Installation Guide

Accessory Electric Heat

Foundation Packaged Rooftop Units
15 to 25 Tons

BAYHTFB318*
BAYHTFC336*
BAYHTFD336*
BAYHTFC354*
BAYHTFD354*
BAYHTFC372*
BAYHTFD372*
BAYHTFB418*
BAYHTFC436*
BAYHTFD436*
BAYHTFC454*
BAYHTFD454*
BAYHTFC472*
BAYHTFD472*
BAYHTFBW18*
BAYHTFCW36*
BAYHTFDW36*
BAYHTFCW54*
BAYHTFDW54*
BAYHTFCW72*
BAYHTFDW72*
BAYHTFBK18*
BAYHTFCK36*
BAYHTFCK54*
BAYHTFDK18*
BAYHTFDK36*
BAYHTFDK54*
BAYHTFDK72*

⚠ SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

December 2022 **ACC-SVN150G-EN**

Introduction

Read this manual thoroughly before operating or servicing this unit.

Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:

⚠ WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.
NOTICE	Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants-including industry replacements for CFCs and HCFCs such as saturated or unsaturated HFCs and HCFCs.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

⚠ WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury.

All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses FIRE and ELECTROCUTION hazards. To avoid these hazards, you MUST follow requirements for field wiring installation and grounding as described in NEC and your local/state/national electrical codes.

⚠ WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury.

Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, MUST follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- **Before installing/servicing this unit, technicians MUST put on all PPE required for the work being undertaken (Examples; cut resistant gloves/ sleeves, butyl gloves, safety glasses, hard hat/ bump cap, fall protection, electrical PPE and arc flash clothing). ALWAYS refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.**
- **When working with or around hazardous chemicals, ALWAYS refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labelling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.**
- **If there is a risk of energized electrical contact, arc, or flash, technicians MUST put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, PRIOR to servicing the unit. NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

⚠ WARNING

Follow EHS Policies!

Failure to follow instructions below could result in death or serious injury.

- **All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.**
- **Non-Trane personnel should always follow local regulations.**

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Revision History

Model number updates in the General Information and Installation chapter.

Table of Contents

General Information

These instructions cover the installation of accessory electric heat in Cooling Only units. Limit control settings are listed in the following chart.

Table 1. Limit control settings (in Deg. F)

Heater Rated Voltage	Downflow and Horizontal
240	160
460	150
600	150

The following tables show the air temperature rise across the electric heaters:

Table 2. Air temperature rise across electric heaters - cooling - 60Hz

kW	Stages	ECC180 NOM. CFM 6000	ECC210 NOM. CFM 7000	ECC240 NOM. CFM 8000	ECC300 NOM. CFM 9000
18	1	9.5	–	–	–
36	1	19.0	16.3	14.2	12.6
54	2	28.5	24.4	21.3	19.0
72	2	–	32.5	28.5	25.3

Table 3. Air temperature rise across electric heaters - cooling - 50Hz

kW	Stages	EA*180AD NOM. CFM 6000	EA*210AD NOM. CFM 7000	EA*240AD NOM. CFM 8000	EA*300AD NOM. CFM 9000
18	2	9.5	–	–	–
36	2	19.0	20.3	16.3	16.3
54	2	28.5	30.5	24.5	24.5
72	2	37.9	40.6	32.5	32.5

Unit Inspection

To protect against loss due to damage incurred in transit, perform inspection immediately upon receipt of the unit. Check carefully for shipping damage. If any damage is found, report it immediately, and file a claim against the transportation company.

Exterior Inspection

If the job site inspection reveals damage or material shortages, file a claim with the carrier immediately. Specify the type and extent of the damage on the bill of lading before signing. Notify the appropriate sales representative.

Important: *Do not proceed with installation of a damaged unit without sales representative approval.*

- Inspect the complete exterior for signs of shipping damages to unit or packing material.
- Verify that the nameplate data matches the sales order and bill of lading.
- Verify that the unit is properly equipped and there are no material shortages.
- Verify the power supply complies with the unit nameplate specifications.

Inspection for Concealed Damage

Inspect the components for concealed damage as soon as possible after delivery and before it is stored.

If concealed damage is discovered:

- Notify the carrier's terminal of the damage immediately by phone and by mail.
- Concealed damage must be reported within 15 days.
- Request an immediate, joint inspection of the damage with the carrier and consignee.
- Stop unpacking the unit.
- Do not remove damaged material from receiving location.
- Take photos of the damage, if possible.
- The owner must provide reasonable evidence that the damage did not occur after delivery.

