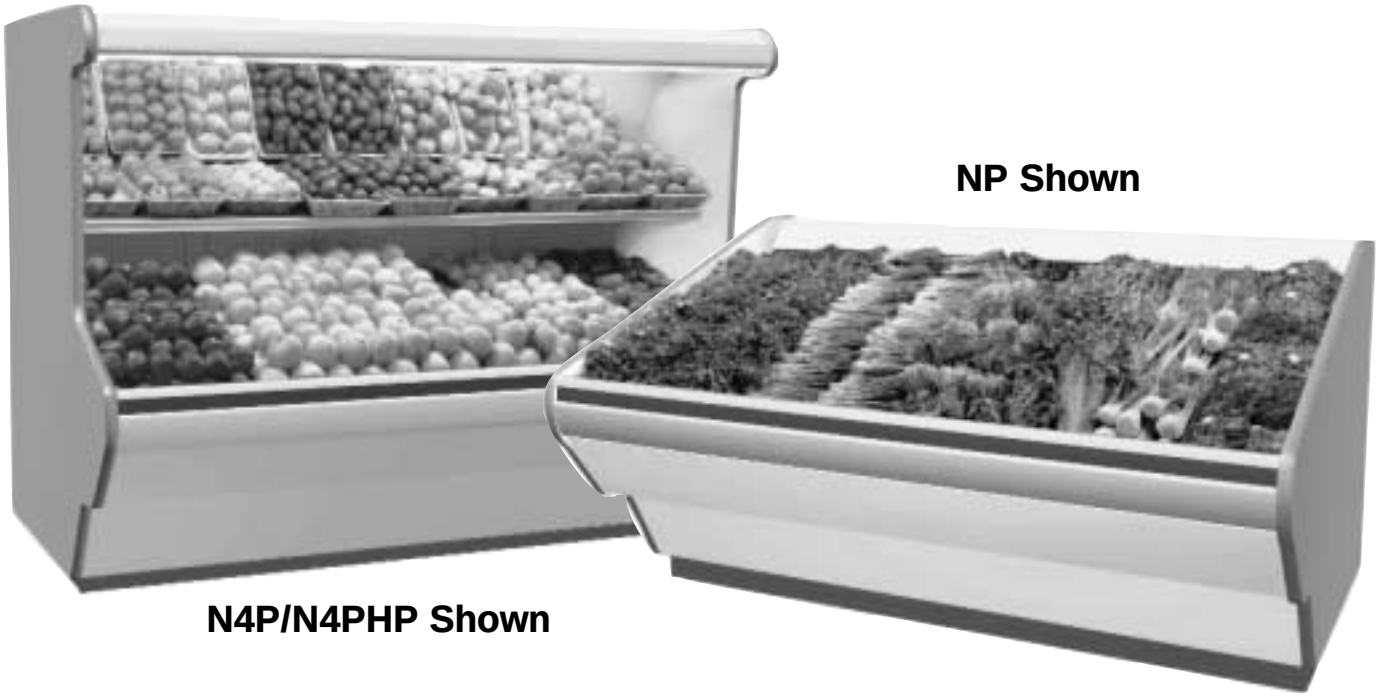
TYLER

1series Advantage

# Installation & Service Manual



**NP Shown**

**N4P/N4PHP Shown**

## NP, N1P, N4P(D), N1PHP, N4PHP

### TOP DISLAY, MULTI-SHELF AND HIGH PERFORMANCE PRODUCE MERCHANDISERS
### Medium Temperature & Non-Refrigerated Display Cases

**This manual has been designed to be used in conjunction with the General (UL/NSF) Installation & Service Manual.**
**Save the Instructions in Both Manuals for Future Reference!!**

These merchandisers conform to the American National Standard Institute & NSF International Health and Sanitation standard ANSI/NSF 7 - 2003.


| PRINTED IN IN U.S.A. | Specifications subject to change without notice. | REPLACES EDITION | 3/02 | ISSUE DATE | 1/06 | PART NO. | 9037152 | REV. | C |
|---|---|---|---|---|---|---|---|---|---|

# CONTENTS

**Page**

**Specifications**
**NP, N1P, N4P(D), N1PHP, N4PHP Specification Sheets** . . . . . 4
**Pre-Installation Responsibilities** . . . . . (See General-UL/NSF I&S Manual)
**Installation Procedures**
**Carpentry Procedures** . . . . . 14
Case Pull-Up Locations . . . . . 14
**Refrigeration Procedures** . . . . . (See General-UL/NSF I&S Manual)
Electronic Temperature Control . . . . . 14
**Electrical Procedures** . . . . . 15
Electrical Considerations . . . . . 15
Case Fan Circuit . . . . . 15
Fluorescent Lamp Circuit . . . . . 15
**Plumbing Procedures** . . . . . (See General-UL/NSF I&S Manual)
**Defrost Information** . . . . . 15
Defrost Control Chart . . . . . 15
**Installation Procedure Check Lists** (See General-UL/NSF I&S Man.)
**Wiring Diagrams** . . . . . 16
NP Domestic & Export (50Hz) Case Circuits . . . . . 16
N1P(HP)/N4P(D)(HP) Domestic & Export (50Hz) Case Circuits . . 17
Canopy Lighting Circuit (N1P(HP)/N4P(D)(HP)) . . . . . 19
Optional Shelf Lighting Circuit (N4P(D)(HP)) . . . . . 20
**Cleaning and Sanitation** . . . . . (See General-UL/NSF I&S Manual)
**Component Removal and Installation Instructions for Cleaning** 21
Mirrors (N1P(HP)/N4P(D)(HP)) . . . . . 21
Shelves and Shelf Brackets (N4P(HP)(D)) . . . . . 21
Screens and Bottom Trays . . . . . 21
Front Air Ducts . . . . . 21
Rear Duct Panels . . . . . 21
Discharge Air Honeycomb . . . . . 21
Top Duct (N1P(HP)/N4P(D)(HP)) . . . . . 22
Lower Cladding . . . . . 22
Upper Cladding . . . . . 22

**Page**

**General Information**
- **NSF Product Thermometer Installation** . . . . . 22
- **Mirror Installation (N1P(HP)/N4P(D)(HP))** . . . . . 22
- **Water Spray Accessories** . . . . . 23
- **Produce Handling Tips** . . . . . 24
- Produce Handling Chart . . . . . 25

**Service Instructions**
- **Preventive Maintenance** . . . . . (See General-UL/NSF I&S Manual)
- **Ballast and Lighting Locations** . . . . . 27

**Parts Information**
- Cladding and Optional Trim Parts List . . . . . 28
- Operational Parts List . . . . . 30

**TYLER Warranty** . . . . . (See General-UL/NSF I&S Manual)

The following Medium Temperature, Top Display, Multi-Shelf and High Performance, Refrigerated and Non-Refrigerated, Open Produce Merchandiser models are covered in this manual:

| MODELS | DESCRIPTION |
|---|---|
| **NP** | **8’ & 12’ TOP DISPLAY PRODUCE MERCHANDISER** |
| **N1P** | **8’ & 12’ PRODUCE MERCHANDISER WITHOUT SHELVES** |
| **N4P/N4PD** | **8’ & 12’ MULTI-SHELF PRODUCE MERCHANDISER WITH SHELVES** |
| **N1PHP** | **8’ & 12’ HIGH PERORMANCE PRODUCE MERCHANDISER WITHOUT SHELVES** |
| **N4PHP** | **8’ & 12’ HIGH PERFORMANCE PRODUCE MERCHANDISER WITH SHELVES** |

# SPECIFICATIONS

## NP Top Display Bulk Produce Merchandisers

**Refrigeration Data:**

| MODEL | CASE LENGTH | CASE USAGE | CAPACITY (BTUH / FT) | | EVAPORATOR (°F) | UNIT SIZING (°F) | DISCHARGE AIR | | AVG. REF. CHARGE (LBS/FT) |
|---|---|---|---|---|---|---|---|---|---|
| | | | PARALLEL | CONVENTIONAL | | | TEMPERATURE (°F) | VELOCITY (FPM) | |
| NP | 8'/12' | BULK PRODUCE | 354* | 386* | +20** | +18 | +34 | 215*** | 0.25 |

* **For sizing all refrigeration equipment other than TYLER, use conventional BTUH values.**
** **Evaporator temperature is defined as the saturated pressure leaving the case.**
*** **Air velocity measured 1 hour after defrost at the discharge air duct using an ALNOR JR. velometer with a scoop.**

**Use the NM cases for critical temp applications.**

FOR SPECIFIC COMPRESSOR SIZING AND/OR LINE SIZING INFORMATION FOR CASE LINE-UPS, REFER TO THE "GOLD" AND/OR "BUFF" SECTIONS IN THE TYLER SPECIFICATION GUIDE.

**Electrical Data:**

Fans (120 Volt)

| MODEL | CASE LENGTH | FANS / CASE | TOTAL STANDARD FANS | | TOTAL ECM FANS | |
|---|---|---|---|---|---|---|
| | | | AMPS | WATTS | AMPS | WATTS |
| NP | 8' | 2 | 0.68 | 60.4 | 0.44 | 22.0 |
| NP | 12' | 3 | 1.02 | 90.6 | 0.66 | 33.0 |

**Defrost Data:**

| DEFROST TYPE | DEFROSTS PER DAY | DURATION TIME (MIN) | TERMINATION (°F) | EPR SETTINGS * | | DEFROST WATER (LB / FT / DAY) |
|---|---|---|---|---|---|---|
| | | | | R22 (PSIG) | R404A (PSIG) | |
| TIME OFF | 3-4 | 40 | - - - | 43 | 56 | N/A |

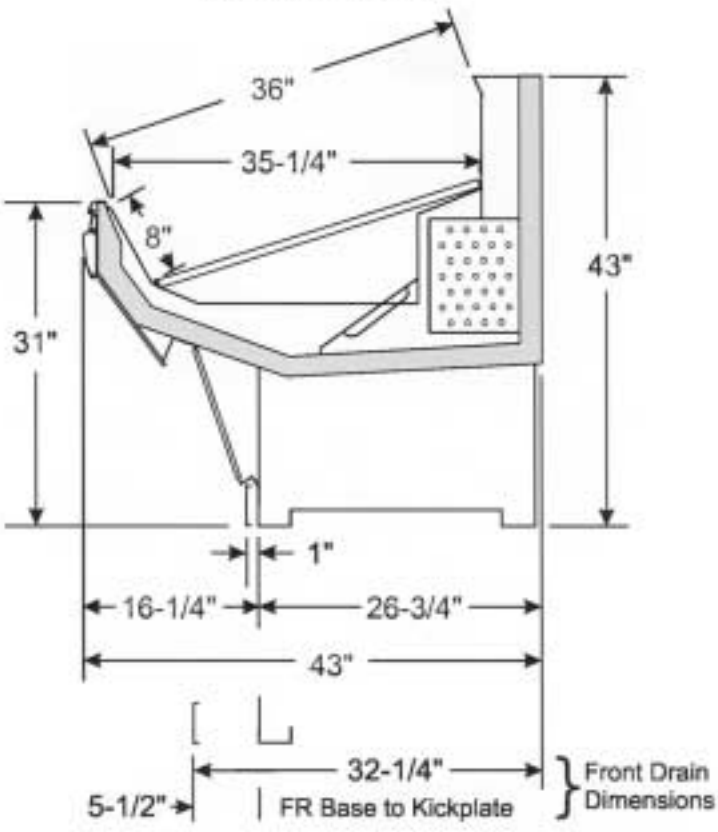
* Set EPR to give this pressure at the case.

| CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODEL | 8' | 12' | 16' | 20' | 24' | 28' | 32' | 36' | 40' | 44' | 48' | 52' | 56' | 60' |
| NP R22 | 1/2" | 1/2" | 1/2" | 5/8" | 5/8" | 5/8" | 7/8" | 7/8" | 7/8" | 7/8" | 7/8" | 7/8" | 7/8" | 7/8" |

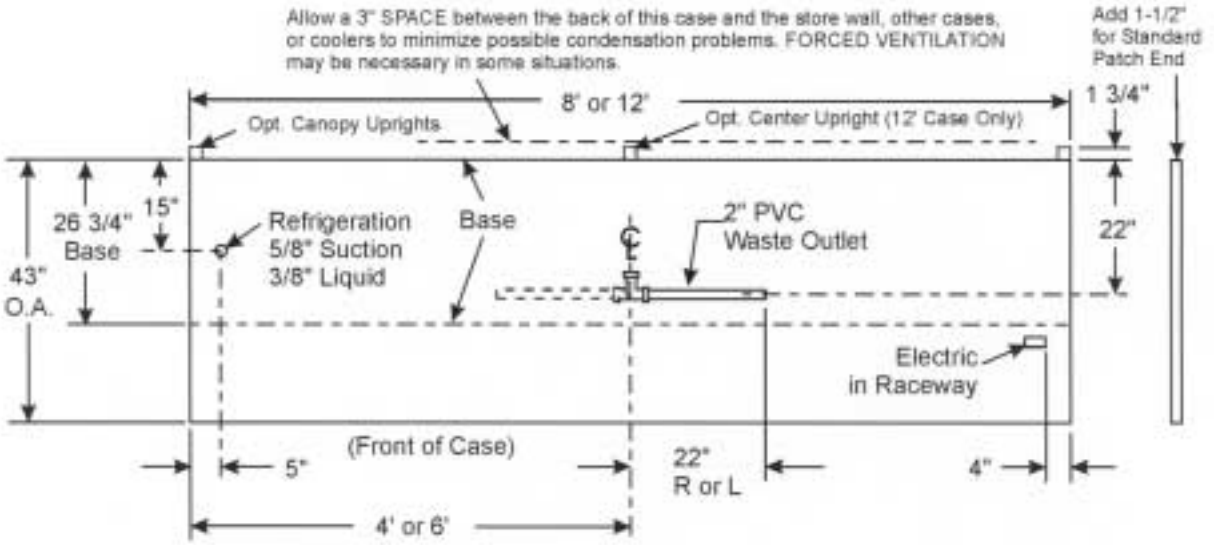
**UL SANITATION** approved in accordance with ANSI/NSF - 7.

