

NAVA

Accessory Coil

Installation Instructions

NOTE: Read the entire instruction manual before starting the installation.

SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock or other conditions which may cause death, personal injury or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses, protective clothing and work gloves. Use quenching cloths for brazing operations. Have fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions attached to the unit. Consult local building codes and the current editions of the National Electrical Codes (NEC) NFPA 70.

In Canada, refer to the current editions of the Canadian Electrical Code CSA C22.1.

Recognize safety information. This is the safety-alert symbol ⚠. When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which will result in severe personal injury or death. WARNING signifies hazards which could result in personal injury or death. CAUTION is used to identify unsafe practices, which may result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which will result in enhanced installation, reliability, or operation.

⚠ WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death. Before installing, modifying or servicing system, always turn off main power to system. There may be more than one disconnect switch. Lock out and tag switch with a suitable warning label.

⚠ CAUTION

CUT HAZARD

Failure to follow this caution may result in personal injury. Sheet metal parts may have sharp edges or burrs. Use care and wear appropriate protective clothing and gloves when handling parts.

INTRODUCTION

These kits are designed to be installed in FEV fan units. Accessory Coil Kit/Fan Unit match-ups, and approved applications are listed in Table 1.

PROCEDURE 1 — CHECK EQUIPMENT

Inspect equipment for damage prior to installation. File claim with shipping company if shipment is damaged or incomplete. Locate the

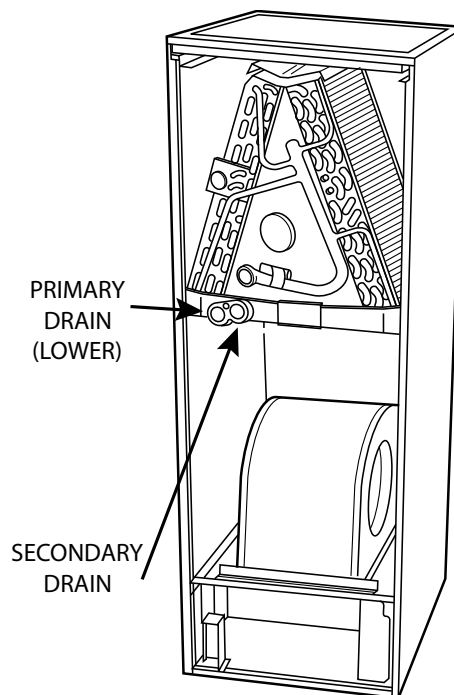
rating plate attached to the coil assembly. Check the rating plate model number, Table 1, and the AHRI Directory to ensure outdoor and indoor units are properly matched and meet job specifications.

A. Downflow Applications (Fig. 1)

IMPORTANT: Make certain that the electric furnace is level or slightly pitched toward the drain lines to assure proper condensate drainage.

1. Remove the coil access panel.
2. For A-coil downflow installations, remove and discard the plastic cap that covers the drain hole in the access panel. Do not discard the plastic cap for upflow units.

NOTE: There is a small weep hole between the primary and secondary drains. For downflow applications, this is a safety feature and must not be blocked.



A-COIL

Fig. 1 – Downflow

A98442B

B. Upflow Application

Remove coil access panel/fitting panel assembly (6 outside screws). Slide coil assembly into coil area of fan unit.

For upflow applications, do not discard the plastic cap in the drain hole of the access door. Remove the knockouts in the plastic cap to allow primary and secondary drain connections.

The coil and pan are shipped separately in the same box:

- Remove the coil and pan from the box.
 - Attach the pan to the coil using the four supplied screws.
 - Install the coil/pan assembly onto the two shelves provided in the coil area of the furnace.
3. Re-attach the coil door and go to the refrigerant tubing and drain installation.

Table 1 – Product Offering and Application

Accessory Coil	Matched Electric Furnace	Downflow / Upflow	Coil Type
NAVA43601CK	FEVA002410B FEVA003610B FEVA003612B FEVA003615B	Both	A
NAVA44801CK	FEVA004815C	Both	A
NAVA46001CK	FEVA006020D	Both	A

NOTE: Check AHRI Directory for approved outdoor/indoor unit combinations.

