

HEATING & AIR CONDITIONING EQUIPMENT

# THRU-THE-WALL CONDENSING UNITS Installation / Instruction Manual

## **Prepared Exclusively for Architects & Engineers**

Thru-the-Wall Cooling Comfort







SERIES 3000 24 1/8" w x 32" h

> SERIES 4000 30" w x 23" h

## National Comfort Products®

539 Dunksferry Road • Bensalem, PA 19020 • (215) 244-1400 • 1-800-523-7138 • Fax: (267) 638-1674

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### Installation/Instruction Manual for Architects & Engineers



Multi-family unit in Tampa, Florida using condensing units produced by National Comfort Products

# Introduction

This manual is offered to Architects and Engineers designing multi-family projects interested in National Comfort Products Thru-the-Wall Condensing Units. Local building codes must be applied when using our products. All building heat gain should be determined by a qualified engineer along with the sizing of the electrical supply. This will aid in many areas of concern while designing multi-family properties.

**Specification** 

#### **1. PRODUCT NAME**

National Comfort Products – Condensing Units – National Refrigeration and Air Conditioning

#### 2. MANUFACTURER

National Comfort Products, 539 Dunksferry Road, Bensalem, PA 19020 P: (800) 523-7138 P: (215) 244-1400 F: (215) 639-1674 Email: Sales@nationalcomfortproducts.com

www.nationalcomfortproducts.com

#### **3. DESCRIPTION**

Our condensing units are designed for the multi-family industry. The thru-the-wall operation saves money and time with simple easy installation. No long refrigerant or electrical runs, no ground clutter, no theft or vandalism, no roof penetrations and the unit can be easily serviced from indoors.

**MODELS** – Offering a Standard Model and a Deluxe New Yorker Model available in 3 series.

**Standard Models** – Three different capacities 1.5 to 2.5 tons.

#### **Deluxe New Yorker Models –**

Three different capacities 1.5 to 2.5 tons. Additional features (interior cabinet insulation, compressor crankcase heater, compressor hard start kit, solid state condenser fan motor speed control, <u>high and</u> <u>low pressure switches</u>, compressor anti cycle time delay, condenser fan pre start timer, spring isolators for compressor, suction line vibration absorber.

#### MEA# – No longer needed in New York.

**SERIES** – **1000, 3000 & 4000** all offer different outside dimensions for multiple wall openings.

**1000 Series** - 26 1/4" x 28 5/8" x 18 1/2" **3000 Series** - 24 1/8" x 32" x 18 1/2" **4000 Series** - 30" x 23" x 18 1/2" (depth 22 1/2" on 2 & 2 1/2" ton units)

MATERIAL – Cabinet to be constructed of Pre-Painted Galvanized Steel. Indoor and outdoor coils shall be fabricated of raised lanced aluminum fins mechanically bonded to seamless rifled copper tubes.

COLOR - Tan

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**VOLTAGE** – Units come factory wired for 208-230V/1P/60HZ with a low voltage circuit rated for a 24V/60HZ Class 2 transformer 40VA Minimum. The operating voltage of the unit is from 197 to 253 volts. (Single pole contactor used.)

## FEATURES:

**COMPATIBILITY** – Units are compatible with most brands of "indoor" units.

**CABINET**– Heavy duty pre-painted cabinet (22 gauge metal).

**EASY ACCESS** – Units are easily serviced from inside. Control box and condenser fan are easily accessible.

**SERVICE VALVES** – Brass service valves with the ability to check operating pressures with service door reattached.

### 4. TECHNICAL DATA

**LIMITATIONS** – All installations should factor a proper building heat gain, along with appropriate duct sizing and electrical supply wiring to be figured by a professional engineer familiar with local and national codes.

#### STANDARDS - AHRI Rated, AHRI

Standard 210/240-2008 for Unitary Air-Conditioning and Air-Source Heat Pump Equipment. UL 1995 Listed for Safety.

#### Sound Data -

Outdoor: (79.8 dba) Standard, AHRI 270-2008

Indoor: Without Indoor Cover (70.4 dba) Standard, AHRI 350-2008

Indoor: **With Indoor Cover** (68.3 dba) Standard, AHRI 350-2008 **ENVIRONMENTAL** – Environmentally friendly refrigerant HCFC R410A **Intertek Safety Report Number** – ETL Testing Laboratories Inc. Inspection, Test and Evaluation Report no. 513536

### 5. INSTALL

All units have an optional highly recommended, wall sleeve for a clean finish and future service accessibility. Provide clearances minimal of 30" in front of access panels for service and proper distances from all outside utilities in accordance with all local and national codes. A minimum vertical clearance of 48" between units should be maintained to minimize recirculation of condenser air.

### 6. SALES

National Comfort Products are dealt through a variety of wholesalers. Contact the factory to help locate a nearby distributor for price and availability.

### 7. WARRANTY

1 year warranty of all parts and 5 year warranty of the compressor. 90 days labor warranty.

### 8. SERVICE

The unit can be easily serviced from indoors and should be properly maintained in accordance of the manufacture instructions. All standard maintenance instructions are within the installation and users guides.

