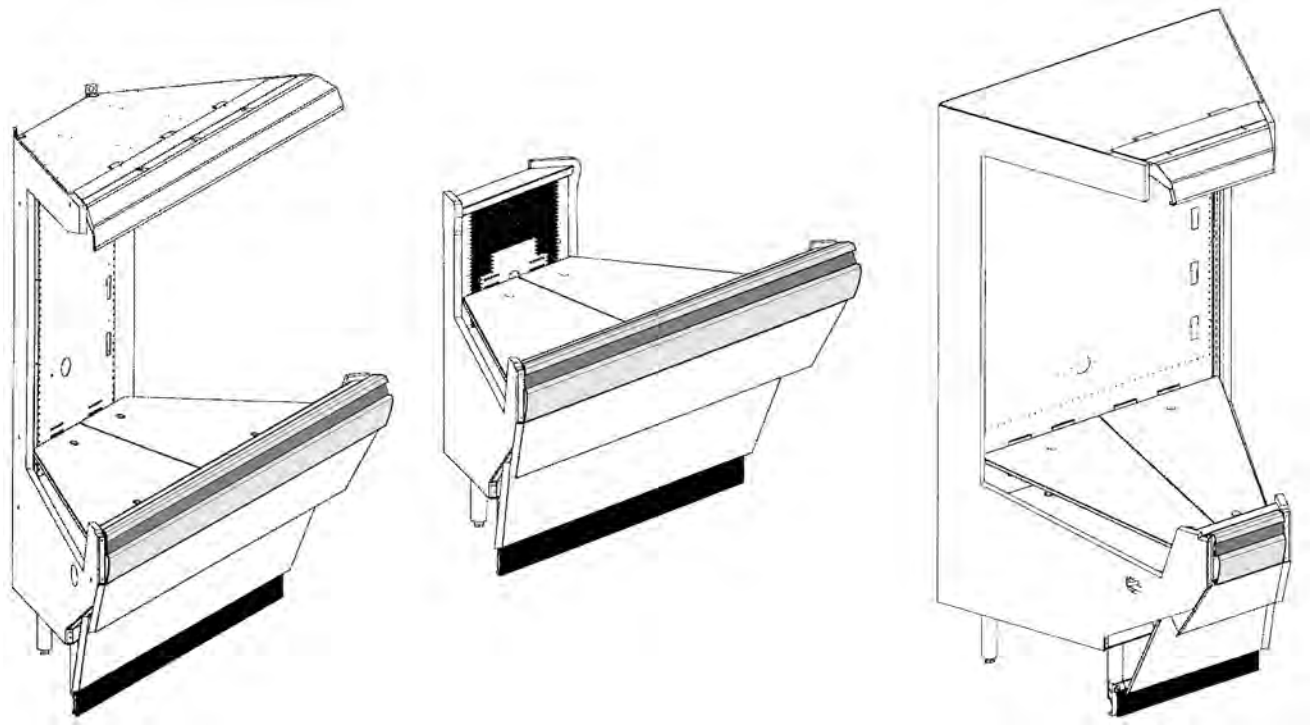
TYLER
REFRIGERATION

Carrier
A United Technologies Company

N6MHPM45IS YE0809
N6MHPM45OS YE0809

1series Advantage™

Installation & Service Manual



MEAT CORNER (WEDGE) CASES

MEAT SELF-SERVE INSIDE & OUTSIDE CORNER MERCHANDISERS
Medium Temperature & High Performance Refrigerated Corner 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!!

This merchandiser conforms to the American National Standard Institute & NSF International Health and Sanitation standard ANSI/NSF 7 - 2003.

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Tyler Refrigeration * Niles, Michigan 49120

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

MODELS	DESCRIPTION
NM30IS	30° INSIDE SOLID FRONT TOP DISPLAY MEAT CORNER MERCHANDISER
NM30OS	30° OUTSIDE SOLID FRONT TOP DISPLAY MEAT CORNER MERCHANDISER
NM45IS	45° INSIDE SOLID FRONT TOP DISPLAY MEAT CORNER MERCHANDISER
NM45OS	45° OUTSIDE SOLID FRONT TOP DISPLAY MEAT CORNER MERCHANDISER
NMG45OS	45° OUTSIDE GLASS FRONT TOP DISPLAY MEAT CORNER MERCHANDISER
NM90OS	90° OUTSIDE SOLID FRONT TOP DISPLAY MEAT CORNER MERCHANDISER
NMGHP90OS	90° OUTSIDE HIGH PERFORMANCE GLASS FRONT MEAT CORNER MERCHANDISER
N3MG30OS	30° OUTSIDE THREE-DECK MEAT CORNER MERCHANDISER
N3MG45IS	45° INSIDE THREE-DECK MEAT CORNER MERCHANDISER
N3MG45OS	45° OUTSIDE THREE-DECK MEAT CORNER MERCHANDISER
N3MG60OS	60° OUTSIDE THREE-DECK MEAT CORNER MERCHANDISER
N3MG90OS	90° OUTSIDE THREE-DECK MEAT CORNER MERCHANDISER
N3MGHP90OS	90° OUTSIDE HIGH PERFORMANCE THREE-DECK MEAT CORNER MERCHANDISER
N3HMG90OS	90° OUTSIDE HIGH-BACK THREE-DECK MEAT CORNER MERCHANDISER
N4MG30IS	30° INSIDE MULTI-SHELF MEAT CORNER MERCHANDISER
N4MG30OS	30° OUTSIDE MULTI-SHELF MEAT CORNER MERCHANDISER
N4M45IS	45° INSIDE MULTI-SHELF MEAT CORNER MERCHANDISER
N4MHP45OS	45° OUTSIDE HIGH PERFORMANCE MULTI-SHELF MEAT CORNER MERCHANDISER
N4MG45IS	45° INSIDE MULTI-SHELF MEAT CORNER MERCHANDISER
N4MG45OS	45° OUTSIDE MULTI-SHELF MEAT CORNER MERCHANDISER
N4M90IS	90° INSIDE MULTI-SHELF MEAT CORNER MERCHANDISER
N4M90OS	90° OUTSIDE MULTI-SHELF MEAT CORNER MERCHANDISER
N5MG30IS	30° INSIDE HIGH-BACK MULTI-SHELF MEAT CORNER MERCHANDISER
N5MG30OS	30° OUTSIDE HIGH-BACK MULTI-SHELF MEAT CORNER MERCHANDISER
N5MG45IS	45° INSIDE HIGH-BACK MULTI-SHELF MEAT CORNER MERCHANDISER
N5MHP45IS	45° INSIDE HIGH PERFORMANCE HIGH-BACK MULTI-SHELF MEAT CORNER MERCHANDISER
N5M45OS	45° OUTSIDE HIGH-BACK MULTI-SHELF MEAT CORNER MERCHANDISER
N5MHP45OS	45° OUTSIDE HIGH PERF. HIGH-BACK MULTI-SHELF MEAT CORNER MERCHANDISER
N5MG90IS	90° INSIDE HIGH-BACK MULTI-SHELF MEAT CORNER MERCHANDISER
N2MHP45OSNL	45° OUTSIDE HIGH PERFORMANCE THREE-DECK MEAT CORNER MERCHANDISER
N2MHP45ISNL	45° INSIDE HIGH PERFORMANCE THREE-DECK MEAT CORNER MERCHANDISER
N6MHPM45IS	45° INSIDE HIGH PERFORMANCE MULTI-SHELF MEAT CORNER MERCHANDISER
N6MHPM45OSNL	45° OUTSIDE HIGH PERFORMANCE MULTI-SHELF MEAT CORNER MERCHANDISER

SPECIFICATIONS

NM/NMG/NMGHP Top Display Inside & Outside Meat Corner Merchandisers

Refrigeration Data:

MODEL	CASE LENGTH	CASE USAGE	CAPACITY (BTUH / CASE)		EVAPORATOR (°F)	UNIT SIZING (°F)	DISCHARGE AIR		AVG. REF. CHARGE (LBS/CASE)
			PARALLEL	CONVENTIONAL			TEMPERATURE (°F)	VELOCITY (FPM)	
NM30IS	33-5/8"	MED TEMP	896*	990	+15**	+13	+28	N/A***	N/A
NM30OS	40-9/16"	MED TEMP	1,307*	1,444	+15**	+13	+28	N/A***	N/A
NM45IS	43-1/2"	MED TEMP	1,176*	1,299	+15**	+13	+28	N/A***	N/A
NM45OS	51-5/16"	MED TEMP	1,568*	1,732	+15**	+13	+28	N/A***	N/A
NMG45OS	51-5/16"	MED TEMP	1,403*	1,550	+15**	+13	+28	N/A***	N/A
NM90OS	79-5/8"	MED TEMP	2,264*	2,501	+15**	+13	+28	N/A***	N/A
NMG90OS	79-5/8"	MED TEMP	2,026*	2,238	+15**	+13	+28	N/A***	N/A
NMGHP90OS	79-5/8"	MED TEMP	1,440*	1,640	+25**	+23	+27.5	N/A***	N/A

* **For sizing all refrigeration equipment other than TYLER, use conventional BTUH values.**
** **Evaporator temperature is based on 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.**

FOR SPECIFIC COMPRESSOR SIZING INFORMATION, REFER TO TYLER APPLICATIONS FOR RACK SYSTEM COMPRESSORS AND/OR THE COMPRESSOR MANUFACTURERS FOR SINGLE COMPRESSORS. FOR LINE SIZING INFORMATION, REFER TO THE MISCELLANEOUS SECTION "BUFF" IN THE TYLER SPECIFICATION GUIDE.

Electrical Data:

Fans and Heaters (120 Volt)

MODEL	CASE LENGTH	FANS / CASE	TOTAL STANDARD FANS		TOTAL ECM FANS		TOTAL ANTI-SWEATS	
			AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
NM30IS	33-5/8"	1	0.34	30.2	0.2	7.5	0.11	13.2
NM30OS	40-9/16"	1	0.34	30.2	0.2	7.5	0.06	7.2
NM45IS	43-1/2"	2	0.68	60.4	0.4	15.0	0.15	18.0
NM45OS	51-5/16"	2	0.68	60.4	0.4	15.0	0.06	7.2
NMG45OS	51-5/16"	2	0.68	60.4	0.4	15.0	0.21	25.2
NM90OS	79-5/8"	1	0.34	30.2	0.2	7.5	0.07	8.4
NMG90OS	79-5/8"	1	0.34	30.2	0.2	7.5	0.07	8.4
NMGHP90OS	79-5/8"	1	0.34	30.2	N/A	N/A	0.25	31.3

Defrost Data:

DEFROST TYPE	DEFROSTS PER DAY	DURATION TIME (MIN)	TERM. TEMP (°F)	ELEK. THERMOSTAT / AIR SENSOR SETTINGS			EPR SETTINGS ****		CONVENTIONAL COMPRESSOR SETTINGS *****				DEFROST WATER (LB / DAY)
				USAGE	CUT IN	CUT OUT	R22 (PSIG)	R404A (PSIG)	R22 (PSIG) CUT-IN	R22 (PSIG) CUT-OUT	R404A (PSIG) CUT-IN	R404A (PSIG) CUT-OUT	
TIME OFF	4	34	- - -	MED TEMP	- - -	- - -	38	49.5	- - -	- - -	- - -	- - -	N/A
ELECTRIC	4	19	50	MED TEMP	- - -	- - -	38	49.5	- - -	- - -	- - -	- - -	N/A
HOT GAS	4	12-15	55***	MED TEMP	- - -	- - -	38	49.5	- - -	- - -	- - -	- - -	N/A
TIME OFF* (NMGHP90OS)	4	44**	- - -	MED TEMP	28°F	26°F	49	62	47	36	60	47	N/A

* All high performance cases use **OFF CYCLE** defrost.
** **NOTE:** 44 minutes is for EPR with suction stop defrost isolation. Defrost time increases by eight minutes (52 min. total) when defrost isolation is by pump down.
*** If an Electronic Sensor is used for termination, it should be set at 70°F termination temperature. The sensor must be located in the same location as the defrost termination klixon for that defrost type.
**** If EPR is utilized, use the settings shown in the chart. **NOTE:** The customer will need to set the EPR on the parallel rack or single unit to the appropriate suction temperature and the high performance case lineups must be on a separate stub with a separate EPR. **ADD** 0.5# to EPR setting for each 1000 foot rise in elevation.
***** Required setup for a conventional unit uses an electronic thermostat to assure accurate temperature control.

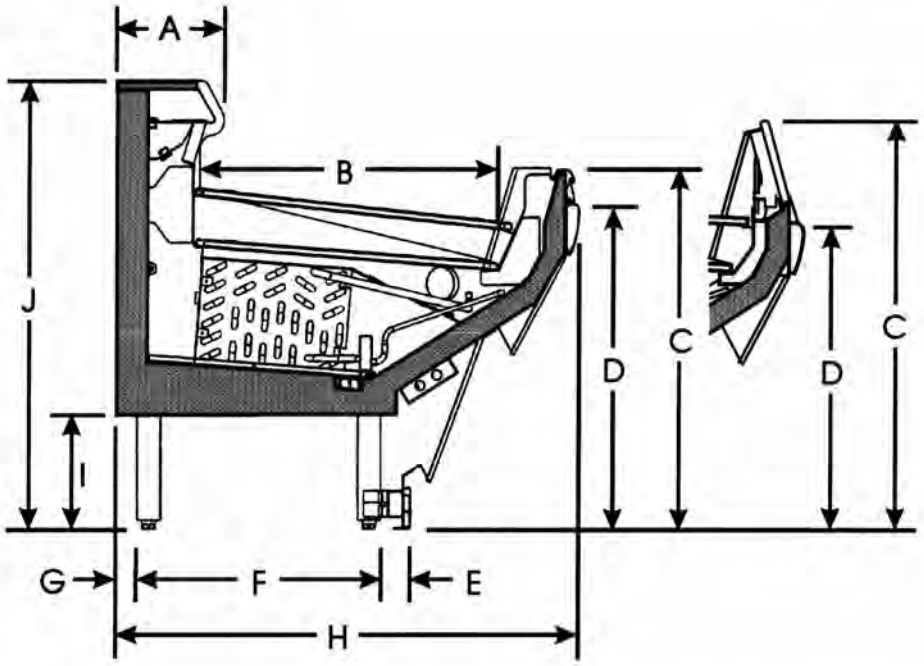
DEFROST CIRCUITS: OFF CYCLE defrost is standard (use TC defrost module) – **OPTIONAL ELECTRIC** defrost uses a single or 3 phase circuit – **OPTIONAL HOT GAS** defrost uses 2 control wires @ 208V per lineup.

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.**

NM/NMG/NMGHP MEAT WEDGE CROSS SECTIONS

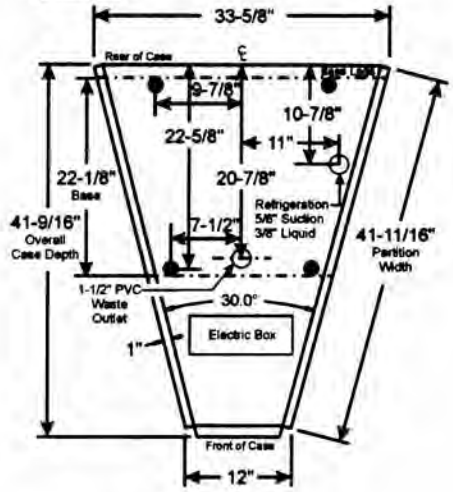
NM30IS/NM30OS/NM45IS/NM45OS/NMG45OS/NM90OS/NMG90OS/NMGHP90OS



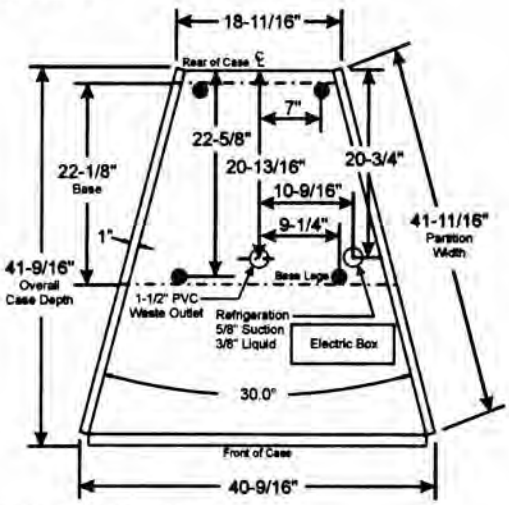
DIMENSIONAL SPECIFICATION	NM30IS	NM30OS	NM45IS	NM45OS	NMG45OS	NM90OS	NMG90OS	NMGHP90OS
A	8-3/4"	9-5/8"	8-1/8"	9"	9-5/16"	9-1/8"	9-7/16"	9-7/16"
B	27-1/2"	27-9/16"	26-1/4"	26"	27-1/8"	17-9/16"	18-11/16"	18-11/16"
C	31"	31"	31"	31"	31"	31"	31"	31"
D	26"	26"	26"	26"	26"	26"	26"	26"
E	3"	3"	3"	3"	3"	3"	3"	3"
F	22-1/8"	22-1/8"	21-1/16"	21- 1/16"	21-1/16"	15-3/8"	15-3/8"	15-3/8"
G	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"
H	41-9/16"	41-9/16"	39-13/16"	39-13/16"	39-13/16"	30-13/16"	30-13/16"	30-13/16"
I	9-3/4"	9-3/4"	9-3/4"	9-3/4"	9-3/4"	9-3/4"	9-3/4"	9-3/4"
J	38"	38"	38"	38"	38"	38"	38"	38"

NM/NMG/NMGHP MEAT WEDGE FLOOR PLANS

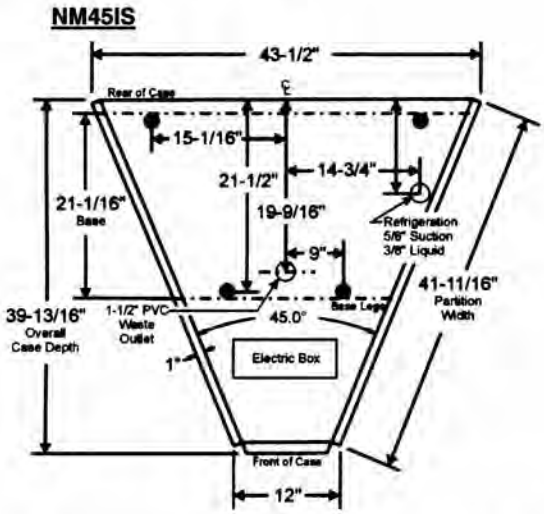
NM30IS



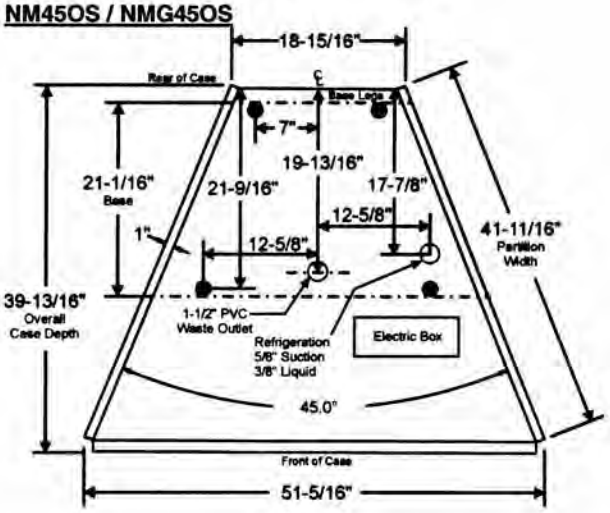
NM30OS



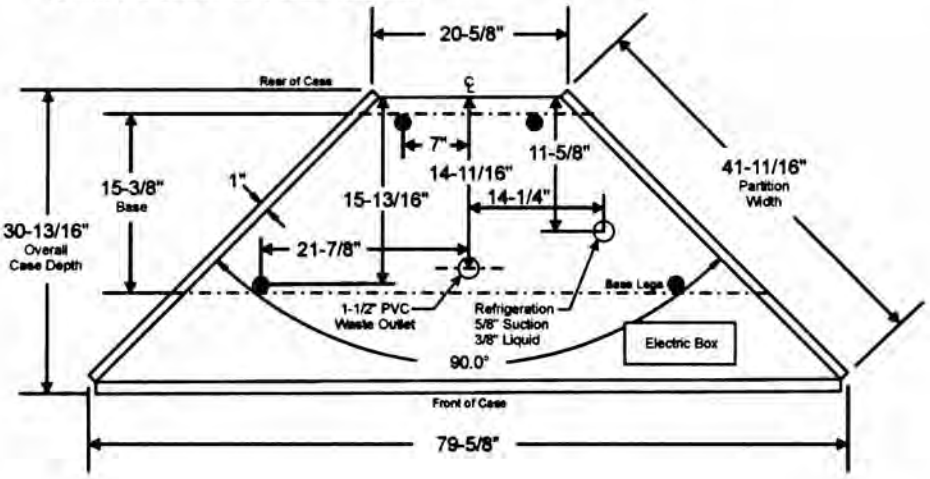
NM45IS



NM45OS / NMG45OS



NM90OS/NMG90OS/NMGHP90OS



N3MG/N3MGHP Three-Deck Inside & Outside Meat Corner Merchandisers

Refrigeration Data:

MODEL	CASE LENGTH	CASE USAGE	CAPACITY (BTUH / CASE)		EVAPORATOR (°F)	UNIT SIZING (°F)	DISCHARGE AIR		AVG. REF. CHARGE (LBS/CASE)
			PARALLEL	CONVENTIONAL			TEMPERATURE (°F)	VELOCITY (FPM)	
N3MG30OS	39-5/8"	MED TEMP	2,378*	2,692	+15**	+13	+27	N/A***	N/A
N3MG45IS	43-15/16"	MED TEMP	2,101*	2,378	+15**	+13	+27	N/A***	N/A
N3MG45OS	49-15/16"	MED TEMP	4,579*	5,184	+15**	+13	+27	N/A***	N/A
N3MG60OS	59-3/4"	MED TEMP	5,335*	6,040	+15**	+13	+27	N/A***	N/A
N3MGHP90OS	77-1/16"	MED TEMP	3,987*	4,376	+25**	+23	+29	N/A***	N/A

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

FOR SPECIFIC COMPRESSOR SIZING INFORMATION, REFER TO TYLER APPLICATIONS FOR RACK SYSTEM COMPRESSORS AND/OR THE COMPRESSOR MANUFACTURERS FOR SINGLE COMPRESSORS. FOR LINE SIZING INFORMATION, REFER TO THE MISCELLANEOUS SECTION "BUFF" IN THE TYLER SPECIFICATION GUIDE.

