

**Guardian Series
K_NP40FL-V
NEMA 4 or 4X Filter Fans**

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Technical Documents



**GUARDIAN SERIES
FILTER FAN
OPERATOR'S MANUAL**



CAUTION

BEFORE INSTALLING AND USING THIS FILTER FAN, IT IS IMPORTANT THAT THIS MANUAL BE READ AND UNDERSTOOD THOROUGHLY



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I. Introduction

This Manual provides you with the necessary general information for properly installing and operating Guardian Series Filter Fans. Unit specific technical data and mounting instructions are presented later in the Manual.

II. Cautions and Warnings

CAUTION

Do not operate fan without fanguard in place.

CAUTION

The risk of fire, electric shock or injury exists when cleaning or performing maintenance on these units. Disconnect this fan from the power supply before servicing.

WARNING

**TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK:
Do Not Use This Fan With Any Solid-State Speed Control Device.**

WARNING

**TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR INJURY, OBSERVE THE FOLLOWING:
Use this unit only in the manner intended by Kooltronic. If you have questions, contact Kooltronic. Before servicing or cleaning this unit, switch power off at the service panel and lock service panel to prevent power from being switched on accidentally. If service panel cannot be locked, securely fasten a prominent warning device, such as a tag, to the panel.**

WARNING

**TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR INJURY, OBSERVE THE FOLLOWING:
Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction. When cutting or drilling into a wall or ceiling, do not damage electrical wiring and other hidden utilities.**

CAUTION

For general ventilating use only. Do not use these fans to exhaust hazardous or explosive material and vapors.

CAUTION

NOT ALL SYSTEMS ARE SUITABLE FOR UTILIZING OUTSIDE AIR

To protect sensitive components against condensation an enclosure heater or closed-loop cooling is recommended. To protect sensitive components against corrosive elements closed-loop cooling is recommended.

III. Incoming Inspection

Guardian Series Filter Fans are designed, built, and packaged to withstand the shock and vibration associated with shipment by common carriers. Occasionally improper handling during shipping causes damage. Therefore, a thorough inspection should be performed upon receipt of all shipments. Any carton tears, dents, scratches, or loose articles should be noted on the Freight Bill. Cartons should be opened promptly and the units inspected for CONCEALED DAMAGE.

An immediate claim **MUST** be filed with the freight carrier and an inspection requested. Retain all packing materials. Kooltronic cannot assume responsibility for Consignee's failure to file a timely freight claim.

IV. Product Handling

- Do not attempt to operate your Filter Fan until you read and thoroughly understand this Manual.
- Before operating this unit, all electrical wiring must be checked to assure the proper connections.
- Use only on GFCI Protected Receptacles.

CAUTION Operate this unit only on the proper voltages and frequencies as noted on the nameplate




V. Product Identification and Nameplate

Each Filter Fan includes an identification nameplate. This nameplate provides:

- ① Model Number
- ② Electrical Power Characteristics
- ③ Serial Number

We recommend you copy this information from your unit.

- ① When ordering parts, specify the Model Number.
- ② Before operating, be sure that the power source matches these requirements.

		Filter Fan		
MODEL NO.	SERIAL NO.	FINAL ASSY. NO.		
①	③			
VOLTS	FREQ.	PH.	AMPS	M.O. NUMBER
②				
SERVICE AIR FILTERS REGULARLY UNAUTHORIZED SERVICE OR MODIFICATION VIOLATES WARRANTY				
ALL MOTORS ARE THERMALLY PROTECTED OUTDOOR USE		NEMA TYPE 4 MAINTAINED		
DO NOT USE AN EXTENSION CORD WITH THIS FAN				
		E361673		
CONFORMS TO UL STD. 507, UL STD 50E; CERTIFIED TO CSA STD C22.2 NO. 113				
MANUFACTURED BY: KOOLTRONIC, INC. PENNINGTON, NJ				