**CASE BTUH REQUIREMENTS** are calculated to produce approximately the indicated entering-air temperature with absolute maximum operating ambient limits of **75°F & 55RH.**

**NP CROSS SECTION**




**FLOOR PLAN**



# N1P Single Deck Bulk Produce Merchandisers

**Refrigeration Data:**

| MODEL | CASE LENGTH | CASE USAGE | CAPACITY (BTUH / FT) | | EVAPORATOR (°F) | UNIT SIZING (°F) | DISCHARGE AIR | | AVG. REF. CHARGE (LBS/FT) |
|---|---|---|---|---|---|---|---|---|---|
| | | | PARALLEL | CONVENTIONAL | | | TEMPERATURE (°F) | VELOCITY (FPM) | |
| N1P | 8'/12' | BULK PRODUCE | 760* | 829* | +20** | +18 | +38 | 150*** | 0.25 |

* **Capacity data listed for 1 or 2 rows of T-8 canopy lights and a 30" mirror. For sizing all refrigeration equipment other than TYLER, use conventional BTUH values.**
** **Evaporator temperature is defined as the saturated pressure leaving the case.**
*** **Air velocity measured 1 hour after defrost at the top discharge air duct using an ALNOR JR. velometer with a scoop.**

**Use the N4M cases for critical temp applications.**

FOR SPECIFIC COMPRESSOR SIZING AND/OR LINE SIZING INFORMATION FOR CASE LINE-UPS, REFER TO THE "GOLD" AND/OR "BUFF" SECTIONS IN THE TYLER SPECIFICATION GUIDE.

**Electrical Data:**

Fans (120 Volt)

| MODEL | CASE LENGTH | FANS / CASE | TOTAL STANDARD FANS | | TOTAL ECM FANS | |
|---|---|---|---|---|---|---|
| | | | AMPS | WATTS | AMPS | WATTS |
| N1P | 8' | 2 | 0.68 | 60.4 | 0.44 | 22.0 |
| N1P | 12' | 3 | 1.02 | 90.6 | 0.66 | 33.0 |

T-8 Lighting with Electronic Ballasts (120 Volt)

| MODEL | CASE LENGTH | CANOPY LIGHTS – PER ROW* | | | | MAXIMUM LIGHTING (2 ROWS) | |
|---|---|---|---|---|---|---|---|
| | | AMPS | | WATTS | | AMPS | WATTS |
| | | 1 | 2 | 1 | 2 | | |
| N1P | 8' | 0.50 | 0.95 | 60.0 | 114.0 | 0.95 | 114.0 |
| N1P | 12' | 0.70 | 1.40 | 84.0 | 168.0 | 1.40 | 168.0 |

**Defrost Data:**

| DEFROST TYPE | DEFROSTS PER DAY | DURATION TIME (MIN) | TERMINATION (°F) | EPR SETTINGS * | | DEFROST WATER (LB / FT / DAY) |
|---|---|---|---|---|---|---|
| | | | | R22 (PSIG) | R404A (PSIG) | |
| TIME OFF | 3-4 | 40 | - - - | 43 | 56 | N/A |

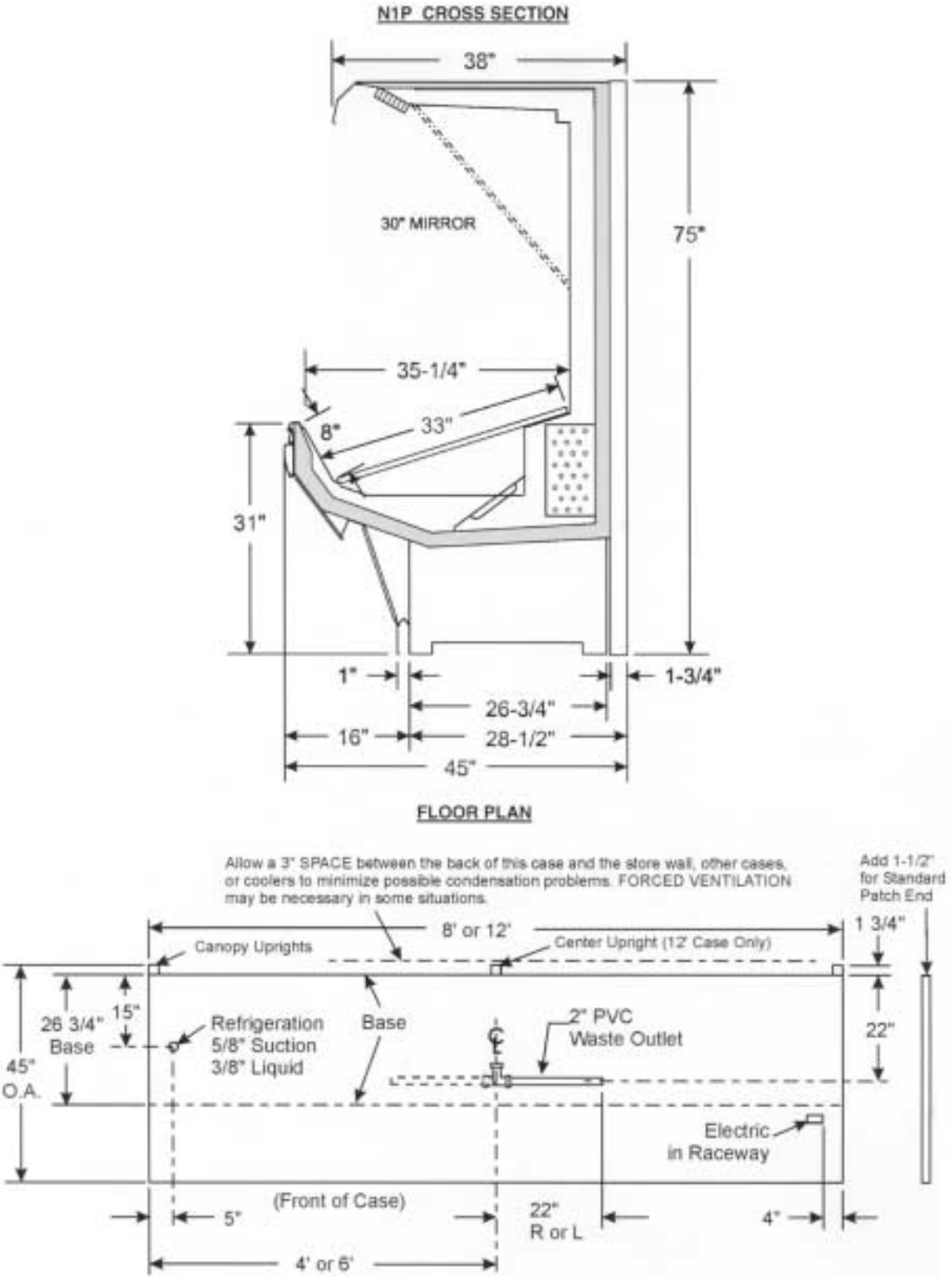
* Set EPR to give this pressure at the case.

| CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODEL | 8' | 12' | 16' | 20' | 24' | 28' | 32' | 36' | 40' | 44' | 48' | 52' | 56' | 60' | 64' | 68' |
| N1P R22 | 1/2" | 5/8" | 5/8" | 7/8" | 7/8" | 7/8" | 7/8" | 7/8" | 7/8" | 1-1/8" | 1-1/8" | 1-1/8" | 1-1/8" | 1-1/8" | 1-1/8" | 1-1/8" |

**SHELVING AND MIRROR NOTES:** N1P has a 30" standard mirror and shelves are not allowed.

**UL SANITATION** approved in accordance with ANSI/NSF - 7.

**CASE BTUH REQUIREMENTS** are calculated to produce approximately the indicated entering-air temperature with absolute maximum operating ambient limits of **75°F & 55RH.**


N1P CROSS SECTION
38"
30" MIRROR
75"
35-1/4"
8"
33"
31"
1"
1-3/4"
26-3/4"
16"
28-1/2"
45"
FLOOR PLAN
Allow a 3" SPACE between the back of this case and the store wall, other cases, or coolers to minimize possible condensation problems. FORCED VENTILATION may be necessary in some situations.
Add 1-1/2" for Standard Patch End
8' or 12'
1 3/4"
Canopy Uprights
Center Upright (12' Case Only)
26 3/4" Base
15"
Refrigeration
5/8" Suction
3/8" Liquid
Base
2" PVC
Waste Outlet
22"
45" O.A.
Electric in Raceway
(Front of Case)
5"
22" R or L
4"
4' or 6'

# N1PHP High Performance Single Deck Bulk Produce Merchandisers

**Refrigeration Data:**

| MODEL | CASE LENGTH | CASE USAGE | CAPACITY (BTUH / FT) | | EVAPORATOR (°F) | UNIT SIZING (°F) | DISCHARGE AIR | | AVG. REF. CHARGE (LBS/FT) |
|---|---|---|---|---|---|---|---|---|---|
| | | | PARALLEL | CONVENTIONAL | | | TEMPERATURE (°F) | VELOCITY (FPM) | |
| N1PHP | 8'/12' | BULK PRODUCE | 723* | 733* | +34** | +32 | +42 | 139*** | 0.61 |

* **Capacity data listed for 1 or 2 rows of T-8 canopy lights and a 30" mirror. For sizing all refrigeration equipment other than TYLER, use conventional BTUH values.**
** **Evaporator temperature is defined as the saturated pressure leaving the case.**
*** **Air velocity measured 1 hour after defrost at the top discharge air duct using an ALNOR JR. velometer with a scoop.**

**Use the N4MHP cases for critical temp applications.**

FOR SPECIFIC COMPRESSOR SIZING AND/OR LINE SIZING INFORMATION FOR CASE LINE-UPS, REFER TO THE "GOLD" AND/OR "BUFF" SECTIONS IN THE TYLER SPECIFICATION GUIDE.

**Electrical Data:**

Fans (120 Volt)

| MODEL | CASE LENGTH | FANS / CASE | TOTAL STANDARD FANS | | TOTAL ECM FANS | |
|---|---|---|---|---|---|---|
| | | | AMPS | WATTS | AMPS | WATTS |
| N1PHP | 8' | 2 | 1.60 | 142.0 | 1.06 | 44.0 |
| N1PHP | 12' | 3 | 2.40 | 213.0 | 1.59 | 66.0 |

T-8 Lighting with Electronic Ballasts (120 Volt)

| MODEL | CASE LENGTH | CANOPY LIGHTS – PER ROW* | | | | MAXIMUM LIGHTING (2 ROWS) | |
|---|---|---|---|---|---|---|---|
| | | AMPS | | WATTS | | | |
| | | 1 | 2 | 1 | 2 | AMPS | WATTS |
| N1PHP | 8' | 0.50 | 0.95 | 60.0 | 114.0 | 0.95 | 114.0 |
| N1PHP | 12' | 0.70 | 1.40 | 84.0 | 168.0 | 1.40 | 168.0 |

**Defrost Data:**

| DEFROST TYPE | DEFROSTS PER DAY | DURATION TIME (MIN) | ELEK. THERMOSTAT / AIR SENSOR SETTINGS | | | EPR SETTINGS * | | DEFROST WATER (LB / FT / DAY) |
|---|---|---|---|---|---|---|---|---|
| | | | USAGE | CUT-IN (°F) | CUT-OUT (°F) | R22 (PSIG) | R404A (PSIG) | |
| TIME OFF | 2 | 10** | MED TEMP | 43 | 41 | 60 | 75 | N/A |

* Set EPR to give this pressure at the case. **NOTE:** The customer will need to set the EPR on the parallel rack or single unit to the appropriate suction temperature and the N1PHP cases must be on a separate suction stub with a separate EPR. **ADD** 0.5# to EPR setting for each 1000 foot rise in elevation.

** **NOTE:** 10 minutes is for EPR with suction stop for defrost isolation. Defrost times increase by four minutes (14 min. total) when defrost isolation is by pump down.Set EPR to give this pressure at the case.