Electrical Data:

Fans and Heaters (120 Volt)

MODEL	CASE LENGTH	FANS / CASE	TOTAL STANDARD FANS		TOTAL ECM FANS		TOTAL ANTI-SWEATS	
			AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
N3MG30OS	39-5/8"	1	0.34	30.2	0.20	7.5	0.11	13.2
N3MG45IS	43-15/16"	1	0.34	30.2	0.20	7.5	0.22	7.2
N3MG45OS	49-15/16"	1	0.34	30.2	0.20	7.5	0.21	18.0
N3MG60OS	59-3/4"	1	0.53	48.0	0.32	17.0	0.21	7.2
N3MGHP90OS	77-1/16"	2	0.68	60.4	N/A	N/A	0.48	56.0

Defrost Data:

DEFROST TYPE	DEFROSTS PER DAY	DURATION TIME (MIN)	TERM. TEMP (°F)	ELEK. THERMOSTAT / AIR SENSOR SETTINGS			EPR SETTINGS ****		CONVENTIONAL COMPRESSOR SETTINGS *****				DEFROST WATER (LB / DAY)
				USAGE	CUT IN	CUT OUT	R22 (PSIG)	R404A (PSIG)	R22 (PSIG) CUT-IN	R22 (PSIG) CUT-OUT	R404A (PSIG) CUT-IN	R404A (PSIG) CUT-OUT	
TIME OFF	6	28	- - -	MED TEMP	- - -	- - -	38	49.5	- - -	- - -	- - -	- - -	N/A
ELECTRIC	6	36	50	MED TEMP	- - -	- - -	38	49.5	- - -	- - -	- - -	- - -	N/A
HOT GAS	6	12-15	55***	MED TEMP	- - -	- - -	38	49.5	- - -	- - -	- - -	- - -	N/A
TIME OFF* (N3MGHP90OS)	4	32**	- - -	MED TEMP	29°F	27°F	49	62	47	36	60	47	N/A

* All high performance cases use **OFF CYCLE** defrost.
** **NOTE:** 32 minutes is for EPR with suction stop for defrost isolation. Defrost time increases by six minutes (38 min. total) when defrost isolation is by pump down.
*** If an Electronic Sensor is used for termination, it should be set at 70°F termination temperature. The sensor must be located in the same location as the defrost termination klixon for that defrost type.
**** If EPR is utilized, use the settings shown in the chart. **NOTE:** The customer will need to set the EPR on the parallel rack or single unit to the appropriate suction temperature and the high performance case lineups must be on a separate suction stub with a separate EPR. **ADD** 0.5# to EPR setting for each 1000 foot rise in elevation.
***** Required setup for a conventional unit uses an electronic thermostat to assure accurate temperature control.

DEFROST CIRCUITS: OFF CYCLE defrost is standard (use TC defrost module) – **OPTIONAL ELECTRIC** defrost uses a single or 3 phase circuit – **OPTIONAL HOT GAS** defrost uses 2 control wires @ 208V per lineup.

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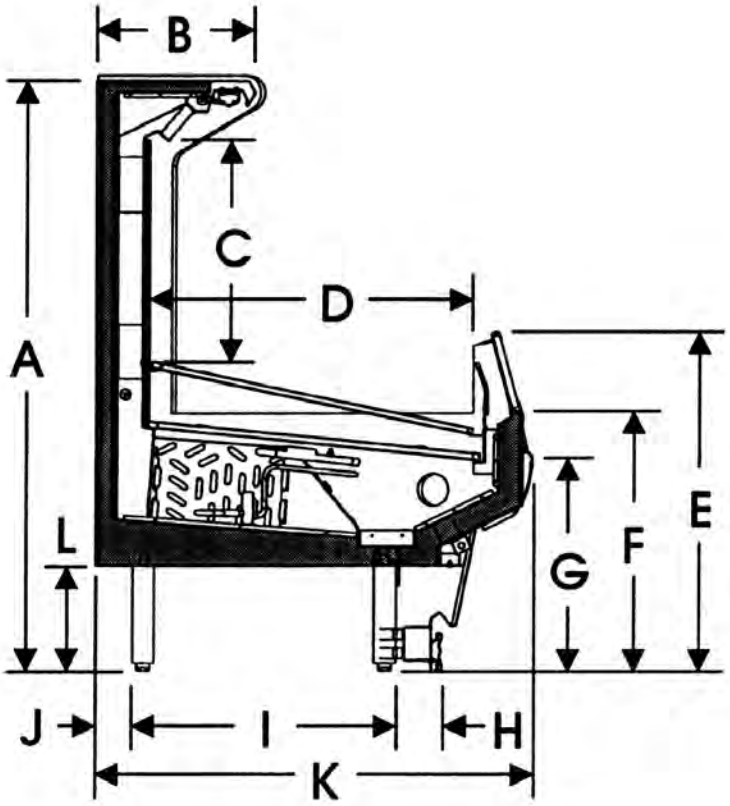
CASE BTUH REQUIREMENTS are calculated to produce approximately the indicated entering-air temperature with absolute maximum operating ambient limits of **75°F & 55RH**.

N3MG/N3MGHP MEAT WEDGE CROSS SECTIONS

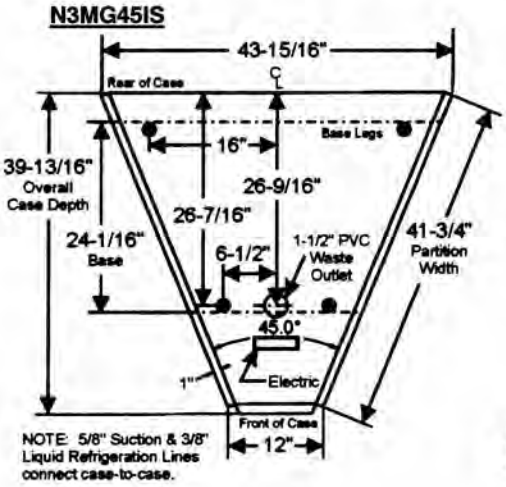
N3MG30OS/N3MG45IS/N3MG45OS/N3MG60OS/N3MGHP90OS



DIMENSIONAL SPECIFICATION	N3MG30OS	N3MG45IS	N3MG45OS	N3MG60OS	N3MGHP90OS
A	4' 6-1/4"	4' 6-1/4"	4' 6-1/4"	4' 6-1/4"	4' 6-1/4"
B	15-5/16"	14-7/16"	14-1/4"	14"	12-3/8"
C	20-1/4"	20-1/8"	24-3/8"	20-3/4"	25-9/16"
D	31-11/16"	29-9/16"	30-3/8"	28-1/16"	22-3/16"
E	31-7/16"	31-7/16"	31-7/16"	31-7/16"	31- 7/16"
F	23-7/8"	23-7/8"	23-7/8"	23-7/8"	23-7/8"
G	19-9/16"	19-9/16"	19-9/16"	19-9/16"	19- 9/16"
H	4-1/4"	4-1/4"	8-1/8"	4-1/4"	6-9/16"
I	25-3/8"	24-1/16"	26-5/8"	22-1/2"	16-1/4"
J	3-11/16"	3-3/8"	3-5/8"	3-5/8"	2-3/4"
K	41-3/4"	39-13/16"	40-1/8"	37-7/16"	31-3/8"
L	9-3/4"	9-3/4"	9-3/4"	9-3/4"	9-3/4"

N3MG/N3MGHP MEAT WEDGE FLOOR PLANS

N3MG45IS



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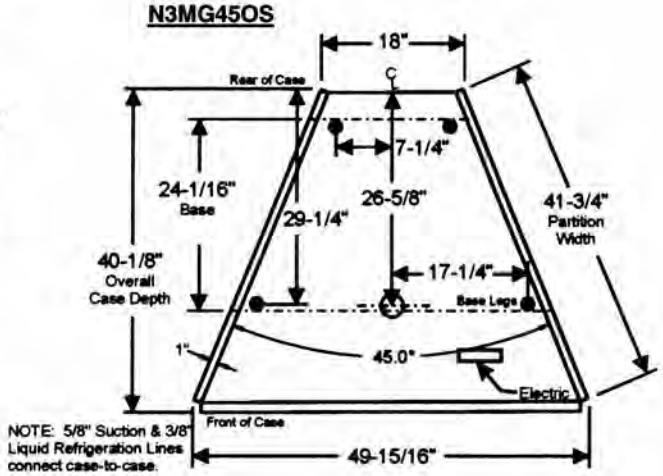

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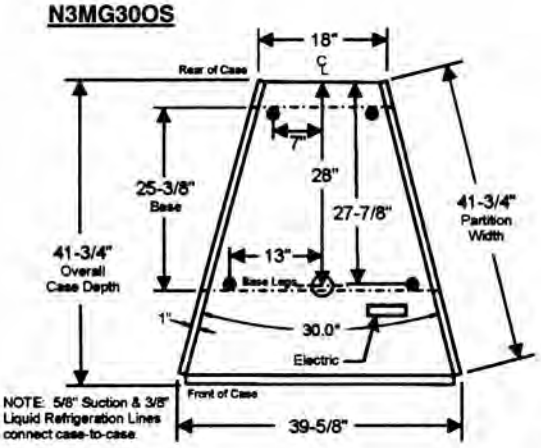
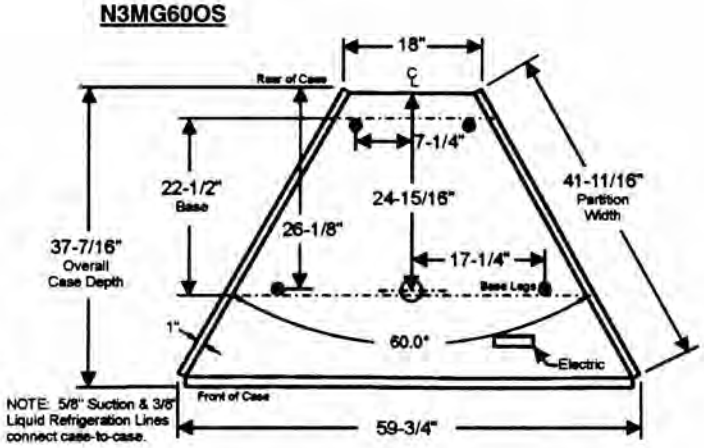
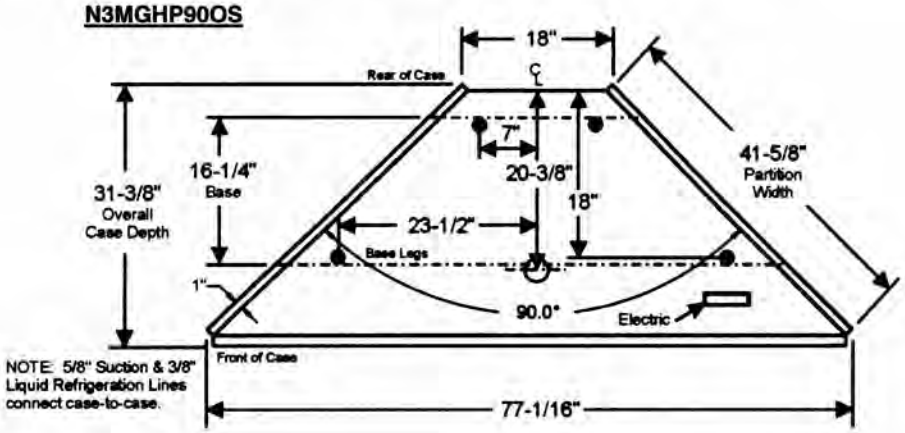


N3MG60OS



N3MGHP90OS



N3HMG High-Back, Three-Deck Outside Meat Corner Merchandiser

Refrigeration Data:

MODEL	CASE LENGTH	CASE USAGE	CAPACITY (BTUH / CASE)		EVAPORATOR (°F)	UNIT SIZING (°F)	DISCHARGE AIR		AVG. REF. CHARGE (LBS/CASE)
			PARALLEL	CONVENTIONAL			TEMPERATURE (°F)	VELOCITY (FPM)	
N3HMG90OS	77-1/16"	MED TEMP	6,750*	7,431	+15**	+13	+27	N/A***	N/A

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

FOR SPECIFIC COMPRESSOR SIZING INFORMATION, REFER TO TYLER APPLICATIONS FOR RACK SYSTEM COMPRESSORS AND/OR THE COMPRESSOR MANUFACTURERS FOR SINGLE COMPRESSORS. FOR LINE SIZING INFORMATION, REFER TO THE MISCELLANEOUS SECTION "BUFF" IN THE TYLER SPECIFICATION GUIDE.

Electrical Data:

Fans and Heaters (120 Volt)

MODEL	CASE LENGTH	FANS / CASE	TOTAL STANDARD FANS		TOTAL ECM FANS		TOTAL ANTI-SWEATS	
			AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
N3HMG90OS	77-1/16"	2	0.68	60.4	0.40	15.0	0.11	13.2

Defrost Data:

DEFROST TYPE	DEFROSTS PER DAY	DURATION TIME (MIN)	TERMINATION TEMP (°F)	USAGE	EPR SETTINGS **		DEFROST WATER (LB / DAY)
					R22 (PSIG)	R404A (PSIG)	
TIME OFF	6	22	- - -	MED TEMP	38	49.5	N/A
ELECTRIC	6	36	50	MED TEMP	38	49.5	N/A
HOT GAS	6	12-15	55*	MED TEMP	38	49.5	N/A

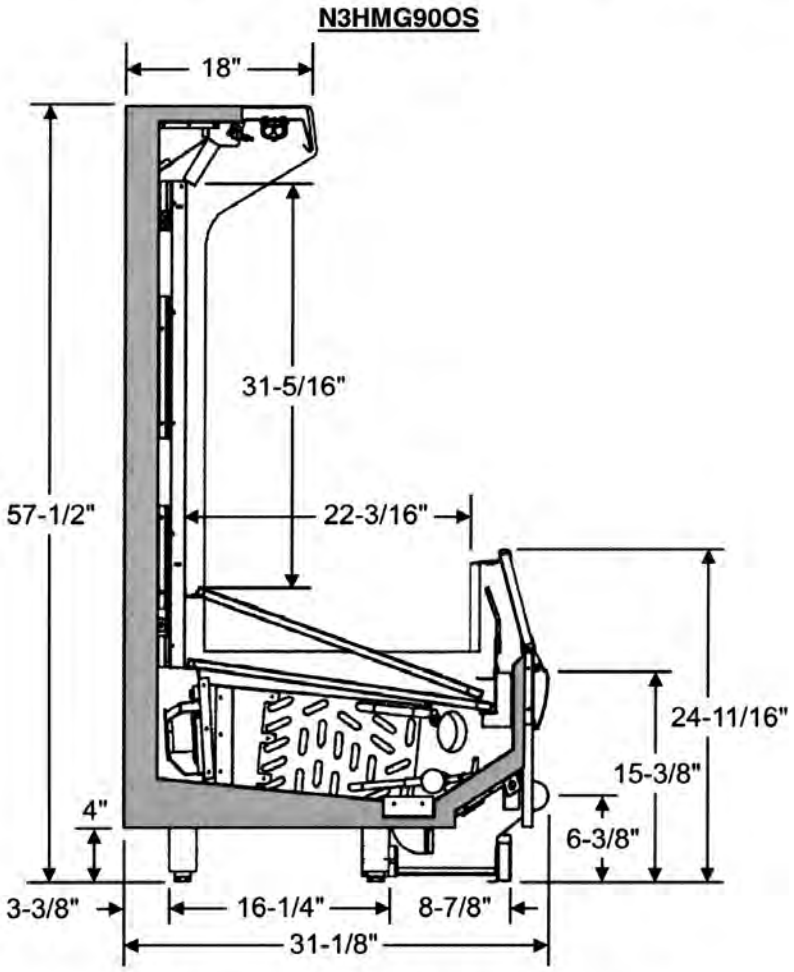
* If an Electronic Sensor is used for termination, it should be set at 70°F termination temperature. The sensor must be located in the same location as the defrost termination klixon for that defrost type.
** Set EPR to give this pressure at the case.

DEFROST CIRCUITS: OFF CYCLE defrost is standard (use TC defrost module) – **OPTIONAL ELECTRIC** defrost uses a single or 3 phase circuit – **OPTIONAL HOT GAS** defrost uses 2 control wires @ 208V per lineup.

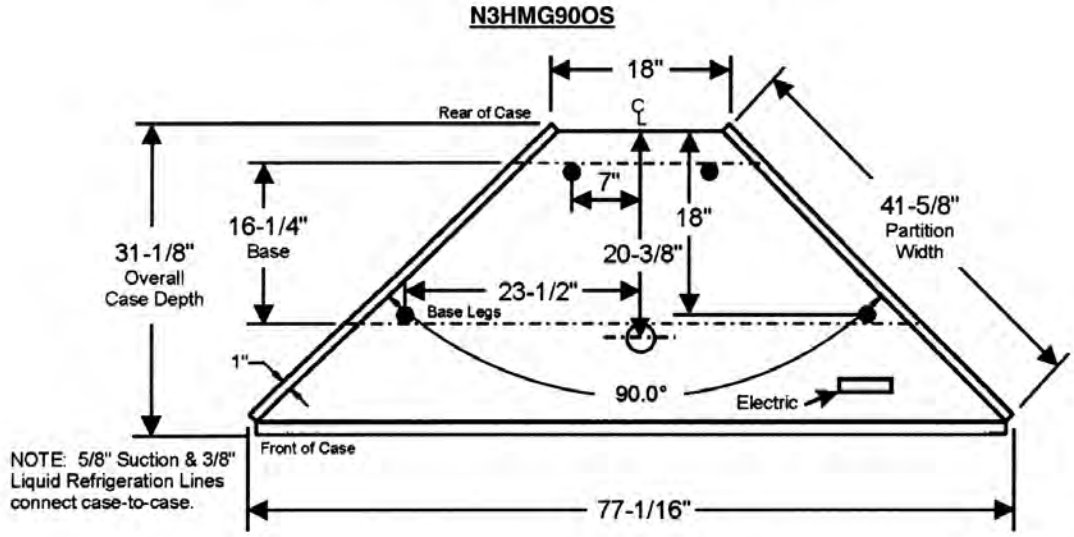
UL SANITATION approved in accordance with ANSI/NSF – 7.

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

N3HMG MEAT WEDGE CROSS SECTION



N3HMG MEAT WEDGE FLOOR PLAN



N4M/N4MG/N4MHP Multi-Shelf Inside & Outside Meat Corner Merchandisers

Refrigeration Data:

MODEL	CASE LENGTH	CASE USAGE	CAPACITY (BTUH / CASE)		EVAPORATOR (°F)	UNIT SIZING (°F)	DISCHARGE AIR		AVG. REF. CHARGE (LBS/CASE)
			PARALLEL	CONVENTIONAL			TEMPERATURE (°F)	VELOCITY (FPM)	
N4MG30IS	33-5/8"	MED TEMP	1,827*	2,088	+18**	+13	+32	N/A***	N/A
N4MG30OS	40-9/16"	MED TEMP	4,276*	4,887	+18**	+13	+32	N/A***	N/A
N4M45IS	43-1/2"	MED TEMP	2,597*	2,968	+18**	+13	+32	N/A***	N/A
N4MHP45OS	51-5/16"	MED TEMP	4,947*	5,600	+25**	+23	+28	N/A***	N/A
N4MG45IS	43-1/2"	MED TEMP	2,390*	2,731	+18**	+13	+32	N/A***	N/A
N4MG45OS	51-5/16"	MED TEMP	5,960*	6,811	+18**	+13	+32	N/A***	N/A
N4M90IS	71"	MED TEMP	3,361*	3,841	+18**	+13	+32	N/A***	N/A
N4M90OS	79-5/8"	MED TEMP	9,401*	10,744	+18**	+16	+32	N/A***	N/A

* **Capacity data listed for cases with one row of canopy lights. For sizing all refrigeration equipment other than TYLER, use conventional BTUH values.**
** **Evaporator temperature is defined as the saturated suction temperature leaving the case.**
*** **Air velocity measured 1 hour after defrost at the top discharge air duct using an ALNOR JR. velometer with a scoop.**

FOR SPECIFIC COMPRESSOR SIZING INFORMATION, REFER TO TYLER APPLICATIONS FOR RACK SYSTEM COMPRESSORS AND/OR THE COMPRESSOR MANUFACTURERS FOR SINGLE COMPRESSORS. FOR LINE SIZING INFORMATION, REFER TO THE MISCELLANEOUS SECTION "BUFF" IN THE TYLER SPECIFICATION GUIDE.