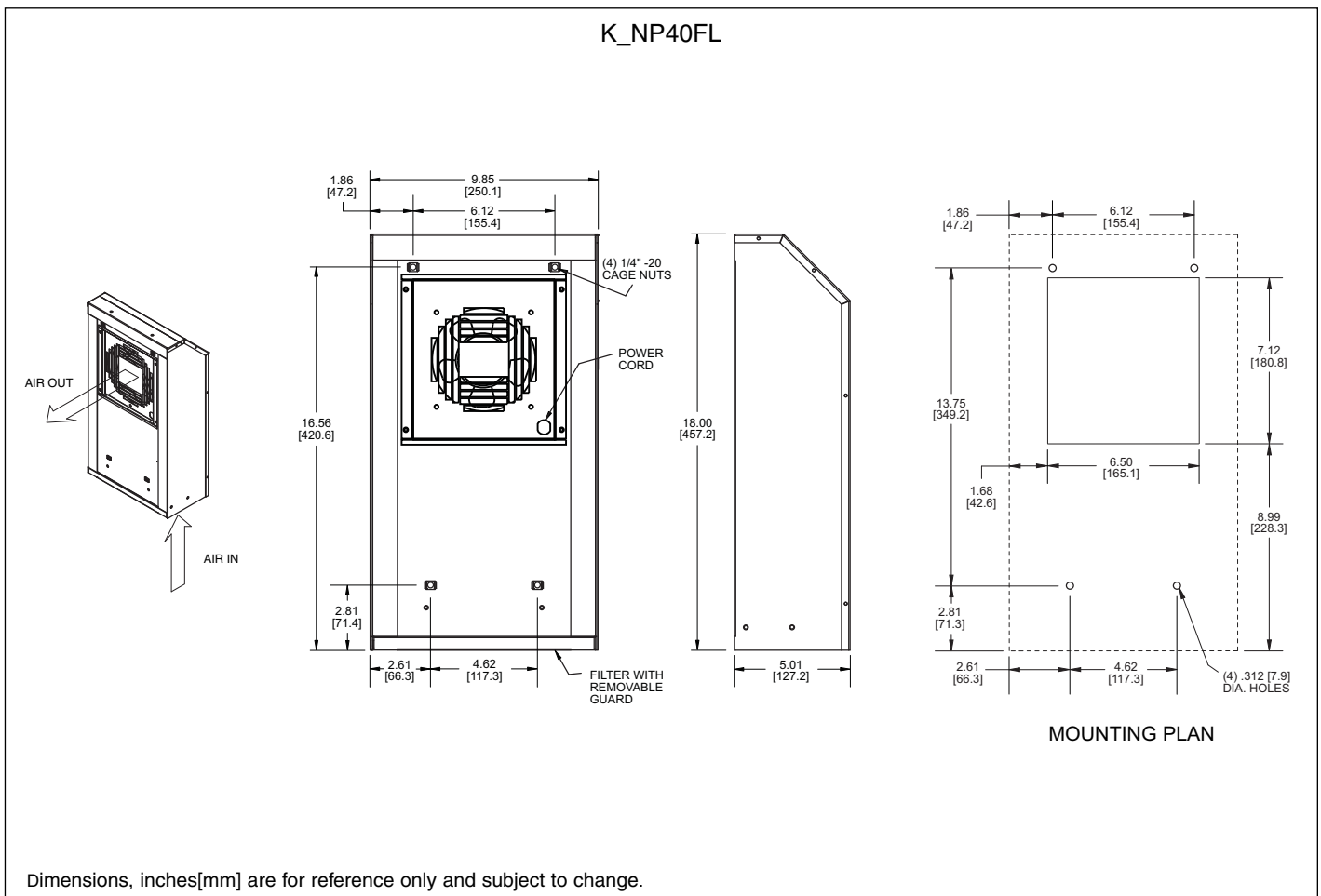
VI. Installation Instructions

The Guardian Series NEMA 4 or 4X Filter Fans have been engineered to be installed easily. These NEMA 4 or 4X filter fans have been designed for indoor or outdoor use. Prior to mounting, refer to the mounting drawings below showing dimensions and locations of mounting holes and cutouts. Prior to cutting or drilling, make sure that cutouts and mounting holes do not interfere with components inside the cabinet.

When mounting your filter fan please keep the following in mind:

- Proper orientation of unit is with filter at the bottom.
- A minimum of 6 inches clearance from filter to the nearest surface is recommended.
- Use neoprene washers provided.
- Recommended torque of 35-in-lbs for proper gasket compression.