Parts List

Table 4. Parts list

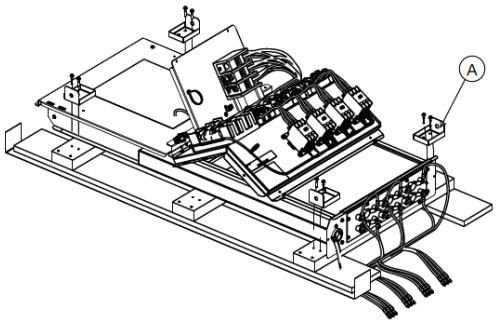
Quantity	Description
1	Heater element assembly
1	Heater control assembly
31	Sheet metal screws (3/4-in.)
4	Screws (1/2-in. with blunt point)
1	Hinged access panel with support pre-assembled
1	Wiring diagram(s)
1	Foam tape
1	Conduit plates (one or more with different size holes)
1	Wire ties (with eye for screw)

Installation

Removing Heater from Packaging

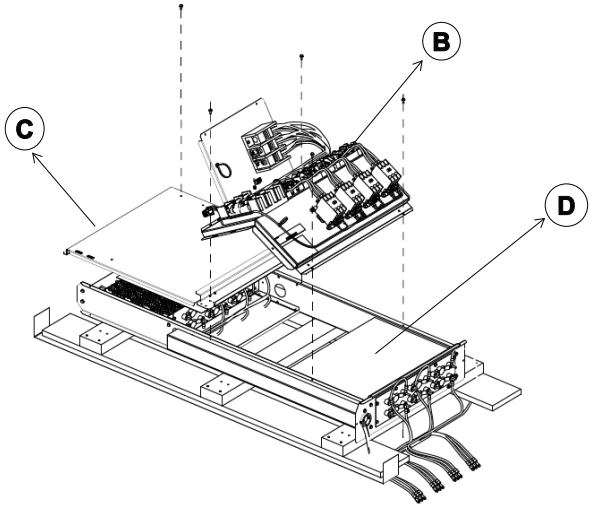
1. Remove all cardboard supports from the box.
2. Unfasten and discard the four L-brackets (A) along with the eight screws holding the heater assembly to the wooden base.

Figure 1. Remove L brackets



3. Remove and discard five screws in order to separate the control panel (B) and the hinged access door (C) from the electric heater, as shown in figure below.

Figure 2. Remove screws and cardboard pad



4. Remove the cardboard pad (D) from the top of the front heater element before installing the heater.

Heater Installation

⚠ WARNING

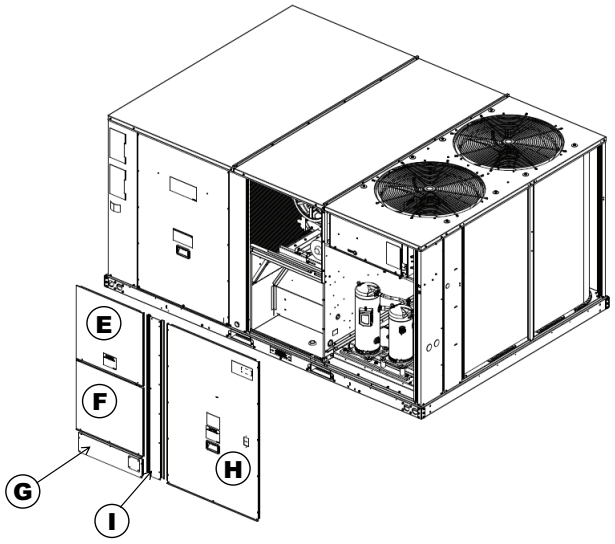
Hazardous Voltage!

Failure to disconnect power before servicing could result in death or serious injury.

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/ tagout procedures to ensure the power can not be inadvertently energized. Verify that no power is present with a voltmeter.

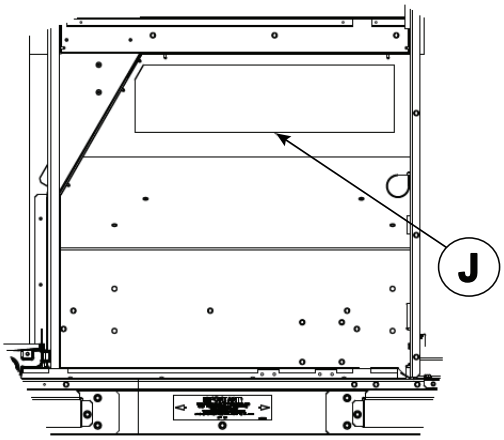
1. Open and lock unit disconnect.
2. Remove indoor fan panel (E), electric heater panel (F), power conduit entry panel (G), compressor access panel (H), and vertical post (I). See figure below.