Electrical Data:

Fans and Heaters (120 Volt)

MODEL	CASE LENGTH	FANS / CASE	TOTAL STANDARD FANS		TOTAL ECM FANS		TOTAL ANTI-SWEATS	
			AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
N4MG30IS	33-5/8"	1	0.34	30.2	N/A	N/A	0.70	84.0
N4MG30OS	40-9/16"	1	0.34	30.2	N/A	N/A	0.26	31.2
N4M45IS	43-1/2"	1	0.34	30.2	N/A	N/A	0.70	84.0
N4MHP45OS	51-5/16"	1	0.80	71.0	N/A	N/A	0.14	16.8
N4MG45IS	43-1/2"	1	0.34	30.2	N/A	N/A	0.11	13.2
N4MG45OS	51-5/16"	1	0.34	30.2	N/A	N/A	0.29	34.8
N4M90IS	71"	1	0.34	30.2	N/A	N/A	0.11	13.2
N4M90OS	79-5/8"	1	0.34	30.2	N/A	N/A	0.14	16.8

Defrost Data:

DEFROST TYPE	DEFROSTS PER DAY	DURATION TIME (MIN)	TERM. TEMP (°F)	ELEK. THERMOSTAT / AIR SENSOR SETTINGS			EPR SETTINGS ****		CONVENTIONAL COMPRESSOR SETTINGS *****				DEFROST WATER (LB / DAY)
				USAGE	CUT IN	CUT OUT	R22 (PSIG)	R404A (PSIG)	R22 (PSIG) CUT-IN	R22 (PSIG) CUT-OUT	R404A (PSIG) CUT-IN	R404A (PSIG) CUT-OUT	
TIME OFF	6	30	- - -	MED TEMP	- - -	- - -	41	53	- - -	- - -	- - -	- - -	N/A
ELECTRIC	6	36	50	MED TEMP	- - -	- - -	41	53	- - -	- - -	- - -	- - -	N/A
HOT GAS	6	12-15	55***	MED TEMP	- - -	- - -	41	53	- - -	- - -	- - -	- - -	N/A
TIME OFF* (N4MHP45OS)	2	28**	- - -	MED TEMP	28°F	26°F	49	62	47	36	60	47	N/A

* All high performance cases use **OFF CYCLE** defrost.
** **NOTE:** 28 minutes is for EPR with suction stop for defrost isolation. Defrost time increases by six minutes (34 min. total) when defrost isolation is by pump down.
*** If an Electronic Sensor is used for termination, it should be set at 70°F termination temperature. The sensor must be located in the same location as the defrost termination klixon for that defrost type.
**** If EPR is utilized, use the settings shown in the chart. **NOTE:** The customer will need to set the EPR on the parallel rack or single unit to the appropriate suction temperature and the high performance case lineups must be on a separate suction stub with a separate EPR. **ADD** 0.5# to EPR setting for each 1000 foot rise in elevation.
***** Required setup for a conventional unit uses an electronic thermostat to assure accurate temperature control.

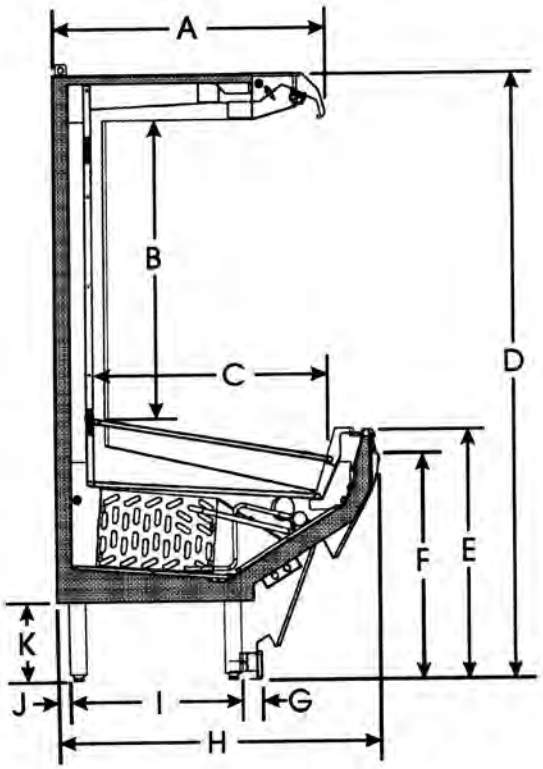
DEFROST CIRCUITS: OFF CYCLE defrost is standard (use TC defrost module) – **OPTIONAL ELECTRIC** defrost uses a single or 3 phase circuit – **OPTIONAL HOT GAS** defrost uses 2 control wires @ 208V per lineup.

UL SANITATION approved in accordance with ANSI/NSF – 7.

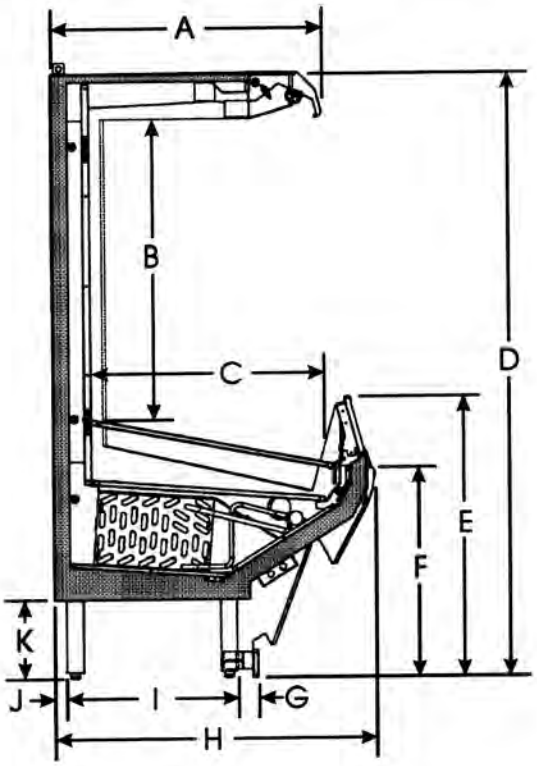
CASE BTUH REQUIREMENTS are calculated to produce approximately the indicated entering-air temperature with absolute maximum operating ambient limits of **75°F & 55RH.**

N4M/N4MG/N4MHP MEAT WEDGE CROSS SECTIONS

N4M45IS/N4MHP45OS/N4M90IS/N4M90OS



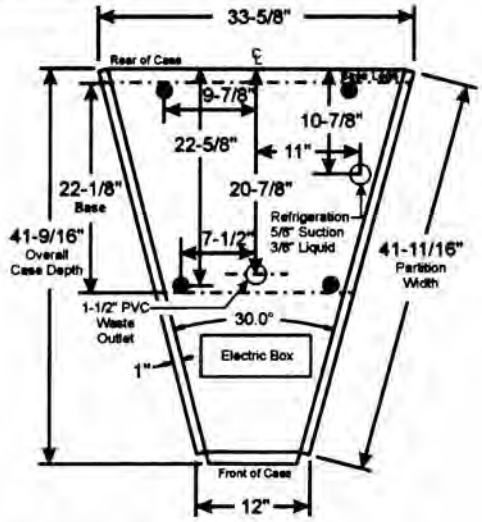
N4MG30IS/N4MG30OS/N4MG45IS/N4MG45OS



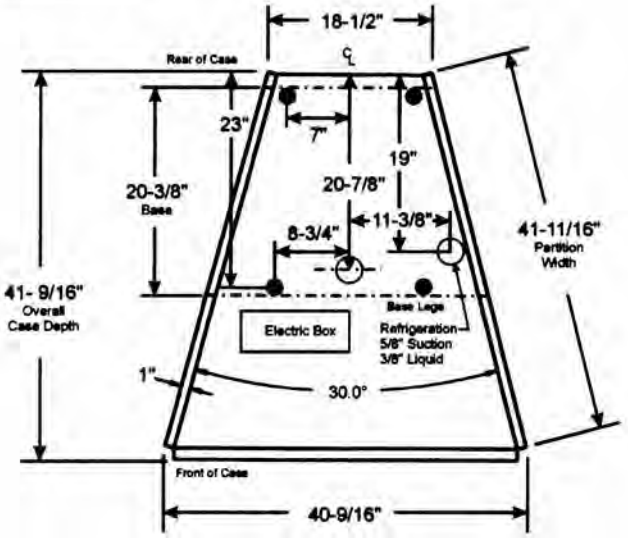
DIMENSIONAL SPECIFICATION	N4MG30IS	N4MG30OS	N4M45IS	N4MHP45OS	N4MG45IS	N4MG45OS	N4M90IS	N4M90OS
A	28-3/8"	29-3/4"	28-3/8"	28-3/8"	28-3/8"	28-3/8"	20-3/4"	20-3/4"
B	38-3/16"	40-3/8"	38-1/4"	40-3/4"	38-3/8"	40-7/16"	38-1/2"	39-1/4"
C	31-3/16"	31-13/16"	28-9/16"	29-5/16"	29-5/16"	30-1/16"	20-1/4"	21-3/16"
D	75"	75"	75"	75"	75"	75"	75"	75"
E	35"	35"	31"	31"	35"	35"	31"	31"
F	27-5/16"	27-5/16"	27-5/16"	27- 5/16"	27-5/16"	27-5/16"	27-5/16"	27-5/16"
G	2-15/16"	2-13/16"	2-9/16"	2-15/16"	2-9/16"	2-15/16"	2-9/16"	2-15/16"
H	41-9/16"	41-9/16"	39-13/16"	39-13/16"	39-13/16"	39-13/16"	30-13/16"	30-13/16"
I	22-1/8"	22-3/8"	21-1/16"	21-1/16"	21-1/16"	21-1/16"	15-3/8"	15-3/8"
J	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	2"
K	10"	10"	10"	10"	10"	10"	10"	10"

N4M/N4MG/N4MHP MEAT WEDGE FLOOR PLANS

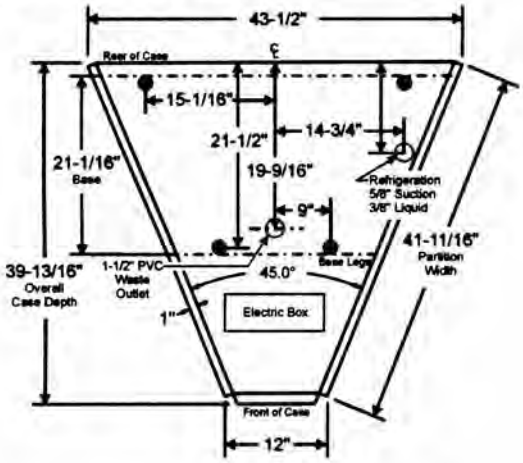
N4MG30IS



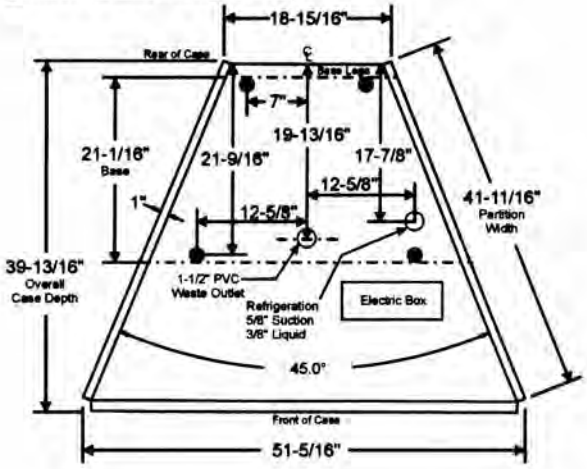
N4MG30OS



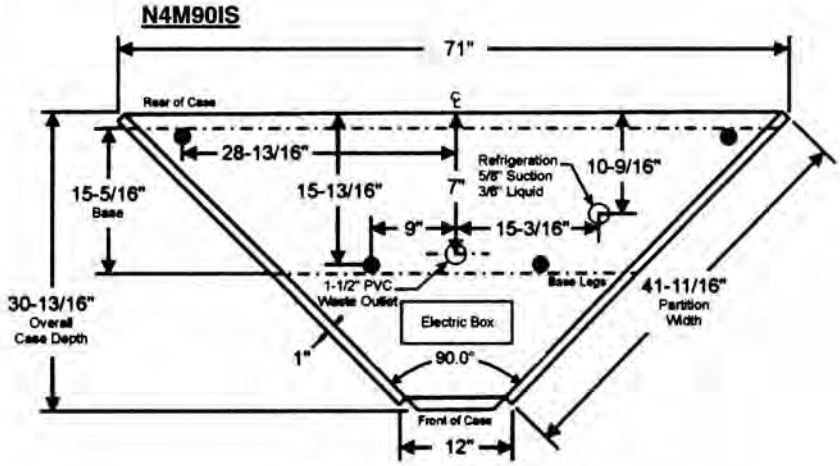
N4M45IS / N4MG45IS

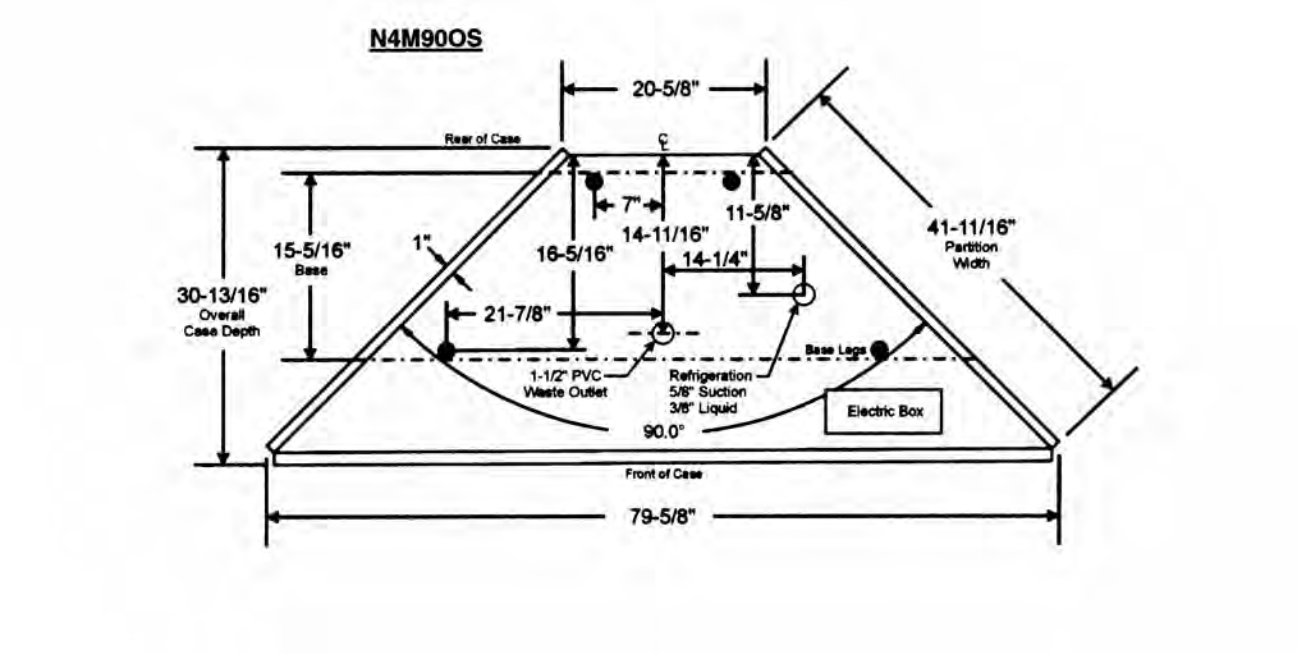


N4MHP45OS / N4MG45OS



N4M90IS




N4M90OS
20-5/8"
Rear of Case
℄
7"
14-11/16"
11-5/8"
41-11/16"
Partition Width
15-5/16"
Base
1"
16-5/16"
14-1/4"
30-13/16"
Overall Case Depth
21-7/8"
Base Legs
1-1/2" PVC Waste Outlet
Refrigeration 5/8" Suction 3/8" Liquid
Electric Box
90.0°
Front of Case
79-5/8"

N5MG/N5M/N5MHP High-Back, Multi-Shelf Inside & Outside Meat Corner Merchandisers

Refrigeration Data:

MODEL	CASE LENGTH	CASE USAGE	CAPACITY (BTUH / CASE)		EVAPORATOR (°F)	UNIT SIZING (°F)	DISCHARGE AIR		AVG. REF. CHARGE (LBS/CASE)
			PARALLEL	CONVENTIONAL			TEMPERATURE (°F)	VELOCITY (FPM)	
N5MG30IS	33-1/8"	MED TEMP	2,830*	3,265	+15**	+13	+28	N/A***	N/A
N5MG30OS	40-1/2"	MED TEMP	2,830*	3,265	+15**	+13	+28	N/A***	N/A
N5MG45IS	43-15/16"	MED TEMP	3,123*	3,603	+15**	+13	+28	N/A***	N/A
N5MG90IS	71"	MED TEMP	3,931*	4,536	+15**	+13	+28	N/A***	N/A

* **Capacity data listed for cases with one row of canopy lights. For sizing all refrigeration equipment other than TYLER, use conventional BTUH values.**
** **Evaporator temperature is defined as the saturated suction temperature leaving the case.**
*** **Air velocity measured 1 hour after defrost at the top discharge air duct using an ALNOR JR. velometer with a scoop.**

FOR SPECIFIC COMPRESSOR SIZING INFORMATION, REFER TO TYLER APPLICATIONS FOR RACK SYSTEM COMPRESSORS AND/OR THE COMPRESSOR MANUFACTURERS FOR SINGLE COMPRESSORS. FOR LINE SIZING INFORMATION, REFER TO THE MISCELLANEOUS SECTION "BUFF" IN THE TYLER SPECIFICATION GUIDE.

Electrical Data:

Fans and Heaters (120 Volt)

MODEL	CASE LENGTH	FANS / CASE	TOTAL STANDARD FANS		TOTAL ECM FANS		TOTAL ANTI-SWEATS	
			AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
N5MG30IS	33-1/8"	1	0.34	30.2	N/A	N/A	0.04	5.2
N5MG30OS	40-1/2"	1	0.53	48.0	N/A	N/A	0.11	13.8
N5MG45IS	43-15/16"	1	0.34	30.2	N/A	N/A	0.04	5.2
N5MG90IS	71"	1	0.53	48.0	N/A	N/A	0.04	5.2

Defrost Data:

DEFROST TYPE	DEFROSTS PER DAY	DURATION TIME (MIN)	TERM. TEMP (°F)	ELEK. THERMOSTAT / AIR SENSOR SETTINGS			EPR SETTINGS ****		CONVENTIONAL COMPRESSOR SETTINGS *****				DEFROST WATER (LB / DAY)
				USAGE	CUT IN	CUT OUT	R22 (PSIG)	R404A (PSIG)	R22 (PSIG) CUT-IN	R22 (PSIG) CUT-OUT	R404A (PSIG) CUT-IN	R404A (PSIG) CUT-OUT	
TIME OFF	6	32	---	MED TEMP	---	---	38	49.5	---	---	---	---	N/A
ELECTRIC	6	36	50	MED TEMP	---	---	38	49.5	---	---	---	---	N/A
HOT GAS	6	12-15	55***	MED TEMP	---	---	38	49.5	---	---	---	---	N/A
TIME OFF* (N5MHP45IS/OS)	6	26**	---	MED TEMP	29°F	27°F	49	62	47	36	60	47	N/A

* All high performance cases use **OFF CYCLE** defrost.
** **NOTE:** 26 minutes is for EPR with suction stop for defrost isolation. Defrost time increases by six minutes (32 min. total) when defrost isolation is by pump down.
*** If an Electronic Sensor is used for termination, it should be set at 70°F termination temperature. The sensor must be located in the same location as the defrost termination klixon for that defrost type.
**** If EPR is utilized, use the settings shown in the chart. **NOTE:** The customer will need to set the EPR on the parallel rack or single unit to the appropriate suction temperature and the high performance case lineups must be on a separate suction stub with a separate EPR. **ADD** 0.5# to EPR setting for each 1000 foot rise in elevation.
***** Required setup for a conventional unit uses an electronic thermostat to assure accurate temperature control.

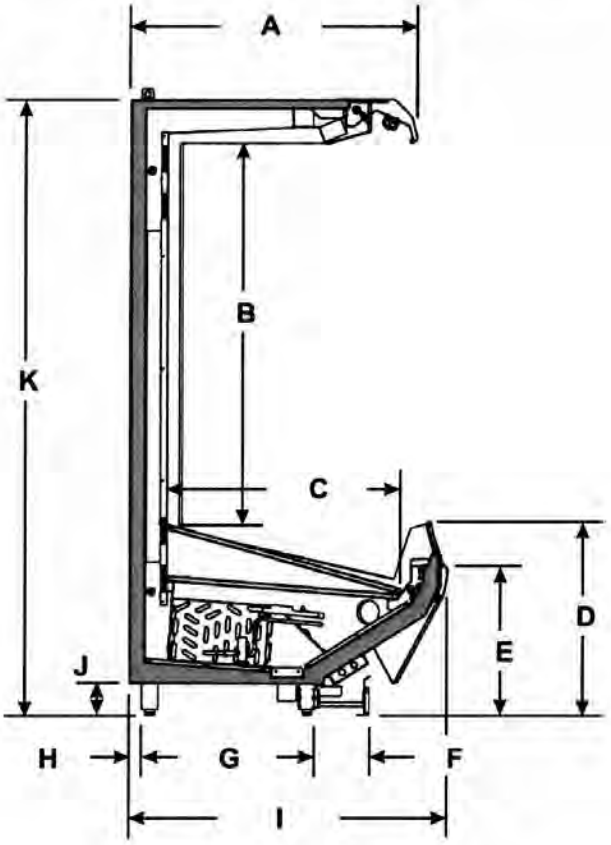
DEFROST CIRCUITS: OFF CYCLE defrost is standard (use TC defrost module) – **OPTIONAL ELECTRIC** defrost uses a single or 3 phase circuit – **OPTIONAL HOT GAS** defrost uses 2 control wires @ 208V per lineup.

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**.