VII. Drawings and Dimensions



VIII. Specific Model Data

Technical Data

Model	Airflow Direction	Nema Rating	Voltage	Input Amps	Input Watts	Max Airflow CFM*	Unit Airflow CFM**	Noise db(A)	Operating Temp. °F		Approx. Weight	
									Min.	Max	Lbs.	Kg.
KNP40FL	Intake	4	115/60	0.19	13	106	45	55	-40	158	10	4.5
KNP40RFL	Exhaust	4	115/60	0.19	13	106	45	55	-40	158	10	4.5
KNP40FL	Intake	4	115/50	0.22	14	90	40	52	-40	158	10	4.5
KNP40RFL	Exhaust	4	115/50	0.22	14	90	40	52	-40	158	10	4.5
K2NP40FL	Intake	4	230/60	0.11	12	106	44	55	-40	158	10	4.5
K2NP40RFL	Exhaust	4	230/60	0.11	12	106	44	55	-40	158	10	4.5
K2NP40FL	Intake	4	230/50	0.13	14	90	39	52	-40	158	10	4.5
K2NP40RFL	Exhaust	4	230/50	0.13	14	90	39	52	-40	158	10	4.5
K6NP40FL	Intake	4	12 VDC	0.43	5.1	100	27	43	14	176	10	4.5
K6NP40RFL	Exhaust	4	12 VDC	0.43	5.1	100	27	43	14	176	10	4.5
K7NP40FL	Intake	4	24 VDC	0.1	2.4	108	41	45	14	158	10	4.5
K7NP40RFL	Exhaust	4	24 VDC	0.1	2.4	108	41	45	14	158	10	4.5
K8NP40FL	Intake	4	48 VDC	0.11	5.3	108	30	43	14	158	10	4.5
K8NP40RFL	Exhaust	4	48 VDC	0.11	5.3	108	30	43	14	158	10	4.5
KNP40FLV	Intake	4X	115/60	0.19	13	106	45	55	-40	158	10	4.5
KNP40RFLV	Exhaust	4X	115/60	0.19	13	106	45	55	-40	158	10	4.5
KNP40FL	Intake	4X	115/50	0.22	14	90	40	52	-40	158	10	4.5
KNP40RFLV	Exhaust	4X	115/50	0.22	14	90	40	52	-40	158	10	4.5
K2NP40FLV	Intake	4X	230/60	0.19	12	106	45	55	-40	158	10	4.5
K2NP40RFLV	Exhaust	4X	230/60	0.19	12	106	45	55	-40	158	10	4.5
K2NP40FLV	Intake	4X	230/50	0.22	14	90	40	52	-40	158	10	4.5
K2NP40RFLV	Exhaust	4X	230/50	0.22	14	90	40	52	-40	158	10	4.5
K6NP40FLV	Intake	4X	12 VDC	0.43	5.1	100	27	43	14	176	10	4.5
K6NP40RFLV	Exhaust	4X	12 VDC	0.43	5.1	100	27	43	14	176	10	4.5
K7NP40FLV	Intake	4X	24 VDC	0.1	2.4	108	41	45	14	158	10	4.5
K7NP40RFLV	Exhaust	4X	24 VDC	0.1	2.4	108	41	45	14	158	10	4.5
K8NP40FLV	Intake	4X	48 VDC	0.11	5.3	108	30	43	14	158	10	4.5
K8NP40RFLV	Exhaust	4X	48 VDC	0.11	5.3	108	30	43	14	158	10	4.5

* Fan airflow without filter and grille.

** NEMA Rated if installed with provided filter.

Standard Features

Baked Powder Finish
Integrated Fan Guards
Integrated Sealing Gasket
IP55 Filter Protection
NEMA 4 or 4X Rating Maintained (if used with provided filter)
Secure Mounting
Six foot [1.8m] (minimum) 3-wire power cord
Stainless Steel Shell (NEMA 4X models)
UL/CSA Shielded Ball Bearing Motors
UL/CUL Listed
Washable, Reuseable Filter

Accessories and Options

Filter-Hood Assemblies (Recommended)

For all NEMA 4 Units order Part Number **KNPA60FL***

For all NEMA 4X Units order Part Number **KNPA60FLV***

Other Voltages, both AC and DC

Replacement Filters for all models order Part Number **0429-01-01**

Reversed Airflow Direction

To order reversed airflow, add "R" after series number. Example: KNP60RFL

*KNPA60FL(V) is the Filter-Hood Assembly part number for all K_NP40FL(V) and K_NP60(V) Filter Fans.

IX. Packing Procedure For Warranty Repair

Pack the Filter Fan in an appropriate carton (preferably the original carton), with adequate internal protective packaging, making sure carton is marked properly.

X. Maintenance

Kooltronic Guardian/GuardianX NEMA 4 or 4X Series Indoor/Outdoor Filter Fans require no maintenance. These Filter Fans are designed to require only the routine cleaning of air filters to assure unimpeded airflow through the unit. It is not possible to recommend specific cleaning intervals, since the level and nature of airborne particulate matter differs widely with each installation. It is generally sufficient to remove and wash the reuseable mesh air filters when the outer surfaces of these filters appear covered with a thin layer of dust or lint. Replacement filters are also available from Kooltronic. See page 6 for part numbers.

If filter service is neglected or delayed, the filter fans will not perform at design capacity. The first indication of an excessively clogged filter is usually a gradual increase of temperature within the equipment cabinet.

Filter removal and service

Kooltronic Guardian/GuardianX NEMA 4 or 4X Series Indoor/Outdoor Filter Fans feature an easily removable filter to facilitate necessary cleaning.

