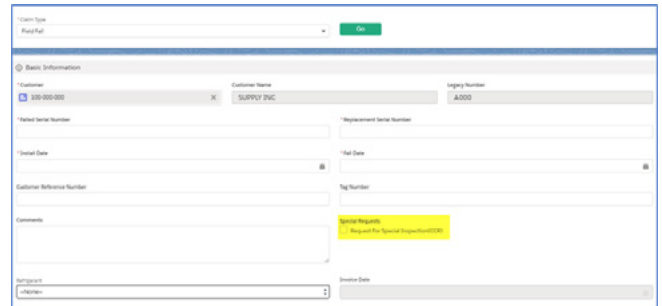
**IF YOU WANT A COMPRESSOR INSPECTED IT MUST BE RECEIVED AT RUSHVILLE, IN, WITH A COMPLETED INSPECTION STICKER.**

**Requesting Special Inspection via Warranty Portal**

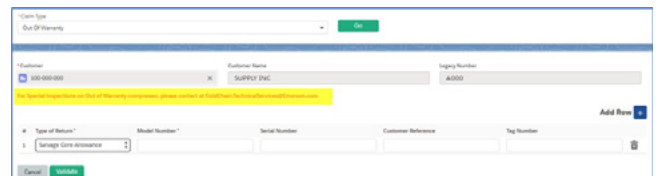
You can also request a special inspection 'CCR' via the warranty portal for in-warranty claims.

Go to *CLAIMS, NEW*, and in the *Claim Type* dropdown choose *FIELD FAIL* and click *GO*.

You can see from the screenshot below, highlighted in yellow, that you can request the CCR without having to contact Service Engineering for a tag. When you check the box to request a special inspection and you enter the required information, our warehouse will be alerted upon receipt to print a CCR label and it will be forwarded to our inspection area.



Any out-of-warranty special inspection (CCR) requests must be submitted via email through Service Engineering at <https://climate.emerson.com/en-us/brands/copeland/technical-support>.



**EMERSON**  
 Scroll Compressors LLC  
 1675 W. Campbell Rd. Docks 34-44  
 Sidney, OH 45365

**Peel and stick on compressor (Do not cover nameplate)**

**CCR No.** \_\_\_\_\_

Special Inspection Report Requested

ATTN \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Serial No. \_\_\_\_\_  
 Returning Customer \_\_\_\_\_  
 Reason \_\_\_\_\_

**EMERSON** Special Inspection Report Requested

Scroll Compressors LLC  
 1675 W. Campbell Rd. Docks 34-44  
 Sidney, OH 45365

**Peel and stick on packaging**

ECT-1201A (8/21)

**EMERSON**  
 Scroll Compressors LLC  
 1675 W. Campbell Rd. Dock 10  
 Sidney, OH 45365

**Peel and stick on compressor (Do not cover nameplate)**

**CCR No.** \_\_\_\_\_

Special Inspection Report Requested

ATTN \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Serial No. \_\_\_\_\_  
 Returning Customer \_\_\_\_\_  
 Reason \_\_\_\_\_

**EMERSON** Special Inspection Report Requested

Scroll Compressors LLC  
 1675 W. Campbell Rd. Dock 10  
 Sidney, OH 45365

**Peel and stick on packaging**

ECT-1201B (1/21)

**Must be completed to receive warranty credit**  
 Peel and stick completed tag to compressor being returned.  
 Do not cover rating plate.

**Compressor Return Reason**

Check  all that apply

**Application:**

air conditioning  heat pump  
 split system  packaged system  
 refrigeration  other \_\_\_\_\_

**Reason(s) why the compressor is being removed:**

will not start  noisy when running  
 tripped breaker/blown fuse  noisy on start up  
 windings electrically shorted  noisy on shut down (off)  
 windings electrically open  noisy during defrost  
 windings grounded  leaks refrigerant  
 low capacity  stuck  
 won't pump  other \_\_\_\_\_

**Installation:**

refrigerant lines exceed 100ft  start components installed  
 refrigerant lines are buried  low ambient cooling  
 crankcase heater installed  suction accumulator

**Other components changed:**

contactor  start component  
 capacitor  other \_\_\_\_\_

Thank you for helping us continually improve our products.

CC-1776 R4 (11/10) 052-1441-00

## Repeat Failures

Repeat failures are costly to everyone; the user, service contractors, wholesalers, and Emerson. Actions taken by Emerson in product improvements and in our remanufacturing operations, as part of the Copeland Certified compressor program have resulted in a reduction of in-warranty failures for these products. However, the problem remains that the majority of repeat failures are due to problems other than defects in compressor materials or workmanship, and are thus beyond the control of these product and process improvements.

The program instituted to address this problem through increased teardown inspections and more customer communications addresses this issue. The intent is to:

- Reduce repeat in-warranty failures
- Create an incentive for service personnel to identify and correct system problems
- Encourage training of service and installation personnel
- Reduce warranty costs for all parties

### For complete Terms and Conditions of Sale visit:

<https://climate.emerson.com/documents/emerson-climate-technologies-inc-copeland-en-us-7179674.pdf>

Returned Copeland compressors requested to be handled in-warranty will be carefully inspected.

An inspection report letter providing failure information will be sent to the wholesaler that returned the compressor if the teardown inspection indicates there was no evidence of defective material or workmanship. This will be sent within two weeks of receipt of the compressor by Emerson. **The wholesaler should forward this letter to the service contractor** for help in identifying problem areas and taking corrective action.

Second and subsequent failures will be handled 'out of warranty' if the failure was beyond the control of Emerson (not defective material and workmanship), and if the failure mode was similar to the reason for failure of the previously returned compressor from that same installation.

For any second or subsequent failure as just described in which warranty is denied, an inspection letter will be sent to the wholesaler explaining the reason for this decision. Emerson wholesalers must help their customers by processing warranty tags accurately, returning warranty compressors quickly, and by passing on inspection letters promptly so that corrective action can be taken.

## Copeland 4, 6 and 8 Service Compressor - Warranty Single Phase Burn

As a result of extensive testing and field experience, Emerson has determined that a single-phase motor burn is the result of the malfunction or misapplication of the system contactor(s).