N5MG MEAT WEDGE CROSS SECTIONS

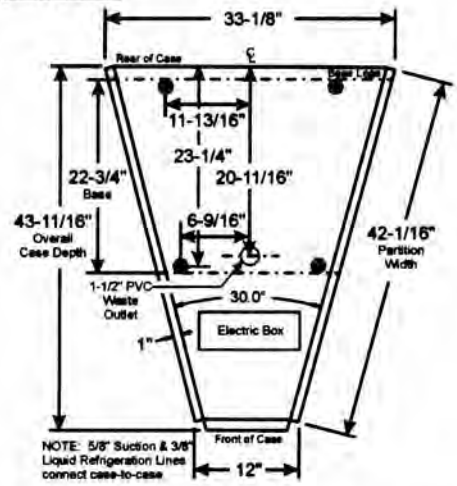
N5MG30IS/N5MG30OS/N5MG45IS/N5MG90IS



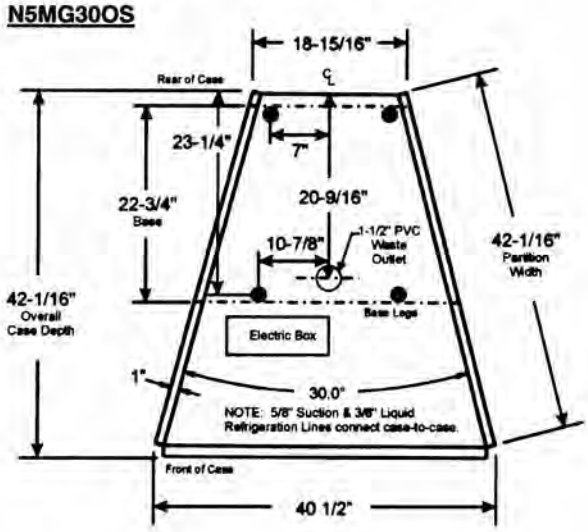
DIMENSIONAL SPECIFICATION	N5MG30IS	N5MG30OS	N5MG45IS	N5MG90IS
A	32-3/8"	37-11/16"	30-3/4"	27-5/16"
B	49-5/8"	49-5/8"	49-5/8"	49-5/8"
C	32-5/8"	31"	29-3/8"	20-5/8"
D	24-1/2"	24-1/2"	24-1/2"	24-1/2"
E	18-3/16"	18-3/16"	18-3/16"	18-3/16"
F	7-1/4"	7-1/4"	7- 1/4"	5-1/8"
G	22-3/4"	22-3/4"	21-15/16"	16-3/16"
H	1-1/2"	1-1/2"	1-1/2"	1-1/2"
I	43-11/16"	42-1/16"	40-7/16"	31-11/16"
J	4-1/16"	4-1/16"	4-1/16"	4-1/16"
K	78"	78"	78"	78"

N5MG MEAT WEDGE FLOOR PLANS

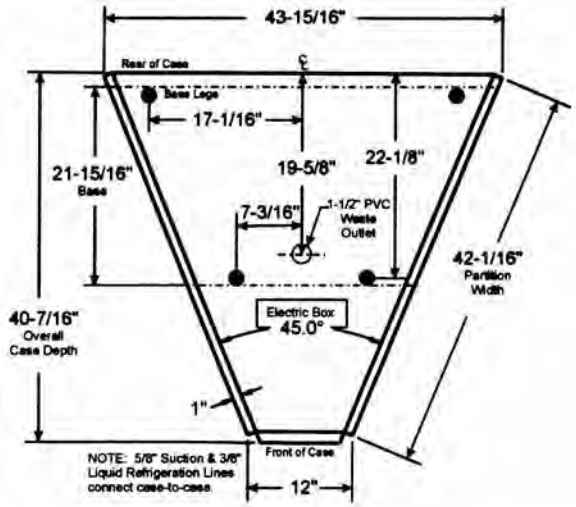
N5MG30IS



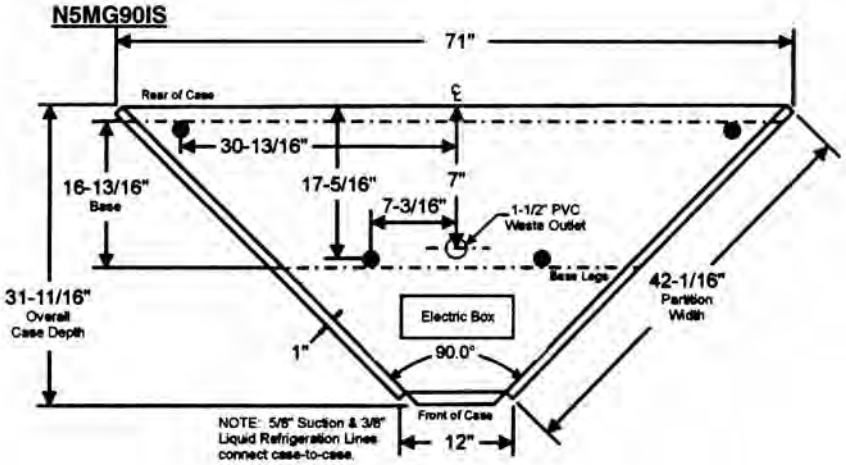
N5MG30OS



N5MG45IS



N5MG90IS



N2MHP High Perf. Three-Deck Outside & Inside Meat Corner Merchandisers

Refrigeration Data:

MODEL	CASE LENGTH	CASE USAGE	CAPACITY (BTUH / CASE)		EVAPORATOR (°F)	UNIT SIZING (°F)	DISCHARGE AIR		AVG. REF. CHARGE (LBS/CASE)
			PARALLEL	CONVENTIONAL			TEMPERATURE (°F)	VELOCITY (FPM)	
N2MHP45OSNL	50"	MED TEMP	2,204*	2,463*	+24**	+22	+31	241***	1.90
N2MHP45ISNL	44"	MED TEMP	1,342*	1,503*	+24**	+22	+31	154***	1.06

* **Capacity data listed for cases with 1 row of T-8 canopy lights, optional T-8 shelf lighting and optional T-8 nose light. For sizing all refrigeration equipment other than TYLER, use conventional BTUH values.**
** **Evaporator temperature is based on 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.**

FOR SPECIFIC COMPRESSOR SIZING INFORMATION, REFER TO TYLER APPLICATIONS FOR RACK SYSTEM COMPRESSORS AND/OR THE COMPRESSOR MANUFACTURERS FOR SINGLE COMPRESSORS. FOR LINE SIZING INFORMATION, REFER TO THE MISCELLANEOUS SECTION "BUFF" IN THE TYLER SPECIFICATION GUIDE.

Electrical Data:

Fans and Heaters (120 Volt)

MODEL	CASE LENGTH	FANS / CASE	TOTAL STANDARD FANS		TOTAL ECM FANS		TOTAL ANTI-SWEATS	
			AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
N2MHP45OSNL	50"	1	0.80	71.0	0.53	22.0	0.04	5.2
N2MHP45ISNL	44"	1	0.53	48.0	0.32	17.0	0.04	5.2

T-8 Lighting with Electronic Ballasts (120 Volt)

MODEL	CASE LENGTH	CANOPY LIGHTS* — PER ROW				SHELF LIGHTS – PER ROW				NOSE LIGHT		MAXIMUM LIGHTING (4 ROWS)	
		AMPS		WATTS		AMPS		WATTS					
		1	2	1	2	1	2	1	2	AMPS	WATTS	AMPS	WATTS
N2MHP45OSNL	50"	0.35	N/A	36.0	N/A	0.20	0.30	24.0	48.0	0.50	72.0	1.15	156.0
N2MHP45ISNL	44"	0.30	N/A	48.0	N/A	0.20	0.30	24.0	48.0	0.18	18.0	0.78	114.0

* Standard lighting for this case is 1 row of canopy lights.

Defrost Data:

DEFROST TYPE*	DEFROSTS PER DAY	DURATION TIME (MIN)	ELEK. THERMOSTAT / AIR SENSOR SETTINGS			EPR SETTINGS ***		CONVENTIONAL COMPRESSOR SETTINGS ****				DEFROST WATER (LB / DAY)
			USAGE	CUT IN	CUT OUT	R22 (PSIG)	R404A (PSIG)	R22 (PSIG) CUT-IN	R22 (PSIG) CUT-OUT	R22 (PSIG) CUT-IN	R22 (PSIG) CUT-OUT	
TIME OFF - N2MHP45OSNL	6	26**	MED TEMP	31°F	29°F	48	61	46	35	59	47	10.8
TIME OFF - N2MHP45ISNL	6	26**	MED TEMP	31F	29°F	48	61	46	35	59	47	5.4

* All high performance cases use **OFF CYCLE** defrost.
** **NOTE:** 26 minutes is for EPR with suction stop for defrost isolation. Defrost times increases by eight minutes (34 min. total) when defrost isolation is by pump down.
*** If EPR is utilized, use the settings shown in the chart. **ADD** 0.5# to EPR setting for each 1000 foot rise in elevation.
**** Required setup for a conventional unit uses an electronic thermostat to assure accurate temperature control.

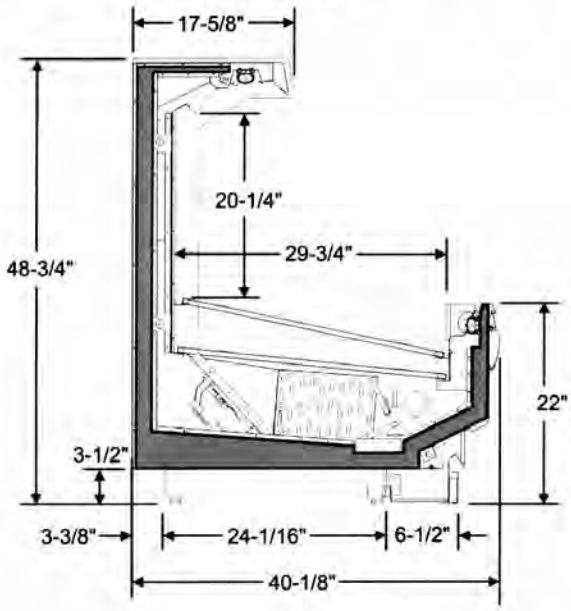
CASE CIRCUITS: This case requires a 120V circuit for fans, lights and anti-sweat heaters.

UL SANITATION approved in accordance with ANSI/NSF – 7.

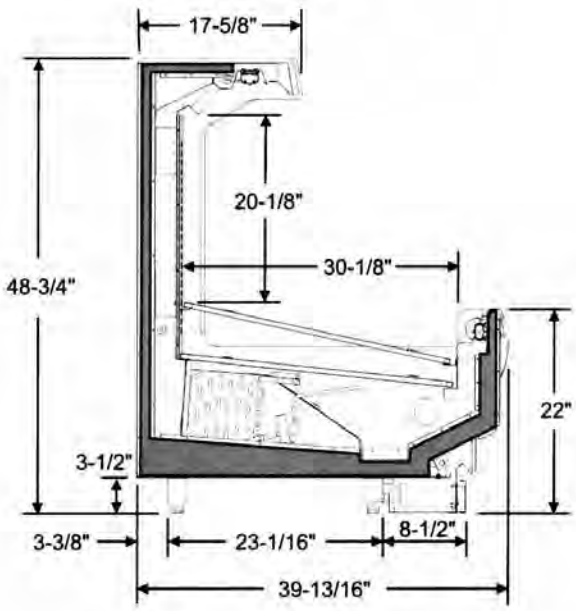
CASE BTUH REQUIREMENTS are calculated to produce approximately the indicated entering-air temperature with absolute maximum operating ambient limits of **75°F & 55RH.**

N2MHP MEAT WEDGE CROSS SECTIONS

N2MHP45OSNL

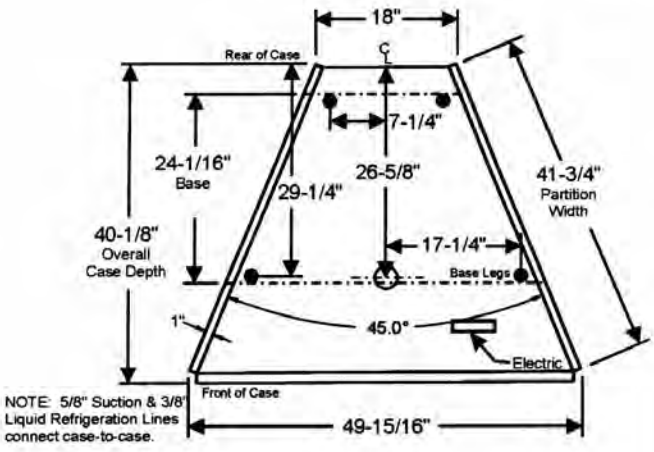


N2MHP45ISNL

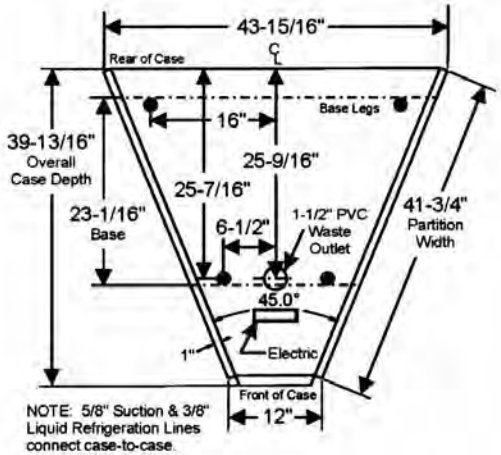


N2MHP MEAT WEDGE FLOOR PLANS

N2MHP45OSNL



N2MHP45ISNL



N6MHPM High Perf. Multi-Deck Inside & Outside Meat Corner Merchandisers

Refrigeration Data:

MODEL	CASE LENGTH	CASE USAGE	CAPACITY (BTUH / CASE)		EVAPORATOR (°F)	UNIT SIZING (°F)	DISCHARGE AIR		AVG. REF. CHARGE (LBS/CASE)
			PARALLEL	CONVENTIONAL			TEMPERATURE (°F)	VELOCITY (FPM)	
N6MHPM45IS	43-7/8"	MED TEMP	4,871*	5,463	+24**	+22	+33	205***	N/A
N6MHPM45OSNL	51-1/16"	MED TEMP	6,242*	7,000	+24**	+22	+33	233***	N/A

* **Capacity data listed for cases with 1 row of T-8 canopy lights, optional T-8 shelf lighting and optional T-8 nose light. For sizing all refrigeration equipment other than TYLER, use conventional BTUH values.**
** **Evaporator temperature is based on 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.**

FOR SPECIFIC COMPRESSOR SIZING INFORMATION, REFER TO TYLER APPLICATIONS FOR RACK SYSTEM COMPRESSORS AND/OR THE COMPRESSOR MANUFACTURERS FOR SINGLE COMPRESSORS. FOR LINE SIZING INFORMATION, REFER TO THE MISCELLANEOUS SECTION "BUFF" IN THE TYLER SPECIFICATION GUIDE.

Electrical Data:

Fans and Heaters (120 Volt)

MODEL	CASE LENGTH	FANS / CASE	TOTAL STANDARD FANS		TOTAL ECM FANS		TOTAL ANTI-SWEATS	
			AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
N6MHPM45IS	43-7/8"	1	1.20	93.0	N/A	N/A	N/A	N/A
N6MHPM45OSNL	51-1/16"	2	2.40	186.0	N/A	N/A	N/A	N/A

T-8 Lighting with Electronic Ballasts (120 Volt)

MODEL	CASE LENGTH	CANOPY LIGHTS* ONE ROW		SHELF LIGHTS – PER ROW								NOSE LIGHT		MAX. LIGHTING (5 or 6 ROWS)	
				AMPS				WATTS							
		AMPS	WATTS	1	2	3	4	1	2	3	4	AMPS	WATTS	AMPS	WATTS
N6MHPM45IS	43-7/8"	0.20	24.0	0.25	0.50	0.75	1.00	30.0	60.0	90.0	120.0	N/A	N/A	1.20	144.0
N6MHPM45OSNL	51-1/16"	0.30	36.0	0.25	0.50	0.75	1.00	30.0	60.0	90.0	120.0	0.50	72.0	1.80	228.0

* Standard lighting for this case is 1 row of canopy lights.

Defrost Data:

DEFROST TYPE*	DEFROSTS PER DAY	DURATION TIME (MIN)	ELEK. THERMOSTAT / AIR SENSOR SETTINGS			EPR SETTINGS ***		CONVENTIONAL COMPRESSOR SETTINGS ****				DEFROST WATER (LB / DAY)
			USAGE	CUT IN	CUT OUT	R22 (PSIG)	R404A (PSIG)	R22 (PSIG) CUT-IN	R22 (PSIG) CUT-OUT	R404A (PSIG) CUT-IN	R404A (PSIG) CUT-OUT	
TIME OFF - N6MHPM45IS	6	26**	MED TEMP	28°F	26°F	48	61	46	35	59	47	15.0
TIME OFF - N6MHPM45OSNL	6	26**	MED TEMP	28°F	26°F	48	61	46	35	59	47	N/A

* All high performance cases use **OFF CYCLE** defrost.
** **NOTE:** 26 minutes is for EPR with suction stop for defrost isolation. Defrost times increases by four minutes when defrost isolation is by pump down.
*** If EPR is utilized, use the settings shown in the chart. **ADD** 0.5# to EPR setting for each 1000 foot rise in elevation.
**** Required setup for a conventional unit uses an electronic thermostat to assure accurate temperature control.

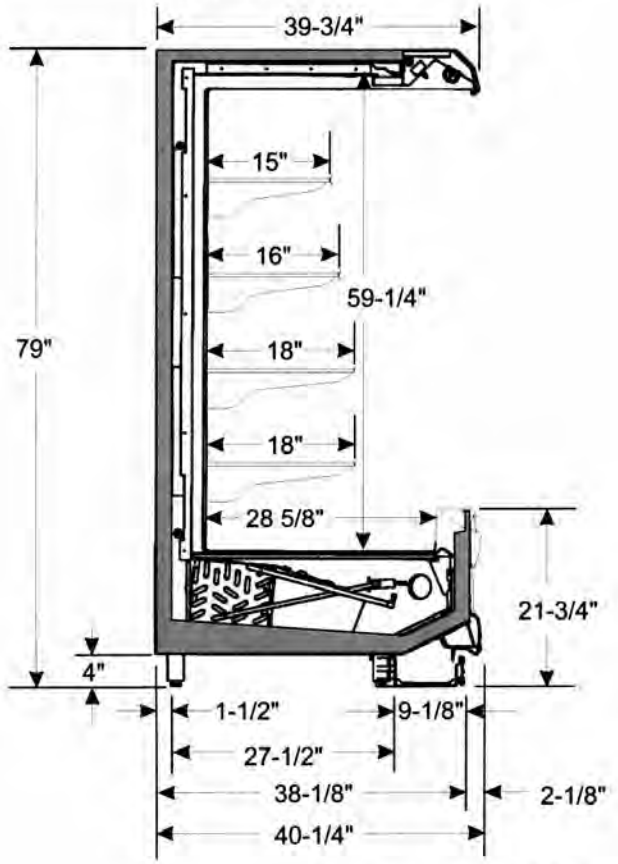
CASE CIRCUITS: This case requires a 120V circuit for fans, lights and anti-sweat heaters.

UL SANITATION approved in accordance with ANSI/NSF – 7.

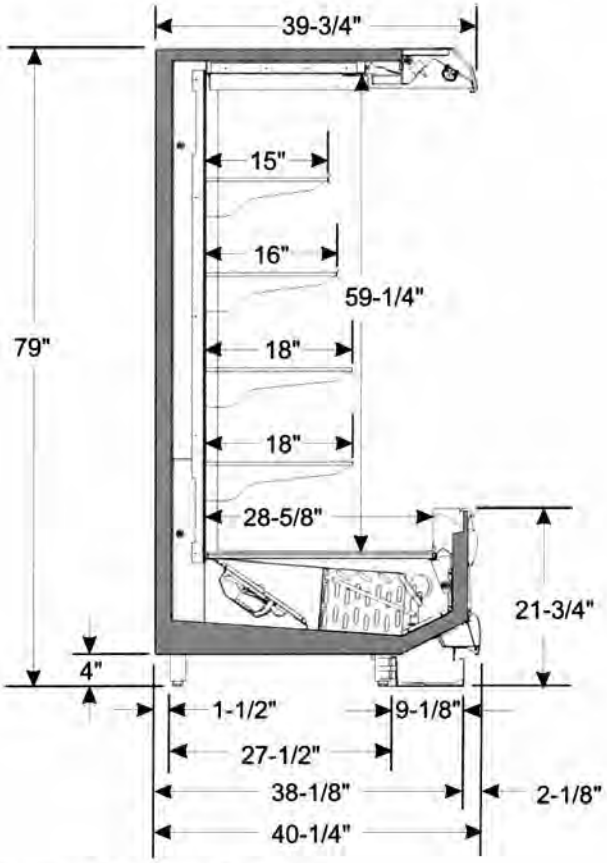
CASE BTUH REQUIREMENTS are calculated to produce approximately the indicated entering-air temperature with absolute maximum operating ambient limits of **75°F & 55RH**.

N6MHPM MEAT WEDGE CROSS SECTIONS

N6MHPM45IS

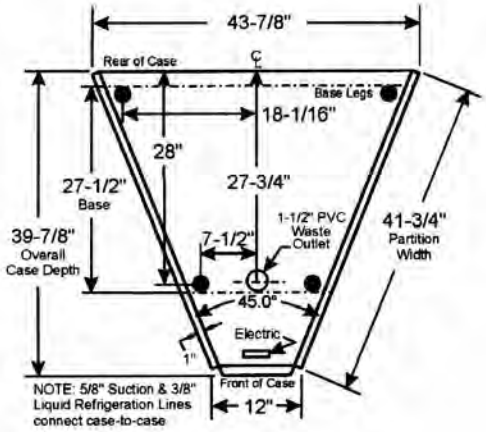


N6MHPM45OSNL

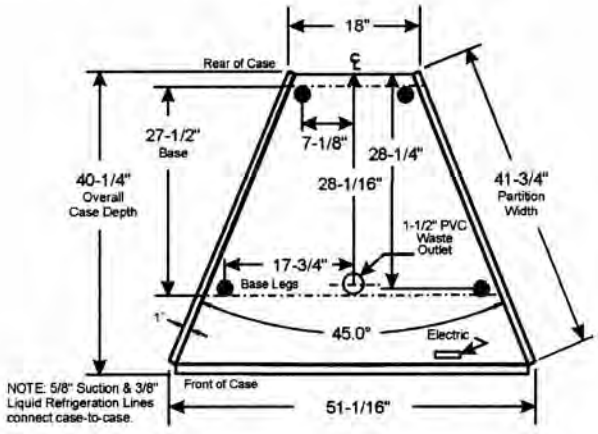


N6MHPM MEAT WEDGE FLOOR PLANS

N6MHPM45IS



N6MHPM45OSNL



INSTALLATION PROCEDURES

WARNING

Corner cases are not intended as stand alone commercial refrigerated merchandisers. They must be bolted to the adjoining case(s) to provide stability. Failure to do so could result in product damage and/or possible personal injury.