Indoor Unit Airflow Setup

The unit is factory provided for electric heat operation only. A cooling coil adds airflow restriction and requires speed tap changes (Table 2, Table 4).

Table 2 – Cooling and HP Airflow Settings

Recommended Setup Assuming 0.3" w.c. Static Pressure						
Indoor Unit	Outdoor Unit Size	No Coil		With Coil		Change Required When Adding Coil
		Recommended Tap no coil (blue wire)	Recommended Tap no coil (white wire)	Recommended Tap with Cooling coil (blue wire)	Electric Heat Tap with Cooling Coil (white wire)	
FEVA0024**	18	1	2	1	4	Electric Heat Only
FEVA0024**	24	1	2	2	4	Electric Heat and Cool Taps
FEVA0036**	30	1	2	1	4	Electric Heat Only
FEVA0036**	36	1	2	2	4	Electric Heat and Cool Taps
FEVA0048**	42	1	2	1	4	Electric Heat Only
FEVA0048**	48	1	2	2	4	Electric Heat and Cool Taps
FEVA0060**	60	2	4	3	4	Electric Heat Only

Table 3 – Speed Tap Selection at Motor Connector (AC, with coil)

	FEV024	FEV036	FEV048	FEV060
Tap 1	Cooling Low	Cooling Low	Cooling Low	Cooling Low
Tap 2	Cooling Nominal	Cooling Nominal	Cooling Nominal	Cooling Nominal
Tap 3	Cooling High	Cooling High	Cooling High	Cooling High
Tap 4	Electric Heat	Electric Heat	Electric Heat	Electric Heat
Tap 5*	Max Static / Airflow	Max Static / Airflow	Max Static / Airflow	Max Static / Airflow

*. Do not use Tap 5 for heating.

A-coil

The coil and pan are shipped separately in the same box.

NOTE: For the A-coil model NAVA436A1CK, a fitting panel will also be shipped separately in the box. Replace the factory-supplied fitting panel with the fitting panel shipped with the coil.

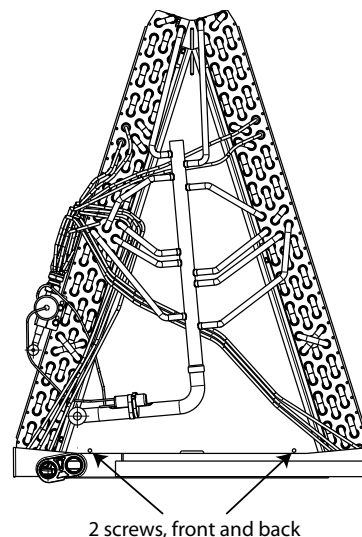
1. Remove the coil and pan from the box.
2. Attach the pan to the coil using the four supplied screws (Fig. 2).
3. Install the coil/pan assembly onto the two shelves provided in the coil area of the furnace.
4. Re-attach the panels and go to the refrigerant tubing and drain installation.

NOTE: Caulk around the pan fitting to door joint to avoid air leakage.

PROCEDURE 2 — REFRIGERANT TUBING

Use accessory tubing package or field-supplied tubing of refrigerant grade. Suction tube must be insulated. Do not use damaged, dirty, or contaminated tubing because it may plug refrigerant flow-control device. ALWAYS evacuate the coil and field-supplied tubing before opening outdoor unit service valves. Refer to the outdoor unit instructions for evacuation information.

Braze connection using silver bearing or non-silver bearing brazing materials. Do not use solder materials that melt below 800 °F (427 °C). Consult local code requirements.

**Fig. 2 – Attach Pan to Coil**

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PROCEDURE 3 — CONDENSATE DRAIN

Units are equipped with primary and secondary 3/4" FPT drain connections. It is recommended that PVC fittings be used on the plastic condensate pan. Do not over-tighten. Finger-tighten plus 1-1/2 turns. For proper condensate line installation review Fig. 1 and Fig. 3.

CAUTION

UNIT OR PRODUCT DAMAGE HAZARD

Failure to follow this caution may result in unit or product damage.