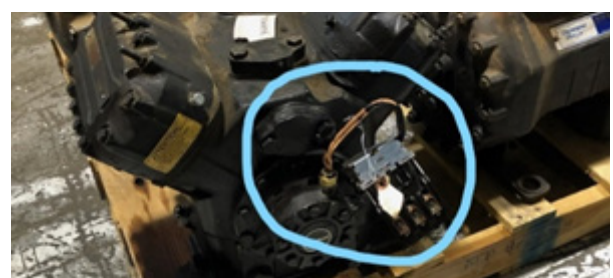
Effective January 1, 2001, Emerson will no longer give warranty on any 4, 6, or 8 semi-hermetic service compressor that is determined to have a single-phase motor burn. Please educate your personnel concerning this issue and be aware of a potential charge-back when making in-warranty compressor exchanges on first-time service compressor failures.

The key to making this announcement a non-issue to contractors is to make sure they are replacing the contactor(s) every time they replace a compressor. To help you to continue to educate contractors to change out contactors, Emerson is:

- Putting a warning label on the compressor box and the terminal box
- Developing a service tip card
- Continuing to teach this practice in its Compressor Operation and Service Seminar (COSS)
- Re-issuing its Application Engineering bulletin concerning this subject

Please place the attached announcement in a highly visible area to counter personnel and contractors.

Please be sure to tie wrap the contactor to the compressor so it can be seen. Be sure to enter the contactor in the parts claim section of the warranty portal.





## Buy Back New Product Returns

Acceptance by Emerson of new product returns is an exception to its Standard Terms and Conditions of Sale. New product cannot be returned without written authorization from Emerson. New products returned without such authorization will be returned to the wholesaler at his expense. A shipping error by Emerson will be corrected and adjustments made, but an authorization in writing, may be required to properly make the necessary adjustments. In other cases, Emerson may be able to accept the return of new parts or compressors. A picture and written authorization will be required, and any credit allowed is contingent on the merchandise being in new and resalable condition. A processing and inspection charge may be deducted as well.

## Order Cancellations or Changes

New version 11-19-20

In regards to order cancellations or order change requests, Emerson will be responsive to your needs and try to honor wholesaler requests; however, there are situations when a cancellation charge will apply. Charges will be determined based on the manufacturing process, inventory carrying costs, and/ or rework costs. Some items may not be canceled once Emerson places a special order with a supplier. Wholesalers will be notified of such situations at the time they place such orders with Emerson.

## Errors or Shortages in Shipment

**All errors on shortages or overages in shipment should be reported immediately to Customer Service (RefWholesale@emerson.com) or call 866-298-2482.**

A copy of the packing list can be faxed with notations of the error(s). An investigation of the circumstances will be made, and in most cases, corrections will be issued. Do not return such product to Emerson without written authorization. **Note: Emerson will not be liable for errors or shortages that are not reported within 30 days of the original invoice date.**

## Shortages/Overages

### • Call Customer Service immediately. 866-298-2482

Indicate on the carrier's delivery receipt the exact number of items short or over.

- If the shortage is not received within a reasonable time period, you should call the carrier to see if it is still in their possession. Contact customer service so we can do an audit check to see if the product is still at the warehouse. Once audit is reviewed customer

service will follow up with further instructions.

- If an overage is received, and you can keep or use the extra product, please notify Emerson immediately of the situation.

## Replacement Parts Policy

In our continuing effort to assure the quality and reputation of compressors bearing the Emerson name, internal compressor parts are not available for field service replacement.

## Credit Adjustments

Emerson intends to process all credits correctly the first time. In situations when returns are made out-of-warranty and later requested as in-warranty, **the request to claim warranty must be received within 30 days from the original credit memo date.** This request can be made by simply sending a copy of the original credit memo with a note and documentation explaining the justification for the claim. A completed warranty tag and a sales invoice copy, when required, must accompany this request. A review of each return for complete warranty information before the return shipment is made will ensure prompt handling and avoid requests for adjustments later.

## Shipments Lost or Damaged in Transit

All Emerson products are sold F.O.B. shipping point, our plant. The merchandise becomes the wholesaler's property at the moment it leaves our facility even if the product goes out on a freight prepaid bill of lading. It is therefore, the wholesaler's responsibility to file a claim against the carrier for damage in transit or shortages. Here are some guidelines and recommended procedures to be used in the event any shipment from Emerson is received damaged, short, or over.

- Product is sold F.O.B. shipping point. Emerson is not liable for loss or damage in transit.
- ICC regulations place a statute of limitations of nine months from date of delivery on loss or damage claims, and a claim must be filed within that period.

## Procedure - Filing Claims

- Send all correspondence to the general office of the delivery carrier, to the attention of the Claims Department. • Your claim should include the documents mentioned previously. Sign the claim and record a file number. For a nominal postal fee it can be mailed certified so you receive a return receipt providing you with the date the carrier received your claim.

- Receiver should clearly note on the delivery receipt bill, the general and visible condition or exception before signing.
- Receiver should immediately contact the carrier's local facility to file the claim or the damaged product.
- **Do not refuse freight – Sign freight bill as damaged and contact the freight carrier.**
- Freight should be left in original cartons and skids for inspection.
- If possible, pictures should be taken. A complete detailed description of the damage should be documented in a timely manner.
- The following documents should be submitted with the damage claim: (originals or certified copies) Bill of lading, Carrier inspection report, Paid freight bill, Applicable photographs, Product invoice, Concealed Damage.
- Material should be unpacked and inspected within 15 days of delivery for loss or damage. If loss or damage is discovered, follow the above steps immediately.

### **Notable Damage at Time of Delivery**

Concealed Damages: Regardless of the number of pieces received, every effort should be made to unpack and inspect all merchandise for damage as promptly as possible. The full inspection must be made within 5 days after delivery. The Interstate Commerce Commission's ruling states, in part, "It is incumbent upon the consignee to offer reasonable evidence to the carrier's representative when inspection is made that loss or damage was not incurred by the consignee after the delivery of the shipment by the carrier." For this reason, if concealed damaged has incurred, then the delivery carrier must be called to make inspection before the 5 days from receipt of the goods has expired.

## **Pricing**

Historically, we have provided Suggested List price sheets in this section of the Counter Guide. However, for 2002 we have sent out both Suggested List and Wholesaler Net prices via e-mail to Emerson Authorized wholesaler principals and product managers. Please get pricing information from your organization, the list price sheets will no longer be provided in the Counter Guide.

### **Copeland Semi-Hermetic/Discus Compressors**

Service price is the purchase price plus the salvage or core charge for service replacement compressors, no quantity brackets apply. It is also the credit allowance for warranty claim.

The 'Buy Back As Is' program is the credit allowance for out of warranty semi-hermetic/Discus compressors returns. This only applies when compressors have been purchased using the Buy-Back program.