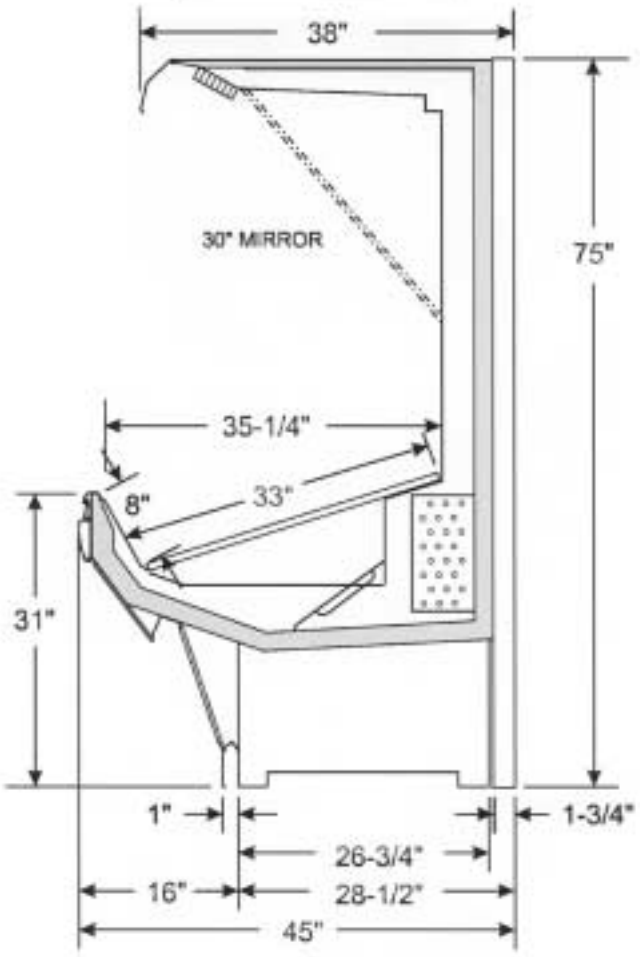
| CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODEL | 8' | 12' | 16' | 20' | 24' | 28' | 32' | 36' | 40' | 44' | 48' | 52' | 56' | 60' | 64' | 68' |
| N1PHP R22 | 1/2" | 5/8" | 5/8" | 7/8" | 7/8" | 7/8" | 7/8" | 7/8" | 7/8" | 1-1/8" | 1-1/8" | 1-1/8" | 1-1/8" | 1-1/8" | 1-1/8" | 1-1/8" |

**SHELVING AND MIRROR NOTES:** N1PHP has a 30" standard mirror and shelves are not allowed.

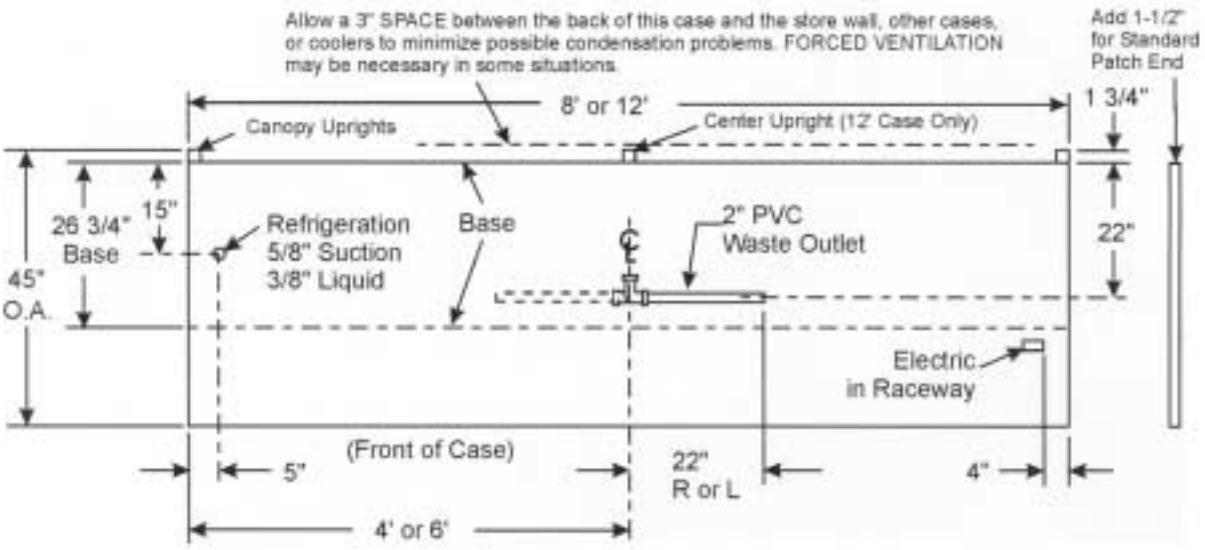
**UL SANITATION** approved in accordance with ANSI/NSF - 7.

**CASE BTUH REQUIREMENTS** are calculated to produce approximately the indicated entering-air temperature with absolute maximum operating ambient limits of **75°F & 55RH.**

**N1PHP CROSS SECTION**




**FLOOR PLAN**



# N4P(D) Multi-Shelf Bulk Produce Merchandisers

**Refrigeration Data:**

| MODEL | CASE LENGTH | CASE USAGE | CAPACITY (BTUH / FT) | | EVAPORATOR (°F) | UNIT SIZING (°F) | DISCHARGE AIR | | AVG. REF. CHARGE (LBS/FT) |
|---|---|---|---|---|---|---|---|---|---|
| | | | PARALLEL | CONVENTIONAL | | | TEMPERATURE (°F) | VELOCITY (FPM) | |
| N4P | 8'/12' | BULK PRODUCE | 924* | 1,008* | +20** | +18 | +38 | 180*** | 0.25 |

* **Capacity data listed for 1 or 2 rows of T-8 canopy lights and up to 3 rows of unlighted shelves. ADD 20 BTUH/FT for each row of lighted shelves. For sizing all refrigeration equipment other than TYLER, use conventional BTUH values.**
** **Evaporator temperature is defined as the saturated pressure leaving the case.**
*** **Air velocity measured 1 hour after defrost at the top discharge air duct using an ALNOR JR. velometer with a scoop.**

**Use the N4M cases for critical temp applications.**

FOR SPECIFIC COMPRESSOR SIZING AND/OR LINE SIZING INFORMATION FOR CASE LINE-UPS, REFER TO THE "GOLD" AND/OR "BUFF" SECTIONS IN THE TYLER SPECIFICATION GUIDE.

**Electrical Data:**

Fans (120 Volt)

| MODEL | CASE LENGTH | FANS / CASE | TOTAL STANDARD FANS | | TOTAL ECM FANS | |
|---|---|---|---|---|---|---|
| | | | AMPS | WATTS | AMPS | WATTS |
| N4P | 8' | 2 | 0.68 | 60.4 | 0.44 | 22.0 |
| N4P | 12' | 3 | 1.02 | 90.6 | 0.66 | 33.0 |

T-8 Lighting with Electronic Ballasts (120 Volt)

| | | CANOPY LIGHTS – PER ROW* | | | | SHELF LIGHTS – PER ROW | | | | | | MAXIMUM LIGHTING (5 ROWS) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | AMPS | | WATTS | | AMPS | | | WATTS | | | | |
| MODEL | CASE LENGTH | 1 | 2 | 1 | 2 | 1 | 2 | 3 | 1 | 2 | 3 | AMPS | WATTS |
| N4P | 8' | 0.50 | 0.95 | 60.0 | 114.0 | 0.70 | 1.10 | 1.40 | 84.0 | 132.0 | 168.0 | 2.35 | 282.0 |
| N4P | 12' | 0.70 | 1.40 | 84.0 | 168.0 | 1.05 | 1.65 | 2.10 | 126.0 | 198.0 | 252.0 | 3.50 | 420.0 |

**Defrost Data:**

| DEFROST TYPE | DEFROSTS PER DAY | DURATION TIME (MIN) | TERMINATION (°F) | EPR SETTINGS * | | DEFROST WATER (LB / FT / DAY) |
|---|---|---|---|---|---|---|
| | | | | R22 (PSIG) | R404A (PSIG) | |
| TIME OFF | 3-4 | 40 | - - - | 43 | 56 | N/A |

* Set EPR to give this pressure at the case.

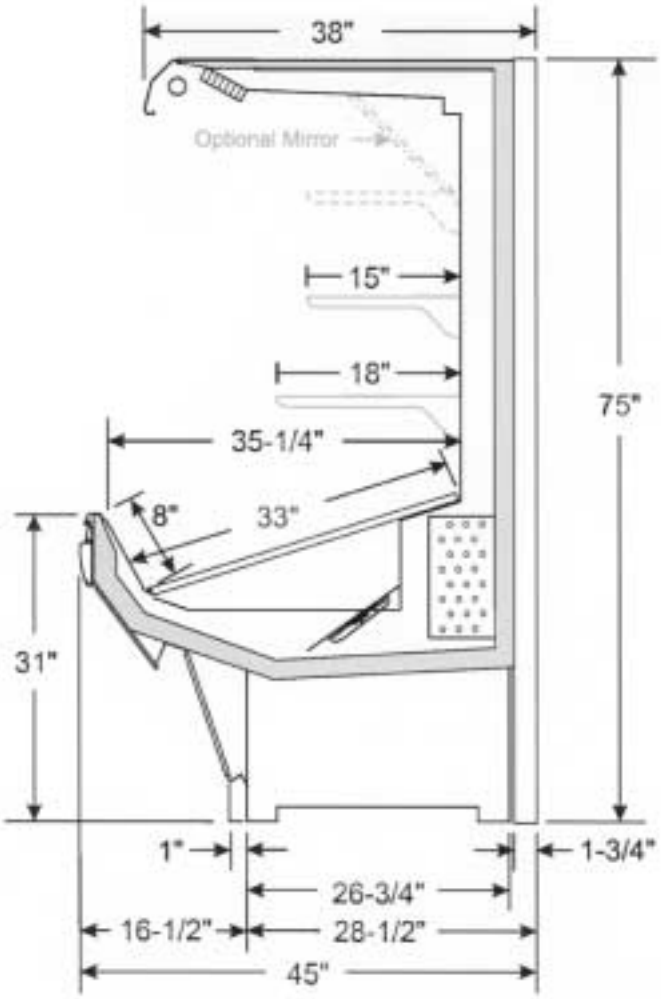
| CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODEL | 8' | 12' | 16' | 20' | 24' | 28' | 32' | 36' | 40' | 44' | 48' | 52' | 56' | 60' | 64' | 68' |
| N4P R22 | 1/2" | 5/8" | 5/8" | 7/8" | 7/8" | 7/8" | 7/8" | 7/8" | 7/8" | 1-1/8" | 1-1/8" | 1-1/8" | 1-1/8" | 1-1/8" | 1-1/8" | 1-1/8" |

**SHELVING AND MIRROR NOTES:** 15" and 18" shelves are available for the N4P. When two sizes are used, the smaller must be used on top. Optional 16", 23" or 30" mirrors are available on the N4P. 1 or 2 rows of discharge holes must be left open between the top shelf and bottom of mirror on the N4P.

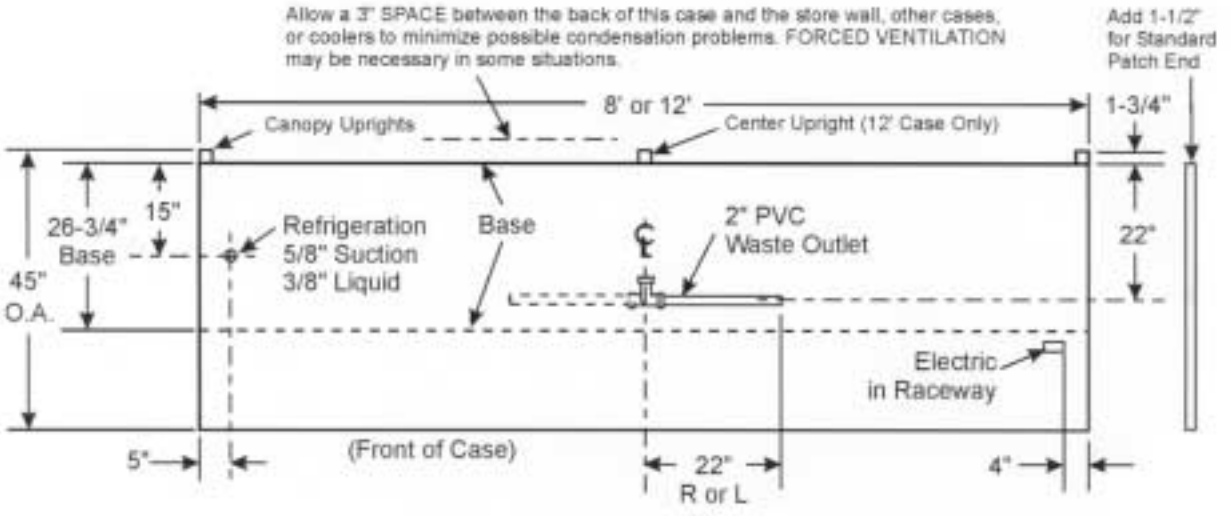
**UL SANITATION** approved in accordance with ANSI/NSF - 7.

**CASE BTUH REQUIREMENTS** are calculated to produce approximately the indicated entering-air temperature with absolute maximum operating ambient limits of **75°F & 55RH.**

**N4P CROSS SECTION**




**FLOOR PLAN**



# N4PHP High Performance Multi-Shelf Bulk Produce Merchandisers

**Refrigeration Data:**

| MODEL | CASE LENGTH | CASE USAGE | CAPACITY (BTUH / FT) | | EVAPORATOR (°F) | UNIT SIZING (°F) | DISCHARGE AIR | | AVG. REF. CHARGE (LBS/FT) |
|---|---|---|---|---|---|---|---|---|---|
| | | | PARALLEL | CONVENTIONAL | | | TEMPERATURE (°F) | VELOCITY (FPM) | |
| N4PHP | 8'/12' | BULK PRODUCE | 937* | 950* | +34** | +32 | +39 | 177*** | 0.61 |

* **Capacity data listed for 1 or 2 rows of T-8 canopy lights and 3 rows of unlighted shelves. ADD 20 BTUH/FT for each row of lighted shelves For sizing all refrigeration equipment other than TYLER, use conventional BTUH values.**
** **Evaporator temperature is defined as the saturated pressure leaving the case.**
*** **Air velocity measured 1 hour after defrost at the top discharge air duct using an ALNOR JR. velometer with a scoop.**

**Use the N4MHP cases for critical temp applications.**

FOR SPECIFIC COMPRESSOR SIZING AND/OR LINE SIZING INFORMATION FOR CASE LINE-UPS, REFER TO THE "GOLD" AND/OR "BUFF" SECTIONS IN THE TYLER SPECIFICATION GUIDE.