### 9. TECHNICAL SUPPORT

Factory technical assistance is available to help with any concerns or situations regarding National Comfort Products.

### SUBMITTAL PACKAGE SPLIT-SYSTEM CONDENSING UNITS



MEETS 2010 DOE REQUIREMENTS FOR ALL UNITS.

PROJECT:	LOCATION:	DATE:
PURCHASER:		
ARCHITECT:	ENGINEER:	
PO#:	FOR REFERENCE:	
SUBMITTED BY:	FOR A	PPROVAL:

#### 12.0 SEER NCPD/E Models

PLAN DESIGNATION	MODEL (circle /D for Deluxe NY)	QUANTITY	RATED COOLING/HEATING OUTPUTS (B/HR)	MINIMUM AWG WIRE	MAXIMUM FUSE
	NCPE-418-1010 /D		18,000 BTU	14	15
	NCPE-424-1010 /D		23,600 BTU	12	20
	NCPE-430-1010 /D		27,200 BTU	12	25
	NCPE-418-3010 /D		18,000 BTU	14	15
	NCPE-424-3010 /D		23,600 BTU	12	20
	NCPE-430-3010 /D		27,200 BTU	12	25
	NCPD-418-4010 /D		18,000 BTU	14	15
	NCPE-424-4010 /D		23,600 BTU	12	20
	NCPE-430-4010 /D		27,200 BTU	12	25

#### **Accessories/Options**

QUANTITY	PART NO.	DESCRIPTION
	14269035 (1000 Series)	Architectural Louver Grille (non-painted)
	14269036 (3000 Series)	Architectural Louver Grille (non-painted)
	14269037 (4000 Series)	Architectural Louver Grille (non-painted)
	14269035-P (1000 Series)	Architectural Louver Grille (painted)
	14269036-P (3000 Series)	Architectural Louver Grille (painted)
	14269037-P (4000 Series)	Architectural Louver Grille (painted)
	1000-WSD-12	Wall Sleeve
	3000-WSD-12	Wall Sleeve
	4000-WSD-12	Wall Sleeve

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#### CONDENSING UNITS NCPE 1000, NCPE 3000, and NCPD/E 4000