CAUTION

Do not operate the filter fan for extended periods of time with the filter removed. Operation with the filter in place is necessary for the fan to maintain its NEMA rating.

- 1) On the bottom of the unit, pull the filter retainer away from the cabinet and downward to remove filter and filter retainer.
- 2) After removal, the filter should be flushed under warm running water with the clean side up, driving contaminants out of the dirty side of the filter. If the accumulated dirt is oily, washing in a detergent bath is recommended, followed by a warm water rinse as above.
- 3) Reinstall the filter and filter retainer, making sure that the retainer legs face toward the cabinet.

XI. Standard Warranty

KOOLTRONIC products are warranted to be free of defects in workmanship, materials and components. The following warranty periods apply from date of shipment:

- Air moving devices/components and hermetic system components: 1 year
- Spare parts, except filters: 90 days

The above warranty applies when the equipment is operated under the following conditions:

- Ambient temperature not in excess of 125°F (52°C) in normal atmosphere or as stated on product nameplate
- Voltage variation no greater than $\pm 10\%$ from nameplate rating
- Frequency variation no greater than $\pm 3\text{Hz}$ from nameplate rating
- Maximum cooling load no higher than air conditioner nameplate rating
- Waiting five minutes before restarting air conditioner after intentional or accidental shutoff
- Compliance to all other installation, maintenance and operating instructions, as supplied
- The purchaser assumes the responsibility of grounding the unit and installing it in accordance with local electrical and safety codes, as well as the National Electric Code (NEC) and OSHA

KOOLTRONIC cannot assume responsibility for mis-application of its products or the erroneous selection of an inappropriate product by a non-authorized KOOLTRONIC representative. Our applications engineers will gladly assist in the selection of the proper product, provided all required details of the application are furnished.

THIS WARRANTY CONSTITUTES THE ENTIRE WARRANTY WITH RESPECT TO THE PRODUCT AND IS IN LIEU OF ALL OTHERS, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY AND WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND IN NO EVENT IS KOOLTRONIC RESPONSIBLE FOR ANY CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER.

RETURN AUTHORIZATION (RA) PROCEDURE

- All returns require a Return Authorization number whether the return is for warranty or non-warranty repair, rotation of stock, damage or any other reason. Returns without an RA number will be refused.
- Customer must call KOOLTRONIC After Sale Kare (ASK), Pennington, New Jersey (609 • 466 • 3400) to obtain an RA number, or email ask@kooltronic.com.
- The following information is required when an RA is requested:
 - Original customer Purchase Order number and date
 - Date product was received by customer
 - Number of parts to be returned
 - Product description, model and serial number
 - Reason for return
 - Action requested
 - Contact name, telephone, FAX numbers and e-mail address
- Pack unit in a suitable container for shipment, preferably the

KOOLTRONIC assumes no liability beyond the repair or replacement of its own product. This Warranty does not cover:

- Labor or reimbursement of labor for evaluation, removal, installation, repair, or cost of any warranted part, unless authorized in writing by KOOLTRONIC
- Use of equipment for other than its designed purpose or operating conditions
- Operation in harsh, oily, corrosive or other abnormal environmental conditions, without the proper filtration, sealing, protective coatings and/or weather protection
- Damage to hermetic system resulting from continuous operation with dirty or clogged air filters or improper or negligent maintenance
- Use of refrigerant other than designated
- Customer modification or abuse
- Shipping damage or other accident (Claims for shipping damage are the responsibility of the customer. Timely claims must be filed by the customer with the freight carrier)
- Cracked or broken hermetic tubing, brazed joints or other internal damage caused by shipping or mishandling
- Damage caused by shipping units attached to an enclosure
- Any and all conditions resulting from noncompliance with the preceding operating conditions
- Returned freight must be paid by customer
- **This standard warranty does not apply to custom products. Consult your KOOLTRONIC representative for limitations**

original packaging if available. All Air Conditioners must be returned in an upright position properly secured to a pallet. **Improper packaging may void warranty claim.** If an Air Conditioner is received laying down or shipped via UPS or similar small parcel service the warranty will be void.

- Mark carton prominently with KOOLTRONIC's Return Authorization Number.
- Enclose all pertinent documents.
- Freight charges on all products returned to KOOLTRONIC shall be paid by the customer. Unauthorized collect shipments will be refused.
- If a unit is repaired under Warranty, KOOLTRONIC will pay the freight charges both ways within the Continental USA at KOOLTRONIC's negotiated rates. Warranty repaired units will be returned to customer at KOOLTRONIC expense only within the Continental USA.
- All authorized returns are subject to a restocking fee.