**Electrical Data:**

Fans (120 Volt)

| MODEL | CASE LENGTH | FANS / CASE | TOTAL STANDARD FANS | | TOTAL ECM FANS | |
|---|---|---|---|---|---|---|
| | | | AMPS | WATTS | AMPS | WATTS |
| N4PHP | 8' | 2 | 1.60 | 142.0 | 1.06 | 44.0 |
| N4PHP | 12' | 3 | 2.40 | 213.0 | 1.59 | 66.0 |

T-8 Lighting with Electronic Ballasts (120 Volt)

| MODEL | CASE LENGTH | CANOPY LIGHTS – PER ROW* | | | | SHELF LIGHTS – PER ROW | | | | | | MAXIMUM LIGHTING (5 ROWS) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | AMPS | | WATTS | | AMPS | | | WATTS | | | | |
| | | 1 | 2 | 1 | 2 | 1 | 2 | 3 | 1 | 2 | 3 | AMPS | WATTS |
| N4PHP | 8' | 0.50 | 0.95 | 60.0 | 114.0 | 0.70 | 1.10 | 1.40 | 84.0 | 132.0 | 168.0 | 2.35 | 282.0 |
| N4PHP | 12' | 0.70 | 1.40 | 84.0 | 168.0 | 1.05 | 1.65 | 2.10 | 126.0 | 198.0 | 252.0 | 3.50 | 420.0 |

**Defrost Data:**

| DEFROST TYPE | DEFROSTS PER DAY | DURATION TIME (MIN) | ELEK. THERMOSTAT / AIR SENSOR SETTINGS | | | EPR SETTINGS * | | DEFROST WATER (LB / FT / DAY) |
|---|---|---|---|---|---|---|---|---|
| | | | USAGE | CUT-IN (°F) | CUT-OUT (°F) | R22 (PSIG) | R404A (PSIG) | |
| TIME OFF | 2 | 10** | MED TEMP | 40 | 38 | 60 | 75 | N/A |

* Set EPR to give this pressure at the case. **NOTE:** The customer will need to set the EPR on the parallel rack or single unit to the appropriate suction temperature and the N4PHP cases must be on a separate suction stub with a separate EPR. **ADD** 0.5# to EPR setting for each 1000 foot rise in elevation.

** **NOTE:** 10 minutes is for EPR with suction stop for defrost isolation. Defrost times increase by four minutes (14 min. total) when defrost isolation is by pump down. Set EPR to give this pressure at the case.

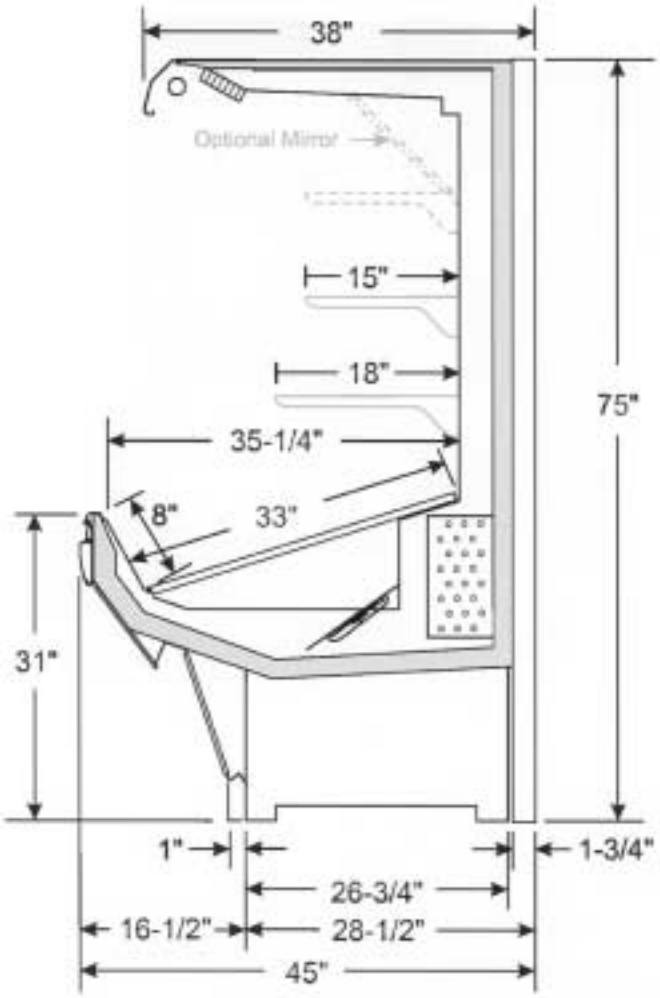
| CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODEL | 8' | 12' | 16' | 20' | 24' | 28' | 32' | 36' | 40' | 44' | 48' | 52' | 56' | 60' | 64' | 68' |
| N4PHP R22 | 1/2" | 5/8" | 5/8" | 7/8" | 7/8" | 7/8" | 7/8" | 7/8" | 7/8" | 1-1/8" | 1-1/8" | 1-1/8" | 1-1/8" | 1-1/8" | 1-1/8" | 1-1/8" |

**SHELVING AND MIRROR NOTES:** 15" and 18" shelves are available for the N4PHP. When two sizes are used, the smaller must be used on top. Optional 16", 23" or 30" mirrors are available on the N4PHP. 1 or 2 rows of discharge holes must be left open between the top shelf and bottom of mirror on the N4PHP.

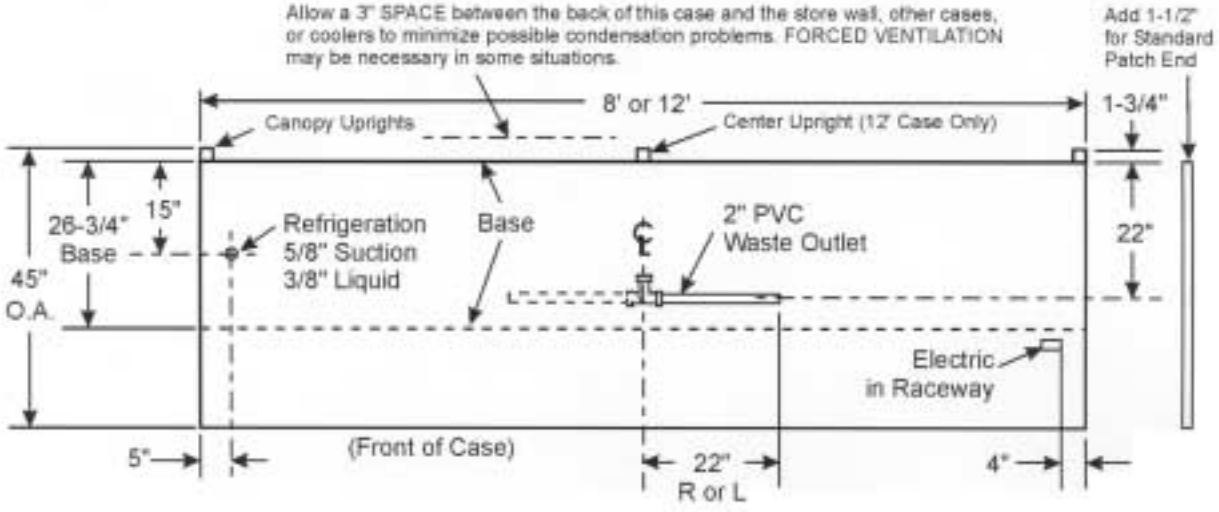
**UL SANITATION** approved in accordance with ANSI/NSF - 7.

**CASE BTUH REQUIREMENTS** are calculated to produce approximately the indicated entering-air temperature with absolute maximum operating ambient limits of **75°F & 55RH.**

**N4PHP CROSS SECTION**



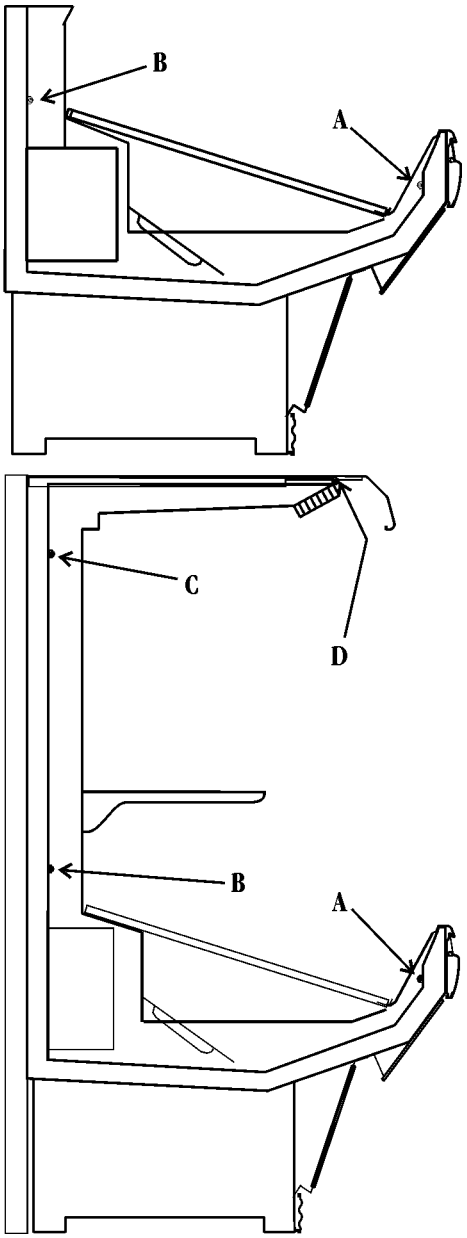

**FLOOR PLAN**



# INSTALLATION PROCEDURES

## Carpentry Procedures

### Case Pull-Up Locations




The NP model has two pull-ups at each end of the case. The N1P, N4P(D), N1PHP & N4PHP models have four pull-ups at each end of the case. Pull-ups A & B or A, B, C and D are located as shown and should be installed and tightened starting with A and finishing with B or D.

**See "General-UL/NSF I&S Manual" for line-up assembly instructions.**

## Refrigeration Procedures

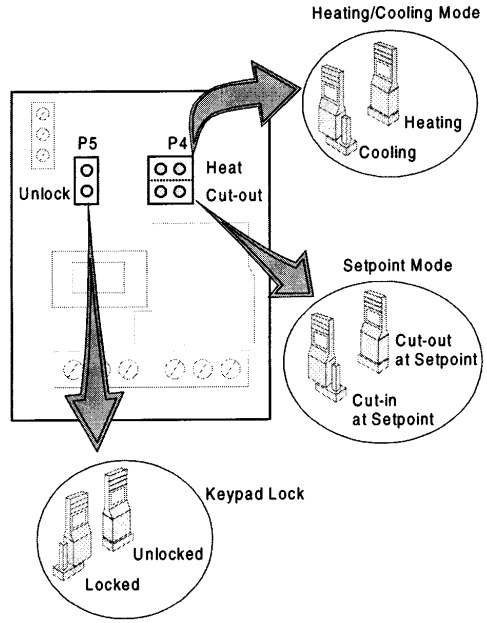
**Refrigeration system and superheat instructions can be found in the "General (UL/NSF) I&S Manual". Case electronic temperature control information is listed below.**

### Electronic Temperature Control

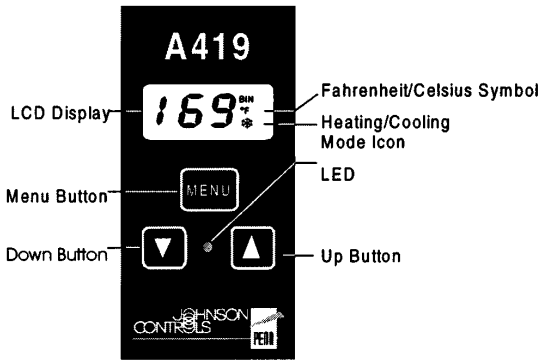
Whenever an N1PHP or N4PHP case uses an electronic thermostat and solenoid valve for temperature control, use the following instructions to properly set-up the electronic thermostat.

#### Setting the Electronic Thermostat

1. Remove the four screws and cover from the electronic thermostat.
2. Connect sensor wires to the common (COM) and sensor (SEN) terminals of the terminal strip located at the top left of the printed circuit board. The sensor leads are interchangeable.




3. Set the Heating/Cooling jumper blocks to the "COOL" position.
4. Set the Cut-in at Setpoint/Cut-out at Setpoint jumper blocks to the "Cut-out at Setpoint" position.
5. Set the keypad Locked/Unlocked jumper blocks to the "Unlocked" position.
6. Replace the electronic thermostat cover and secure with four screws.




7. To adjust the setpoint:
   a. Push the Menu Button. "SP" will flash on the LCD display.
   b. Push the Menu Button one more time and a setpoint temperature will be displayed.
   c. Push the Up or Down Button until the desired setpoint is displayed.
      N1PHP (w/o shelving) = 41°F
      N4PHP (w/shelving) = 38°F
   d. Push the Menu Button.
8. To adjust the differential:
   a. Push the Menu Button. "SP" will flash on the LCD display.
   b. Push the Down Button until "DIF" is shown on the LCD display.
   c. Push the Menu Button one more time and a differential number will be displayed.
   d. Push the Up or Down Button until the desired differential setting is displayed.
      N1PHP/N4PHP = 2°F
   d. Push the Menu Button.

With the cooling mode selected, the differential is ABOVE the setpoint. The relay will energize and the LED indicator will illuminate when the temperature reaches the differential setting. When the temperature drops to the setpoint, the relay and LED indicator will de-energize and refrigeration will stop.

The settings above are specific to TYLER N1PHP and N4PHP cases. Other applications will require different setpoints and differentials.

# Electrical Procedures

## Electrical Considerations

**CAUTION**

**Make sure all electrical connections at components and terminal blocks are tight. This will prevent burning of electrical terminals and/or premature component failure.**

**NOTE**

**The raceway houses the electrical wiring, components and field wiring connections for the case. Since the lower front cladding is shipped loose, the raceway has immediate access.**

### Case Fan Circuit

This circuit is to be supplied by an uninterrupted, protected 120V circuit. The case fan circuit is not cycled during defrost on any of these models.

### Fluorescent Lamp Circuit

N1P, N4P(D), N1PHP & N4PHP case lighting is supplied by T-8 electronic ballast lights. It is controlled by a light switch in each case. The standard lighting is 1-row of horizontal canopy lights. Both cases offer optional 2-row horizontal canopy lights. The N4P(D) and N4PHP cases also offer up to 3 rows of optional shelf lights.