	NCPE1000		NCPE 3000		NCPE4000			
SERIES 1000 NCPE-418-1010	SERIES 1000 NCPE-424-1010	SERIES 1000 NCPE-430-1010	SERIES 3000 NCPE-418-3010	SERIES 3000 NCPE-424-3010	SERIES 3000 NCPE-430-3010	SERIES 4000 NCPE-418-4010	SERIES 4000 NCPE-424-4010	SERIES 4000 NCPE-430-4010
				DIMENSIONS				
261/4" wide**	261/4" wide**	261/4" wide**	241/8" wide**	241/8" wide**	241/8" wide**	30" wide**	30" wide**	30" wide**
28 <sup>5</sup> /8" high	285/8" high	28 <sup>5</sup> /8" high	32″ high	32" high	32″ high	23" high	23" high	23" high
18 <sup>1</sup> /2" deep	18 <sup>1</sup> /2" deep	18 <sup>1</sup> /2" deep	18 <sup>1</sup> /2" deep	18 <sup>1</sup> /2" deep	18 <sup>1</sup> /2" deep	22 <sup>1</sup> /2" deep	22 <sup>1</sup> /2" deep	22 <sup>1</sup> /2" deep
180 lbs.	180 lbs.	180 lbs.	180 lbs.	180 lbs.	180 lbs.	180 lbs.	180 lbs.	180 lbs.
3/8" liquid valve	3/8" liquid valve	3/8" liquid valve	3/8" liquid valve	3/8" liquid valve	3/8" liquid valve	3/8" liquid valve	3/8" liquid valve	3/8" liquid valve
<sup>3</sup> /4" vapor valve	<sup>3</sup> /4" vapor valve	<sup>3</sup> /4" vapor valve	<sup>3</sup> /4" vapor valve	<sup>3</sup> /4" vapor valve	<sup>3</sup> /4" vapor valve	<sup>3</sup> /4" vapor valve	<sup>3</sup> /4" vapor valve	<sup>3</sup> /4" vapor valve
				ARI RATING				
<u>Nordyne</u> B6VMAX24K-A 18,000 BTU	<u>Nordyne</u> B6VMAX24K-A 23,800 BTU	<u>Nordyne</u> B6VMAX24K-A 27,200 BTU	<u>Nordyne</u> B6VMAX24K-A 18,000 BTU	<u>Nordyne</u> B6VMAX24K-A 23,800 BTU	<u>Nordyne</u> B6VMAX24K-A 27,200 BTU	<u>Nordyne</u> B6VMAX24K-A 18,000 BTU	<u>Nordyne</u> B6VMAX24K-A 23,600 BTU	<u>Nordyne</u> B6VMAX24K-A 27,200 BTU
<u>Thermal Zone</u> TZHKL-2417JA 18,000 BTU	<u>Thermal Zone</u> TZHKL-2417JA 23,600 BTU	<u>Thermal Zone</u> TZHKL-2417JA 27,200 BTU	<u>Thermal Zone</u> TZHKL-2417JA 18,000 BTU	<u>Thermal Zone</u> TZHKL-2417JA 23,600 BTU	<u>Thermal Zone</u> TZHKL-2417JA 27,200 BTU	<u>Thermal Zone</u> TZHKL-3821JA 18,000 BTU	<u>Thermal Zone</u> TZHKL-3821JA 23,600 BTU	<u>Thermal Zone</u> TZHKL-3821JA 27,200 BTU
12.0 SEER	12.0 SEER	12.0 SEER	12.0 SEER	12.0 SEER	12.0 SEER	12.0 SEER	12.0 SEER	12.0 SEER
ELECTRICAL								
208/230 volts	208/230 volts	208/230 volts	208/230 volts	208/230 volts	208/230 volts	208/230 volts	208/230 volts	208/230 volts
208/230 volts 60 hertz	208/230 volts 60 hertz	208/230 volts 60 hertz	208/230 volts 60 hertz	208/230 volts 60 hertz	208/230 volts 60 hertz	208/230 volts 60 hertz	208/230 volts 60 hertz	208/230 volts 60 hertz
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208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 7.3 RLA (amps) 48.0 LRA	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse 9.10 RLA (amps) 58.3 LRA	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 10.6 RLA (amps) 64.0 LRA	208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 7.3 RLA (amps) 48.0 LRA	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse COMPRESSOR 9.10 RLA (amps) 58.3 LRA	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 11.1 RLA (amps) 73.0 LRA	208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 7.3 RLA (amps) 48.0 LRA	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse 9.1 RLA (amps) 58.3 LRA	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 10.6 RLA (amps) 64.0 LRA
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208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 7.3 RLA (amps) 48.0 LRA 25 HP 1.4 amps 3 rows	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse 9.10 RLA (amps) 58.3 LRA 58.3 LRA 25 HP 1.4 amps 4 rows	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 10.6 RLA (amps) 64.0 LRA 64.0 LRA 1.4 amps 1.4 amps	208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 15 max. fuse 7.3 RLA (amps) 48.0 LRA 48.0 LRA 25 HP 1.4 amps 3 rows	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse <b>COMPRESSOR</b> 9.10 RLA (amps) 58.3 LRA FAN MOTOR 25 HP 1.4 amps COIL 4 rows	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 11.1 RLA (amps) 73.0 LRA .25 HP 1.4 amps 4 rows	208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 7.3 RLA (amps) 48.0 LRA 48.0 LRA .25 HP 1.4 amps 3 rows	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse 9.1 RLA (amps) 9.1 RLA (amps) 58.3 LRA .25 HP 1.4 amps 4 rows	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 10.6 RLA (amps) 64.0 LRA .25 HP 1.4 amps 4 rows
208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 15 max. fuse 15 max. fuse 48.0 LRA 48.0 LRA 48.0 LRA 24.0 LRA 1.4 amps 1.4 amps 3 rows 3.61 face area	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse 20 max. fuse 30 max. fuse 30 max. fuse 30 max. fuse 31 max. f	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 25 max. fuse 10.6 RLA (amps) 64.0 LRA 64.0 LRA 10.5 HP 1.4 amps 1.4 amps 4 rows 3.61 face area	208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 7.3 RLA (amps) 48.0 LRA 48.0 LRA 25 HP 1.4 amps 1.4 amps 3 rows 3.77 face area	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse COMPRESSOR 9.10 RLA (amps) 58.3 LRA 58.3 LRA 58.3 LRA 58.3 LRA 58.3 LRA 58.3 LRA 601 1.4 amps 1.4 amps COIL 4 rows 3.77 face area	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 11.1 RLA (amps) 11.1 RLA (amps) 7.3.0 LRA 2.5 HP 1.4 amps 1.4 amps 3.77 face area	208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 7.3 RLA (amps) 48.0 LRA 48.0 LRA 25 HP 1.4 amps 1.4 amps 3 rows 3.14 face area	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse 9.1 RLA (amps) 9.1 RLA (amps) 58.3 LRA 	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 10.6 RLA (amps) 64.0 LRA .25 HP 1.4 amps 4 rows 3.14 face area