Salvage/core exchange or replacement price is the difference between the service semi-hermetic compressor price and the salvage/core price.

## **Order Procedure**

Orders may be placed via OneEmerson portal, email, or phone with the Customer Service department. You may also check order status, price and availability.

The wholesaler purchase order should include the following information:

- name & location of purchaser
- date of purchase
- customer code number
- purchase order number
- routing instructions
- special instructions, if any
- required compressor/unit/part number (complete)
- required quantity
- signature of authorized representative
- requested ship date(s)

Wholesalers must specify if an order is an emergency order or if special routing is required. Regular stock orders will be entered at appropriate standard lead times. Incomplete information on the above list can delay purchase order processing.

Emerson sends out an order acknowledgment report that details the terms and conditions of sale by Emerson to each wholesaler and acknowledges the acceptance of their orders. In some instances, orders are received, shipped, and billed in less than a week.

## ORDER TYPES

### Standard Delivery (Normal stock replenishment)

These orders are handled routinely and are shipped according to normal lead times depending on customer truck date of the week for standard compressors, units and replacement parts.

### Same Day Delivery

These orders are generally shipped same day from Mt. Comfort. These orders need to be identified as urgent, also any special routing instructions should be provided.

### Today Sure

These orders are generally shipped in 24 hours from Mt. Comfort. These orders need to be identified as urgent, also any special routing instructions should be provided.

## Terms & Condition of Sale

Please refer to this link to ensure you have the latest information. <https://climate.emerson.com/en-us/training-support/warranty>

The following TERMS AND CONDITIONS OF SALE appear on the reverse side of certain Emerson documents possibly including, but not limited to, Emerson's shipping notifications, packing list, invoices, and acknowledgment forms.

### SCOPE

If there is a written contract in existence between us pursuant to which your purchase order has been placed, the provision of that contract shall have control over the provisions of your purchase order and of this document.

### DELIVERIES & PRICE

The goods identified on the face hereof will be delivered to you F.O.B. at the Emerson plant of origin stated on the face hereof in good condition and properly consigned. Deliveries will be at your risk to the point identified on the face hereof, and payment or allowance of freight by us shall not affect this provision. We shall not be liable for any injury, loss, or damage resulting from the handling or use of the goods after or during such delivery. Prices are subject to change without notice and the prices invoiced will be those in effect at the time of shipment.

### FREIGHT

If we are to pay freight, we shall have the right initially to designate routing and means of transportation, and if you require more expensive routing and/or means, you will pay the extra cost as a result.

## WEIGHT

Our invoice weights, volumes, sizes and tares shall be treated as prima facie accurate except that in case of bulk carload shipments, carrier's weight shall govern.

## EXAMINATION-SUITABILITY-CLAIMS

You should examine and test each shipment promptly on arrival and before any part of the goods (except for reasonable test quantities) has been change from its original condition. We can recognize no claims for any cause after the goods have been treated, processed, or changed in any manner (except for reasonable test quantities). It is your responsibility to determine whether the goods are suitable for your contemplated use, whether, or not, such use is known to us. All claims of which we are not notified in writing within 30 days after arrival of goods at destination, except claims for breach of Fair Labor Standards Act and patent warranties, are waived.

Please Note:

Emerson sells its products to approved original equipment manufacturers and the Emerson Authorized<sup>SM</sup> wholesaler network. Emerson does not sell directly to end users or contractors.

## RETURNS

No claims will be recognized, in regards to goods disposed of or returned without our written consent.

## EQUIPMENT

The purchase of equipment from us confers no license, express or implied, except for use or resale, under patents, trademarks, or technology rights held by Emerson.

## CREDIT

Our terms of payment are regular terms of cash on delivery or those specifically quoted to you. If you fail to fulfill these terms or if we, at any time, have doubts as to your financial responsibility, we may decline to make further deliveries except against cash or satisfactory security.

## ORDERS

Orders are not binding on us until accepted in writing by an authorized employee of one of our offices, or receipt of the normal acknowledgment document.

## TAXES

Any tax or any charge of any nature imposed by any governmental or taxing authority which shall be or become payable by reason of the production, transportation, use, sale, or delivery of any of the products sold to you, other than taxes based on our income, shall be for your account, and if paid by or levied or assessed against

us shall either be added to the price of the products or billed to you separately as we may elect.

#### CONTINGENCIES

We shall not be held responsible or be liable for any default, or delay in performance if caused, directly or indirectly, by acts of God, war, force of arms, fire, the elements, riots, civil commotion, strikes, lock-outs, slow downs, picketing, or other labor controversies, accidents, delay or default of or failure by carriers, shortages of labor, delay in obtaining or inability to obtain materials, equipment, or parts from regular sources, actions, request or regulation of or by any government authority, failure of any party to perform any contract with us, performance of which is required for production of the products, or other happening or contingency beyond our control, or without our fault, whether similar or dissimilar to the foregoing.

#### PATENT PROTECTION

We shall defend any suit or proceeding brought against you so far as based on a claim that any apparatus, or any part thereof, furnished hereunder constitutes an infringement of any patent of the United States, if notified promptly in writing an given authority, information, and assistance (at our expense) for the defense of same. In case said apparatus or any part thereof is, in such suit, held to constitute infringement, and the use of said apparatus or part is enjoined, we shall, at our expense, either procure for you the right to continue using said apparatus or part or replace same with non-infringing apparatus or modify it so it becomes non-infringing or remove said apparatus or part and refund the purchase price less 20 percent for each year or fraction thereof since it was shipped to purchaser and the transportation and installation cost thereof. You agree to indemnify and save us harmless from any and all claims for profits and damages resulting from any suit or proceedings for infringement of any patent based upon the manufacture, sale, or use of any said apparatus or any part thereof, in combination or assembly with machinery or apparatus not furnished under this contract. The forgoing stated the entire respective liabilities of us and you for patent infringement by said apparatus or any part thereof and for combination or assemblies employing the same.

#### NON-WAIVER

Our failure to inform upon strict performance of any provisions hereof shall not be deemed to be a waiver of our rights to remedies, or a waiver by us of any subsequent default by you in the performance of or compliance with any of the terms of the purchase agreement.

#### LIMITATION OF ACTIONS

Any action based on breach of the purchase agreement or other theory of recovery shall be brought within one year of the date on the face of the purchase agreement.