# Defrost Information

**See "General-UL/NSF I&S Manual" for operational descriptions for Off Time defrost control.**

### Defrost Control Chart

| Defrost Type | Defrosts Per Day | Defrost Duration (Min) | Term. Temp. |
|---|---|---|---|
| **(NP/N1P/N4P)** | | | |
| **Off Time** | **3-4** | **40** | **-----** |
| **(N1PHP/N4PHP)** | | | |
| **Off Time** | **2** | **10*** | **-----** |

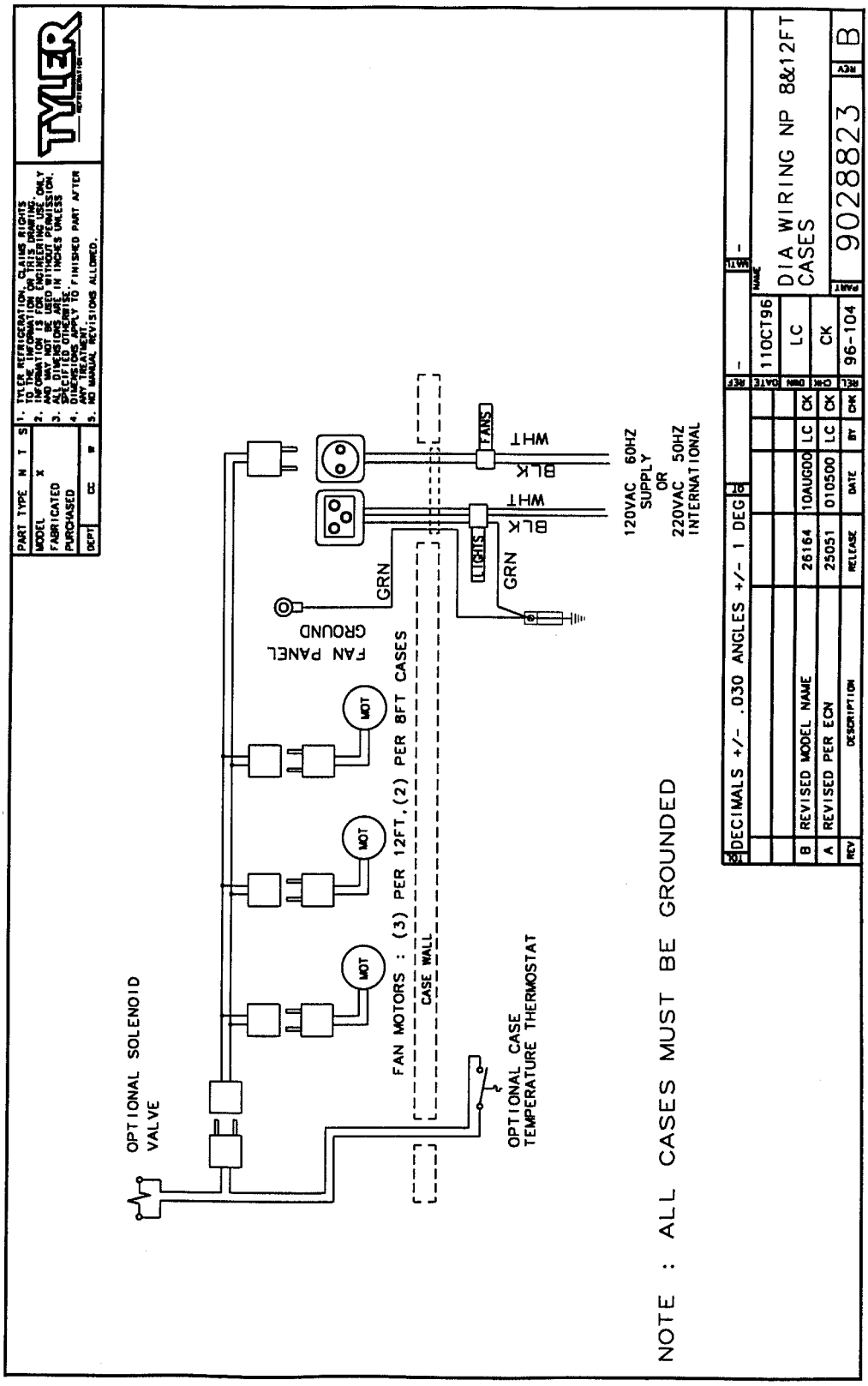
***10 minutes is for EPR only. Defrost duration increases by 4 minutes when controller methods do not include an EPR valve.**

# WIRING DIAGRAMS

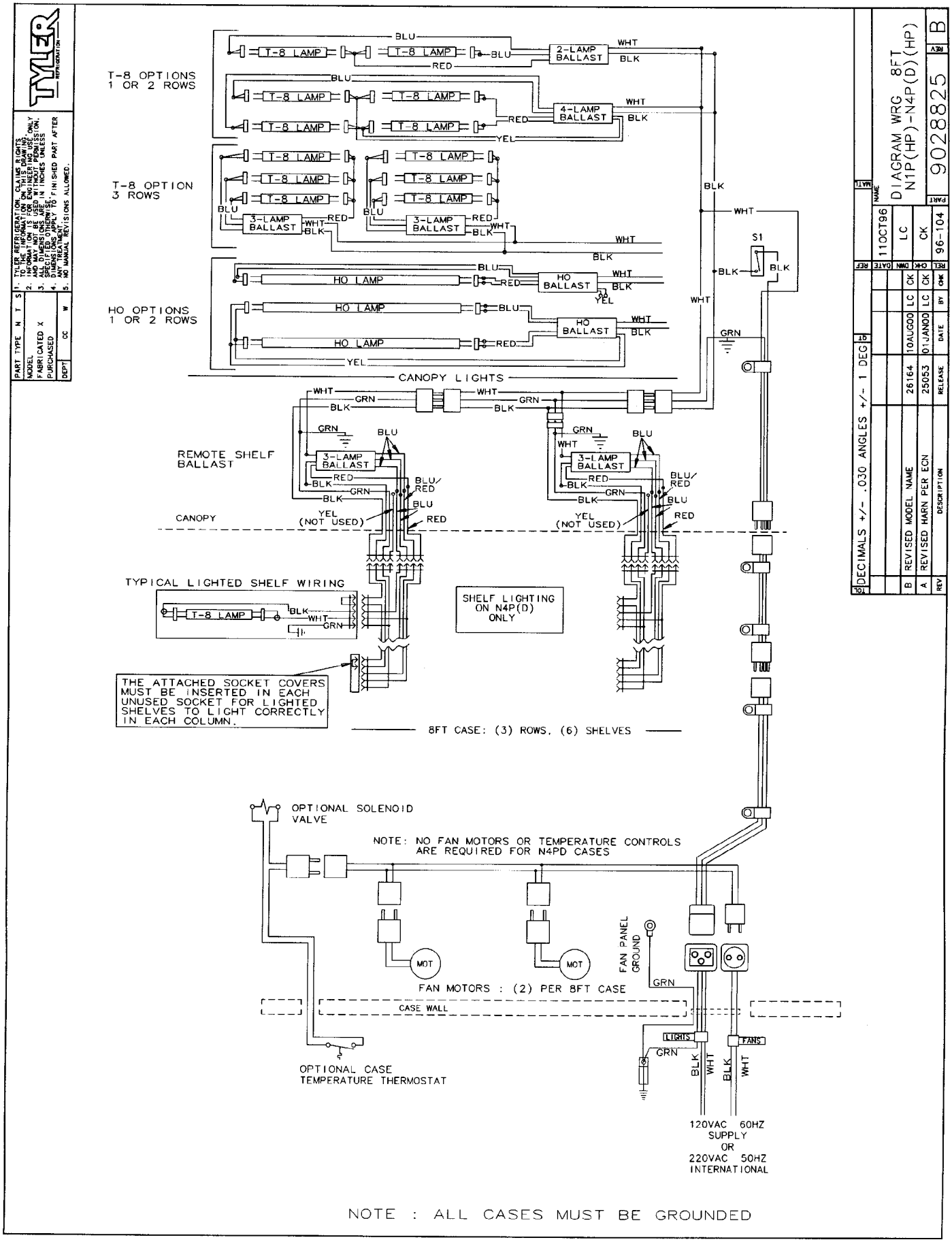
**ELECTRICIAN NOTE - OVERCURRENT PROTECTION**

**120V circuits should be protected by 15 or 20 Amp devices per the requirements noted on the cabinet name-plate or the National Electrical Code, Canadian Electrical Code - Part 1, Section 28. 208V defrost circuits employ No. 12 AWG field wire leads for field connections. On remote cases intended for end to end line-ups, bonding for ground may rely upon the pull-up bolts.**

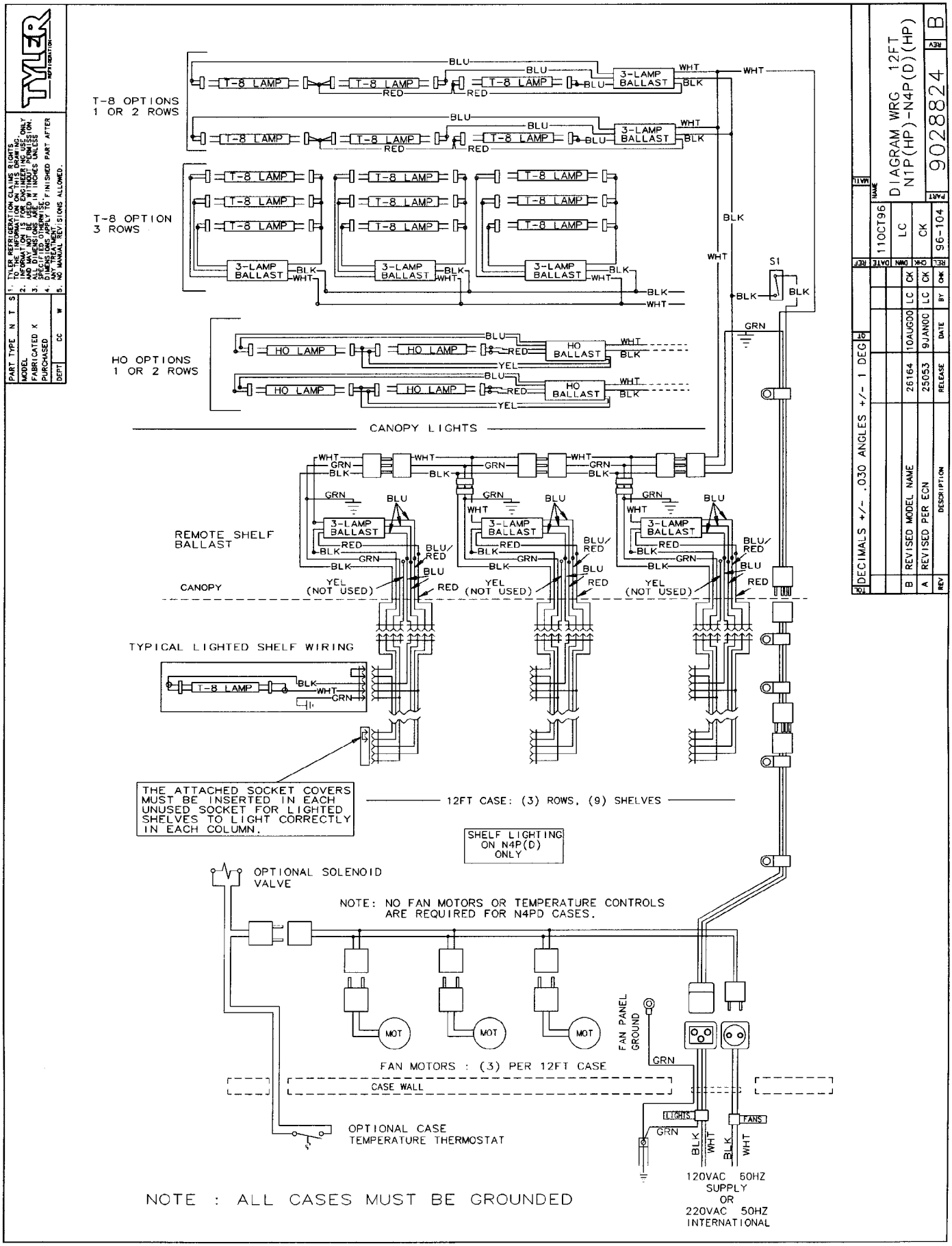
## NP Domestic & Export (50Hz) Case Circuits (8' & 12' Cases)



