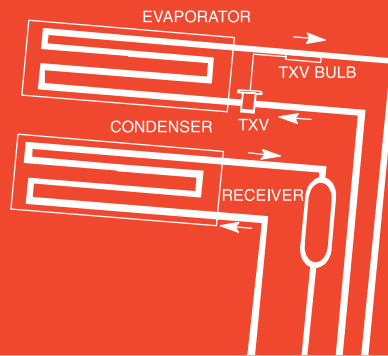
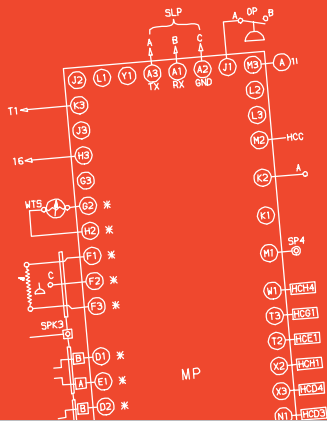


# Trailer Refrigeration



## OPERATION & SERVICE for ULTIMA PHOENIX ULTRA PHOENIX ULTRA MULTI-TEMP PHOENIX ULTRA XL EXTRA & OPTIMA WITH STANDARD MICROPROCESSOR Prior To S/N HAR90573670 Trailer Refrigeration Units



**TRANSICOLD**

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# **OPERATION AND SERVICE MANUAL**

**TRAILER REFRIGERATION UNIT**

**Ultima NDX-93D**

**Phoenix Ultra,  
Phoenix Ultra Multi-Temp  
NDA/NDM-93A/94A**

**Phoenix Ultra XL  
NDA/NDM-93D/94D**

**Extra NDA/NDM-93E/94E**

**Optima NDA-93B/94B**

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## SECTION 1

## DESCRIPTION

## 1.1 INTRODUCTION

| Table 1-1. Model Chart  |             |      |        |      |            |            |              |      |                  |
|-------------------------|-------------|------|--------|------|------------|------------|--------------|------|------------------|
| Models                  | Refrigerant |      |        |      | Compressor | Engine     | Engine Speed |      | Electric Standby |
|                         | R-22        |      | R-404A |      |            |            | High         | Low  |                  |
|                         | LB          | KG   | LB     | KG   |            |            |              |      |                  |
| <b>ULTIMA</b>           |             |      |        |      |            |            |              |      |                  |
| NDX-93D                 | –           | –    | 26     | 11.8 | 05G 41 cfm | CT4-134-DI | 2200         | 1475 | –                |
| <b>PHOENIX ULTRA</b>    |             |      |        |      |            |            |              |      |                  |
| NDA-93A                 | –           | –    | 26     | 11.8 | 05G 41 cfm | CT4-134-TV | 1900         | 1350 | –                |
| NDA-93A Euro            |             |      |        |      | 05G 37 cfm |            | 1700         |      | –                |
| NDM-93A Euro            |             |      |        |      | 05G 37 cfm |            | 1700         |      | 380V 50hz        |
| NDA-94A                 | 26          | 11.8 | –      | –    | 05G 41 cfm |            | 1900         |      | –                |
| NDA-94A Euro            |             |      |        |      | 05G 37 cfm |            | 1700         |      | –                |
| NDM-94A                 |             |      |        |      | 05G 37 cfm |            | 1900         |      | 230V 60hz        |
| NDM-94A Euro            |             |      |        |      | 05G 37 cfm |            | 1700         |      | 380V 50hz        |
| <b>PHOENIX ULTRA XL</b> |             |      |        |      |            |            |              |      |                  |
| NDA-93D                 | –           | –    | 26     | 11.8 | 05G 41 cfm | CT4-134-DI | 1900         | 1350 | –                |
| NDM-93D Euro            |             |      |        |      | 05G 37 cfm |            | 1700         |      | 380V 50hz        |
| NDA-94D                 | 26          | 11.8 | –      | –    | 05G 41 cfm |            | 1900         |      | –                |
| NDM-94D                 |             |      |        |      | 05G 37 cfm |            | 1900         |      | 230V 60hz        |
| NDM-94D Euro            |             |      |        |      | 05G 37 cfm |            | 1700         |      | 380V 50hz        |
| <b>EXTRA</b>            |             |      |        |      |            |            |              |      |                  |
| NDA-93E                 | –           | –    | 26     | 11.8 | 05G 37 cfm | CT4-114-TV | 1700         | 1350 | –                |
| NDM-93E                 |             |      |        |      |            |            |              |      | 230V 60hz        |
| NDM-93E Euro            |             |      |        |      |            |            |              |      | 380V 50hz        |
| NDA-94E                 | 26          | 11.8 | –      | –    | 05G 37 cfm | CT4-114-TV | 1700         | 1350 | –                |
| NDM-94E                 |             |      |        |      |            |            |              |      | 230V 60hz        |
| NDM-94E Euro            |             |      |        |      |            |            |              |      | 380V 50hz        |
| <b>OPTIMA</b>           |             |      |        |      |            |            |              |      |                  |
| NDA-93B                 | –           | –    | 21     | 9.53 | 05K        | CT4-91-TVO | 2200         | 1650 | –                |
| NDA-94B                 | 21.5        | 9.75 | –      | –    |            |            |              |      | –                |

This manual contains Operating Data, Electrical Data and Service Instructions for the refrigeration units listed in Table 1-1.

**WARNING**

**Beware of V-belts and belt driven components as the unit may start automatically. Before servicing unit, make sure the Run - Stop switch is in the STOP position. Also disconnect the negative battery cable.**

**a. Model NDA**

The unit is a one piece, self-contained, fully charged, pre-wired, refrigeration/heating “nosemount” diesel powered unit for use on insulated trailers to maintain cargo temperatures within very close limits. The

model/serial number plate is located inside of the unit on the rear frame as shown in Figure 1-4.

The evaporator fits into a rectangular opening in the upper portion of the trailer front wall. When installed, the evaporator section is located inside the trailer; and the condensing section is outside and on the front of the trailer.

The condensing unit consists of an engine–compressor drive package, condenser fan, condenser coil, radiator coil, control panel, relay module, refrigerant controls, piping, wiring, defrost air switch, and associated components.

The evaporator assembly consists of an evaporator coil, evaporator fan, expansion valve, two defrost thermostats