#### SEVERABILITY

Any word phrase, clause, sentence, or other provision hereof which violates or is prohibited by any applicable law, court decree, or public policy shall be ineffective to the extent of such violation or prohibition without invalidating or affecting the remaining provisions thereof.

#### ENTIRE CONTRACT AND GOVERNING LAW

No changes in or addition to this contract shall be of any effect unless contained in a writing signed by the party claimed to bound thereby, and no changes or additions shall be effected by the return to you, signed or unsigned, or tear-off, or other forms attached to or accompanying your order which you require us to return. No written or oral understandings, representations, or warranties predating the date hereof shall be of any effect, nor shall any written or oral communication from us to you predating the date hereof be deemed an acceptance of your order or to impose contractual obligations on us with respects to it. The interpretation and effect hereof shall be governed by the laws of the state of Ohio.

# SCROLL NOMENCLATURE (INCLUDING REFGN)

Modulation	
Code	Description
D	Digital
H	Horizontal
I	Fixed Speed EVI
J	Digital EVI
S	Ultra Tech
T	Even Tandem
U	Uneven Tandem
DD	Digital/Digital Even Tandem
DT	Digital/Fixed Even Tandem
DU	Digital/Fixed Uneven Tandem
Y	Trio (Internal Reference Only)

Optional	
A	Pao Oil
B	POE R134A Ref Products
E	POE Oil - AK/DA, 3MA or SP32
G	PAG Oil
P	POE R410A Ref Products
U	POE R290

Motor Protection	
Type	Code
Internal Inherent Protection	- F
External Electronic Protection	- W
External Enhanced	- E
No Internal Protection or TW*+TF*	- X
Tandem/Trio TE*+TW*	- Y
Tandem/Trio TE*+TF*	- Z

**Nominal Capacity at Rating Condition**  
2 - 3 numeric characters

**Bill of Material Product Variation**

# ZRDU 12MCE - TFD - 250

Family Series	
Z	Scroll
V	Asia Scroll
X	V Scroll w/other Agency Approval

Capacity Multiplier	
K	= 1,000
M	= 10,000
C	= SCFM

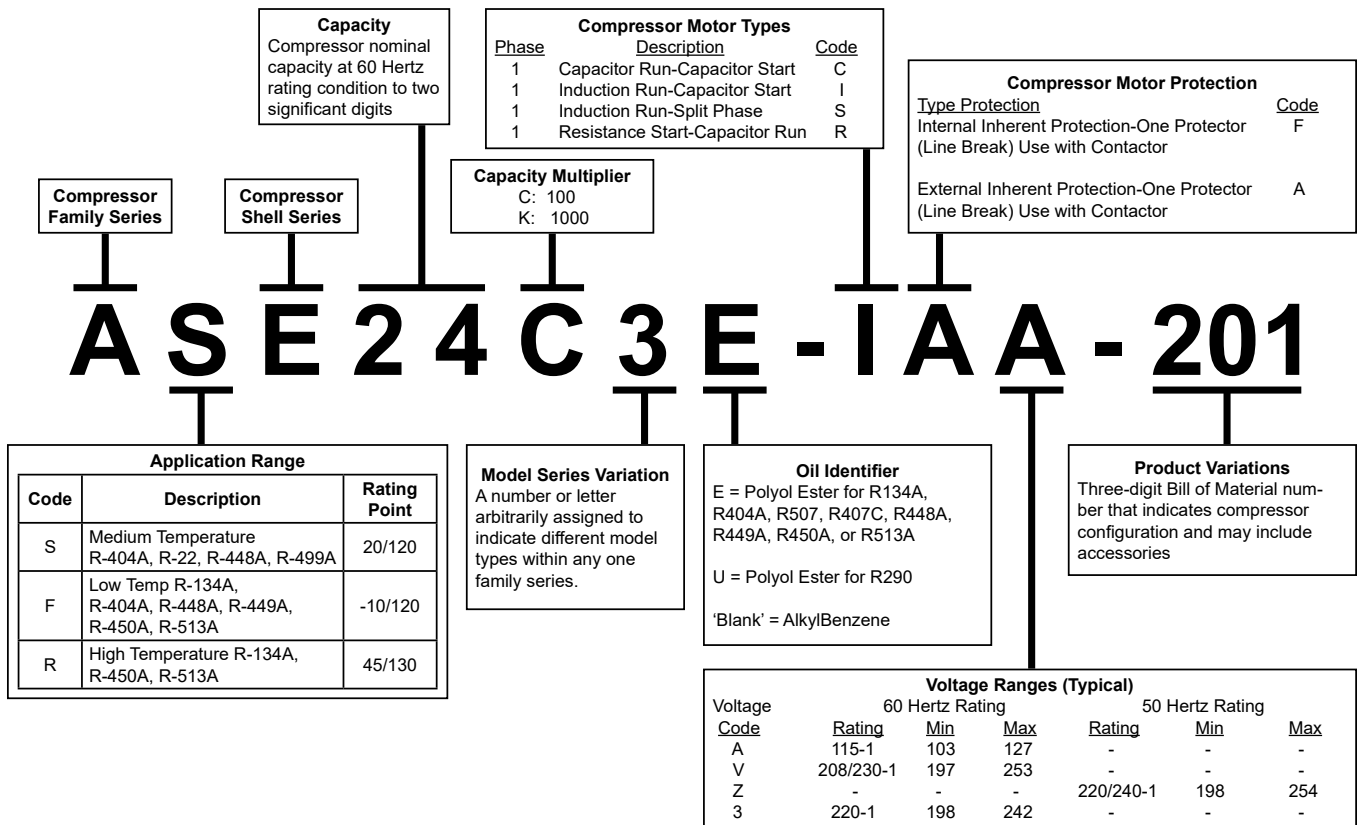
Model Variation	
1	F
2	H
3	L
4	M
5	Q
6	S
A	T
B	U
C	V
D	W
E	

Motor Descriptions	
Phase	Code
1	P
3	T
BPM	B
3 PWS 50/50	F
3 Encapsulated Stator	K
Multiple Speed	M
6 Lead Across The Line	D
Unlike Motor Protection	X