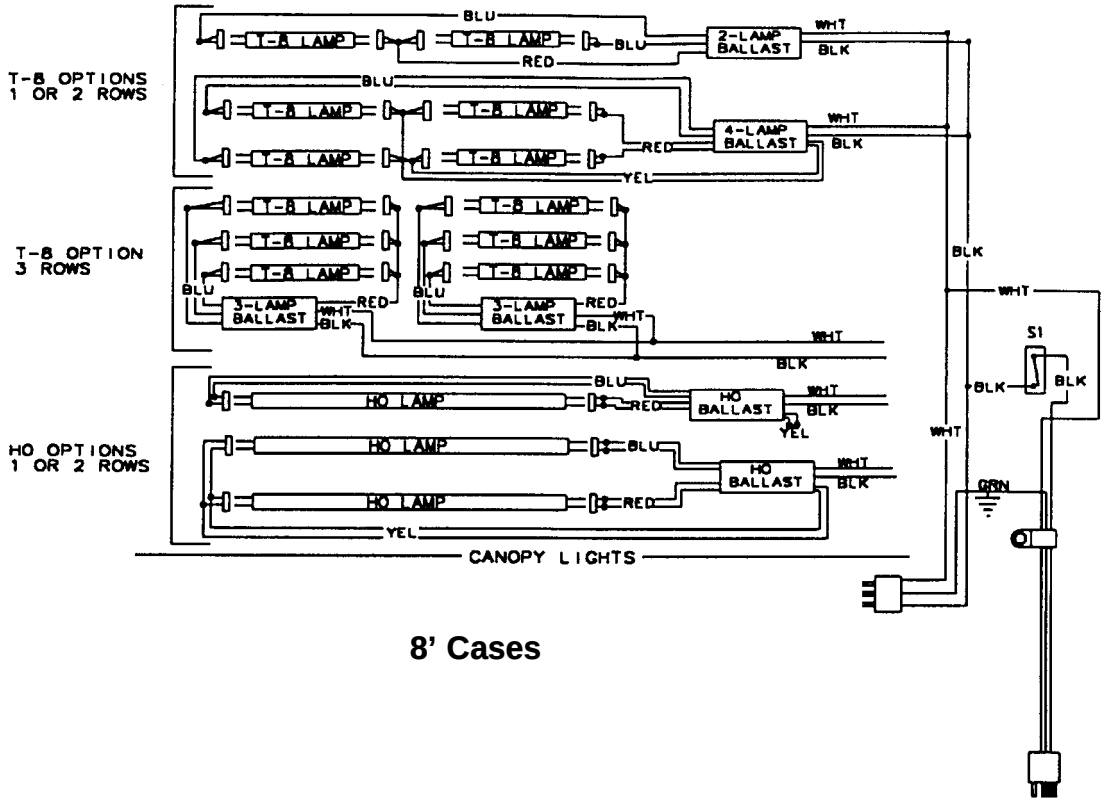
# N1P(HP)/N4P(D)(HP) Domestic & Export (50Hz) Case Circuits (8' Cases)



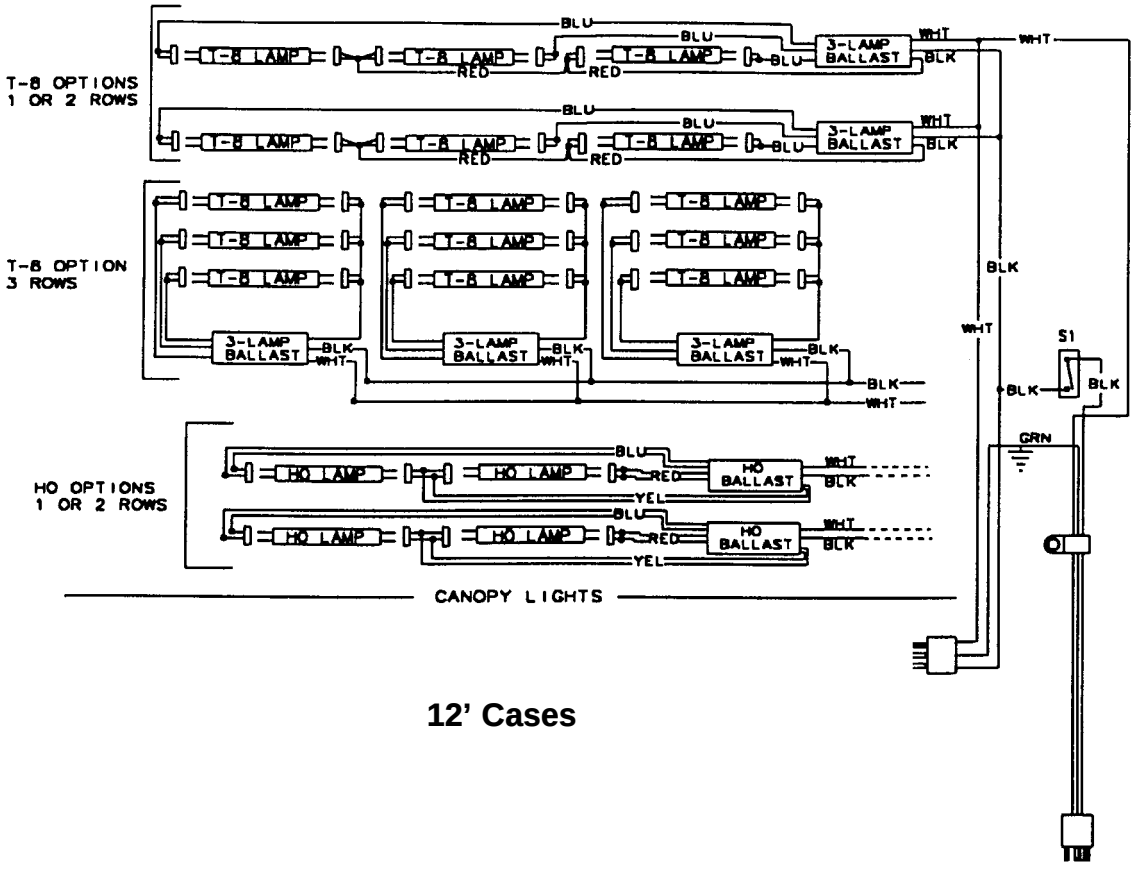
# N1P(HP)/N4P(D)(HP) Domestic & Export (50Hz) Case Circuits (12' Cases)



## Canopy Lighting Circuits (N1P/N4P(D)/N1PHP/N4PHP)



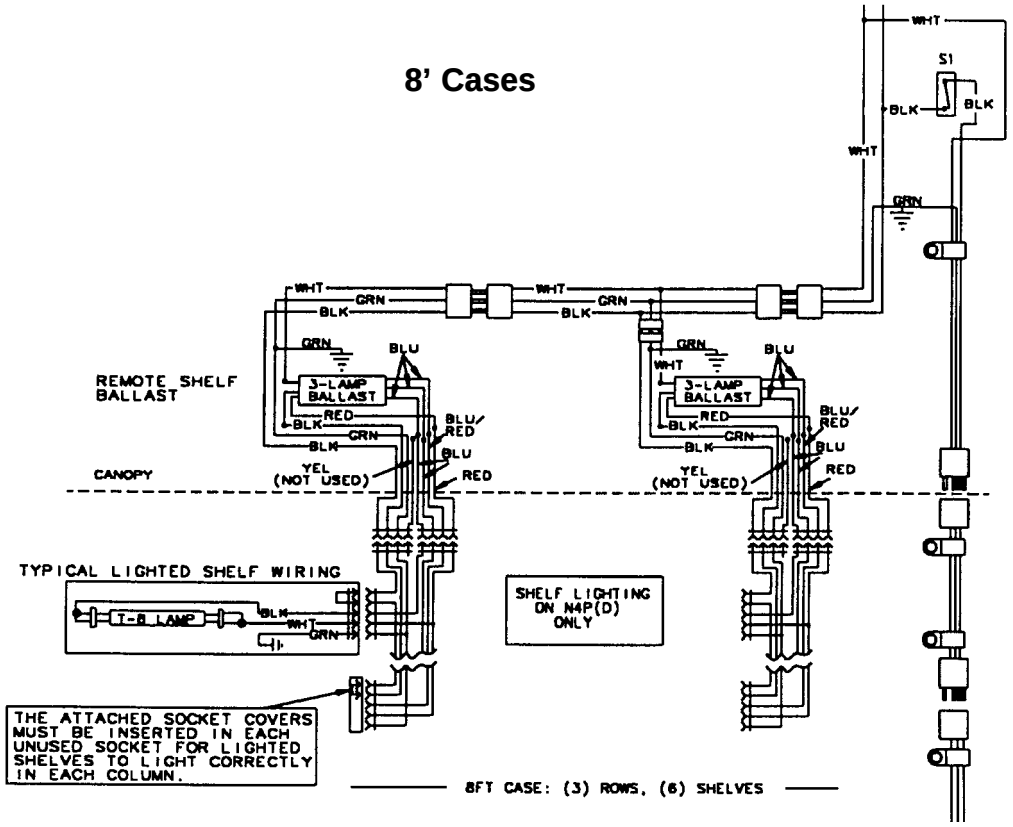

**8' Cases**



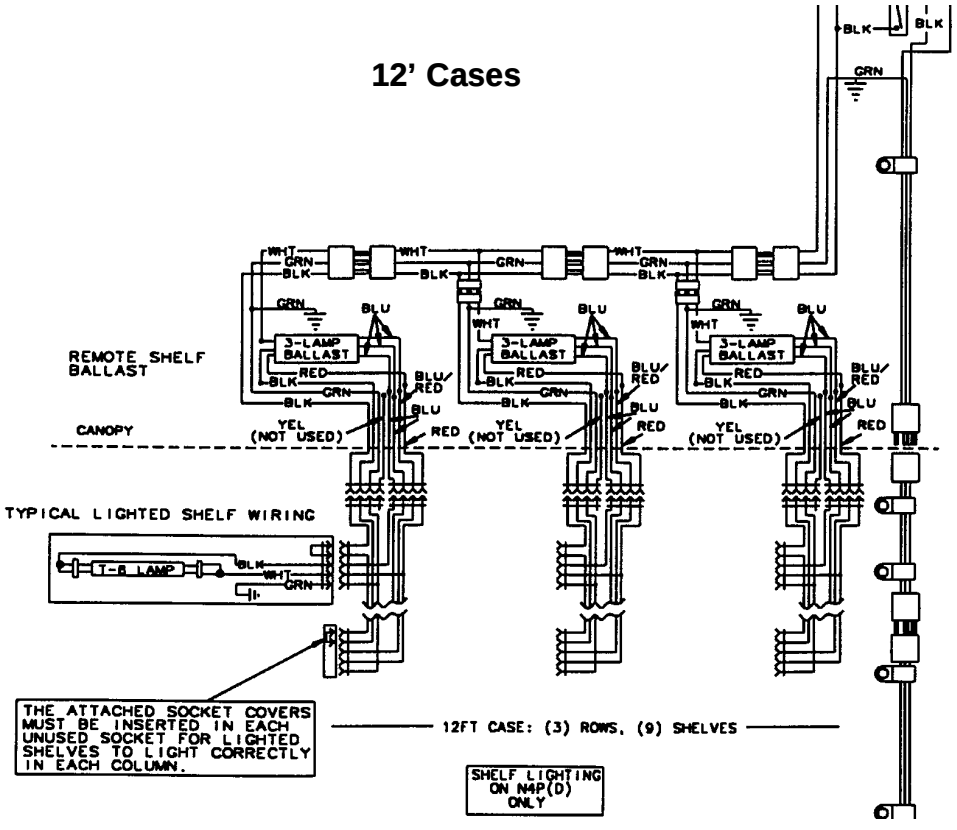

**12' Cases**

## Optional Shelf Lighting Circuit (N4P(D)/N4PHP Only)

### 8' Cases




### 12' Cases



# CLEANING AND SANITATION

## Component Removal and Installation Instructions for Cleaning

### Mirrors (N1P/N4P(D)/N1PHP/N4PHP)

1. Remove mounting screws and end molding end of mirror line-up.
2. Carefully grasp and lift mirror section until bottom edge clears the lower mirror track.
3. Carefully lower mirror out of upper mirror track and remove from case.
4. After cleaning, replace in reverse order.

### Shelves and Shelf Brackets (N4P(D)/N4PHP)

1. Remove product from shelves.
2. If shelf has a light, unplug the light cord from the socket in the rear duct panel. Completely insert socket cover in the light socket to protect the receptacle.
3. Push shelves back and then lift up and out to remove them from the shelf brackets.
4. Remove shelf brackets from slots in rear uprights.
5. After cleaning, replace in reverse order.

### Screens and Bottom Trays

1. Remove product from screens or bottom of case.
2. To remove screen, push up until bottom tabs clear holes in front duct, then remove screen from case.

   To remove bottom tray, grasp and lift out each of the bottom trays from the case interior.
3. After cleaning, replace bottom trays and screens in reverse order.

### Front Air Ducts

1. Remove lower trays, see this page.
2. Lift out front air duct sections.
3. After cleaning, replace in reverse order.

### Rear Duct Panels (w/o Shelf Light Sockets)

1. Remove mirrors, shelves and/or bottom trays, see above.
2. Remove mounting screws and rear duct panels from case.
3. After cleaning, replace and secure rear duct panels in reverse order.

### (N4P(D)/N4PHP w/ Shelf Light Sockets)

1. Remove mirrors, shelves and bottom trays, see above.
2. Remove mounting screws from rear duct panel.
3. Slowly lift out rear duct panel until the shelf harness connector near the top of the panel can be accessed.
4. Disconnect shelf harness connector and complete removing the rear duct panel.

**WARNING**

**Rear duct panels with electrical receptacles can be cleaned without removing the electrical receptacles. Do not get moisture on electrical wires when cleaning under this cover. Moisture on wires could cause premature product failure and/or personal injury or death from electrical shock.**

5. After cleaning, reconnect the shelf harness connector: install the top socket assembly: replace and secure rear duct panels in reverse order.

### Discharge Air Honeycomb

1. Loosen screws securing rear retainer plate.

**NOTE**

**Note position of the honeycomb grid during removal so it can be reinstalled the same way.**

2. Slide rear retainer plate back until the honeycomb grid sections can be removed from the top duct.

**CAUTION**

**Improper installation of the honeycomb grid section could result in improper air flow and/or poor refrigeration.**

3. After cleaning, replace honeycomb grid sections as they were removed and secure with the rear retainer plate and screws.

### Top Duct (N1P/N4P(D)/N1PHP/N4PHP)

1. Remove mirror and/or shelves and shelf brackets, see above.
2. Remove screws, rear retainer plate and honeycomb grid sections from top of case.
3. Remove screws and top duct from case.
4. After cleaning, replace top duct and remaining components in reverse order.

### Lower Cladding

1. Remove kickplate from kickplate supports. (See General-UL/NSF I&S Manual.)
2. Remove mounting screws from top and bottom of lower cladding and remove lower cladding.
3. After cleaning, replace in reverse order.