Carpentry Procedures

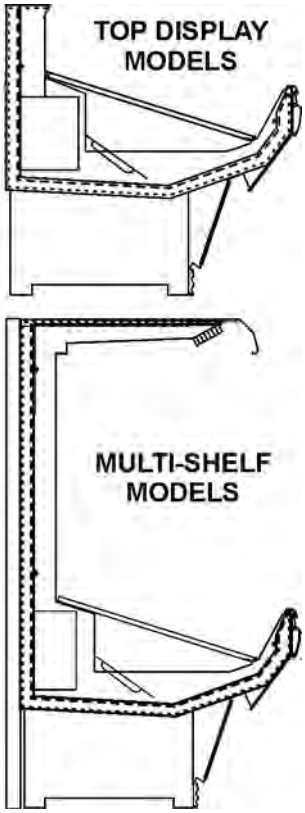
Case Line-up and Pull-Up Locations

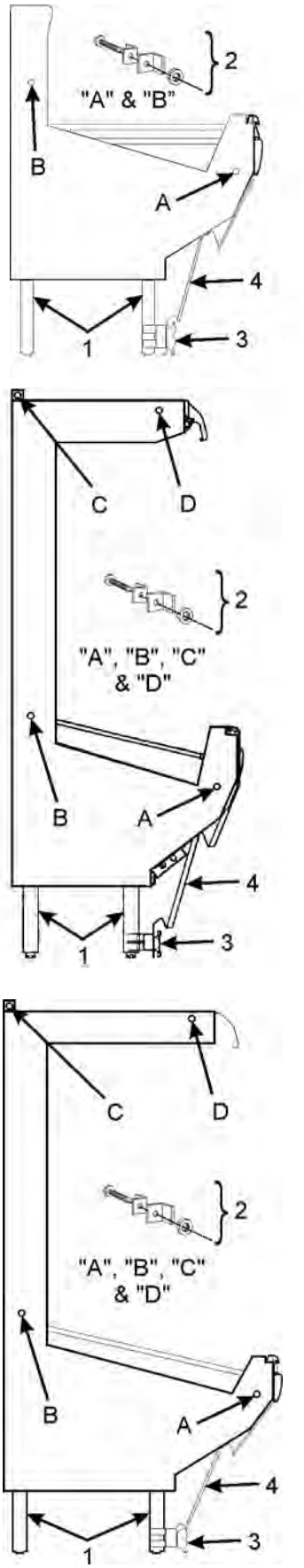
Before starting the case line-up, review the store layout floorplans and survey the areas where case line-ups are going to be installed.

WARNING

Corner cases can be very heavy and possibly top heavy before they are secured in a line-up. Always use a lifting device to remove case from skid and two or more people to move and position case. Improper handling of cases could result in product damage and/or personal injury.

1. Apply two heavy beads of caulking compound from the Filler Kit to the ends of the adjoining cases at dotted (. . .) and dashed (- - -) lines. Proper caulking provides good case refrigeration and sanitation.
2. Using an appropriate lifting device, lift corner case from skid and install four pipe legs. Lower corner case to floor.





3. Position corner case at end of case line-up so front bumpers and case pull-ups line up.
4. Adjust legs inserts in bottom of legs (1), up to 1 1/2", to align and level pull-ups and bumpers. Push corner case tight against case line-up.

CAUTION

Do not drill or use other holes through the case end for pull-ups. This may deform the case ends and could cause joint leaks and/or poor refrigeration.

5. Secure corner case to case line-up by installing pull-up bolts and mounting hardware (2) at pull-up locations (A & B) or (A, B, C & D) as shown on page 10. **NOTE:** Do not tighten any pull-up hardware until all of it has been installed. Tighten all pull-up hardware equally starting at point A and finishing at point B or D. **Do not overtighten.**
6. Install kickplate assembly (3) by securing clips to front legs (1).
7. Install lower front cladding (4) by positioning lower tab behind top of kickplate and securing top of lower front cladding with bottom screws from upper front cladding.

Trim & NSF Thermometer Installation

The joint trim and mounting hardware are shipped loose. Trim includes bumper joint trim, front upper cladding joint trim, front lower cladding joint trim and kickplate joint trim.

The NSF product thermometer and bracket assembly is shipped loose with the case. After removing the thermometer and bracket assembly from the shipping packaging, position it on the inside of the front bottom left cutout in the partition. Secure bracket to partition with two screws.

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 electrical components are located in the electrical terminal box at the right front or center front of the case, behind the lower front cladding.

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

N3MG(HP), N3HMG, N4M(G)(HP),N5M(G)(HP), N2MHP and N6MHPM corner case lighting is supplied by PL-L folded lamps with electronic ballasts. It is controlled by a light switch in each case. The standard lighting is 1-row of horizontal lighting.

Anti-Sweat Circuit

All corner cases have at least one anti-sweat heater. Corner cases with solid fronts and the N5MG have one anti-sweat heater near the discharge air duct. The NMG(HP), N3MG(HP), N3HMG and N4MG corner cases have an additional anti-sweat heater under the front glass.

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.
Off Time			
NM/NMG	4	34	-----
NMGHP*	4	44	-----
N3MG	6	28	-----
N3MGHP*	4	32	-----
N3HMG	6	22	-----
N4M/N4MG	6	30	-----
N4MHP*	2	28	-----
N5MG/N5M	6	32	-----
N5MHP*	6	26	-----
N2MHP*	6	26	-----
Electric			
NM/NMG	4	19	50°F
(All Other Models)	6	36	50°F
Hot Gas			
NM/NMG	4	12-15	55°F
(All Other Models)	6	12-15	55°F

*Model only offered with Off Time defrost.

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.

NM/NMG/NMGHP Domestic & Export (50 Hz) Corner Case Circuits

Refrigeration Data:

MODEL	CASE LENGTH	CASE USAGE	CAPACITY (BTUH / CASE)		EVAPORATOR (°F)	UNIT SIZING (°F)	DISCHARGE AIR		AVG. REF. CHARGE (LBS/CASE)
			PARALLEL	CONVENTIONAL			TEMPERATURE (°F)	VELOCITY (FPM)	
NM30IS	33-5/8"	MED TEMP	896*	990	+15**	+13	+28	N/A***	N/A
NM30OS	40-9/16"	MED TEMP	1,307*	1,444	+15**	+13	+28	N/A***	N/A
NM45IS	43-1/2"	MED TEMP	1,176*	1,299	+15**	+13	+28	N/A***	N/A
NM45OS	51-5/16"	MED TEMP	1,568*	1,732	+15**	+13	+28	N/A***	N/A
NMG45OS	51-5/16"	MED TEMP	1,403*	1,550	+15**	+13	+28	N/A***	N/A
NM90OS	79-5/8"	MED TEMP	2,264*	2,501	+15**	+13	+28	N/A***	N/A
NMG90OS	79-5/8"	MED TEMP	2,026*	2,238	+15**	+13	+28	N/A***	N/A
NMGHP90OS	79-5/8"	MED TEMP	1,440*	1,640	+25**	+23	+27.5	N/A***	N/A

* **For sizing all refrigeration equipment other than TYLER, use conventional BTUH values.**
** **Evaporator temperature is based on 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.**

FOR SPECIFIC COMPRESSOR SIZING INFORMATION, REFER TO TYLER APPLICATIONS FOR RACK SYSTEM COMPRESSORS AND/OR THE COMPRESSOR MANUFACTURERS FOR SINGLE COMPRESSORS. FOR LINE SIZING INFORMATION, REFER TO THE MISCELLANEOUS SECTION "BUFF" IN THE TYLER SPECIFICATION GUIDE.

Electrical Data:

Fans and Heaters (120 Volt)

MODEL	CASE LENGTH	FANS / CASE	TOTAL STANDARD FANS		TOTAL ECM FANS		TOTAL ANTI-SWEATS	
			AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
NM30IS	33-5/8"	1	0.34	30.2	0.2	7.5	0.11	13.2
NM30OS	40-9/16"	1	0.34	30.2	0.2	7.5	0.06	7.2
NM45IS	43-1/2"	2	0.68	60.4	0.4	15.0	0.15	18.0
NM45OS	51-5/16"	2	0.68	60.4	0.4	15.0	0.06	7.2
NMG45OS	51-5/16"	2	0.68	60.4	0.4	15.0	0.21	25.2
NM90OS	79-5/8"	1	0.34	30.2	0.2	7.5	0.07	8.4
NMG90OS	79-5/8"	1	0.34	30.2	0.2	7.5	0.07	8.4
NMGHP90OS	79-5/8"	1	0.34	30.2	N/A	N/A	0.25	31.3

Defrost Data:

DEFROST TYPE	DEFROSTS PER DAY	DURATION TIME (MIN)	TERM. TEMP (°F)	ELEK. THERMOSTAT / AIR SENSOR SETTINGS			EPR SETTINGS ****		CONVENTIONAL COMPRESSOR SETTINGS *****				DEFROST WATER (LB / DAY)
				USAGE	CUT IN	CUT OUT	R22 (PSIG)	R404A (PSIG)	R22 (PSIG) CUT-IN	R22 (PSIG) CUT-OUT	R404A (PSIG) CUT-IN	R404A (PSIG) CUT-OUT	
TIME OFF	4	34	- - -	MED TEMP	- - -	- - -	38	49.5	- - -	- - -	- - -	- - -	N/A
ELECTRIC	4	19	50	MED TEMP	- - -	- - -	38	49.5	- - -	- - -	- - -	- - -	N/A
HOT GAS	4	12-15	55***	MED TEMP	- - -	- - -	38	49.5	- - -	- - -	- - -	- - -	N/A
TIME OFF* (NMGHP90OS)	4	44**	- - -	MED TEMP	28°F	26°F	49	62	47	36	60	47	N/A

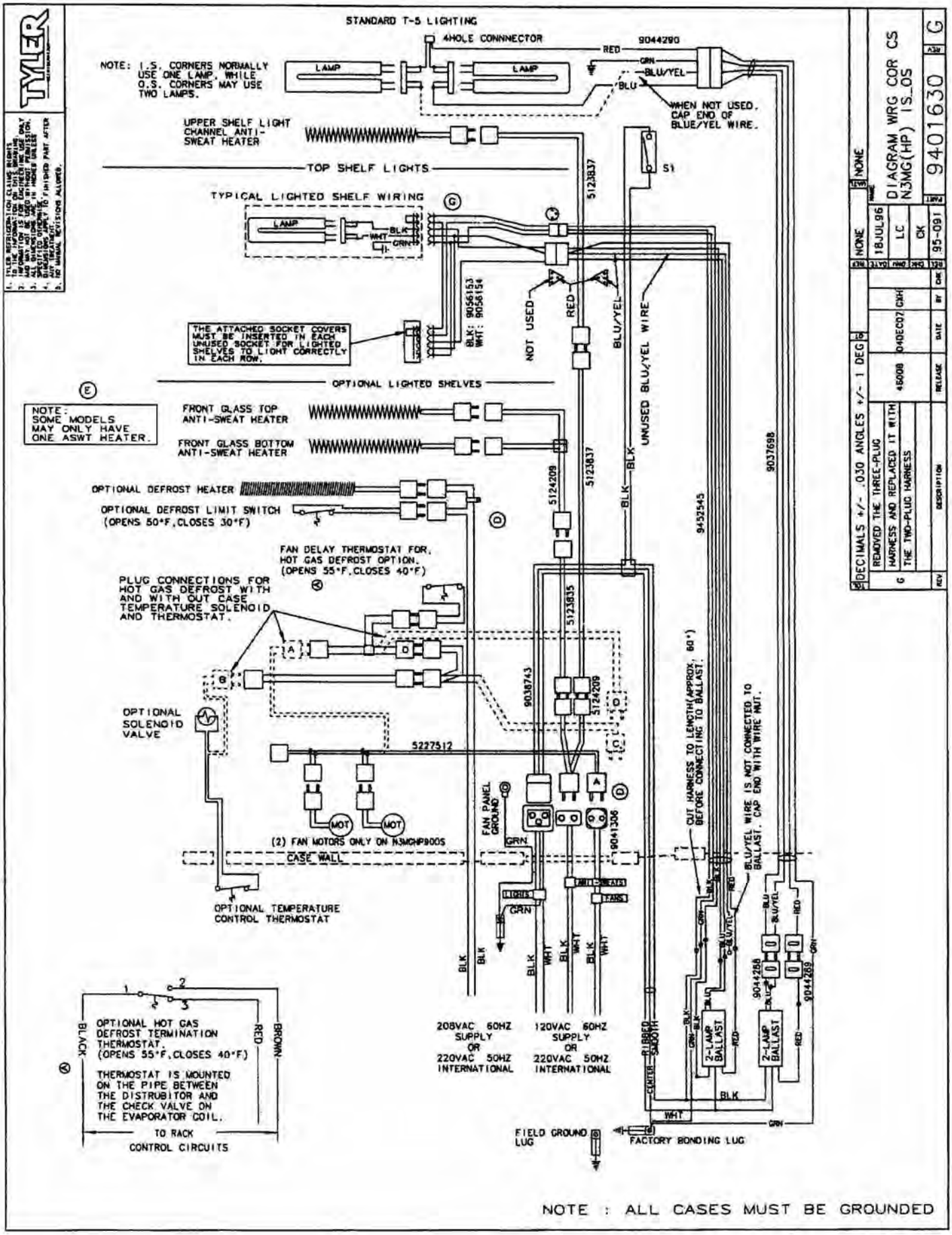
* All high performance cases use **OFF CYCLE** defrost.
** **NOTE:** 44 minutes is for EPR with suction stop defrost isolation. Defrost time increases by eight minutes (52 min. total) when defrost isolation is by pump down.
*** If an Electronic Sensor is used for termination, it should be set at 70°F termination temperature. The sensor must be located in the same location as the defrost termination klixon for that defrost type.
**** If EPR is utilized, use the settings shown in the chart. **NOTE:** The customer will need to set the EPR on the parallel rack or single unit to the appropriate suction temperature and the high performance case lineups must be on a separate stub with a separate EPR. **ADD** 0.5# to EPR setting for each 1000 foot rise in elevation.
***** Required setup for a conventional unit uses an electronic thermostat to assure accurate temperature control.

DEFROST CIRCUITS: OFF CYCLE defrost is standard (use TC defrost module) – **OPTIONAL ELECTRIC** defrost uses a single or 3 phase circuit – **OPTIONAL HOT GAS** defrost uses 2 control wires @ 208V per lineup.

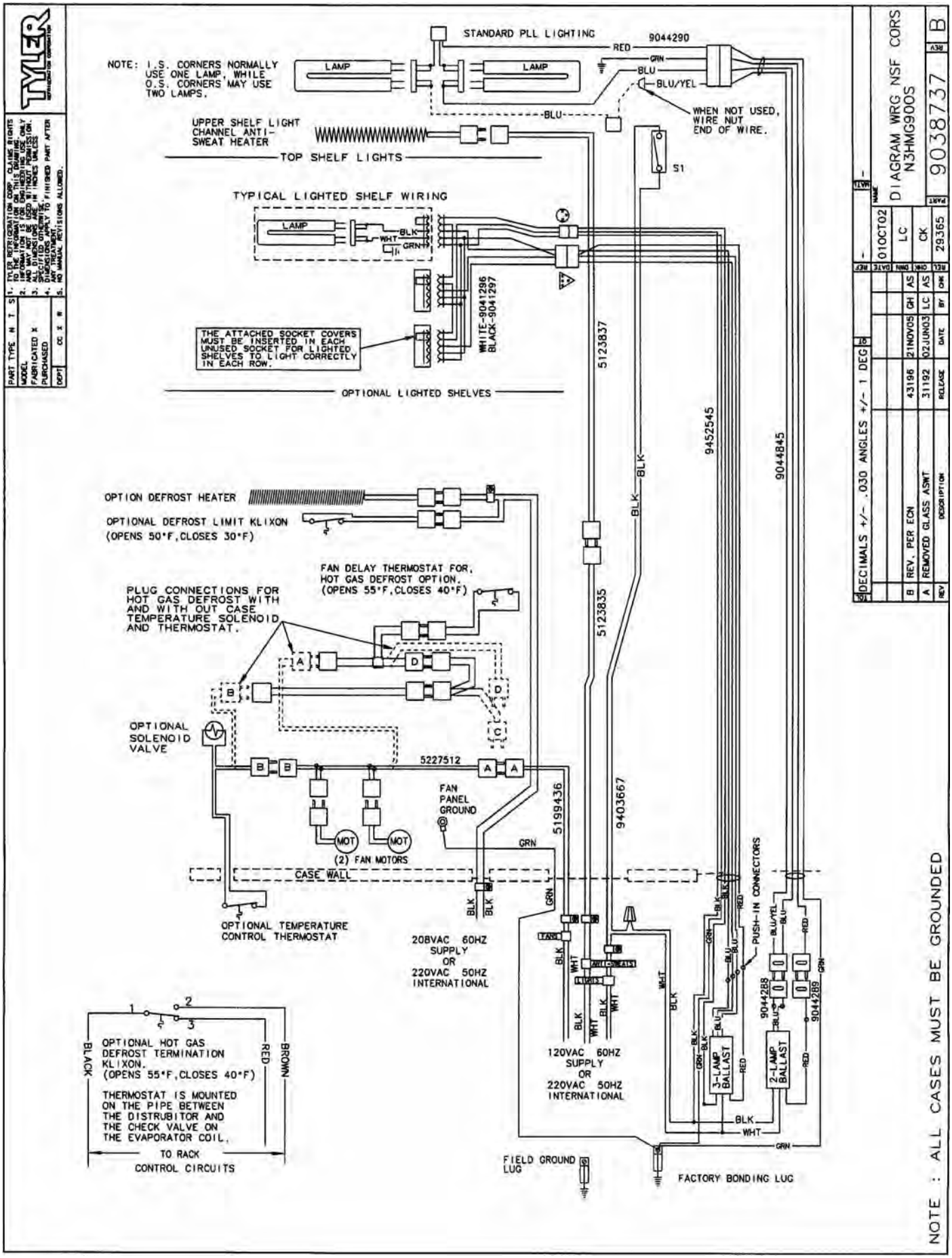
UL SANITATION approved in accordance with ANSI/NSF – 7.

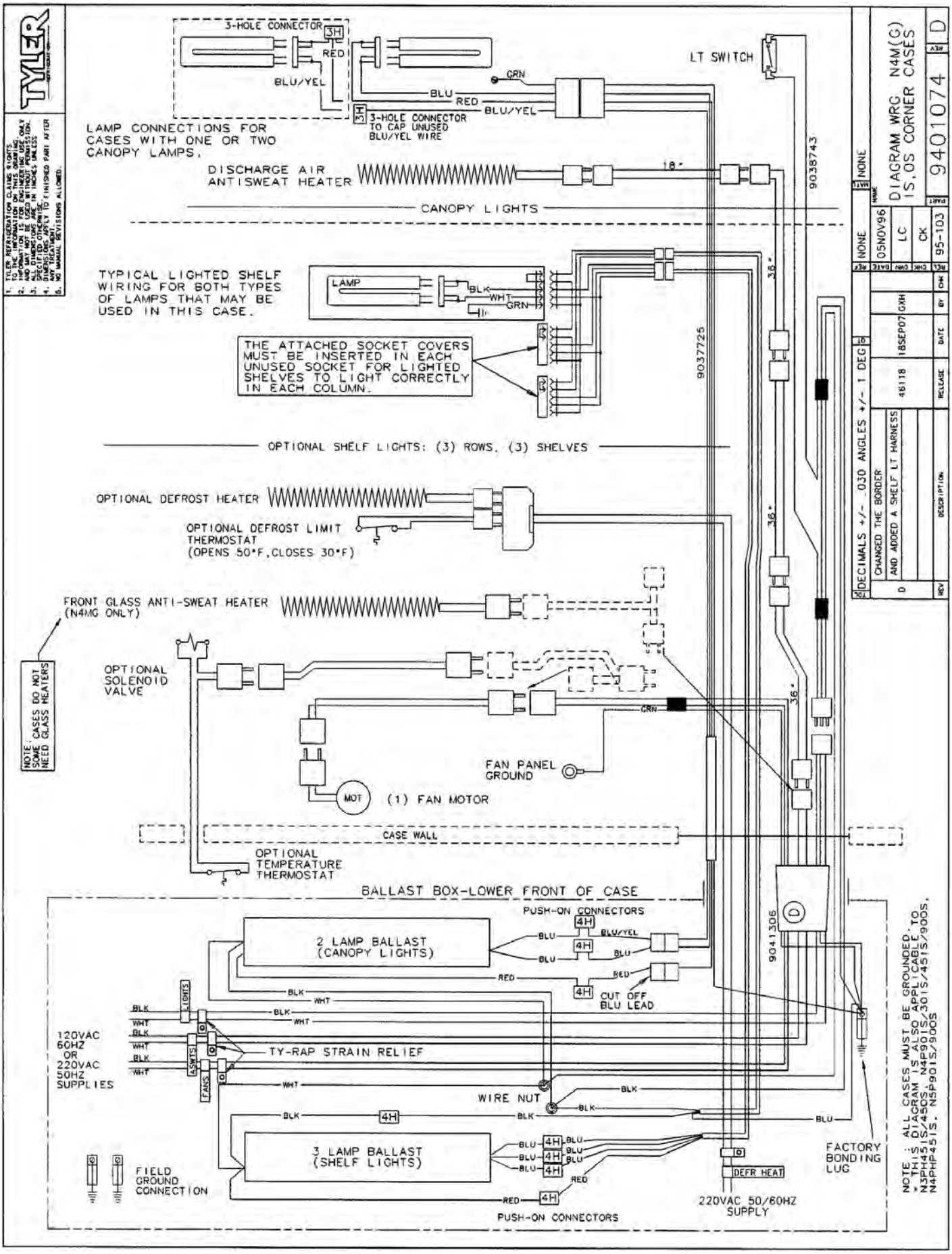
CASE BTUH REQUIREMENTS are calculated to produce approximately the indicated entering-air temperature with absolute maximum operating ambient limits of **75°F & 55RH**.