Figure 3. Remove panels and post



3. Remove the pre-cut piece of insulation (J) located over the removable heater access panel. See figure below.

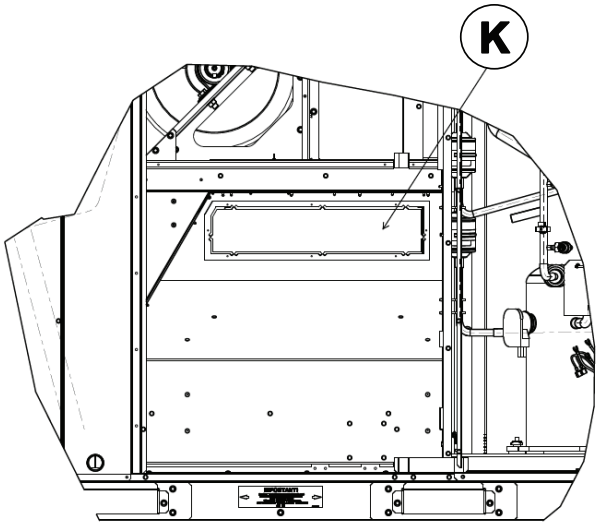
Figure 4. Remove insulation



4. Cut or break tabs around the perimeter of the removable panel (K) exposed in previous step, and discard panel. See figure below.

   Important: *On downflow units, ensure panel does not fall inside unit and into duct work.*

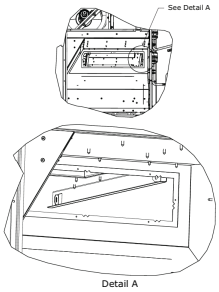
Figure 5. Remove heater access panel



5. Through the opening, locate the bracket attached to the indoor fan panel on top (see figure below). Insert heater at an angle into opening while holding the rear side higher than the front. As heater is inserted through the opening, this insures the heater flanges are above the bracket flanges in the unit. The heater flanges rest on the flanges of the support brackets located inside and to the rear of the area where heater is being installed. Slide heater assembly over the flanges, all the way through.

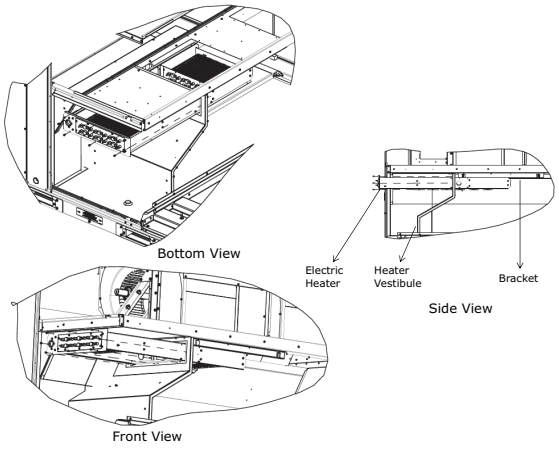
   Note: *Make sure the flange side of the heater back plate is on top.*

Figure 6. Support brackets inside the opening



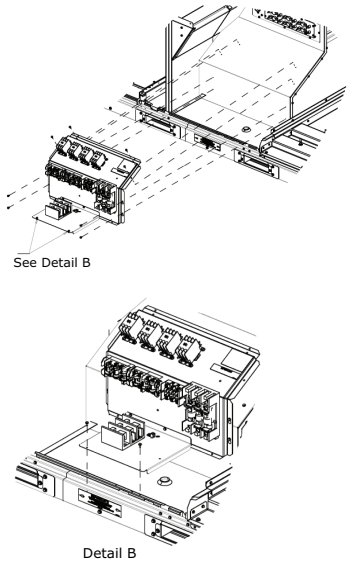
6. Secure heater with ¾-inch sheet metal screws provided in the ship-with packet, shooting through the pre-drilled holes. See figure below.