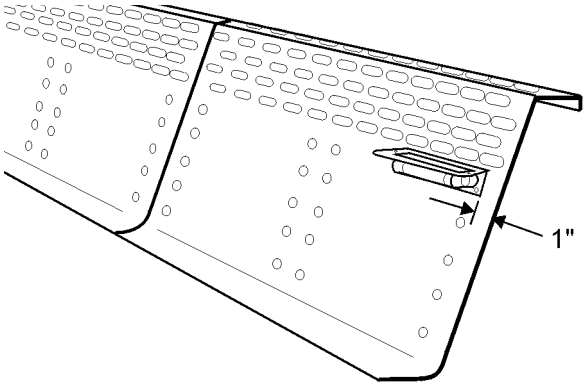
### Upper Cladding

1. Remove lower cladding, see above.
2. Remove color band, bumper and bumper retainer from case. (See General-UL/NSF I&S Manual.)
2. Remove mounting screws from top and bottom of upper cladding and remove upper cladding.
3. After cleaning, replace upper cladding and remaining components in reverse order.

# GENERAL INFORMATION

## NSF Product Thermometer Installation

1. Unwrap the thermometer and bracket assembly shipped loose with the case.
2. Remove left front return air duct.

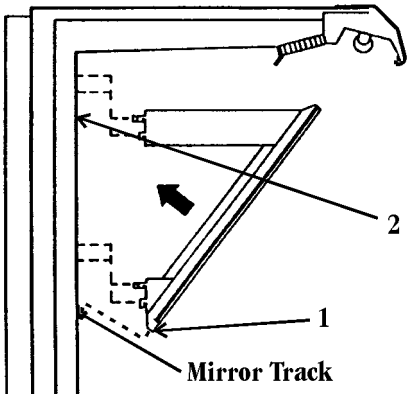



3. Position bracket 1” in from left edge and just under the bottom return air duct holes.
4. Mount the bracket to the return air duct with two self-tapping screws.
5. Replace the front return air duct.

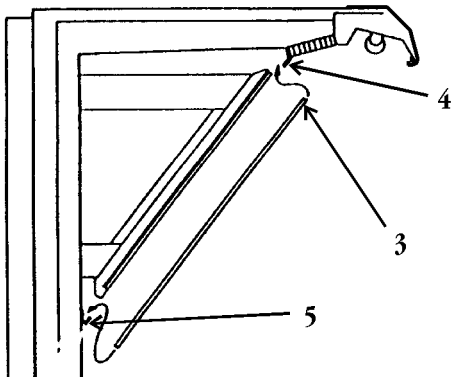
## Mirror Installation (N1P/N4P(D)/N1PHP/N4PHP)

When installing mirrors you must be aware that on longer line-ups it is possible to end up with a gap at the end of the line-up. To help prevent this, leave a gap at the starting end that can be covered by the stainless steel trim. Additional mirror positioning adjustments may be required to make sure the gaps at each end of the line-up don’t show when the stainless steel trim is in place. Also make sure all mirrors have a good tight seal between each mirror.

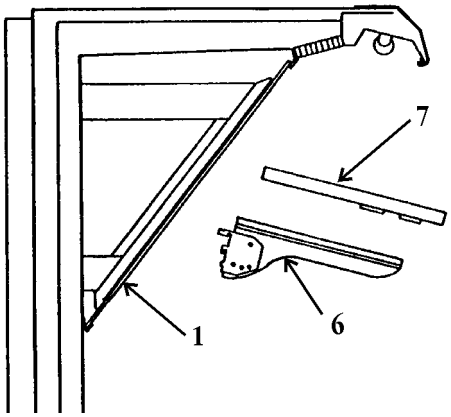
### Optional Convertible Shelf Mirror Installation (N4P(D)/N4PHP Only)




1. Install angled uprights (1) into case uprights (2) by placing lower part in mirror track and top tang in third slot from top.




2. Insert top of mirrors (3) into upper retainer (4) and push up until bottom of mirrors (3) can rest in lower support (5).




3. Install adjustable shelf bracket (6) into slots in angled uprights (1).

**NOTE**

**Make sure adjustable shelf brackets are hooked into bottom notches in shelf.**

4. Install shelf (7) on adjustable shelf bracket (6).

## Water Spray Accessories

**WARNING**

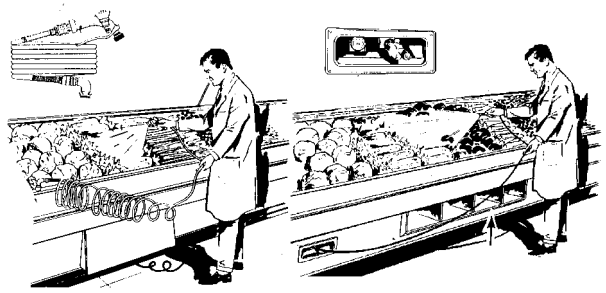
**When using water spray accessories it may be necessary to install approved anti-backflow devices in the water supply line. Local codes should be checked in this regards. Installation of this device is the responsibility of the end user and would be performed by plumbers.**

**CAUTION**

**Do not spray lighted shelves when using any water spray accessories. Moisture on light fixtures could cause an electrical short and/or damage the case operating system.**

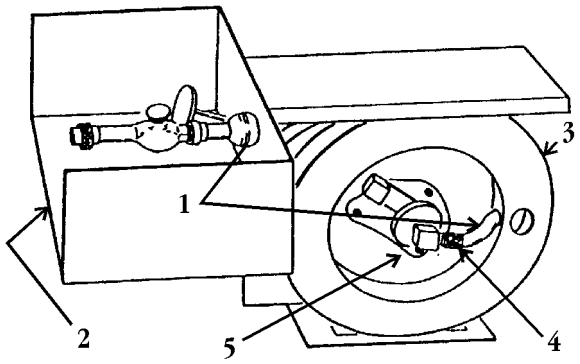
The water supply pressure should not exceed 45 lb to assure proper operation. Water supply pressures above 45 lb should use a pressure reducing valve.

The spring coil spray hose or retractable spray hose are the two manual systems available for produce cases. To use the



retractable spray hose, pull the nozzle and hose out smoothly to the desired length. When the reel rachet sounds, let the hose back against the rachet to hold it in place. To rewind, pull hose out slightly to release the reel rachet, then guide the hose back into the front of the case. Do not allow hose to rewind by itself. Hose jamming and/or reel damge could result.

### Retractable Hose Replacement




1. Pull hose (1) completely out of front of case (2) and engage reel rachet.
2. Fasten locking pliers on the reel edge (3) to prevent the reel from accidentally rewinding. The reel spring is fully wound in this position.
3. Remove hose (1) from hose clamps on the reel (3) and disconnect hose end fitting (4) from swivel assembly (5). Remove hose (1) from reel (3) and front of case (2).

**CAUTION**

**Do not allow the reel to unwind suddenly or attempt to turn reel clockwise. This will damage the spring motor in the reel.**

**NOTE**

**If reel spring is unwound, wind the reel 19 complete turns counterclockwise, engage the reel rachet and install locking pliers on reel edge.**

4. Insert hose (1) through the front of the case (2) and the hole in the reel (3).
5. Apply pipe dope to threads of hose end fitting (4). Install hose end fitting (4) in the swivel assembly (5).
6. Attach the hose (1) securely to the reel (3) with the hose clamps on the reel.
7. Retract the hose (1) onto the reel (3).

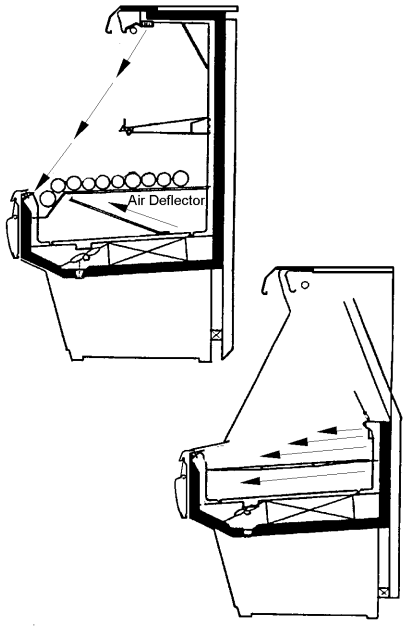
**NOTE**

**If reel does not work properly after rewinding, replace the reel assembly.**

## Produce Handling Tips

Fresh fruits and vegetable are living things, even after they have been harvested. They continue the process of respiration and transpiration after harvesting. Respiration is the process of self feeding to provide energy for maintaining life. (EXAMPLE: Asparagus and sweet corn generate heat after they are picked.) Transpiration is the process of water loss through vapor from the plant tissues. Post-harvest life can be maintained by slowing the rate of water loss. Refrigeration lowers the rate of respiration and transpiration. Store most types of produce close to freezing prior to display. There are a number of explanations (ex. Cucumbers can be kept relatively cool by themselves, but could be damaged by temperatures below 40°F). See chart on following pages for specifics.

Non-refrigerated produce cases are called “Dry” cases. They are used to display potatoes, dry onions, bananas, avocados and other products which don’t need refrigeration. These cases can also be used with a bed of cracked ice to display perishables.




Refrigerated produce cases displays produce products that require refrigeration. The refrigeration coil is below the display and fans are used to circulate air through the case display.

This moving air will pick up moisture from unwrapped produce and carry it to the coil. It is necessary to replace this moisture by using a water spray several times during the day. At night the produce should be covered wih a wet cloth. The alternate to sprinkling is to wrap the produce.

In order to maintain case air flow, the return air duct must not be blocked by product. An important aid to improve air circulation is to use air deflectors below the elevated screens in the case. These deflectors will direct the air flow into the display and prevent cool air from "short circuiting" the display. Deflectors are furnished with hump screen option. See illustration.

## Produce Handling Chart

| | Ideal Storage Conditions | | | Display Rack Care | | |
|---|---|---|---|---|---|---|
| Produce | Temperature (°F) | Relative Humidity (%) | Sell Quickly (1-2 days) | Refrigerate (40°F) | Sprinkle with Water | Special Notes |
| Apples | 30-32 | 85-95 | | Helpful | No advantage | Avoid bruising |
| Apricots | 31-32 | 85-90 | Yes | Helpful | No | |
| Asparagus | 32-36 | 90-95 | Yes | Profitable | No | Trim butts and stand in ice or shallow water |
| Avocados | 40-55 | 85-90 | Yes | No | No | Display on padded surface |
| Bananas, Ripe | 56-58 | 85-90 | Yes | No | No | Display on padded surface |
| For Ripening | 58-68 | 90-95 | | No | No | Avoid bruising |
| Beans, Lima | 32-40 | 85-90 | Yes | Profitable | No | Shake up to aerate |
| Beans, Snap | 40-45 | 90-95 | Yes | Profitable | Yes | |
| Beets | 32 | 85-95 | Yes | Profitable | Yes | Moisten roots only |
| Berries | 31-32 | 90-95 | Yes | Helpful | No | Keep well ventilated |
| Broccoli | 32-35 | 90-95 | Yes | Profitable | Yes | Keep out of sun |
| Brussel Sprouts | 32-35 | 90-95 | Yes | Profitable | Yes | Remove yellow leaves |
| Cabbage | 32 | 90-95 | | Helpful | Yes | |
| Carrots | 32 | 90-95 | | Profitable | Yes | Moisten roots only of bunches |
| Cauliflower | 32 | 90-95 | Yes | Profitable | Yes | Sprinkle only if refrigerated |
| Celery | 31-32 | 90-95 | Yes | Profitable Yes | | |
| Cherries | 31-32 | 90-95 | Yes | Helpful | No | Keep well ventilated |
| Corn, Sweet ness | 31-32 | 90-95 | Yes | Profitable | Yes | Keep cold to keep sweet- |
| Cucumbers | 45-50 | 85-90 | Yes | No | No advantage | |
| Eggplants | 45-50 | 85-90 | Yes | No | No advantage | Do not bruise, keep on ice |
| Grapefruit | 50-60 | 85-90 | | Helpful | No advantage | Remove decayed fruit |
| Grapes | 30-32 | 85-95 | Yes | Helpful | No | Keep well ventilated |
| Honeydews | 45-50 | 85-90 | | Helpful | No | Cover cut melons with transparent film |
| Lemons | 38-40 | 85-90 | | Helpful | Yes | Sprinkling may be helpful |
| Lettuce | 32 | 90-95 | Yes | Profitable | Yes | Avoid soaking with water |
| Limes | 48-50 | 85-90 | | Helpful | No advantage | |
| Mushrooms | 32-35 | 80-90 | Yes | Helpful | No | Handle carefully, keep dry |
| Muskmelons | 32-35 | 85-90 | Yes | Helpful | No | Cover cut melons with transparent film |

| | Ideal Storage Conditions | | | Display Rack Care | | |
|---|---|---|---|---|---|---|
| Produce | Temperature (°F) | Relative Humidity (%) | Sell Quickly (1-2 days) | Refrigerate (40°F) | Sprinkle with Water | Special Notes |
| Onions, Dry | 32 | 65-70 | | No | No | Remove loose wrappers, keep dry |
| Onions, Green | 32 | 90-95 | Yes | Profitable | Yes | Keep well ventilated |
| Oranges | 34-38 | 85-90 | | Helpful | No advantage | Remove decayed fruit |
| Parsnips | 32 | 90-95 | | Helpful | Yes | Moisten roots only |
| Peaches, Ripe | 31-32 | 90 | Yes | Helpful | No | Ripen at room temperature before storage |
| Pears | 29-31 | 90-95 | Yes | Helpful | No | Display in single or double layer on pads |
| Peas, Green | 32 | 90-95 | Yes | Profitable | Yes | Shake up to aerate, keep cold |
| Peppers | 45-50 | 90-95 | Yes | Profitable | Yes | |
| Pineapples, Ripe | 45-55 | 85-90 | Yes | No | No | Remove decayed fruit |
| Plums | 31-32 | 90-95 | Yes | Helpful | No | Remove decayed fruit |
| Potatoes | 40-50 | 85-90 | | No | No | Keep out of sun |
| Radishes | 32 | 90-95 | Yes | Profitable | Yes | Keep water off tops, avoid tight packing |
| Rhubarb | 32 | 90-95 | Yes | Profitable | No | Trim thin slice off stems and stand in cold water |
| Squash, Summer | 40-50 | 85-95 | Yes | Helpful | Yes | |
| Winter & Pmpkns | 50-55 | 50-75 | | No | No | |
| Spinach | 32 | 90-95 | Yes | Profitable | Yes | Keep ventilated |
| Sweet Potatoes | 55-60 | 85-90 | | No | No | Keep ventilated |
| Tangerines | 32 | 85-90 | Yes | Profitable | Yes | Remove decayed fruit |
| Tomatoes, Ripe | 45-50 | 85-90 | Yes | Helpful | No | Sell quickly, refrigerate to hold |
| Tomatoes, Green | 55-70 | 85-90 | | No | No | Ripen in back room, sort frequently |
| Turnips | 32 | 90-95 | | Profitable | Yes | Sprinkle roots only |
| Watermelons | 40-45 | 80-85 | | Helpful | No | Cover cut melons with transparent film |

**The "Produce Handling Chart" is courtesy of Produce Marketing Association, Inc., Newark, Delaware 19711, from their 1973 Yearbook. This book is published as a service to the Fresh Produce Industry.**

**For additional information, consult:**

"The Commercial Storage of Fruits, Vegetables, and Florist and Nursery Stocks", USDA Handbook No. 66, 1968.