BOTH primary and secondary drain lines should be installed and include properly sized condensate traps. Shallow, running traps are inadequate and do not allow proper condensate drainage. Use pipe dope. Do not over-torque. Hand tighten plus 1-1/2 turns.

NOTE: When connecting condensate drain lines, avoid blocking filter access panel, thus preventing filter removal. After connection, prime both primary and secondary condensate traps.

IMPORTANT: The owner of the structure must be informed that when condensate flows from the secondary drain, the unit requires servicing or else water damage will occur.

Optionally, a float switch may be used in lieu of a secondary drain. If so, make sure the float switch is installed so that it will trip before the water exits the weep hole between the drain pans. The float switch may be installed in the primary drain line or inside the pan. If installing in the secondary drain, make sure the float switch is below the exit of the drain.

NOTE: Do not install the float switch at the same level as the secondary drain exit.

Install traps in the condensate lines as close to the coil as possible (Fig. 3). Make sure that the outlet of each trap is below its connection to the condensate pan to prevent condensate from overflowing the drain pan. Prime all traps and test for leaks.

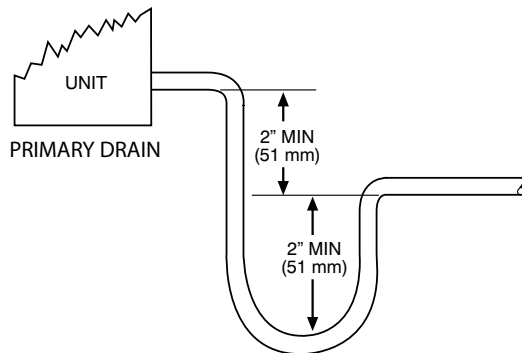


Fig. 3 – Recommended Condensate Trap

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DO NOT USE SHALLOW RUNNING TRAPS!

Fig. 4 – Insufficient Condensate Trap

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Condensate drain lines should be pitched downward at a minimum slope of 1" for every 10 feet of length. Consult local codes for additional restrictions or precautions.

UNIT START-UP

Refer to outdoor unit Installation Instructions for system start-up instructions and refrigerant charging method details. Also refer to the NAVA wiring layout diagrams (Fig. 5, Fig. 6).

CAUTION

UNIT OR PRODUCT DAMAGE HAZARD

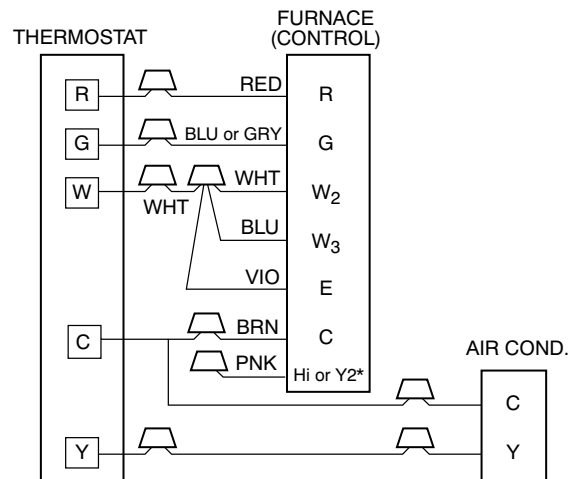
Failure to follow this caution may result in unit or product damage.

Never operate the unit without a filter. Damage to the blower motor or coil may result. For those applications where access to an internal filter is impractical, a field supplied filter must be installed in the return duct system.

CARE AND MAINTENANCE

To continue high performance and minimize possible equipment failure, it is essential that periodic maintenance be performed on this equipment. Consult your local dealer as to the proper frequency of maintenance and the availability of a maintenance contract.