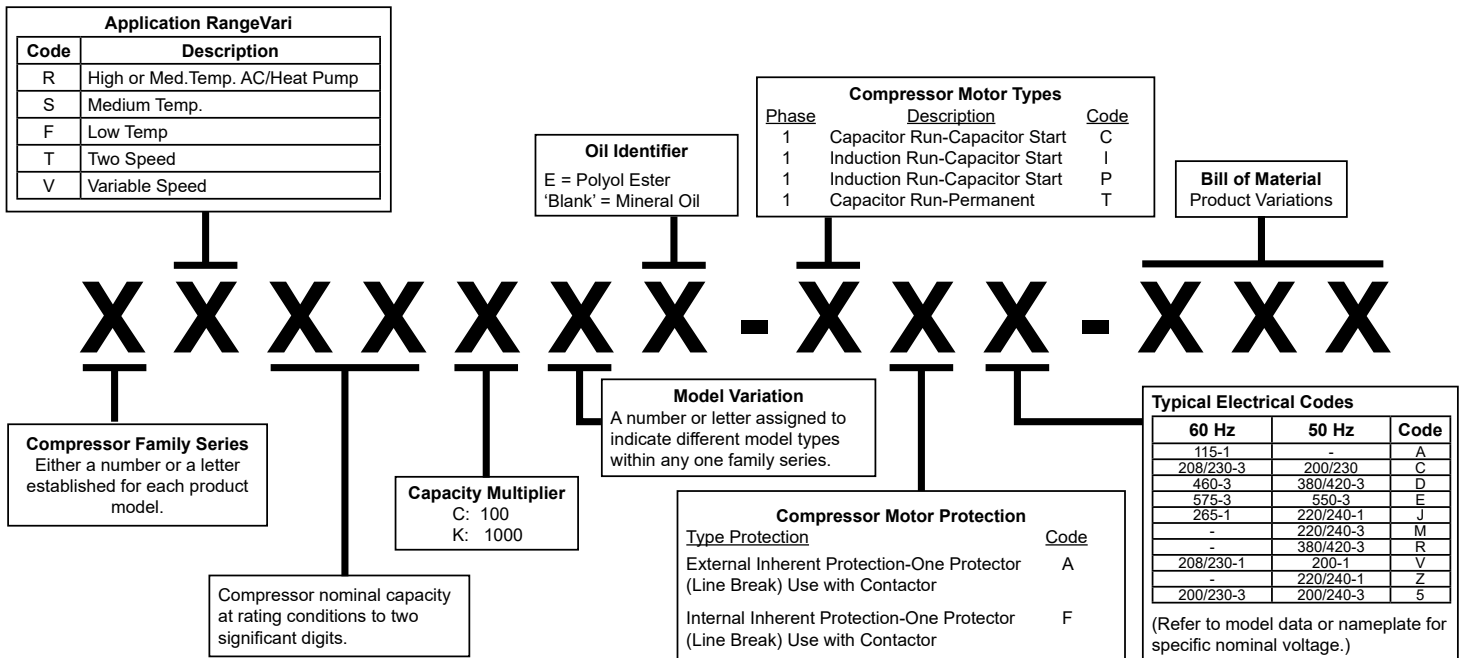
Voltage Electrical Codes		
60hz	50Hz	Code
230-1	----	B
208-230-3	200-3	C
460-3	380-420-3	D
575-3	----	E
265-1	220-240-1	J
----	380-420-3	M
265-1	----	Q
	220-240-3	R
	220-1	S
208-230-1	200-1	V
----	200-220-3	W
Misc AC Voltages		
----	220-240-1	Z
200-230-3	200-220-3	5
380-3/380-400-3	----	7
----	415-3	0
220-1	220-1	3
*Model Specific		

Application Range/Envelope		
Code	Application	Refgn/Substance Compressed
P	AC	R-410A/B
R	AC	R-22/407C/134a
B	Ref MT / HT	R-22/R-404A, 410A/407A/407C/407F
F	Ref LT / MT	R-404A/134a/22/407A/407C/407F
S	Ref EM	R-404A/134a/410A
C	Cryogenic	Helium
M	Marine	R404A
N	Gas Boost	Natural Gas
X	Asia Cond Unit	R-22
T	Mobile Scroll	R-134A
H	Heat Pump Optimized	R-407C/134a/R410A
O	Ref Subcritical LT	R744
W	Water-Heater	R-22/405C/410A
I	Ice Market	R404A
E	AC	R32
J	Tropical	R410A

## Copeland Welded Compressor Nomenclature



## Copeland Welded HFC Compressor Nomenclature



# Copeland Semi-Hermetic and Discus Compressor Nomenclature – Horsepower (Old)

Compressor Cooling	
Code	Description
A	Air cooled
D	Discus
R	Refrigerant cooled
T	Std. two stage
W	Water cooled

Comp. Motor Rating Nominal					
HP	Code	HP	Code	HP	Code
1/4	0025	2-3/4	0275	15	1500
1/3	0033	3 (0310)	0300	20	2000
1/2	0050	3-1/2	0350	25	2500
3/4	0075	4 (0406)	0400	30	3000
1	0100	5 (0506)	0500	35	3500
1-1/4	0125	6	0600	40	4000
1-1/2	0150	7-1/2 (0766)	0750	50	5000
1-3/4	0175	9	0900	60	6000
2	0200	10 (1015)	1000		
2-1/2	0250	12	1200		

Compressor Motor Type	
Single Phase Motors	Code
Capacitor run - Capacitor start	C
Induction run - Capacitor start	I
Induction run - Split phase	S
Induction run - Capacitor start, low torque	X
Three Phase Motors	
Code	
General	T
3 Lead single voltage	
6 Lead part winding (575 volt)	
9 Lead dual voltage	
Star (wye) delta	
6 Lead motors	E
Part winding or across the line	F

**Product Variations**  
Numbers will be assigned as follows:

- Numbers -001 through -199 are reserved for sub+b/m numbers.
- Numbers -200 indicates a standard compressor and component parts b/m and model no.
- Numbers -201 and larger will be assigned for all other variations of a given model.

**Tandem Style Models**  
Indicated by the digit representing the comp. model series connected in tandem with a comp. of the model series indicated by the first digit.

May be (-) or A

Note: Nominal horsepower rating of tandem compressors is sum of individual compressor ratings

**XXXX - XXXX - XXX XXX**

Compressor Family Series	
Either a number or a letter established for each product family.	

Displacement and Valve Plate	
A letter only, arbitrarily assigned for each different displacement within any one family series.	

Model Variation	
A number or letter, assigned to indicate different model types within any family series.	