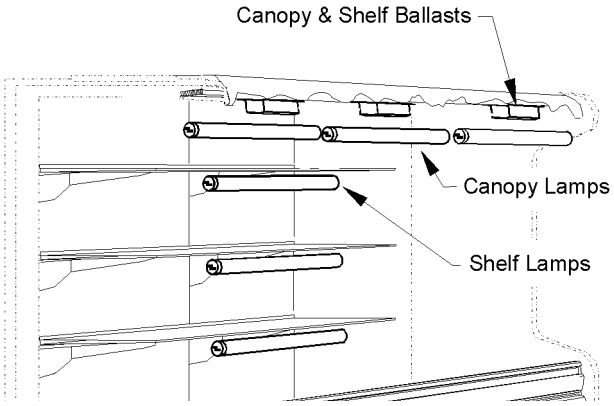
"The Shelf Life of Fresh Fruits and Vegetables - Retail Store Display Cases", USDA HT&S Office Report No. 247, October 1951.

"Fresh Fruits and Vegetables - Handling and Care", Corporate Extension Service, Michigan State University.

# SERVICE INSTRUCTIONS

**See "General-UL/NSF I&S Manual" for T-8 lamp, and ballast, fan blade and motor, and color band and bumper replacement instructions.**

## Ballast and Lighting Locations

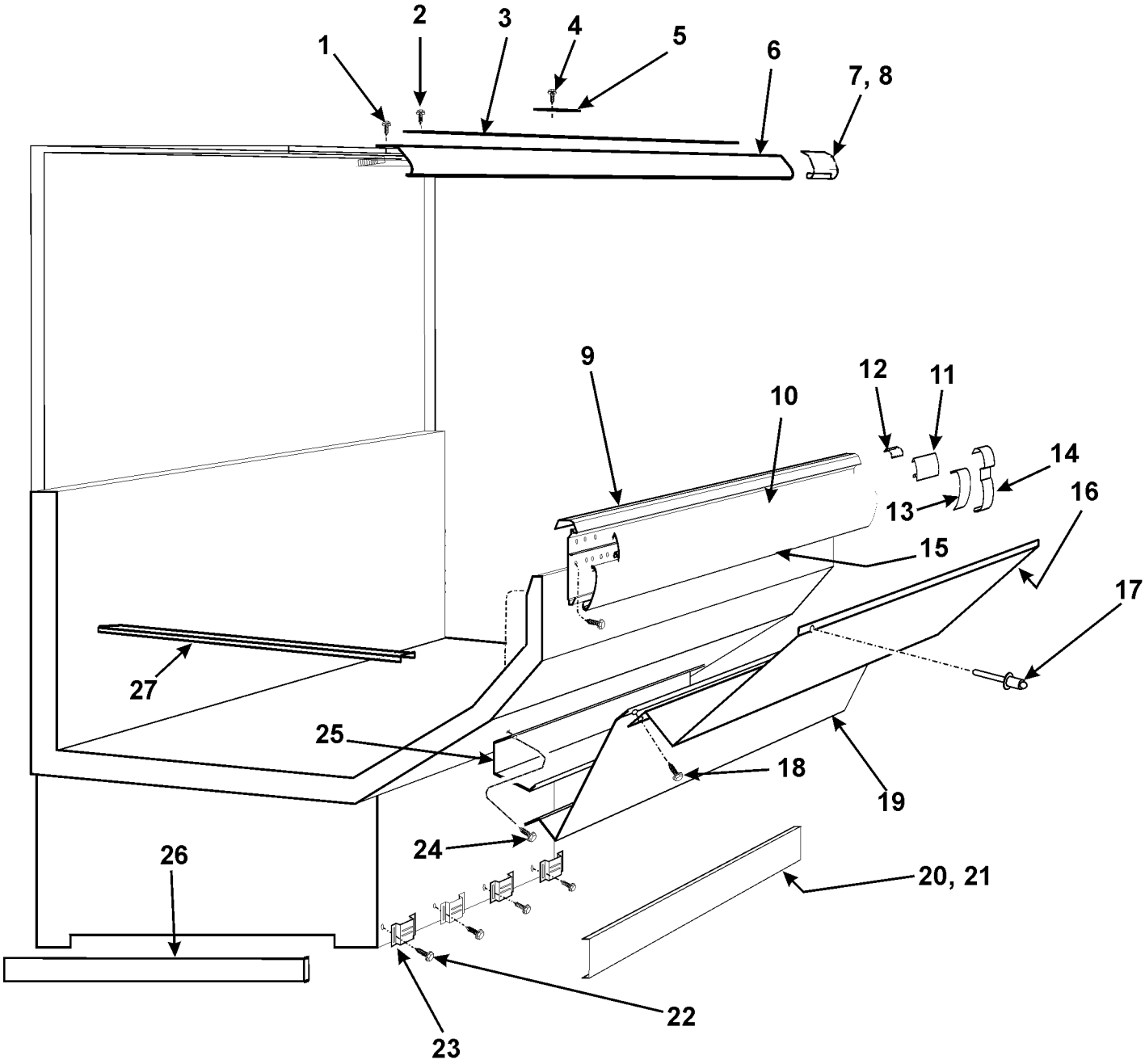



All light ballasts are located under the canopy and mounted on the top of the canopy light channel. This includes remote ballasts for optional shelf lights. The canopy light(s) are under the canopy light channel in the top of the case.

# PARTS INFORMATION

## Cladding and Trim Parts List

| Item | Description | NP | | N1P, N4P(D), N1PHP & N4PHP | |
|---|---|---|---|---|---|
| | | 8’ | 12’ | 8’ | 12’ |
| 1 | Screw | ---- | ---- | 5183536(4) | 5183536(6) |
| 2 | Screw | ---- | ---- | 5183536(5) | 5183536(7) |
| 3 | Hood Close-off | ---- | ---- | 9026069 | 9026070 |
| 4 | Screw (per end cover) | ---- | ---- | 5183536(4) | 5183536(4) |
| 5 | End Cover | ---- | ---- | 9026103(2) | 9026103(2) |
| 6 | Canopy Hood, Ptd. | ---- | ---- | 9025223 | 9025224 |
| 7 | Canopy Hood Joint Trim, Ptd. | ---- | ---- | 9029422 | 9029422 |
| 8 | Screw | ---- | ---- | 5199134(4) | 5199134(4) |
| 9 | Bumper Retainer | ---------- color per order ---------- | | | |
| | Screw | 9025833(16) | 9025833(24) | 9025833(16) | 9025833(24) |
| 10 | Color Band, Ptd. | 9023798 | 9023800 | 9023798 | 9023800 |
| 11 | Color Band Backer, Ptd. | 9040223 | 9040223 | 9040223 | 9040223 |
| 12 | Handrail Backer, Ptd. | 9025316 | 9025316 | 9025316 | 9025316 |
| 13 | Bumper Backer | ---------- color per order ---------- | | | |
| 14 | Bumper End Trim | ---------- color per order ---------- | | | |
| 15 | Bumper | ---------- color per order ---------- | | | |
| 16 | Upr. Frt. Cladding, Ptd. | 9025201 | 9025202 | 9025201 | 9025202 |
| 17 | Rivet | 5104702(4) | 5104702(6) | 5104702(4) | 5104702(6) |
| 18 | Screw, Shoulder | 9025833(6) | 9025833(8) | 9025833(6) | 9025833(8) |
| 19 | Lwr. Frt. Cladding, Ptd. | 9025203 | 9025204 | 9025203 | 9025204 |
| 20 | Metal Kickplate, Ptd | 9039269 | 9039270 | 9039269 | 9039270 |
| 21 | Kickplate Joint Trim, Ptd | 9039020 | 9039020 | 9039020 | 9039020 |
| 22 | Screw | 5183536(8) | 5183536(8) | 5183536(8) | 5183536(8) |
| 23 | Kickplate Support | 9039022(3) | 9039022(4) | 9039022(3) | 9039022(4) |
| 24 | Screw | 5183536(6) | 5183536(8) | 5183536(6) | 5183536(8) |
| 25 | Raceway | 9025127 | 9025128 | 9025127 | 9025128 |
| 26 | LH End Close-off, Ptd. | 9022459 | 9022459 | 9022459 | 9022459 |
| | RH End Close-off, Ptd. | 9022466 | 9022466 | 9022466 | 9022466 |
| 27 | Horizontal Joint Trim | 9025959 | 9025959 | 9025959 | 9025959 |


1
2
3
4
5
6
7, 8
9
10
12
11
14
13
16
15
17
27
25
18
19
24
26
20, 21
22
23

## Operational Parts List

| Case Usage | Domestic | | Export | |
|---|---|---|---|---|
| Electrical Circuit | 115 Volt 60 Hertz | | 220 Volt 50 Hertz | |
| Case Size | 8’ | 12’ | 8’ | 12’ |
| Fan Motor (NP/N1P/N4P) | 5125532<br>5 Watt | 5125532<br>5 Watt | 5222986<br>7.5 Watt | 5222986<br>7.5 Watt |
| (N1PHP/N4PHP) | 9458939<br>16 Watt | 9458939<br>16 Watt | 9458941<br>16 Watt | 9458941<br>16 Watt |
| Fan Motor Brackets (NP/N1P/N4P) | 5962269 | 5962269 | 5962269 | 5962269 |
| (N1PHP/N4PHP) | 5205112 | 5205112 | 5205112 | 5205112 |
| Fan Bracket Plate | 9041077 | 9041077 | 9041077 | 9041077 |
| Fan Blades (7” 15° 5B) (NP) | 5223891 | 5223891 | 5223891 | 5223891 |
| (7” 20° 5B) (N1P) | 5960943 | 5960943 | 5960943 | 5960943 |
| (7” 40° 5B) (N4P) | 5221604 | 5221604 | 5221604 | 5221604 |
| (8.75” 10° 5B) (N1PHP) | 9023759 | 9023759 | 9023759 | 9023759 |
| (8.75” 25° 5B) (N4PHP) | 9038461 | 9038461 | 9038461 | 9038461 |
| Opt. ECM Fan Motor (NP/N1P/N4P) | 9025002<br>8 Watt | 9025002<br>8 Watt | ----- | ----- |
| (N1PHP/N4PHP) | 9025003<br>16 Watt | 9025003<br>16 Watt | ----- | ----- |
| Opt. ECM Fan Motor Brackets | | | | |
| (NP/N1P/N4P) | 9025005 | 9025005 | ----- | ----- |
| (N1PHP) | 5235087 | 5235087 | ----- | ----- |
| (N4PHP) | 5205112 | 5205112 | ----- | ----- |
| Opt. ECM Fan Blades | | | | |
| (7” 15° 5B) (NP) | 5223891 | 5223891 | ----- | ----- |
| (7” 20° 5B) (N1P) | 5960943 | 5960943 | ----- | ----- |
| (7” 30° 5B) (N4P) | 5223370 | 5223370 | ----- | ----- |
| (8.75” 10° 5B) (N1PHP) | 9023759 | 9023759 | ----- | ----- |
| (8.75” 25° 5B) (N4PHP) | 9038461 | 9038461 | ----- | ----- |
| T-8 Lamp Ballast (canopy or shelf) | | | | |
| (N1P(HP)/N4P(HP)) (can./1-row) | 5991029 | 5991030 | 9028437 | 9028438 |
| (N1P(HP)/N4P(HP)) (can./2-row) | 5966635 | 5991030 | 9028439 | 9028438 |
| (N4P(HP)) (shelf) | 5991030 | 5991030 | 9028438 | 9028438 |
| HO Lamp Ballast (canopy) (1-row) | 5046140 | 5204769 | 5204859 | 5204859 |
| (2-row) | 5204769 | 5204769 | 5204859 | 5204859 |
| T-8 Lampholder (canopy) | 5232279 | 5232279 | 5232279 | 5232279 |
| (shelf) | 5092414 | 5092414 | 5092414 | 5092414 |
| 800MA Lampholder (telescoping) | 5614628 | 5614628 | 5614628 | 5614628 |
| (stationary) | 5614629 | 5614629 | 5614629 | 5614629 |
| T-8 Lampshield (shelf) | 5981622 | 5981622 | 5981622 | 5981622 |
| NSF Product Thermometer | 5967100 | 5967100 | 5967100 | 5967100 |

**For information on operational parts not listed above contact the TYLER Service Parts Department.**