208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 15 max. fuse 15 max. fuse 15 max. fuse 14 maps 248.0 LRA 48.0 LRA 24 maps 25 HP 1.4 amps 3 rows 3.61 face area 16 FPI	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse 20 max. fuse 3.00 RLA (amps) 58.3 LRA 58.3 LRA 58.3 LRA 58.3 LRA 1.4 amps 1.4 amps 3.61 face area 16 FPI	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 25 max. fuse 10.6 RLA (amps) 64.0 LRA 64.0 LRA 10.5 HP 1.4 amps 1.4 amps 3.61 face area 16 FPI	208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 7.3 RLA (amps) 48.0 LRA 48.0 LRA 5.25 HP 1.4 amps 3.77 face area 16 FPI	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse 20 max. fuse COMPRESSOR 9.10 RLA (amps) 9.10 RLA (amps) 58.3 LRA 58.3 LRA 58.3 LRA 58.3 LRA 58.3 LRA 58.3 LRA 58.3 LRA 1.4 amps 1.4 amps 2.5 HP 1.4 amps 3.77 face area 16 FPI	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 11.1 RLA (amps) 11.1 RLA (amps) 25 HP 1.4 amps 4 rows 3.77 face area 16 FPI	208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 15 max. fuse 7.3 RLA (amps) 48.0 LRA 48.0 LRA 48.0 LRA 1.4 amps 3.14 face area 16 FPI	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse 9.1 RLA (amps) 9.1 RLA (amps) 58.3 LRA 9.1 S.8 J LRA 1.4 amps 4 rows 3.14 face area 16 FPI	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 10.6 RLA (amps) 64.0 LRA 
208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 7.3 RLA (amps) 48.0 LRA 48.0 LRA 48.0 LRA 48.0 LRA 3 rows 3.61 face area 16 FPI	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse 9.10 RLA (amps) 58.3 LRA 7.25 HP 1.4 amps 4 rows 3.61 face area 16 FPI	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 10.6 RLA (amps) 64.0 LRA 64.0 LRA 1.4 amps 1.4 amps 4 rows 3.61 face area 16 FPI	208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 7.3 RLA (amps) 48.0 LRA 48.0 LRA 48.0 LRA 3.77 face area 3.77 face area 16 FPI	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse COMPRESSOR 9.10 RLA (amps) 9.10 RLA (amps) 58.3 LRA FAN MOTOR 58.3 LRA 58.3 LRA 58.3 LRA COIL 1.4 amps COIL 4 rows 3.77 face area 16 FPI INDOOR UNIT	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 11.1 RLA (amps) 73.0 LRA 73.0 LRA 4 rows 3.77 face area 16 FPI	208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 7.3 RLA (amps) 48.0 LRA 48.0 LRA 48.0 LRA 3.14 face area 3.14 face area 16 FPI	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse 9.1 RLA (amps) 9.1 RLA (amps) 9.1 RLA (amps) 58.3 LRA 25 HP 1.4 amps 4 rows 3.14 face area 16 FPI	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 10.6 RLA (amps) 64.0 LRA 25 HP 1.4 amps 4 rows 3.14 face area 16 FPI
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208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 15 max. fuse 7.3 RLA (amps) 48.0 LRA 7.3 RLA (amps) 7.3 RLA (amps) 7.5	2008/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse 20 max. fuse 12 min. AWG wire 3.01 RLA (amps) 4.000 58.3 LRA 58.3 LRA 59.3 LRA 59.	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 10.6 RLA (amps) 10.6 RLA	208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 7.3 RLA (amps) 48.0 LRA 7.3 RLA (amps) 48.0 LRA 7.3 RLA (amps) 48.0 LRA 7.3 RLA (amps) 1.4 amps 1.4 am	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse COMPRESSOR 9.10 RLA (amps) 9.10 RLA (amps) 9.10 RLA (amps) 1.4 amps COIL 4 rows 3.77 face area 16 FPI INDOOR UNIT NOrdyne B6VMAX24K-A 810 CFM	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 11.1 RLA (amps) 11.1 RLA (amps) 73.0 LRA 73.0 LRA 4 rows 3.77 face area 16 FPI 86VMAX24K-A 950 CFM Thermal Zone TZHKL-2417JA 1000 CFM	208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 7.3 RLA (amps) 48.0 LRA 48.0 LRA 48.0 LRA 3.14 face area 3.14 face area 16 FPI Nordyne B6VMAX36K-B 650 CFM	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse 9.1 RLA (amps) 9.1 RLA (amps) 9.1 RLA (amps) 1.4 amps 4 rows 3.14 face area 16 FPI 86VMAX36K-B 810 CFM Thermal Zone TZHKL-3821JA 850 CFM	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 10.6 RLA (amps) 64.0 LRA 25 HP 1.4 amps 4 rows 3.14 face area 16 FPI Nordyne B6VMAX36K-B 950 CFM Thermal Zone TZHKL-3821JA 1000 CFM
208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 15 max. fuse 7.3 RLA (amps) 48.0 LRA 7.3 RLA (amps) 7.3 RLA (amps) 7.5	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse 20 max. fuse 9.10 RLA (amps) 9.10 RLA (a	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 10.6 RLA (amps) 64.0 LRA 7 7 7 7 8 7 7 8 8 8 8 8 8 8 16 FPI 16 7 8 8 8 8 8 8 8 8 8 8 8 8 8	208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 7.3 RLA (amps) 48.0 LRA 48.0 LRA 48.0 LRA 48.0 LRA 3 rows 3.77 face area 16 FPI Nordyne B6VMAX24K-A 650 CFM Thermal Zone TZHKL-2417JA 650 CFM	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse COMPRESSOR 9.10 RLA (amps) 9.10 RLA (amps) 58.3 LRA FAN MOTOR 25 HP 1.4 amps COIL 4 rows 3.77 face area 16 FPI 10DOGR UNIT Nordyne B6VMAX24K-A 810 CFM Thermal Zone TZHKL-2417JA 850 CFM	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 11.1 RLA (amps) 11.1 RLA (amps) 73.0 LRA 73.0 LRA 73.0 LRA 4 rows 3.77 face area 16 FPI 86VMAX24K-A 950 CFM Thermal Zone TZHKL-2417JA 1000 CFM	208/230 volts 60 hertz 1 phase 14 min. AWG wire 15 max. fuse 7.3 RLA (amps) 48.0 LRA 48.0 LRA 48.0 LRA 3 rows 3.14 face area 16 FPI Nordyne B6VMAX36K-B 650 CFM Thermal Zone TZHKL-3821JA 650 CFM	208/230 volts 60 hertz 1 phase 12 min. AWG wire 20 max. fuse 9.1 RLA (amps) 58.3 LRA 25 HP 1.4 amps 4 rows 3.14 face area 16 FPI Nordyne B6VMAX36K-B 810 CFM Thermal Zone TZHKL-3821JA 850 CFM	208/230 volts 60 hertz 1 phase 12 min. AWG wire 25 max. fuse 10.6 RLA (amps) 64.0 LRA 25 HP 1.4 amps 4 rows 3.14 face area 16 FPI Nordyne B6VMAX36K-B 950 CFM Thermal Zone TZHKL-3821JA 1000 CFM