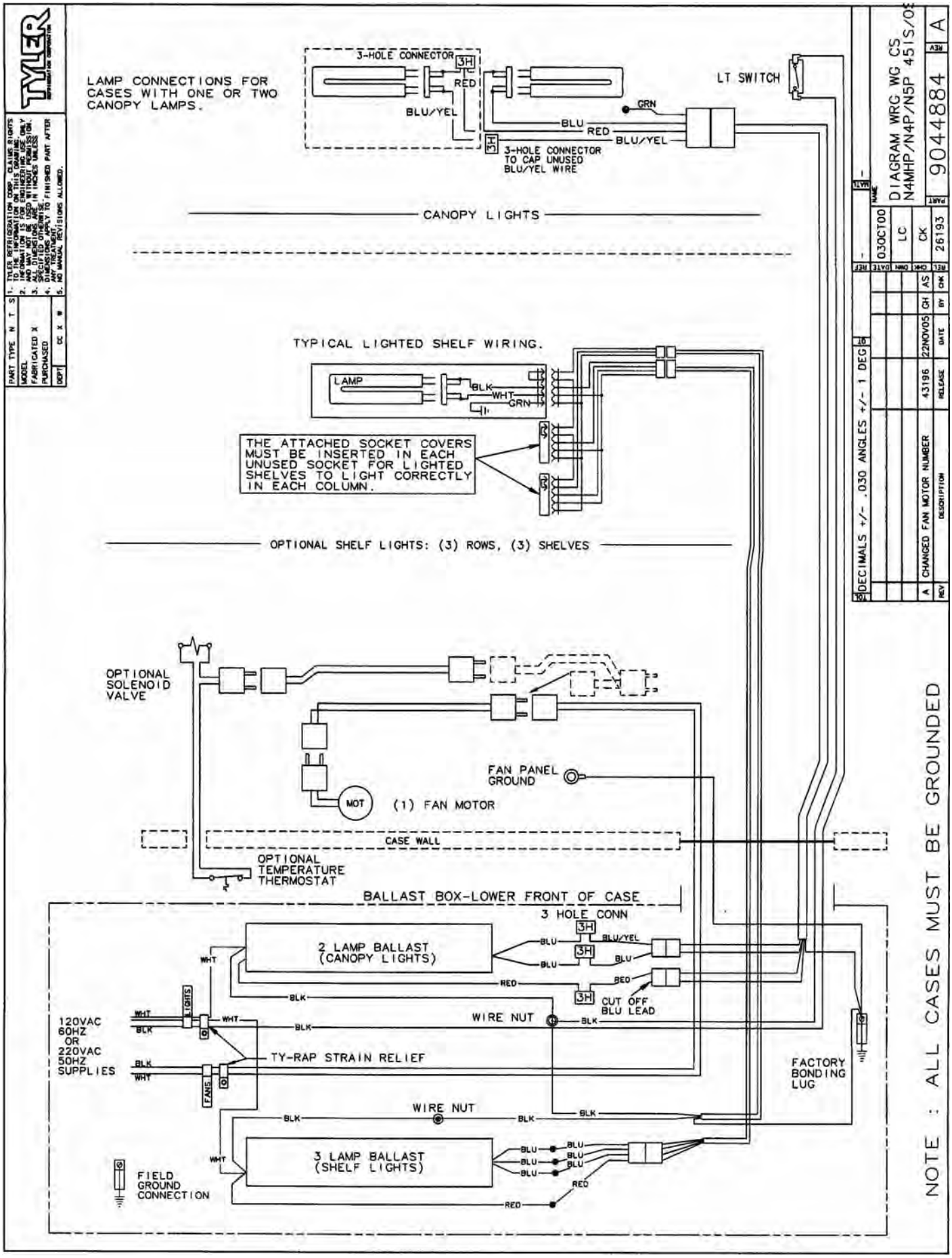
N3MG/N3MGHP Domestic & Export (50 Hz) Corner Case Circuits



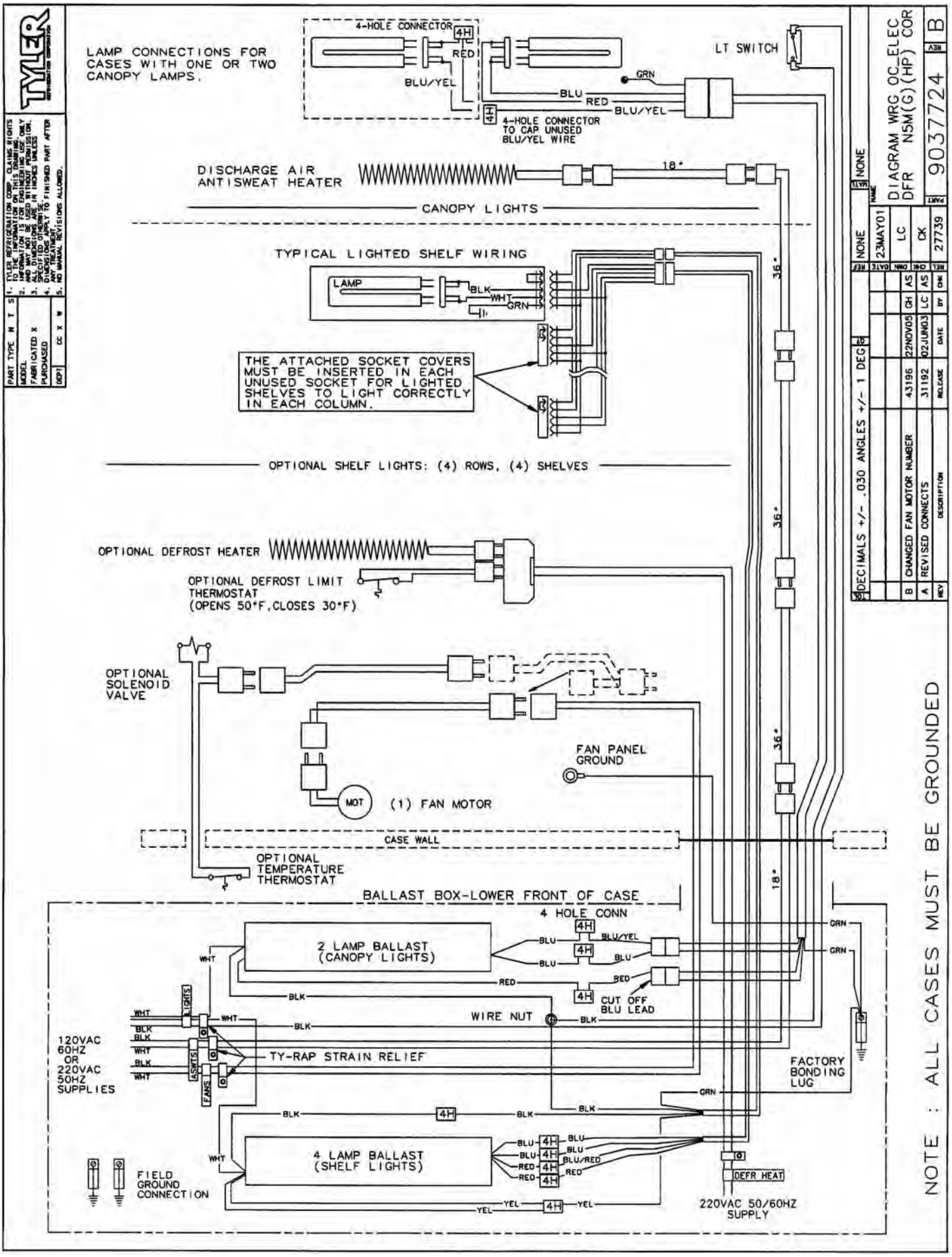
N3HMG90OS Domestic & Export (50 Hz) Corner Case Circuits

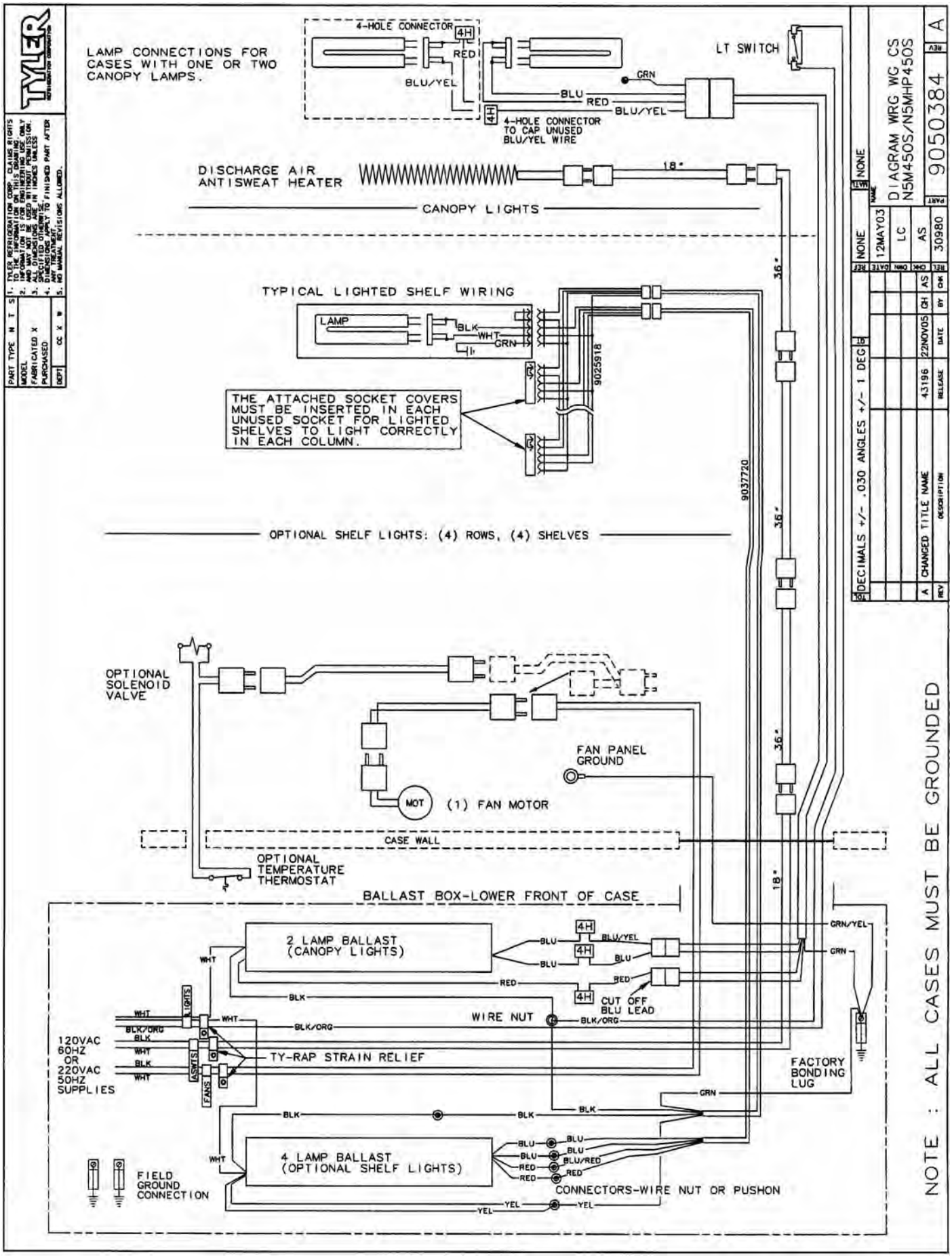



3-HOLE CONNECTOR
3H
RED
BLU/YEL
GRN
BLU
RED
BLU/YEL
LT SWITCH
3-HOLE CONNECTOR TO CAP UNUSED BLU/YEL WIRE
LAMP CONNECTIONS FOR CASES WITH ONE OR TWO CANOPY LAMPS.
DISCHARGE AIR ANTISWEAT HEATER
18"
9038743
CANOPY LIGHTS
TYPICAL LIGHTED SHELF WIRING FOR BOTH TYPES OF LAMPS THAT MAY BE USED IN THIS CASE.
LAMP
BLK
WHT
GRN
36"
THE ATTACHED SOCKET COVERS MUST BE INSERTED IN EACH UNUSED SOCKET FOR LIGHTED SHELVES TO LIGHT CORRECTLY IN EACH COLUMN.
9037725
OPTIONAL SHELF LIGHTS: (3) ROWS, (3) SHELVES
OPTIONAL DEFROST HEATER
OPTIONAL DEFROST LIMIT THERMOSTAT (OPENS 50°F, CLOSES 30°F)
FRONT GLASS ANTI-SWEAT HEATER (N4MG ONLY)
NOTE: CASES DO NOT NEED GLASS HEATERS
OPTIONAL SOLENOID VALVE
FAN PANEL GROUND
MOT
(1) FAN MOTOR
CASE WALL
OPTIONAL TEMPERATURE THERMOSTAT
BALLAST BOX-LOWER FRONT OF CASE
PUSH-ON CONNECTORS
2 LAMP BALLAST (CANOPY LIGHTS)
CUT OFF BLU LEAD
9041306
120VAC 60HZ OR 220VAC 50HZ SUPPLIES
TY-RAP STRAIN RELIEF
WIRE NUT
3 LAMP BALLAST (SHELF LIGHTS)
FIELD GROUND CONNECTION
DEFR HEAT
220VAC 50/60HZ SUPPLY
FACTORY BONDING LUG
PUSH-ON CONNECTORS
NOTE: ALL CASES MUST BE GROUNDED. *DIAGRAM N5P4515/3015/4515/9005, N4PH4515, N5P9015/9005
DECIMALS +/- .030 ANGLES +/- 1 DEG
CHANGED THE BORDER AND ADDED A SHELF LT HARNESS
46118
18SEP07 GMH
05NOV96 LC CK
95-103
NONE
DIAGRAM WRG N4M(G) 1S,0S CORNER CASES
9401074
D

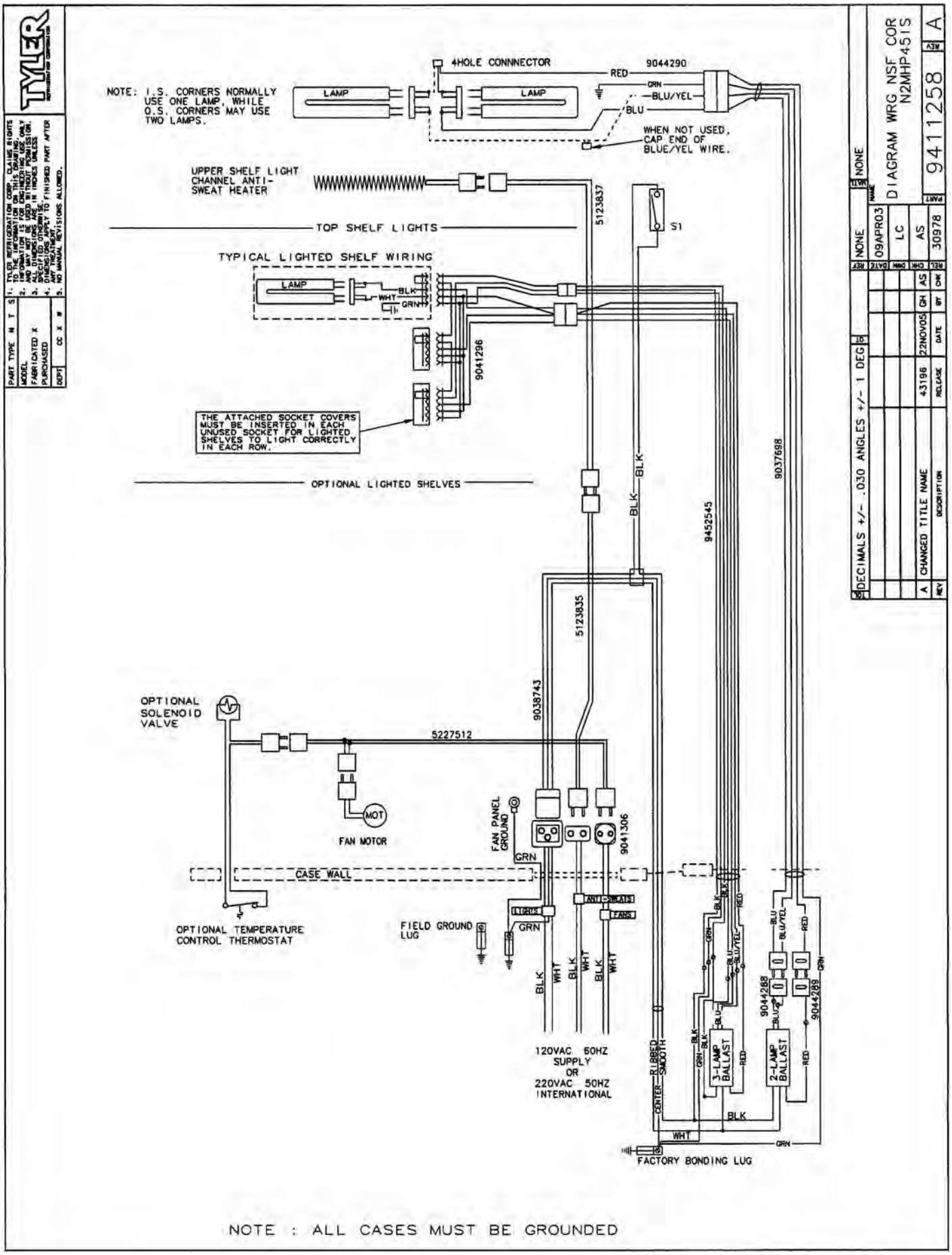

LAMP CONNECTIONS FOR CASES WITH ONE OR TWO CANOPY LAMPS.
3-HOLE CONNECTOR
RED
BLU/YEL
3-HOLE CONNECTOR TO CAP UNUSED BLU/YEL WIRE
LT SWITCH
GRN
BLU
RED
BLU/YEL
CANOPY LIGHTS
TYPICAL LIGHTED SHELF WIRING.
LAMP
BLK
WHT
GRN
THE ATTACHED SOCKET COVERS MUST BE INSERTED IN EACH UNUSED SOCKET FOR LIGHTED SHELVES TO LIGHT CORRECTLY IN EACH COLUMN.
OPTIONAL SHELF LIGHTS: (3) ROWS, (3) SHELVES
OPTIONAL SOLENOID VALVE
FAN PANEL GROUND
MOT
(1) FAN MOTOR
CASE WALL
OPTIONAL TEMPERATURE THERMOSTAT
BALLAST BOX-LOWER FRONT OF CASE
3 HOLE CONN
2 LAMP BALLAST (CANOPY LIGHTS)
CUT OFF BLU LEAD
WIRE NUT
120VAC 60HZ OR 220VAC 50HZ SUPPLIES
LIGHTS
FANS
TY-RAP STRAIN RELIEF
FACTORY BONDING LUG
3 LAMP BALLAST (SHELF LIGHTS)
FIELD GROUND CONNECTION
NOTE : ALL CASES MUST BE GROUNDED
DIAGRAM WRG WG CS N4MHP/N4P/N5P 45IS/OS
9044884
A
03OCT00
LC
CK
26193
DECIMALS +/- .030 ANGLES +/- 1 DEG
A CHANGED FAN MOTOR NUMBER 43196 22NOV05 GH AS
PART TYPE N T S
MODEL
FABRICATED X
PURCHASED
DEPT CC X #