May also be	
A = (Alkylbenzene)	
E = (POE Oil)	
L = (Less Oil)	

Compressor Motor Protection	
Description	Code
External inherent protection - one protector (line break) use with contactor	A
Internal inherent protection - one protector use with contactor	F
Internal thermostat(s); and ext, supplementary protector(s) use with contactor.	H
Internal thermostat(s); and three ext, supplementary protector(s) use with contactor.	L
Internal thermal protectors - electronic sensors; and control module external. Use with contactor.	S
Internal thermal protectors - electronic sensors; and control module external. use with contactor (For European use only).	W

Electrical Codes		
60 Hz	50 Hz	Code
115-1	100-1	A
230-1	200-1	B
5206-230-3	200/220-3	C
460-3	380/400-3	D
575-3	500-3	E
-	115-1	F
-	230-1	G
208-1	200-1	H
-	208/230-1	I
208/230/460-3	200/400-3	K
-	210/240/380-3	L
-	380-420-3	M
230/460-3	200/400-3	N
-	200/380-3	P
-	200/240-3	R

60 Hz	50 Hz	Code
-	220-1	S
-	200-1	T
200-3	-	U
208-230-1	200-1	V
-	200/220-3	W
Misc. A.C. Ratings		Code
-	500-3	Y
-	220/240-1	Z
200-1	200-1	3
100-1	100-1	4
200-230-3	-	5
230-3	-	6
380	346	7
200/220/380	200/345	8

\* When applicable, specific 50 Hz ratings (Not necessarily identical to typical shown above) will be shown as alternate on 60 Hz rated models.

# Copeland Semi-Hermetic and Discus Compressor Nomenclature – Capacity (Current)

Compressor Cooling	
Code	Description
A	Air cooled
D	Discus
R	Refrigerant cooled
T	Std. two stage
W	Water cooled

Nominal Capacity at Rating Condition	
2 numeric characters	

May also be	
O = (Mineral Oil)	
E = (POE Oil)	
L = (Less Oil)	

Capacity Multiplier	
K = 1,000	
M = 10,000	

Compressor Motor Type	
Single Phase Motors	Code
Capacitor run - Capacitor start	C
Induction run - Capacitor start	I
Induction run - Split phase	S
Induction run - Capacitor start, low torque	X
Three Phase Motors	
Code	
General	T
3 Lead single voltage	
6 Lead part winding (575 volt)	
9 Lead dual voltage	
Star (wye) delta	
6 Lead motors	E
Part winding or across the line	F

**Product Variations**  
Numbers will be assigned as follows:

- Numbers -001 through -199 are reserved for sub+b/m numbers.
- Numbers -200 indicates a standard compressor and component parts b/m and model no.
- Numbers -201 and larger will be assigned for all other variations of a given model.

**Tandem Style Models**  
Indicated by the digit representing the comp. model series connected in tandem with a comp. of the model series indicated by the first digit.

**Primary Application Range**  
R = ARI high temp rated @ 45/130  
S = ARI med temp rated @ 20/120  
F = ARI low temp rated @ -25/105

**XXXX X XXXX - XXX XXX**

Compressor Family Series	
Either a number or a letter established for each product family.	

Displacement and Valve Plate	
A letter only, arbitrarily assigned for each different displacement within any one family series.	

Model Variation	
A number or letter, assigned to indicate different model types within any family series.	

Compressor Motor Protection	
Description	Code
External inherent protection - one protector (line break) use with contactor	A
Internal inherent protection - one protector use with contactor	F
Internal thermostat(s); and ext, supplementary protector(s) use with contactor.	H
Internal thermostat(s); and three ext, supplementary protector(s) use with contactor.	L
Internal thermal protectors - electronic sensors; and control module external. Use with contactor.	S
Internal thermal protectors - electronic sensors; and control module external. use with contactor (For European use only).	W

Electrical Codes		
60 Hz	50 Hz	Code
115-1	100-1	A
230-1	200-1	B
5206-230-3	200/220-3	C
460-3	380/400-3	D
575-3	500-3	E
-	115-1	F
-	230-1	G
208-1	200-1	H
-	208/230-1	I
208/230/460-3	200/400-3	K
-	210/240/380-3	L
-	380-420-3	M
230/460-3	200/400-3	N
-	200/380-3	P
-	200/240-3	R

60 Hz	50 Hz	Code
-	220-1	S
-	200-1	T
200-3	-	U
208-230-1	200-1	V
-	200/220-3	W
Misc. A.C. Ratings		Code
-	500-3	Y
-	220/240-1	Z
200-1	200-1	3
100-1	100-1	4
200-230-3	-	5
230-3	-	6
380	346	7
200/220/380	200/345	8

\* When applicable, specific 50 Hz ratings (Not necessarily identical to typical shown above) will be shown as alternate on 60 Hz rated models.

## Discus Compressor Quick Reference Nomenclature

	Features	Model Displacement			
Discus II	Standard/digital unloader	4DA*	4DB*	4DH*	4DJ*
	Unloader	4DE3	4DC3	4DK3	fDR3
	Oil cooler			4DL3	4DT3
	Unloader w/oil cooler	4DN3		4DP3	4DS3
Discus III	Standard/digital unloader	4DA^	4DB^	4DH^	4DJ^
	Unloader	4DEN	4DCN	4DKN	4DRN

4th character:

\* 3=standard, D=digital

^ N=standard, X=digital

Note: Oil coolers are not applicable for Discus III models.

	Features	Model Displacement				
Discus II	Standard/digital unloading	6DH*	6DB*	6DG*	6DJ*	
	1-bank unloading/ 1-bank unloading + digital unloading	6DK*	6DW*	6DM*	6DR*	
	2-bank unloading	6DP3	6DY3	6DN3	6DS3	
	Oil cooler	6DL			6DT	
	1-bank unloading w/oil cooler	6DC			6DE	
	2-bank unloading w/oil cooler	6DD		6DF		
Discus III	Standard/digital unloading	6DH*	6DB*	6DG*	6DJ*	6DU*
	1-bank unloading/ 1-bank unloading + digital unloading	6DK*	6DW*	6DM*	6DR*	6DV*
	2-bank unloading	6DPN	6DYN	6DNN	6DSN	6DZN

4th character:

\* 3=standard, D=digital

^ N=standard, X=digital

Note: Oil coolers are not applicable for Discus III models.



## Bill of Material

### COPELAND WELDED & SCROLL COMPRESSORS

The last 3 digits of a compressor model number, the bill of material, can tell a lot about the compressor configuration and other details as well. The information below provides some general guidelines.

However, there are always exceptions to these general rules and if specific and precise information on a full and complete model number is necessary you can get that information from your local authorized Emerson wholesaler or Customer Service in Fishers, Indiana.

xxxx-xxxx-xxx-XXX The last 3 digits of any model is a unique bill of material.