Note: All specifications are subject to change without notice. \* Condensing units are compatible with most manufacturers of indoor air handlers and coils. \*\*Dimensions including screw heads on both sides of the cabinet.

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# The Thru-the-Wall Condenser

### AHRI / DOE

National Comfort Products is rated thru AHRI Standard 210/240-2008 for Unitary Air-Conditioning and Air-Source Heat Pump Equipment, website: (http://www.ahridirectory.org/ ahridirectory/pages/ac/defaultSearch.aspx) and recognized by the Department of Energy, website: (http://www.regulations.doe.gov/certification-data/CCMS-79222816513.html). All units are rated at 12 SEER.





(You can also check our website for DOE & AHRI matched air handlers) http://www.nationalcomfortproducts.com/info5.php#ahri

### Why Thru-The-Wall

Units are easily serviced in any weather condition. They are less expensive to install and eliminate ground clutter. There is less risk of theft or vandalism, no roof penetrations, shorter line sets, and less refrigerant charge. They also offer the ability for separate electrical meter savings and have a better overall appearance. *(See Architectural Grille Section on page 19)* 



# Locating the Unit

#### **Clearance Awareness**

The unit must not be mounted in dead-end hallways or areas where there is no fresh outside air circulation. Cool fresh outside air must be provided for best operation. Units should not be located where hot exhausts from clothes dryer vents, kitchen vents, steam vents or where corrosive fumes could come in contact with the coil side of the unit.

**Important:** If one or more units is installed in vertical array a **minimum of 48**" is required and must be maintained to minimize recirculation of condenser exhaust air.



#### **Service Access**

30" of clearance is required for service accessibility on the inside. All units are serviceable from the inside.

#### Noise

We design our unit as quiet as possible; please keep in mind when locating the unit that it does make noise. Use common precautions as you would for other mechanical appliances pertaining to noise.

> Outdoor Sound: (79.8 dba) Standard, AHRI 270-2008

As an option, we offer an insulated sound cover for installation over the inside cover of the unit.

Sound: Without Indoor Cover (70.4 dba) Standard, AHRI 350-2008

Sound: With Indoor Cover (68.3 dba) Standard, AHRI 350-2008



1000 I.D. Cover 3000 I.D. Cover 4000 I.D. Cover



The Insulated Sound Cover will be supplied insulated, handles installed and assembled. To install onto the unit, either the top or bottom will need to be removed, depending on the exit point of the tubing. (4 screws)



## <u>Walls</u>

#### Wall Sleeve Available for 1000, 3000 & 4000 Series

Our wall sleeve must be field assembled and easily forms a box with mounting brackets, guides, and seals. It should be installed with a non-hardening caulk into the opening of the wall. The sleeve should be installed 3/4" past the exterior wall for proper weather sealing.

In different builds, the sleeve must be fastened to the supporting wall and not the finished wall.



### Wall Construction

The wall sleeve is designed to support the unit but the wall itself must be adequate to support the unit. When this is an issue a support is needed at the base of the unit.

For wood frame walls the sleeve can be adequately fastened with lag screws into doubled two by six and should be pressed against only solid wood material. Vibration pads can be used in light weight framing designs. Must be adequate to support 280 lbs.

For masonry wall applications, a proper lintel should be installed to support the wall.



# Sealing of the Unit

#### Water

The wall opening across the top and bottom must be flashed. Bottom flashing to cover the full foot print of the unit and extend up 2" on 3 sides. All openings around the top, sides and bottom must be caulked and sealed. It is very important not to plug the weephole openings in the front section of the unit base pan... these are critical for drainage of moisture or rain. If a wall sleeve is used, caulk the spaces between the sleeve and the wall. Completely fill the clearance between the unit and the wall sleeve with a polyurethane foam sealant.