N5MG/N5MHP45IS Domestic & Export (50 Hz) Corner Case Circuits

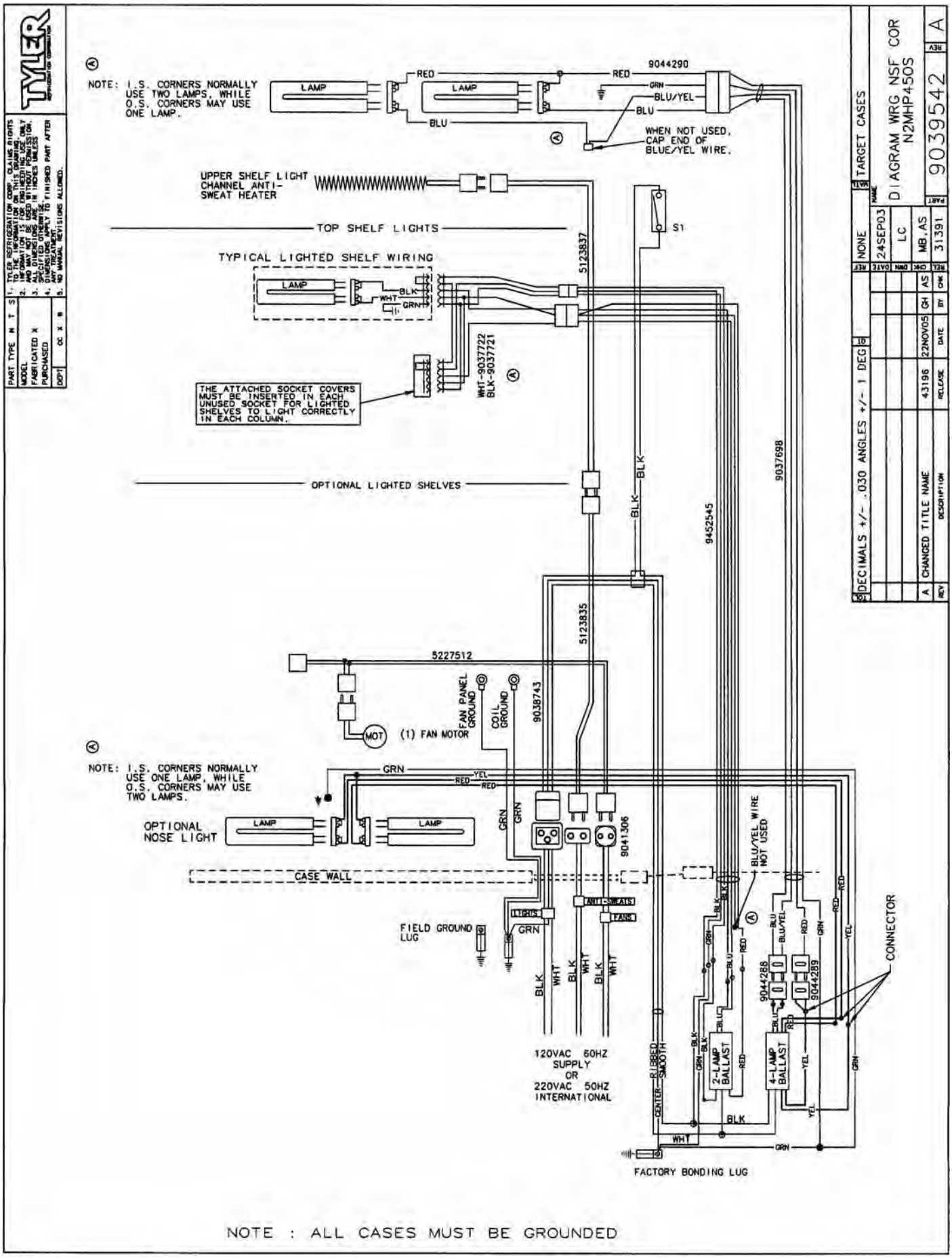



LAMP CONNECTIONS FOR CASES WITH ONE OR TWO CANOPY LAMPS.
4-HOLE CONNECTOR
4H
RED
BLU/YEL
LT SWITCH
GRN
BLU
RED
BLU/YEL
4-HOLE CONNECTOR TO CAP UNUSED BLU/YEL WIRE
DISCHARGE AIR ANTISWEAT HEATER
18"
CANOPY LIGHTS
TYPICAL LIGHTED SHELF WIRING
LAMP
BLK
WHT
GRN
9025918
THE ATTACHED SOCKET COVERS MUST BE INSERTED IN EACH UNUSED SOCKET FOR LIGHTED SHELVES TO LIGHT CORRECTLY IN EACH COLUMN.
36"
9037720
OPTIONAL SHELF LIGHTS: (4) ROWS, (4) SHELVES
OPTIONAL SOLENOID VALVE
FAN PANEL GROUND
MOT
(1) FAN MOTOR
CASE WALL
OPTIONAL TEMPERATURE THERMOSTAT
BALLAST BOX-LOWER FRONT OF CASE
2 LAMP BALLAST (CANOPY LIGHTS)
BLU
BLU/YEL
RED
BLK
WHT
CUT OFF BLU LEAD
WIRE NUT
BLK/ORG
GRN/YEL
GRN
120VAC 60HZ OR 220VAC 50HZ SUPPLIES
LIGHTS
ASHTS
FANS
TY-RAP STRAIN RELIEF
FACTORY BONDING LUG
4 LAMP BALLAST (OPTIONAL SHELF LIGHTS)
BLU/RED
YEL
FIELD GROUND CONNECTION
CONNECTORS-WIRE NUT OR PUSHON
NOTE : ALL CASES MUST BE GROUNDED
TYLER
DIAGRAM WRG WG CS
N5M450S/N5MHP450S
9050384
A
DECIMALS +/- .030 ANGLES +/- 1 DEG
NONE
12MAY03
LC
AS
30980
22NOV05
43196
CHANGED TITLE NAME

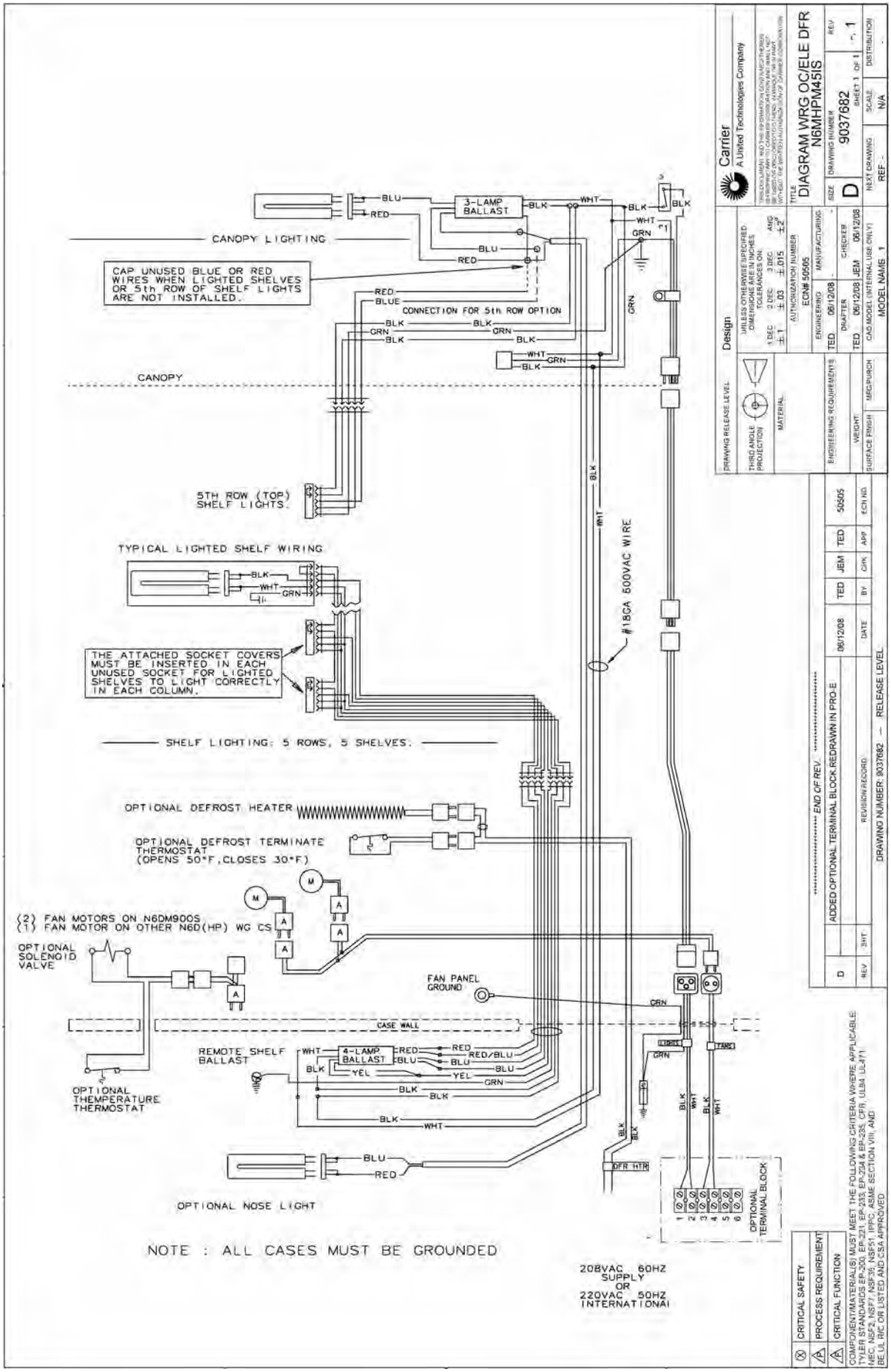
N2MHP45IS Domestic & Export (50 Hz) Corner Case Circuits



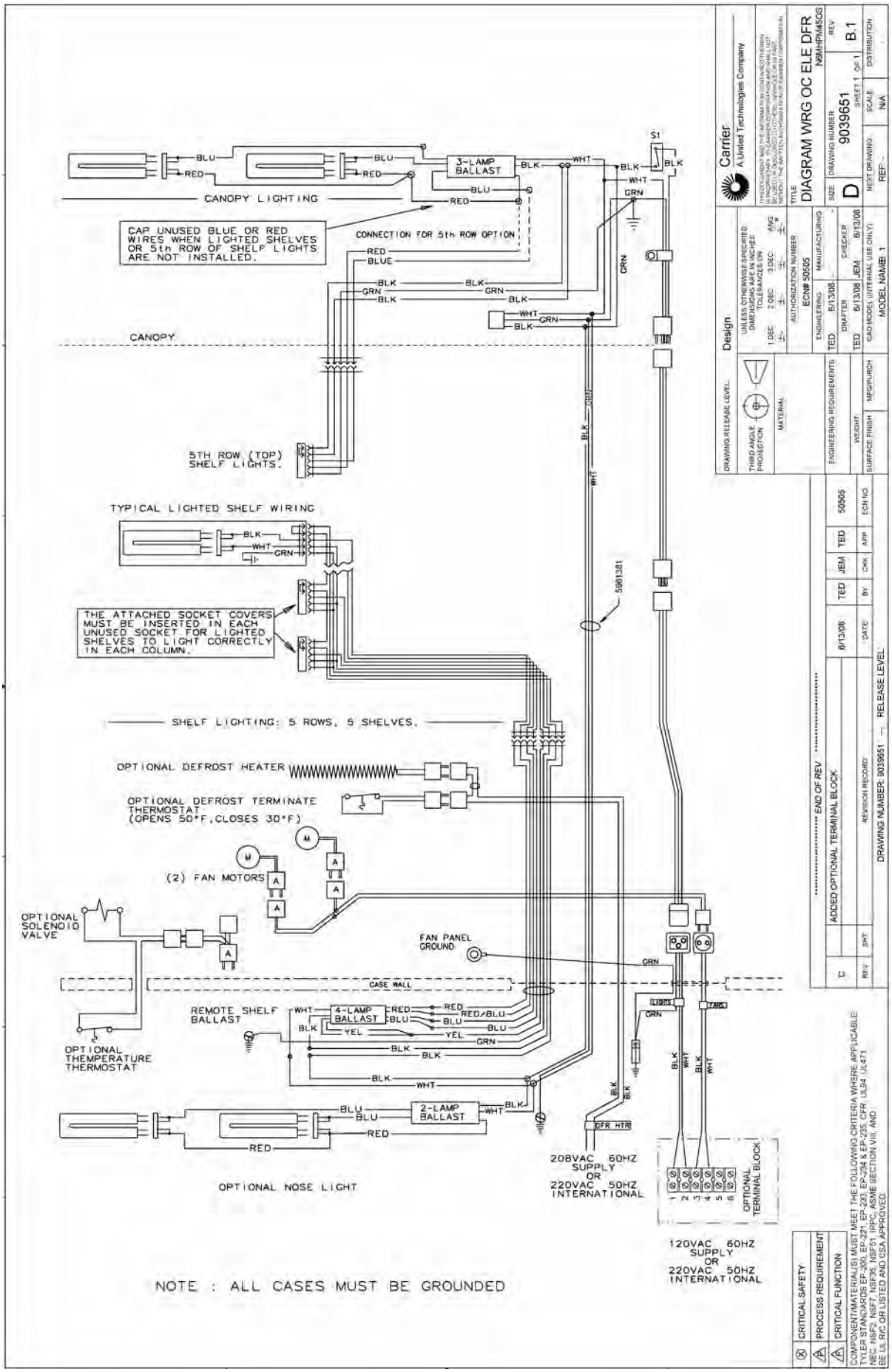
N2MHP45OS Domestic & Export (50 Hz) Corner Case Circuits



N6MHPM45IS Domestic & Export (50 Hz) Corner Case Circuits



N6MHPM45OS Domestic & Export (50 Hz) Corner Case Circuits



CLEANING AND SANITATION

Component Removal and Installation Instructions for Cleaning

Mirrors (N4M(HP)/N4MG/N5MHP/N5MG Models)

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

Shelves and Shelf Brackets (All Models except NM/NMG/NMGHP)

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.

Bottom Trays

1. Remove product from bottom of case.
2. Grasp and lift out each lower tray from the case interior.
3. Remove tray supports from slots in front and rear ducts.
4. After cleaning, replace in reverse order.

Front Air Ducts

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

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

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

(Models with Shelf Lights Sockets)

1. Remove mirrors, shelves and bottom trays, see this page.
2. Remove mounting screws from rear duct panels.
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 and install and secure the rear duct panels in reverse order.

Discharge Air Honeycomb

NOTE

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

1. Remove screws, rear grid retainer and honeycomb grid from front of top or rear duct panel.

CAUTION

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

2. After cleaning, replace honeycomb grid as it was removed and secure with rear grid retainer and screws.

Front Lower Cladding

1. Remove screws from top of front lower cladding.
2. Lower top of front lower cladding until bottom can be remove from top of kick-plate support brackets.
3. After cleaning, replace and secure front lower cladding in reverse order.

Front Upper Cladding

1. Remove front lower cladding. See this page.
2. Remove screws, bumper joint trim and upper cladding joint trim from front corners of the case.
3. Remove color band, bumper and bumper retainer from the case. See "General-UL/NSF I&S Manual".
4. Remove screws from sides of front upper cladding and remove front upper cladding.
5. After cleaning, replace front upper cladding and remaining front components in the reverse order.

Cleaning Instructions

WARNING

TYLER Refrigeration does not recommend the use of high pressure cleaning equipment on display cases!! High pressure cleaners can penetrate and/or damage joint seals. Damaged seals allow water leaks and/or air leaks that can cause poor case refrigeration.

CAUTION

- **When cleaning this case, try not to introduce water into the case faster than it can be carried away by the waste outlet.**
- **Liquid chlorine bleach is corrosive to metals. The use of bleach or products containing bleach will damage metal surfaces and void the case warranty.**
- **Sanitize the case with Quaternary Ammonium Solutions (ex: KAYQUAT II, J-512 Sanitizer, SANIQUAT 512, etc...) approved per 21CFR 178.1010, followed by adequate draining and air drying. These solutions may be obtained from Kay Chemical Co., Johnson Wax Professional, Coastwide Laboratories, etc....**
- **Always use a soft cloth or sponge with mild detergent and water to clean any glass. Never use abrasives or scouring pads to clean glass. They can scratch and/or damage the glass.**

See "General (UL/NSF) I&S Manual" for case cleaning instructions.

Stainless Steel Cleaning Methods

The cleaning data in the following stainless steel cleaning chart was supplied by AISI. The information was supplied by Prime Metals Division, Alumax Aluminum Corporation.

TYPE OF CLEANING	CLEANING AGENT*	APPLICATION METHOD**	EFFECT ON FINISH
Routine cleaning	Soap, ammonia or detergent and water.	Sponge with cloth, then rinse with clear water and wipe dry.	Satisfactory for use on all finishes.
Smears and fingerprints	Arcal 20, Lac-O-Nu, Lumin Wash O'Cedar Cream Polish, Stainless Shine	Rub with cloth as directed on the package.	Satisfactory for use on all finishes. Provides barrier film
Stubborn spots and stains, baked-on splatter, and other light discolorations	Allchem Concentrated Cleaner	Apply with damp sponge or cloth.	Satisfactory for use on all finishes.
	Samae, Twinkle, or Cameo Copper Cleaner	Rub with damp cloth.	Satisfactory for use on all finishes if rubbing is light.
	Grade FFF Italian pumice, whiting or talc	Rub with damp cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.

TYPE OF CLEANING	CLEANING AGENT*	APPLICATION METHOD**	EFFECT ON FINISH
	Liquid NuSteel	Rub with dry cloth. Use a small amount of cleaner.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Paste NuSteel or DuBois Temp	Rub with dry cloth. Use a small amount of cleaner.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Cooper's Stainless Steel Cleaner, Revere Stainless Steel Cleaner	Apply with damp sponge or. cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Grade F Italian pumice, Steel Bright, Lumin Cleaner, Zud or Restoro	Rub with a damp cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Penny-Brite or Copper-Brite	Rub with a dry cloth. Use a small amount of cleaner.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
Heat tint or heavy discoloration	Penny-Brite or Copper-Brite	Rub with a dry cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Paste NuSteel or DuBois Temp	Rub with dry cloth. Use a small amount of cleaner.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Revere Stainless Steel Cleaner	Apply with a damp sponge or cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
	Allen Polish, Steel Bright, Wyandotte or Zud	Rub with a damp cloth.	Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.
Burnt-on foods and grease, fatty acids, milkstone (where swabbing or rubbing is not practical)	Easy-Off, De-Grease-It, 4-6% hot solution of such agents as trisodium tripolyphospate, or 5-15% caustic soda solution	Apply generous coating. Allow to stand for 10-15 min. Repeated application may be necessary.	Excellent removal, satisfactory for use on all finishes.
Tenacious deposits, rusty discolorations, industrial atmospheric stains	Oakite No. 33, Dilac, Texo 12, Texo N.Y., Flash-Klenz, Caddy Cleaner, Turco Scale 4368 or Permag 57.	Swab and soak with clean cloth. Let stand 15 minutes or more according to directions on package. Rinse and dry.	Satisfactory for use on all finishes.
Hard water spots and scale	Vinegar	Swab or wipe with a cloth. Rinse with water and dry.	Satisfactory for use on all finishes.
	5% oxalic acid, 5% sulamic acid, 5-10% phospheric acid, or Dilac, Oakite No. 33, Texo 12 or Texo N.Y.	Swab or soak with a cloth. Let stand 10-15 minutes. Always follow with neutralizer rinse, and dry.	Satisfactory for use on all finshes. Effective on tenacious deposites or where scale has built up.

TYPE OF CLEANING	CLEANING AGENT*	APPLICATION METHOD**	EFFECT ON FINISH
Grease and oil	Organic solvents such as carbon tetrachloride, trichlorethylene, acetone, kerosene, gasoline, benzene, alcohol and chlorethane n.u.	Rub with a cloth. Organic solvents may be flammable and/or toxic. **Observe all precautions against fire. Do not smoke while vapors are present. Be sure area is well ventilated.**	Satisfactory for use on all finishes.

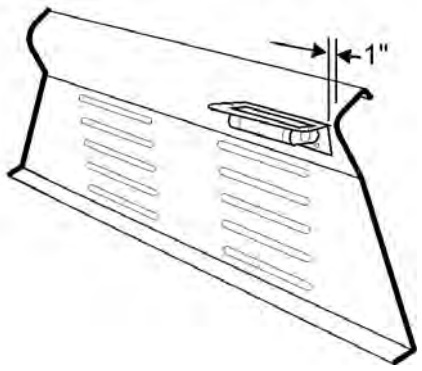
*** Use of proprietary names is intended only to indicate a type of cleaner, and does not constitute an endorsement, nor is omission of any proprietary cleanser to imply its inadequacy. It should be emphasized that all products should be used in strict accordance with instructions on package.**

**** In all applications a sponge or fibrous brush or pad are recommended. DO NOT use ordinary steel wool, steel brushes, chlorine bleach or products containing bleach for cleaning or sanitizing stainless steel.**

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.

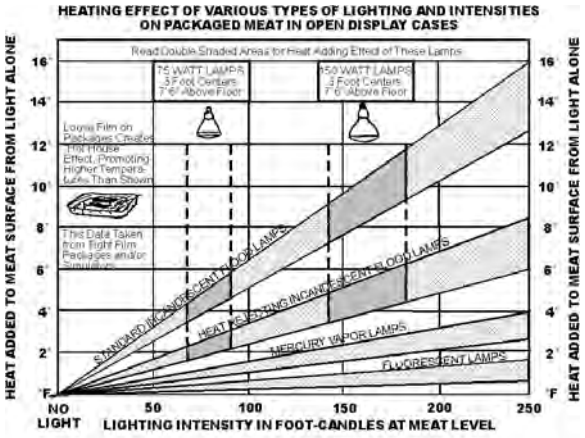
Mirror Installation (N4M(HP)/ N4MG/N5MHP/N5MG Models)

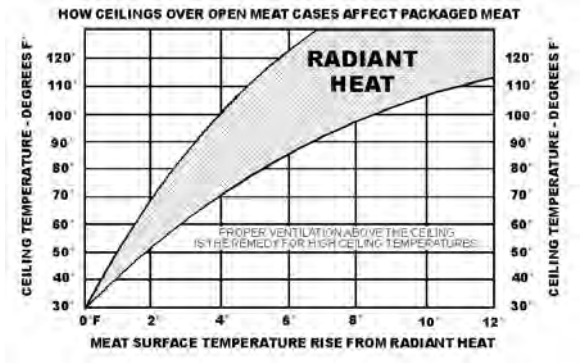
Most corner cases will have two mirror sections. Make sure the gaps at the ends of both mirrors are equal. This will prevent any gap showing when the stainless steel trim is installed. Also make sure all mirrors have a good tight seal between each mirror.

NOTE

- **Mirror angles have been designed to be the same as straight cases, but mirror heights on the back wall of the corner case may be different due to the case design.**
- **Stainless steel trim may need to be cut and/or notched to fit the gap between the corner and straight case joint.**

Radiant Heat Information





A wide temperature range is shown for each type of lighting. This data does not show all situations. Many situations will have higher package warm-up figures than indicated.