Figure 7. Slide heater into opening



7. Using the remaining screws, install the heater control assembly on to the vestibule as illustrated below.

Figure 8. Install control assembly



Important: *Use the wiring diagram provided to perform following steps.*

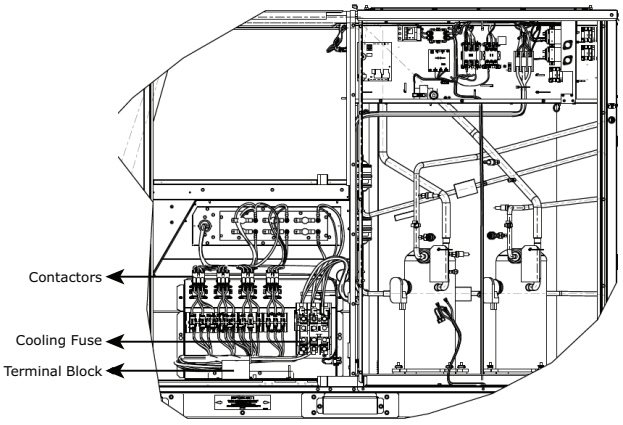
8. Attach the wires hanging from the heater to the corresponding contactors.

   Note: *The heater opening on the left carries power wires from the far heater and will be sealed off for the 18kW model since there is one row of element in the front.*

9. Connect the low voltage plug to the mating plug in the unit control box.
10. Uncoil the power wire harness in the cardboard sleeve provided with the kit. Route and secure the leads, one end to the unit cooling fuse in the heater control panel and the other end to the terminal block in the unit control box.

    Note: *The wires need to be routed through holes provided in the outdoor section partition panel.*

Figure 9. Connect heater control panel

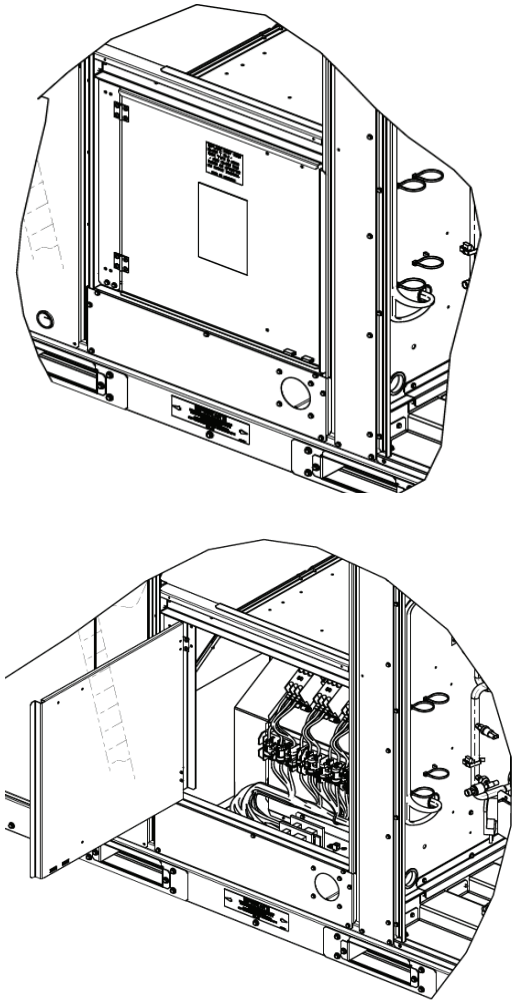


11. Attach the post and the power conduit entry panel back on to the unit. Remove the plate covering the conduit entry opening.

    Note: *There are a number of conduit plates provided. Choose the one with a hole of the correct size for the conduit that will be used..*

12. Apply foam tape around the perimeter of the conduit plate to provide a water tight seal, then connect conduit to the terminal block in the electric heater control panel. Ground unit at grounding lug provided on electric heater control panel assembly.
13. Attach the hinged access door assembly. Position door with outer tab flush against the post. Fasten the door support to the power conduit entry panel on the bottom and the gusset plate on the top rear side of the support. See figure below.

Figure 10. Install hinged access door assembly



14. Replace all the panels removed in step 2.

15. **For Through the Base Electric Connections:**
    Customer conduit connects to the unit disconnect. The power wires from the disconnect are routed under the unit control box, along the outdoor section partition panel and into the electric heater section. These wires need to be connected to the terminal block provided in the electric heater controls assembly.

    Refer to the Installation Instructions provided with the Through the Base Electric Accessory kit for more details.