- 1xx's series (example -100), Used in Emerson condensing units
- 2xx's (example -202), New production compressors used by OEM's
- 5xx's (example -501), International compressors, may end up back in the U.S. in equipment
- 8xx's (example -800, 818) Wholesaler Service recip-hermetic, semi-hermetic, or Scroll)
- 9xx's (example -959 or -970), Wholesaler service compressors used to replace the above bills of material in most situations which include oil, protector, terminal box cover, and mounting parts in a single carton.

## Application Engineering Bulletins - Glossary

We have attempted to gather some information on terminology and subjects unique to Emerson that may help wholesalers answer questions they receive. As time goes on, based on wholesaler input we intend to add additional subjects and topics to this section.

**Demand Cooling** - A system designed to allow Discus compressors to be used in low temperature refrigeration applications with refrigerant HCFC-22 . It uses a sensor to monitor discharge gas temperature. If a critical temperature is reached, a module energizes an injection valve, which meters a controlled amount of saturated refrigerant into the compressor suction cavity to cool suction gas. Demand cooling can be added to any low temp Discus compressor with a **3** or the letter **N** in the fourth digit of the model number, which means it has the necessary body port needed for the liquid injection. Please refer to AE 4-1287 and/or form 92-91 for more information on this subject.

<http://climate.emerson.com/CPID/GRAPHICS/Types/AEB/ae1287.pdf>

**Sentronic** - An electronic oil pressure control that uses a sensor to precisely measure oil pump differential pressure. The main advantage over mechanically operated oil pressure safety controls is the elimination of traditional capillary tubes, bellows, and mechanical fittings that can leak. It also provides a precise and consistent timing circuit, another improvement. This provides a reliability improvement when used on any Emerson semi-hermetic compressors 3 horsepower and up that come with an oil pump. An oil safety control is required for proper installation of such compressors, whether mechanical or electronic. Please refer to AE 8 -1275 for a complete explanation on this item.

<http://climate.emerson.com/CPID/GRAPHICS/Types/AEB/ae1275.pdf>

**Moduload** - Is a unique and efficient way to unload 3D compressors when an application requires that it handle a varying refrigeration load requirement. It uses a piston, cylinder and spring mechanism which are solenoid actuated to unload all cylinders equally which assures a smooth and vibration-free operation. Please refer to AE 21-1278 in your Application Engineering Catalog for more specific information on this topic. <https://climate.emerson.com/CPID/GRAPHICS/Types/AEB/ae1278.pdf>

\*Wholesalers should encourage contractors to transition to digital technology.

**Module/Electronic Controls** – A solid-state electronic mechanism that can be used for a variety of purposes, depending on the sensor and other components that it is specifically designed for. For instance, it can be used for electric motor protection, or as a control in other systems such as Emerson's Demand Cooling or Sentronic systems.

**Capacity Control** – Defined as a method to control the capacity performance of a compressor to more readily meet the refrigeration load requirements which fluctuate over a range in an application. These mechanisms (unloaders) or other methods, such as hot-gas by pass, adjust compressor performance to meet these various requirements and can provide the added benefit of energy savings as well.

<https://climate.emerson.com/CPID/GRAPHICS/Types/AEB/ae1355.pdf>

<http://climate.emerson.com/CPID/GRAPHICS/Types/AEB/ae1373.pdf>

<https://climate.emerson.com/CPID/GRAPHICS/Types/AEB/ae1319.pdf>

<http://climate.emerson.com/CPID/GRAPHICS/Types/AEB/ae1357.pdf>

Emerson Part Number XXX-XXXX-XX – the numbers used to identify a given Emerson part.

Phase Control - <http://climate.emerson.com/CPID/GRAPHICS/Types/AEB/ae1313.pdf>

Crankcase Heater - <https://climate.emerson.com/CPID/GRAPHICS/Types/AEB/ae1182.pdf>

Various vendors provide the mechanisms such as valves and solenoid coils to activate them, and they are not necessarily interchangeable.

## COPELAND SEMI-HERMETIC & DISCUS COMPRESSORS

xxxx-xxxx-xxx-XXX

As in other Copeland compressors, the last 3 digits are the bill of material for these compressors.

-1xx's used on Emerson condensing units

-2xx's (example -200), New production compressors used by OEM's

-3xx's new production compressors

-4xx's Sentronic sensor installed

-5xx's international - may come back into this country in equipment

-8xx's Service replacement compressors\*

\*These replacement compressors come with oil, protector, a complete gasket set, in a single carton from your authorized Emerson wholesalers. These replacement compressors can be used to replace all of the above in most cases. They are shipped less starting components, service valves and mounting parts. Two stage and capacity control models come less tubing, capacity control valve and coil where applicable.

\*Discus III Service replacements – Discus II compressors will be used as service compressors for Discus III OEM.

For OEM through Wholesale

Compressor will ship with starting components, service valves and mounting parts.

- -CXX compressor electronics - protection
- -AXX compressor electronics - diagnostics
- -ADX compressor electronics - diagnostics and Demand Cooling

## Emerson Lubricant Data

Some semi-hermetic compressors are shipped to original rack equipment manufacturers (OEMs) less oil. The name-plate on these has an **L** in the eighth digit.

Example: 3DA3-075L-TFC-200 This simply indicates the compressor was shipped to the OEM 'less oil'. The OEMs add the required lubricant required for the equipment application.

E-XXX-XXX The **E** indicates the compressor is charged with Ultra 22 CC Polyol Ester Lubricant. XXXX-XXXX-XXX-XXX The **A** indicates the compressor is charged with Ultra 200 Alkybenzene lubricant. Compressors without any of the above designations are charged with approved mineral oil. For more information on compressor oil lubrication consult form [93-11](#).

## Copeland Certified Parts



**Copeland™**  
Certified Parts

### Capacitors

Single phase refrigeration systems require compressors with high torque capability. Start capacitors are used in conjunction with single phase compressors to increase torque values. Start capacitor microfarads are high and only stay in the circuit for a short time. Emerson start capacitors have Underwriter Laboratory recognition and Canadian Standards Association certification. All Emerson start capacitors meet EIA Standards 463B for heavy duty (Type 1) requirements. All Emerson start capacitors are supplied with a bleed-resistor soldered to terminals.



Benefits of the bleed-resistor:

- Helps prevent sticking relay contacts and erratic relay operation even during short cycling.
- Prevents arcing and overheating of relay contacts.
- The resistor depletes capacitor charge quickly versus a start capacitor without a resistor.