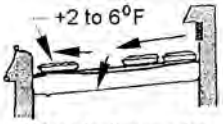
It is generally known that the temperature of displayed meat in refrigerated cases will run higher than the circulated air temperature of the cases. A dial thermometer stuck into the center of a piece of meat compared with one in the air stream quickly confirms this fact. Another fact is that the surface temperature of the meat will be higher than the center temperature due to radiant heat. TYLER's ongoing research identifies sources of radiant heat and accurately measures and records it.

These charts were developed from the information gathered during this research. Two major sources of radiant heat are from display lights and ceiling surfaces. Additional heat sources come from bad display practices which either overload the case with product or allow voids in the product display. Poor display practices impair the efficiency of the refrigeration, adding to the surface temperature of the meat. Bacteria and molds grow when surface temperatures rise above 45°F. This prematurely discolors displayed meats and causes unnecessary meat department losses.

Radiant Heat Measurement

Place two accurate dial thermometers side by side in a case. Cover one of the thermometer stems with black friction tape. The temperature difference is the approximate amount of radiant heat. A change in display lighting or a reduction of high ceiling temperatures (over 80°F) could reduce the radiant heat in the case.

Display Practices



Voids in display raise surface temperature of package in front of void 2 to 6° F.

Encourage butchers to maintain all meat below the case load lines and to eliminate product voids. Case screens could be covered in some instances to keep the refrigerated air over the display.

CAUTION

The quality damage done to meat products by high temperatures and/or contamination during delivery, cooler storage, cutting and wrapping cannot be repaired by placing the products into properly operating display cases.

SERVICE INSTRUCTIONS

See "General-UL/NSF I&S Manual" for fan blade & motor and color band & bumper replacement instructions.

Connecting the Refrigeration Piping and Components

WARNING

Be sure to position a flame and heat-resistent shield over the bottom of the case liner. Heat from brazing could damage the liner and/or cause personal injury or death from fire.

1. Remove screws and refrigeration piping cover from the left bottom of the case.
2. Position loose refrigeration piping and/or optional valves between the open lines in the bottom and upright of the case.

NOTE

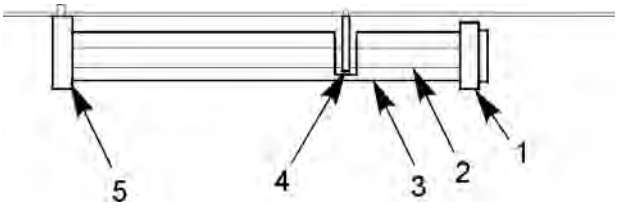
- **Make sure all sensor and thermostat wires are clear of areas being heated.**
- **Mount all refrigeration lines off the floor to allow for cleaning access.**

3. Apply flux to all joint ends. Starting at one end, thoroughly heat each new pipe joint and braze it together. Repeat this process until all new pipe joints have been brazed.
4. After piping has cooled, route and connect thermostat and sensor wires through openings in the bottom of the case.

Compact Lamp Replacement (All Models Except NM/NMG(HP))

CAUTION

Shut off light switch or disconnect power supply befroe changing a lamp. Lighting system power and/or ballast surges can burn out adjacent lamps if power is left on.



1. Remove lampshield end cap (1).
2. Gently pull down on lamp (2) and lampshield (3) to release end from retainer clip (4).
3. Unseat and slide off light shield (3) from lamp (2).
4. Carefully grasp and pull lamp (2) until it releases from the receptacle (5).
5. Insert new lamp (2) in receptacle (5) until it snaps into place.
6. Slide on lampshield (3) until it is fully seated on the receptacle (5).

NOTE

Slot in lampshield must line up with retainer clip to allow for proper lamp securing.

7. Snap lamp (2) and lampshield (3) into retainer clip (4). Install lampshield end cap (1) over open end of lampshield (3).

Discharge Grid Replacement

1. Remove screws rear grid retainer and discharge grid.

NOTE

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

CAUTION

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

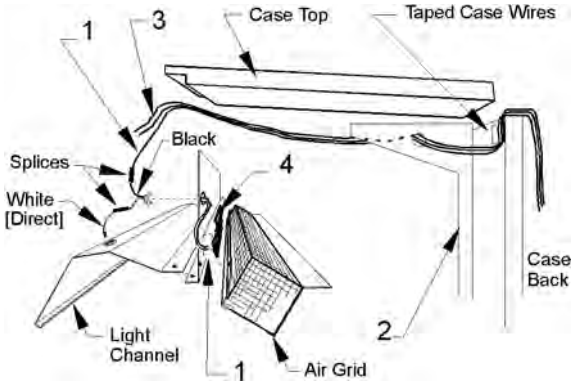
2. Position new discharge grid so front bottom lip is resting on lower lip of front grid retainer. Install and secure discharge grid with rear grid retainer and screws.

Anti-Sweat Replacement

All corner cases have at least one anti-sweat heater. Corner cases with solid fronts and the N5MG have one anti-sweat heater near the discharge air duct. The NMG(HP), N3MG(HP), N3HMG and N4MG corner cases have an additional anti-sweat heater under the front glass. All anti-sweat heaters are wires that run the length of the above mentioned components. Use the following instructions to replace an anti-sweat heater.

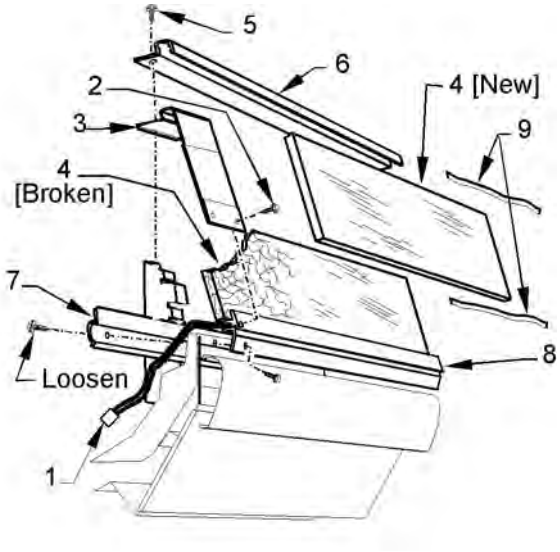
WARNING

Shut off or disconnect power supply to case before changing an anti-sweat. Electrical power from wire ends could damage other components and/or cause personal injury or death.



1. Expose the full length of the defective anti-sweat wire (1) in the case (2).
2. Disconnect or cut the defective anti-sweat wire (1) from the case wires (3).
3. Remove the aluminum tape (4) and defective anti-sweat wire (1) from the case (2).
4. Position new anti-sweat wire (1) in case (2) and secure with new aluminum tape (4).
5. Connect or splice the new anti-sweat wire (1) to case wires (3).
6. Replace all components that were removed to expose the anti-sweat wire (1).
7. Restore electrical power to case.

Front Glass Replacement (NMG(HP)/N3MG(HP)/N3HMG/ N4MG/N5MG)



1. Unplug glass anti-sweat wire (1).
3. Remove two screw (2) and glass joint trim (3) from both joints of the broken glass (4).
2. Remove screws (5) and glass trim rail (6) from top of glass (4).
4. Loosen rear retainer (7) and remove broken glass (4) from glass retainer assembly (8).

NOTE

Inspect the anti-sweat wire in glass retainer assembly. If wire is damaged or broken, replace it before replacing the front glass.

5. Apply sealant tape (9) to top and bottom edge of new glass (4).
6. Position new glass (4) in glass retainer assembly (8) and secure by tightening rear retainer (7).
7. Install glass trim rail (6) with screws (5) over top edge of new glass (4).
8. Install glass joint trim (3) with screw (2) over the joint areas of glass (4).
9. Reconnect the anti-sweat wire (1).

PARTS INFORMATION

Operational Parts List

Case Usage	Domestic
Electrical Circuit	115 Volt 60 Hertz
Case Size	All Meat Corners
Fan Motors	
(Models N3MG60OS/N5MG30OS/N5M45OS/ N5MG90IS & N2MHP45IS)	5243498 9 Watt
(Models N4MHP45OS/N5MHP45IS/N5MHP45OS & N2MHP45OS)	9458939 16 Watt
(Models N6MHPM45IS & N6MHPM45OS)	9456838 25 Watt
(All Remaining Meat Corner Models)	5125532 5 Watt
Fan Motor Brackets	
(For 6” Blades)	5213132
(For 7” Blades)(NM30IS/NM30OS/N5MG30IS)	9025005
(For 7” Blades)(NMGHP90OS/N3MG60OS/ N3MGHP90OS/N5MG30OS/N5MG90IS)	5962268
(For 7” Blades)(N4MG30OS)	5962269
(For 7.75” Blades)(N4M45IS/N4MG45IS/ N4M90IS/N4M90OS)	5120098
(For 8.75” Blades)(N4MHP45OS/N5M45OS/ N5MHP45OS/N2MHP45IS)	5235087
(For 8.75” Blades)(N5MHP45IS/N2MHP45OS/ N6MHPM45OS)	5205112
(For 8.75” Blades)(N6MHPM45IS)	9305524
Fan Bracket Plate	9041077
NM/NMG/NMGHP Fan Blades	
(6” 22° 5B)(NM45IS/NM45OS/NMG45OS)	9408110
(6” 27° 5B)(NM90OS)	9023762
(7” 35° 5B)(NM30IS/NM30OS/NMGHP90OS)	9044934
N3MG/N3MGHP/N3HMG Fan Blades	
(6” 21° 5B)(N3MG30OS/N3MG45IS)	5105621
(6” 22° 5B)(N3MG45OS)	9408110
(6” 30° 5B)(N3MG90OS)	9023766
(6” 35° 5B)(N3HMG90OS)	9450091
(7” 20° 5B)(N3MG60OS/N3MGHP90OS)	5960943
N4M/N4MG/N4MHP Fan Blades	
(6” 15° 5B)(N4MG30IS)	9408191
(7” 30° 5B)(N4MG30OS)	5223370
(7.75” 32° 5B)(N4MG45OS)	5104738
(7.75” 37° 5B)(N4M45IS/N4MG45IS/N4M90IS/ N4M90OS)	9454640
(8.75” 35° 5B)(N4MHP45OS)	9458862

Case Usage	Domestic
N5M/N5MG/N5MHP Fan Blades	
(6” 21° 5B)(N5MG45IS)	5105621
(7” 25° 5B)(N5MG90IS)	5236974
(7” 30° 5B)(N5MG30OS)	5223370
(7” 35° 5B)(N5MG30IS)	9044934
(8.75” 15° 5B)(N5M45OS)	9302353
(8.75” 35° 5B)(N5MHP45IS)	5643563
(8.75” 35° 5B)(N5MHP45OS)	9456242
N2MHP Fan Blades	
(8.75” 35° 5B)(N2MHP45IS/N2MHP45OS)	5643563
N6MHPM Fan Blades	
(8.75” 35° 5B)(N6MHPM45OS)	5643563
(8.75” 40° 5B)(N6MHPM45IS)	9038994
Compact Lamp Ballast (Cases w/Lights)	
(canopy)	5991029
(shelf - 3, 4 or 5 rows)	5991030
Compact Lampholder (Canopy or Shelf)	9450238
Compact Lamp Clip (Canopy or Shelf)	9450239
Compact Lampsheild (Canopy or Shelf)	9410790
Anti-Sweat Heaters	
Rear Riser	
(NM30IS/NM30OS/NM45IS/NM45OS/NMG45OS)	9044848
(NM90OS/NMGHP90OS)	9044847
Light Channel	
(N3MG30OS/N3MG45IS/N3MG45OS/N3MG60OS/ N4MG30IS/N4M45IS/N4MG45IS/N5MG30IS/ N5MG30OS/N2MHP45IS/N2MHP45OS)	9044848
(N4MG30OS/N4MG45OS/N4MHP45OS/ N5M45OS/N5MHP45OS)	9403434
(N3MG90OS/N3MGHP90OS/N3HMG90OS/ N4M90IS/N5MG90IS)	9044847
(N4M90OS)	9044846
(N5MG45IS/N5MHP45IS)	9044885
Front Glass	
(NMG45OS/N4MG45OS)	9044846
(N3MG30OS/N4MG30OS)	9403434
(N3MG45IS/N4MG45IS)	9044885
(N3MG45OS/N3MG60OS)	9402089
(NMGHP90OS/N3MG90OS/N3MGHP90OS/ N3HMG90OS)	5964643
(N4MG30OS)	9044847
NSF Product Thermometer	5967100

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

Cladding and Optional Trim Parts Lists

NM Coner Models

Item	Description	30°IS	30°OS	45°IS	45°OS	90°OS
1	Upper Rear Riser Trim	9451651	9452371	9453074	9452402	9453251
2	Lower Rear Riser Trim	9451650	9452372	9453073	9452401	9453250
3	Bumper Joint Trim	----------		color per order	----------	
4	Bumper Retainer	----------		color per order	----------	
5	Color Band, Ptd.	9451642	9452759	9450870	9452465	9450574
6	Bumper	----------		color per order	----------	
7	Upper Front Cladding, Ptd.	9452361	9452711	9450873	9452471	9450576
8	Lower Front Cladding, Ptd.	9452358	9452714	9450872	9452468	9450575
9	Kickplate Joint Trim, Ptd.	9452763	9452766	9452769	9452772	9452784
10	Kickplate, Ptd.	9454869	9454867	9454863	9454865	9454859
11	Kickplate Support Assembly	9451643	9452379	9450892	9452393	9450578
12	Pipe Leg, Std. (1.50” X 9.75”)	9024894(4)	9024894(4)	9024894(4)	9024894(4)	9024894(4)

NMG/NMGHP Corner Model

Item	Description	45°OS	90°OS
1	Upper Rear Riser Trim	9452402	9453251
2	Lower Rear Riser Trim	9452401	9453250
3	Bumper Joint Trim	color per order	
4	Bumper Retainer	color per order	
5	Color Band Ptd.	9452753	9453224
6	Bumper	color per order	
7	Upper Front Cladding, Ptd.	9453405	9453253
8	Lower Front Cladding, Ptd.	9452468	9450575
9	Kickplate Joint Trim, Ptd.	9452772	9452784
10	Kickplate	9454865	9454859
11	Kickplate Support Assembly	9452393	9450578
12	Pipe Leg, Std. (1.50” X 9.75”)	9024894(4)	9024894(4)
13	Front Glass (6.875”)	9452671	9453229

N3MG/N3MGHP Corner Models

Item	Description	30°OS	45°IS	45°OS	60°OS	90°OS
1	Top Cladding, Ptd.	9455002	9454972	9454971	9456004	9454973
2	Bumper Joint Trim	----------	----------	color per order	----------	----------
3	Bumper Retainer	----------	----------	color per order	----------	----------
4	Color Band Ptd.	9451414	9451804	9452018	9456050	9452108
5	Bumper	----------	----------	color per order	----------	----------
6	Upper Front Cladding, Ptd.	9451323	9451824	9451107	9455993	9452137
7	Lower Front Cladding, Ptd.	9451324	9451823	9451106	9455994	9452136
8	Kickplate Joint Trim, Ptd.	9452766	9452769	9452772	9452778	9452784
9	Kickplate, Ptd.	9455113	9454871	9454865	9456197	9452784
10	Kickplate Support Assembly	9451355	9451857	9451118	9455979	9452140
11	Pipe Leg, Std. (1.50” X 9.75”)	9024894(4)	9024894(4)	9024894(4)	9024894(4)	9024894(4)
12	Front Glass (6.875”)	9451413	9451803	9452034	9455988	9452125

N3HMG Corner Model

Item	Description	90°OS
1	Top Cladding, Ptd.	9454788
2	Bumper Joint Trim	color per order
3	Bumper Retainer	color per order
4	Color Band Ptd.	9454778
5	Bumper	color per order
6	Front Cladding, Ptd.	9454783
7	Kickplate Joint Trim, Ptd.	9452784
8	Kickplate, Ptd.	9455431
9	Kickplate Support Assembly	9454778
10	Pipe Leg, Std. (1.50” X 4.00”)	9330018(4)
11	Front Glass (6.875”)	9452125

N4M/N4MHP Corner Models

Item	Description	45°IS	45°OS	90°IS	90°OS
1	Canopy Hood, Ptd.	9450879	9453673	9450580	9450926
2	Canopy Joint Trim, Ptd.	9028068	9028069	9028072	9028073
3	Bumper Joint Trim	---------- color per order ----------			
4	Bumper Retainer	---------- color per order ----------			
5	Color Band, Ptd.	9450870	9452465	9450541	9450574
6	Bumper	---------- color per order ----------			
7	Upper Front Cladding, Ptd.	9450873	9452471	9450542	9450576
8	Lower Front Cladding, Ptd.	9450872	9452468	9450543	9450575
9	Kickplate Joint Trim, Ptd.	9452769	9452772	9452781	9452784
10	Kickplate, Ptd.	9454863	9454865	9454861	9454859
11	Kickplate Support Assembly	9450892	9452393	9450579	9450578
12	Pipe Leg, Std. (1.50” X 9.75”)	9024894(4)	9024894(4)	9024894(4)	9024894(4)

N4MG Models

Item	Description	30°IS	30°OS	45°IS	45°OS
1	Canopy Hood, Ptd.	9455313	9456066	9450879	9452673
2	Canopy Joint Trim, Ptd.	9028066	9028067	9028068	9028069
3	Bumper Joint Trim	---------- color per order ----------			
4	Bumper Retainer	---------- color per order ----------			
5	Color Band, Ptd.	9453681	9455961	9451630	9452753
6	Bumper	---------- color per order ----------			
7	Upper Front Cladding, Ptd.	9455777	9455957	9451607	9456405
8	Lower Front Cladding, Ptd.	9455774	9452714	9450872	9452468
9	Kickplate Joint Trim, Ptd.	9452763	9452766	9452769	9452772
10	Kickplate, Ptd.	9454869	9454867	9454863	9454865
11	Kickplate Support Assembly	9451643	9452379	9450892	9452393
12	Pipe Leg, Std. (1.50” X 9.75”)	9024894(4)	9024894(4)	9024894(4)	9024894(4)
13	Front Glass (6.875”)	9455769	9455963	9452485	9452671

N5MG Corner Models

Item	Description	30°IS	30°OS	45°IS	90°OS
1	Canopy Hood, Ptd.	9453729	9451155	9451943	9457957
2	Canopy Joint Trim, Ptd.	9028066	9028067	9028068	9028072
3	Bumper Joint Trim	---------- color per order ----------			
4	Bumper Retainer	---------- color per order ----------			
5	Color Band Ptd.	9453681	9451151	9453681	9453681
6	Bumper	---------- color per order ----------			
7	Upper Front Cladding, Ptd.	9453683	9451176	9451940	9457952
8	Kickplate Joint Trim, Ptd.	9452763	9452766	9452769	9452784
9	Kickplate, Ptd.	9454835	9454877	9454879	9457989
10	Kickplate Support Assembly	9453685	9451184	9451938	9457950
11	Pipe Leg, Std. (1.50” X 4.00”)	9330018(4)	9330018(4)	9330018(4)	9330018(4)
12	Front Glass (3.5”)	9453678	9451177	9453678	9453678

N5M/N5MHP Corner Models

Item	Description	45°IS	45°OS
1	Canopy Hood, Ptd.	9451943	9456219
2	Canopy Joint Trim, Ptd.	9028068	9028069
3	Bumper Joint Trim	color per order	
4	Bumper Retainer	color per order	
5	Color Band, Ptd.	9450870	9452465
6	Bumper	color per order	
7	Upper Front Cladding, Ptd.	9451940	9456216
8	Kickplate Joint Trim, Ptd.	9452769	9452772
9	Kickplate, Ptd.	9454879	9456258
10	Kickplate Support Assembly	9451938	9456233
11	Pipe Leg, Std. (1.50” X 4.00”)	9330018(4)	9330018(4)

N2MHP Corner Model

Item	Description	45°IS	45°OS
1	Top Cladding, Ptd.	9456600	9456126
2	Top Front Close-off, Ptd.	9456556	9456130
3	Bumper Joint Trim	color per order	
4	Bumper Retainer	color per order	
5	Color Band, Ptd.	6456553	9456124
6	Bumper	color per order	
7	Upper Front Cladding, Ptd.	9457302	9456971
8	Lower Front Cladding, Ptd.	9457084	9456974
9	Kickplate Joint Trim, Ptd.	9452769	9452772
10	Kickplate, Ptd.	9457317	9454865
11	Kickplate Support Assembly	9457092	9450892
12	Pipe Leg, Std. (1.50” X 3.50”)	9457097(4)	9457097(4)

N6MHPM Corner Models

Item	Description	45°IS	45°OS
1	Canopy Hood, Ptd.	9330019	9455427
2	Canopy Joint Trim, Ptd.	9028068	9028069
3	Bumper Joint Trim	color per order	
4	Bumper Retainer	color per order	
5	Color Band, Ptd.	9330013	9455218
6	Bumper	color per order	
7	Front Cladding, Ptd.	9457293	9455855
8	Raceway Cover	color per order	
9	Kickplate Joint Trim, Ptd.	9452793	9452772
10	Kickplate, Ptd.	9454610	9455501
11	Kickplate Support Assembly	9330085	9455460
12	Pipe Leg, Std. (1.50” X 4.00”)	9330018(4)	9330018(4)

Revision Log

This log sheet is intended to track both major and minor revisions to this manual, and to describe what the nature of the revision is. Revision identification is located in the lower right corner of the cover page.

Major revisions are lettered alphabetically, dated accordingly, and require reprinting for inclusion with the product at shipment. Minor revisions are denoted after the major revision with a “period” followed by a sequential number, and do not require a printed update. All manuals with any revision changes will be available in electronic PDF format on the Tyler Refrigeration website.

Content changes that determine the type of revisions are decided on a case-by-case basis by Tyler internal management. This revision log was created in October of 2008.

	REVISION TYPE			
DATE	MAJOR	MINOR	DESCRIPTION	RESULTS
Oct 2008		D.1	Changed wiring diagrams to N6MHP 45° IS & OS wedges...	... added terminal blocks to electrical.