Table 5. Unit wiring with electric heat (single point connection) - 60Hz

Tons	Unit Model Number	Heater Model Number	Heater kW Rating	Control Stages	Standard Indoor Motor		Oversized Indoor Motor	
					MCA	Max Fuse Size or Max Circuit Breaker	MCA	Max Fuse Size or Max Circuit Breaker[a]
208/230 Volts Three Phase								
15	ECC180A3	BAYHTFB318A	13.5/18	1	79	100	85	110
		BAYHTFC336A	27/36	2	108/122	110/125	115/130	125/150
		BAYHTFC354A	40.5/54	2	155/144	175	162/151	175
17.5	ECC210A3	BAYHTFC336A	27/36	2	115/130	125/150	125/139	125/150
		BAYHTFC354A	40.5/54	2	162/151	175	172/161	175
		BAYHTFC372A	54/72	2	172/195	200/225	181/204	200/225
20	ECC240A3	BAYHTFD336A	27/36	2	115/130	125/150	125/139	125/150
		BAYHTFD354A	40.5/54	2	162/151	175	172/161	175
		BAYHTFD372A	54/72	2	172/195	200/225	181/204	200/225
25	ECC300A3	BAYHTFD336A	27/36	2	133/139	175	140/147	175
		BAYHTFD354A	40.5/54	2	172/161	175	180/169	200/175
		BAYHTFD372A	54/72	2	181/204	200/225	189/212	200/225
460 Volts Three Phase								
15	ECC180A4	BAYHTFB418A	18	1	36	45	39	50
		BAYHTFC436A	36	2	61	70	64	70
		BAYHTFC454A	54	2	72	90	75	90
17.5	ECC210A4	BAYHTFC436A	36	2	64	70	68	70
		BAYHTFC454A	54	2	75	90	79	90
		BAYHTFC472A	72	2	97	110	101	110
20	ECC240F4	BAYHTFD436A	36	2	64	70	68	70
		BAYHTFD454A	54	2	75	90	79	90
		BAYHTFD472A	72	2	97	110	101	110
25	ECC300A4	BAYHTFD436A	36	2	68	70	72	80
		BAYHTFD454A	54	2	79	90	83	90
		BAYHTFD472A	72	2	101	110	105	110
575 Volts Three Phase								
15	ECC180AW	BAYHTFBW18A	18	1	30	35	32	40
		BAYHTFCW36A	36	2	49	50	51	60
		BAYHTFCW54A	54	2	57	70	60	70
17.5	ECC210AW	BAYHTFCW36A	36	2	51	60	55	60
		BAYHTFCW54A	54	2	60	70	64	70
		BAYHTFCW72A	72	2	77	90	81	90
20	ECC240AW	BAYHTFDW36A	36	2	51	60	55	60
		BAYHTFDW54A	54	2	60	70	64	70
		BAYHTFDW72A	72	2	77	90	81	90
25	ECC300AW	BAYHTFDW36A	36	2	55	60	58	60
		BAYHTFDW54A	54	2	64	70	66	70
		BAYHTFDW72A	72	2	81	90	84	90

[a] Values do not include power exhaust accessory.

Table 6. Unit wiring with electric heat (single point connection) - 50Hz

Tons	Unit Model Number	Heater Model Number	Heater kW Rating	Control Stages	Standard Indoor Motor		Oversized Indoor Motor	
					MCA	Max Fuse Size or Max Circuit Breaker	MCA	Max Fuse Size or Max Circuit Breaker[a]
380-415 Volts Three Phase								
15	EAC180AD	BAYHTFBK18A	11.3/13.5	1	42	50	–	–
		BAYHTFCK36A	22.6/26.9	2	50	50	–	–
		BAYHTFCK54A	33.8/40.4	2	71	80	–	–
17.5	EAC210AD	BAYHTFCK36A	22.6/26.9	2	50	70	53	70
		BAYHTFCK54A	33.8/40.4	2	71	80	74	80
		BAYHTFCK72A	45.1/53.8	2	93	100	96	100
20	EAC240AD	BAYHTFDK36A	22.6/26.9	2	62	80	–	–
		BAYHTFDK54A	33.8/40.4	2	74	80	–	–
		BAYHTFDK72A	45.1/53.8	2	96	100	–	–
25	EAC270AD	BAYHTFDK36A	22.6/26.9	2	62	80	–	–
		BAYHTFDK54A	33.8/40.4	2	74	80	–	–
		BAYHTFDK72A	45.1/53.8	2	96	100	–	–

[a] Values do not include power exhaust accessory.

Trane and American Standard create comfortable, energy efficient indoor environments for commercial and residential applications. For more information, please visit trane.com or americanstandardair.com.

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