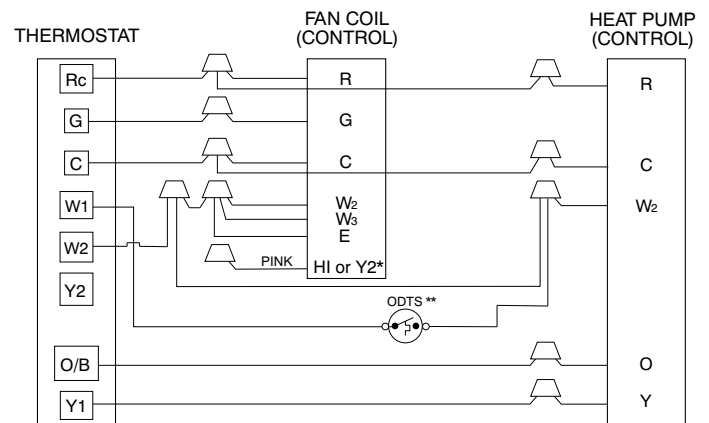
The ability to properly perform maintenance on this equipment requires certain mechanical skills and tools. If you do not possess these, contact your dealer for maintenance. The only consumer service recommended or required is filter replacement or cleaning on a monthly basis.



* A third pink wire may be present on the wiring harness. This is for high-static audit testing (FER) and should not be utilized in the field.

Fig. 5 – Wiring Layout - Air Conditioning Unit (Cooling and 1-Stage Heat)

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* A third pink wire may be present on the wiring harness. This is for high-static audit testing (FER) and should not be utilized in the field.

** Accessory outdoor thermostat

Fig. 6 – Wiring Layout - Heat Pump Unit (Cooling and Heat)

A190355C

Table 4 – Airflow Performance - with Accessory Cooling Coil (CFM)

Model & Size	Blower Speed	Total Static (inches of water column)									
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
FEVA 024	Tap 5	1075	1042	1001	956	911	850	786	748	705	672
	Tap 4	991	954	904	859	801	728	686	648	609	588
	Tap 3	991	954	904	859	801	728	686	648	609	588
	Tap 2	909	864	811	748	680	634	588	545	507	466
	Tap 1	772	722	648	572	519	478	432	385	340	311
FEVA 036 10KW	Tap 5	1457	1431	1404	1376	1345	N/A	N/A	N/A	N/A	N/A
	Tap 4	1377	1349	1320	1291	1261	1226	1186	1142	1099	1048
	Tap 3	1377	1349	1320	1291	1261	1226	1186	1142	1099	1048
	Tap 2	1221	1189	1157	1123	1084	1033	987	933.7	886	848.7
	Tap 1	1044	1008	969.4	916.7	858.2	804.8	755.2	713.6	671.5	634.9
FEVA 036 12 / 15KW	Tap 5	1385	1364	1341	1314	1291	1255	N/A	N/A	N/A	N/A
	Tap 4	1310	1281	1258	1231	1205	1179	1153	1132	1112	1073
	Tap 3	1310	1281	1258	1231	1205	1179	1153	1132	1112	1073
	Tap 2	1160	1133	1104	1075	1050	1023	999	964	899	851
	Tap 1	999	970	936	905	875	831	755	704	672	631
FEVA 048	Tap 5	1876	1839	1804	1765	1726	1688	1645	1602	1547	1467
	Tap 4	1691	1653	1612	1569	1523	1478	1428	1379	1318	1262
	Tap 3	1691	1653	1612	1569	1523	1478	1428	1379	1318	1262
	Tap 2	1509	1465	1416	1367	1313	1260	1199	1142	1082	1035
	Tap 1	1361	1310	1254	1195	1133	1066	999	955	908	856
FEVA 060	Tap 5	2141	2102	2063	2017	1967	1953	1902	1855	1824	1766
	Tap 4	2141	2102	2063	2017	1967	1953	1902	1855	1824	1766
	Tap 3	2141	2102	2063	2017	1967	1953	1902	1855	1824	1766
	Tap 2	1901	1868	1825	1785	1737	1710	1662	1620	1584	1521
	Tap 1	1583	1557	1499	1451	1392	1358	1313	1259	1194	1138

Notes:

1. Airflow based upon dry coil at 230V with factory-approved filter and electric heater; airflow at 208V is approximately the same as 230V because the ECM motor is a constant torque motor. The torque doesn't drop off at the speeds the motor operates.
2. To avoid potential for condensate blowing out of drain pan prior to making drain trap, return static pressure must be less than 0.40 in. wc.
3. Airflow above 400 cfm/ton on 4800 - 6000 size could result in condensate blowing off coil or splashing out of drain pan.