### Capacitors

The reliability of Copeland crankcase heaters specifications has been established at nominal voltage ratings of 120, 240, 480, and 600. The Copeland crankcase heaters coincide with standardized nominal service voltage specified by ARI and NEMA:

- UL® Approved
- Immersion type
- Belly band



### Contactors

Copeland contactors are certified and UL approved.

- Silver cadmium oxide contacts for longer life
- Quiet, reliable operation with adjusting magnet armatures
- Compact design
- Snap-on accessories
- Quick connect terminals
- Non-position sensitive for convenient mounting

Contactor pricing and availability can be found on the Emerson wholesaler portal. Copeland contactors have the standard 12 months Copeland warranty for parts.



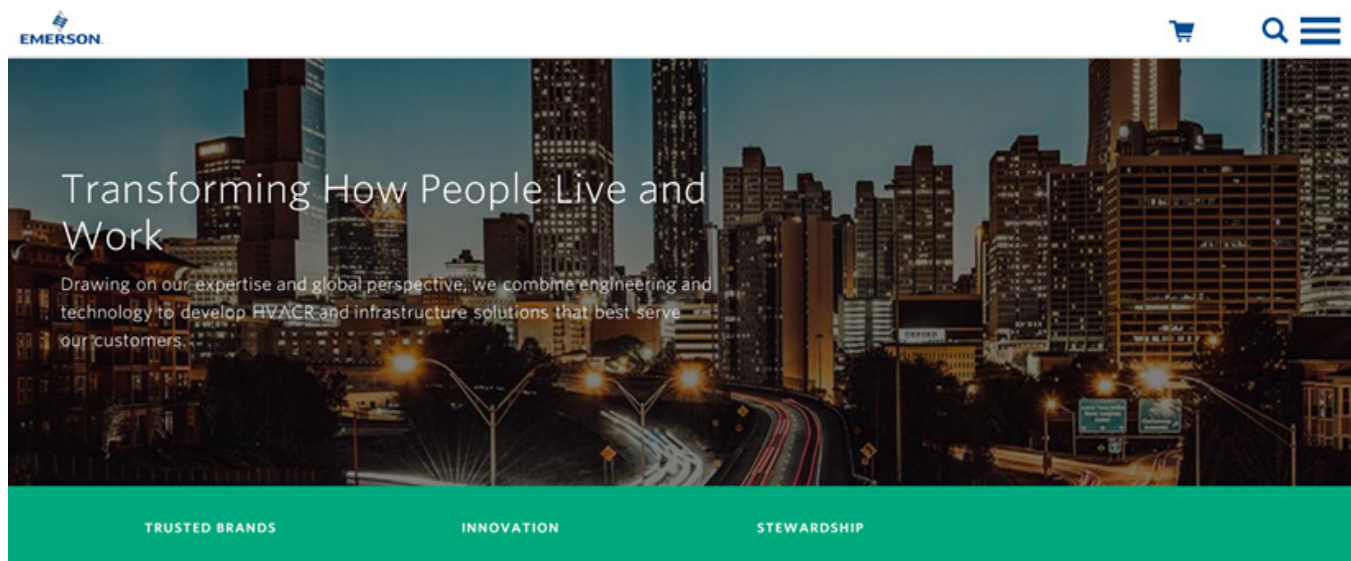
### Oil

All suppliers are vetted through our internal supplier quality audit called the Emerson Supplier Audit Check (ESAC). This quality audit conducted by supplier quality engineers is well beyond normal industry ISO site audits requirements. A Certificate of Analysis (COA) is provided to Emerson by the supplier to ensure each batch of oil meets our Copeland product specifications.

Supplier must use only Emerson approved sources for raw materials to control consistency and quality of our product. Any and all process changes must be pre-approved by Emerson's supplier quality formal written approval process.



## Online Product Information – [Emerson.com/CopelandOPI](https://emerson.com/CopelandOPI)



## Copeland Mobile – [Climate.Emerson.com/MobileApps](https://climate.emerson.com/MobileApps)



Get on-the-go access to Emerson Online Product Information database for Copeland compressor specifications.



## Training

Please refer to this link to ensure you have the latest information: <https://climate.emerson.com/en-us/training-support>

Emerson sponsors several types of training for our customers and others in our industry that want to learn more about Emerson products.

**Compressor Operation and Service Seminar (COSS)** - is designed to provide the industry with a complete education on leading edge compressor technology. COSS focuses on an in-depth examination of refrigeration and air conditioning systems.

For complete information about schedules, enrollment, and pricing contact the Emerson Training Department at (800) 748-2779 (opt 2)

Wholesalers can also contact their Emerson District Sales Manager for assistance and suggestions for customized training sessions for your personnel and customers in the field.

### Application of Emerson compressors

Please refer to this link to ensure you have the latest information: <https://climate.emerson.com/en-us/tools-resources/mobile-apps>

Specification sheets are available for Copeland compressors showing detailed information on operating range and refrigerants. There are no restrictions on sales by a wholesaler in the normal course of business when the compressor is applied in the proper design range and with an approved refrigerant.

A few original equipment manufacturers have developed equipment in which some Copeland compressors are applied outside their normal operating range or with different refrigerants. However, these applications have been approved only after extensive testing and investigation in order to determine the application is both safe and satisfactory. Our Application Engineering department keeps in contact with such users and watches their application closely.

Occasionally, contractors or small manufacturers purchase compressors for non-standard applications from Emerson wholesalers. Such use may result in the customer suffering early compressor failures. Since the Emerson nameplate is on the compressor, the user assumes the wholesaler is acting with our authorization when in fact they may not be. The end result in too many cases is an unnecessary loss of money and reputation for all concerned. Accordingly, no compressor should be sold by a wholesaler for a new (as distinct from replacement in OEM equipment) non-standard application without specific approval from the Emerson Application Engineering department. Merely stating a compressor has no warranty is not acceptable policy.

## About Emerson

Emerson (NYSE: EMR), headquartered in St. Louis, Missouri (USA), is a global technology and engineering company providing innovative solutions for customers in industrial, commercial, and residential markets. Our Emerson Automation Solutions business helps process, hybrid, and discrete manufacturers maximize production, protect personnel and the environment while optimizing their energy and operating costs. Our Emerson Commercial and Residential Solutions business helps ensure human comfort and health, protect food quality and safety, advance energy efficiency, and create sustainable infrastructure. For more information visit [Emerson.com](https://www.emerson.com).