During periods of rain and wind the primary drainage path may not be adequate to handle the load. Secondary drainage precautions may also be required but not limited to the following:

- a. Seal flashing to unit
- b. Floor drain
- c. Additional field sealing of sheet metal joints
- d. Sealing of unused access opening

### Air

Clearance to air inlets and outlets must be adequate to ensure no air flow obstructions or recirculation of condenser air flow.

Obstructed Air Flow



**Electrical** 

#### **High Voltage**

The unit is factory wired for 208/230 Volts AC Single Phase 60 Hertz. The operating voltage is from 197 VAC to 253 VAC. A single pole contactor is used for connection.

#### Low Voltage

The unit is rated for a 24 Volt 60 Hertz Class 2 transformer with a 40 VA minimum to supply the low voltage to the contactor.



**Condensing Unit Control Box** 

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# **Refrigeration**

#### **Evaporator**

All units are approved with indoor evaporator coils utilizing a Thermal Expansion Valve (TXV). Self-equalizing components are required to reduce compressor starting problems. If self-equalizing components are not used, field installed hard start kits will be required. Units are compatible with most brands of "indoor" units.

(Check our website for DOE & AHRI matched air handlers) http://www.nationalcomfortproducts.com/info5.php#ahri

#### Line set

When replacing R22 units it is highly recommend that the line sets be replaced. If that option is not feasible it is necessary to flush the line set with a commercial flushing agent. The unit has internally mounted service valves. Field tubing may be routed through the locations provided in either the top or rear flange. Care should be taken not to block access to internal components. Seal all unused knockouts and use provided gaskets for liquid and suction lines.

All units are designed set for 3/8" Liquid Line and 3/4" Vapor Line. When line set may exceed 50' please consult the factory.

When installing the condenser below the evaporator, the suction line must be trapped with an inverted trap the height of the evaporator coil.

A minimum of 1/2" foam rubber insulation is required for the suction line.

All field connections should be brazed while purging system with Dry Nitrogen. System should be pressure tested at approximately. 100 psi dry nitrogen and then evacuated to 300 microns (held for 10 minutes) before opening service valves. Be sure that all service valves are protected during brazing.

# <u>Service</u>

For servicing of the unit it is imperative that 30" of clearance be available in front of the unit access panel. All electrical components are inside an easy access control box to aid in checking the contactor and capacitor electrical connections. The condenser fan motor is easily accessible for inspection of the bearings.

To clean the condenser coil it is recommended to use high pressure nitrogen from the interior with a non-rinse, non-acidic coil cleaner. Keep building exterior material in consideration when choosing cleaning products. If the coil is accessible from the outside, the coil can be brushed clean with care to not damage the aluminum fins.

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# Cross Reference & Replacement

### **CROSS REFERENCE LIST** 1000 SERIES

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BRAND/MODEL	WIDTH	HEIGHT	COMMENTS
BRYANT/DAY & NIGHT/PAYNE			
566C014/018/024/030	26″	<b>28</b> <sup>5</sup> /8″	Split-system condensing unit
566D014/018/024/030	26″	<b>28</b> <sup>5</sup> /8″	Split-system condensing unit
566E014/018/024/030	26″	285/8″	Split-system condensing unit
CARRIER			
38GK014/018/024/030	26″	<b>28</b> <sup>5</sup> /8″	Split-system condensing unit
DUNHAM-BUSH			
VCB24	<b>30</b> <sup>5</sup> /8″	<b>29</b> <sup>1</sup> / <sub>2</sub> "	Split-system condensing unit
VCR30	36 <sup>1</sup> /4″	<b>29</b> <sup>1</sup> /2"	Split-system condensing unit
DUNKIRK			
DBCU-018/024/030-1010	26″	<b>28</b> <sup>5</sup> /8″	Split-system condensing unit
DSHP-018/024/030-1019	26″	28 <sup>5</sup> /8″	Split-system heat pump
FIRST COMPANY			
18/24/30W/CU-10-BB	25 <sup>3</sup> /4″	28 <sup>5</sup> /8″	Split-system condensing unit
18/24/30WCX-10-BB	25 <sup>3</sup> /4"	28 <sup>5</sup> /8″	Split-system condensing unit
AEROSYS			
	26%	205/ "	
	26"	28°/8″ 285/a″	Split-system condensing unit
THDC-30-S	26″	20°/8 28 <sup>5</sup> /8″	Split-system condensing unit
THHP-18-S	26″	28 <sup>5</sup> /8″	Split-system heat pump
THHP-24-S	26″	28 <sup>5</sup> /8″	Split-system heat pump
THHP-30-S	26″	<b>28</b> <sup>5</sup> /8″	Split-system heat pump

(3000 & 4000 Series reference next two pages...)

### CROSS REFERENCE LIST 3000 SERIES

BRAND/MODEL	WIDTH	HEIGHT	COMMENTS
DUNKIRK			
DRCU-018/024/030-3010	23 <sup>3</sup> /4″	32″	Split-system condensing unit
ENAL			
VCH-018/024/030	22 <sup>3</sup> /8″ 22 <sup>3</sup> /8″	32″	Split-system condensing unit
VIII-010/024/030	2210	52	Spin-system near pump
5500500			
FEDDERS			
CWC018/24B7C	24″	32″	Split-system condensing unit
CWC028B3C	24	32	Spiit-system condensing unit
FIRST COMPANY/US A/C			
18/24/30WCU-10AB	24″	32″	Split-system condensing unit
18/24/30WCX-10-AB	24	32	Spiit-system condensing unit
GENERAL ELECTRIC			
	23 <sup>3</sup> /4″	341/2"	Split-system condensing unit
LENNOX			
HWS2A-21-2FFC	24″	34″	Split-system condensing unit
HSW4-21/26/311FF	29″	341/2"	Split-system condensing unit
MAGIC CHEF			
CBW18/24/30PRI	24″	32″	Split-system condensing unit
			. ,
RHEEM			
AD19/24/2901/0\C	003/.//	2034.1	
AD16/24/26B1(Q)C	23%/4	30°/4	Spiit-system condensing unit
AFROSYS			
THDC-18-T	23 <sup>3</sup> /4″	32″	Split-system condensing unit
THDC-24-1 THDC-30-T	23 <sup>3</sup> /4" 23 <sup>3</sup> /4"	32"	Split-system condensing unit
THHP-18-T	23 <sup>3</sup> /4″	32″	Split-system heat pump
THHP-24-T	23 <sup>3</sup> /4″	32″	Split-system heat pump
THHP-30-T	<b>23</b> <sup>3</sup> /4″	32″	Split-system heat pump
GOODMAN			
GOODWAN			
TWC18-1	24″	32″	Split-system condensing unit
TWC24-1	24″	32″	Split-system condensing unit
TWC30-1	24″	32″	Split-system condensing unit

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## CROSS REFERENCE LIST 4000 SERIES

BRAND/MODEL	WIDTH	HEIGHT	COMMENTS
DUNHAM BUSH			
WCR 18/24/30	30″	24″	Split-system condensing unit
VCR 24 VCB 30	30 <sup>5</sup> /8″ 36 <sup>1</sup> /8″	<b>29</b> <sup>1</sup> /2" <b>29</b> <sup>1</sup> /2"	Split-system condensing unit
	00 /0	20 /2	opint system contactions unit
DUNKIRK			
DRCU-018/024/030-4010	<b>29</b> <sup>1</sup> /2″	23″	Split-system condensing unit
	/ _		
FIRST COMPANY/US A/C			
18/24/30WCU-10-CB	<b>29</b> <sup>1</sup> /2″	23″	Split-system condensing unit
18/24/30WCX-10-CB	<b>29</b> <sup>1</sup> / <sub>2</sub> "	23″	Split-system condensing unit
HYDRO THERM/SPACE PACK			
WCR 18/24/30	30″	24″	Split-system condensing unit
JOHNSON, AIR EASE			
CW18/24PR	30″	23″	Split-system condensing unit
LUXAIRE			
ECD018/024/030ENA	29″	29″	Split-system condensing unit
WESTINGHOUSE			
SL018/024/030C	30 <sup>1</sup> /4″	26″	Split-system condensing unit
YORK			
H1DC018/024/030	<b>29</b> <sup>1</sup> /2″	23″	Split-system condensing unit
AEROSYS			
THDC-18-R	<b>29</b> <sup>1</sup> /2″	23″	Split-system condensing unit
THDC-24-R	<b>29</b> <sup>1</sup> /2"	23″	Split-system condensing unit
THHP-18-R	<b>29</b> <sup>1</sup> /2	∠3 23″	Split-system heat pump
THHP-24-R	29 <sup>1</sup> /2″	23″	Split-system heat pump
THHP-30-R	<b>29</b> <sup>1</sup> /2"	23″	Split-system heat pump

### **Cross Reference & Replacement**

Our (3) series can replace several obsolete model manufactured by alternate companies. We offer a detailed cross reference guide *(the three previous pages)* to aid in selecting the proper replacement condenser. We also offer filler and escutcheon plates for jobs with dimensional differences.



CADD Rendering Shown



Acutal Install

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# **Architectural Grilles**

All units come shipped with a wire grille in front of the condenser coil.

We offer a line of Architectural Grilles for all 3 series that can come with a standard aluminum anodized finish or a baked enamel custom painted finish.

#### Architectural Louver Grilles/Wall Sleeves Series 1000, 3000, 4000

MODEL	DIMENSIONS
Anodized Aluminum	H x W
14269035 (1000)	28 <sup>5</sup> /8″ x 26″
14269036 (3000)	32″ x 23 <sup>3</sup> /4″
14269037 (4000)	23″ x 29½″
Painted <sup>s</sup> 14269035-P (1000) 14269036-P (3000) 14269037-P (4000)	28 <sup>5</sup> /8″ x 26″ 32″ x 23 <sup>3</sup> /4″ 23″ x 29½″
Wall Sleeves	H x W x D
1000-WSD-12	29 <sup>5</sup> /8" x 26 <sup>7</sup> /8" x 12 <sup>7</sup> /16"
3000-WSD-12	33" x 24 <sup>7</sup> /8" x 12 <sup>7</sup> /16"
4000-WSD-12	24" x 30 <sup>5</sup> /8" x 12 <sup>7</sup> /16"



§ Can be color matched to any color, consult factory.





#### LIMITED EXTENDED PROTECTION WARRANTY FOR NATIONAL COMFORT PRODUCTS (NCP) BENSALEM, PA SPLIT-SYSTEM CONDENSING UNITS

This NCP product is warranted to be free from all manufacturing defects, material or workmanship, for a period of one year from the date of installation (receipt required), whether or not actual use begins on this date, or one year from the date of manufacture if the date of installation cannot be verified. Immediate notice to NCP will (A) provide a new or remanufactured part to replace the defective part, without charge for the part itself, or (B) provide a replacement unit.

National Comfort Products will not be responsible for: local transportation, removing, related service, labor, diagnosis calls, refrigerant, costs incurred for returning defective parts, damage or repairs required due to faulty installation or improper application by others, damage as a result of fire, wind, floods, lightning, accidents, or corrosive atmosphere.

#### EXTENDED 2ND THRU 5TH YEAR COMPRESSOR WARRANTY

If the compressor should fail because of a manufacturing defect, is in the original installation, has been operated under normal conditions, and is in the 2nd to 5th year following the above determined date, NCP will provide, at its option, a new or remanufactured replacement compressor.

Replacement parts are warranted for the remainder of the original product warranty, or for 90 days, whichever is longer. NCP may require that defective parts be returned to verify and identify the cause of the defect.

> LIMITATION OF WARRANTIES — ALL IMPLIED WARRANTIES (INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY) ARE HEREBY LIMITED IN DURATION TO THE PERIOD FOR WHICH EACH LIMITED WARRANTY IS GIVEN. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. THE EXPRESSED WARRANTIES MADE IN THIS WARRANTY ARE EXCLUSIVE AND MAY NOT BE ALTERED, ENLARGED, OR CHANGED BY ANY DISTRIBUTOR, DEALER, OR OTHER PERSON WHATSOEVER. MATERIAL IS INSPECTED AT THE FACTORY AND RELEASED TO TRANSPORTATION AGENCY IN GOOD CONDITION. WHEN RECEIVED, VISUAL INSPECTION MUST BE MADE IMMEDIATELY. APPARENT SHIPPING DAMAGE SHOULD BE NOTED ON THE DELIVERY RE-CEIPT AND THE MATERIAL INSPECTED IN THE PRESENCE OF THE CARRIER'S REPRESENTATIVE. IF DAMAGE IS FOUND A CLAIM MUST BE FILED WITH THE CARRIER IMMEDIATELY.

FREIGHT DAMAGE IS NOT COVERED UNDER THIS WARRANTY.

WARNING: NO WARRANTY ON NEW UNITS INSTALLED BEHIND BRICK FACADES. IN YEARS PAST, IT WAS COMMON PRACTICE TO ADD A BRICK PATTERN FACADE (PIGEON HOLES) IN FRONT OF THE THRU-THE-WALL UNIT TO CHANGE THE EXTERIOR APPEARANCE OF THE BUILDING. ALL OBSTACLES ADDED TO IMPEDE AIR FLOW OF THE CONDENSING UNIT WILL DECREASE PERFORMANCE AND CAUSE PREMATURE EQUIPMENT FAILURE AND VOID ALL WARRANTIES. CONSULT FACTORY WITH ANY QUESTIONS.

This warranty gives you specific legal rights. You may also have rights which vary from state to state.

#### NATIONAL COMFORT PRODUCTS, BENSALEM, PENNSYLVANIA

NOTE: All warranty parts and paper work must be submitted no later than 60 days after failure. Warranty requests submitted after 60 days of failure will not be processed.



\*All prices subject to change without notice.

# <u>About Us</u>

**National Comfort Products** is a Division of National Refrigeration and Air Conditioning located in Bensalem, PA. Consisting of three facilities we bend, cut and punch all of our metal for our products. All condensing units are proudly built in Bensalem, PA USA.

<b>Contact Information</b>
<u>Main Number:</u> 800-523-7138
<u>Sales &amp; Customer Service</u> : Vince Mucciola - Ext. 3401 Ken Ford - Ext. 3403
Bill Stapleton - Ext. 3402 <u>Engineering</u> : Dave Mecadon - Ext. 3420
Marketing/Literature:

Roger Taylor - Ext. 3521

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MULTI-FAMILY COMPLEX SHOWING SERIES 3000 UNITS

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**HEATING & AIR CONDITIONING EQUIPMENT** 

National Comfort Products 539 Dunksferry Road • Bensalem, PA 19020-5908 (800) 523-7138 Fax (215) 638-1674



