CP6000

Networked Charging Station

Site Design Guide

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

WARNING:

1. **Read and follow all warnings and instructions before servicing, installing, or operating the ChargePoint® charging station.** Install and operate only as instructed. Failure to do so may lead to death, injury, or property damage, and will void the Limited Warranty.
2. **Only use licensed professionals to install your ChargePoint charging station and adhere to all national and local building codes and standards.** Before installing the ChargePoint charging station, consult with a licensed contractor, such as a licensed electrician, and use a trained installation expert to ensure compliance with local building and electrical codes and standards, climate conditions, safety standards, and all applicable codes and ordinances. Inspect the charging station for proper installation before use.
3. **Always ground the ChargePoint charging station.** Failure to ground the charging station can lead to risk of electrocution or fire. The charging station must be connected to a grounded, metal, permanent wiring system, or an equipment grounding conductor shall be run with circuit conductors and connected to the equipment grounding terminal or lead on the Electric Vehicle Supply Equipment (EVSE). Connections to the EVSE shall comply with all applicable codes and ordinances.
4. **Install the ChargePoint charging station on a concrete pad using a ChargePoint-approved method.** Failure to install on a surface that can support the full weight of the charging station can result in death, personal injury, or property damage. Inspect the charging station for proper installation before use.
5. **This charging station is not suitable for use in Class 1 hazardous locations, such as near flammable, explosive, or combustible vapors or gases.**
6. **Supervise children near this device.**
7. **Do not put fingers into the electric vehicle connector.**
8. **Do not use this product if any cable is frayed, has broken insulation, or shows any other signs of damage.**
9. **Do not use this product if the enclosure or the electric vehicle connector is broken, cracked, open, or shows any other signs of damage.**
10. **Use only copper conductor wire rated for 90 °C (194 °F).**

IMPORTANT: Under no circumstances will compliance with the information in a ChargePoint guide such as this one relieve the user of the responsibility to comply with all applicable codes and safety standards. This document describes approved procedures. If it is not possible to perform the procedures as indicated, contact ChargePoint. **ChargePoint is not responsible for any damages that may result from custom installations or procedures not described in this document or that fail to adhere to ChargePoint recommendations.**

Product Disposal

Do not dispose of as part of unsorted domestic waste. Inquire with local authorities regarding proper disposal. Product materials are recyclable as marked.

Document Accuracy

The specifications and other information in this document were verified to be accurate and complete at the time of its publication. However, due to ongoing product improvement, this information is subject to change at any time without prior notice. For the latest information, see our documentation online at chargepoint.com/guides.

Copyright and Trademarks

Symbols

This guide and product use the following symbols:

DANGER: Risk of electric shock

WARNING: Risk of personal harm or death

CAUTION: Risk of equipment or property damage

IMPORTANT: Crucial step for installation success

Read the manual for instructions

Ground/protective earth

Illustrations Used in This Document

The illustrations used in this document are for demonstration purposes only and may not be an exact representation of the product. However, unless otherwise specified, the underlying instructions are accurate for the product.

Contents

Site Design Guidelines 1

This document describes how to design a project site for the ChargePoint® CP6000 networked charging station for electric vehicles. This includes guidelines and best practices for electrical infrastructure and capacity planning, construction, and concrete work required prior to installation of charging stations and cellular signal requirements.

Note: CP6000 charging stations are available in several configurations. The images in this guide might not match your station exactly; however, the information is applicable unless otherwise noted.

IMPORTANT: Ensure the installation complies with all applicable codes and ordinances.

Access ChargePoint documents at chargepoint.com/guides.

Document	Content	Primary Audiences
Datasheet	Full station specifications	Site designer, installer, and station owner
Site Design Guide	Civil, mechanical, and electrical guidelines to scope and construct the site	Site designer or engineer of record
Concrete Mounting Template Guide	Instructions to embed the charging station template in a concrete pad with anchor bolts and conduit placement	Site construction contractor
Construction Signoff Form	Checklists used by contractors to ensure the site is correctly completed and ready for product installation	Site construction contractor
Installation Guide	Anchoring, wiring, and powering on	Installer
Operation and Maintenance Guide	Operation and preventive maintenance information	Station owner, facility manager, and technician
Service Guide	Component replacement procedures, including optional components	Service technician
Declaration of Conformity	Statement of conformity with directives	Purchasers and public

Initial Site Guidelines

Designing electrical infrastructure to support current and future EV charging demand can help avoid costly upgrades later as EV adoption grows.

Complete an on-site evaluation to determine conduit and wiring requirements from the panel to the proposed parking spaces, as well as to measure cellular signal levels and identify suitable locations for any necessary cellular signal booster equipment.

If you have pre-existing infrastructure or are using your own preferred electrical contractor to prepare your site, a Construction Signoff Form by a ChargePoint Operations and Maintenance (O&M) partner is required to certify compliance with electrical code, and to ensure everything was prepared to ChargePoint specifications.

IMPORTANT: You must be a licensed electrician and complete online training to become a ChargePoint certified installer. If you do not complete training, you cannot access the ChargePoint network to complete installation.

Find online training at: chargepoint.com/installers

If the charging station is not installed by a ChargePoint certified installer, using a ChargePoint approved method, it is not covered under warranty and ChargePoint is not responsible for any malfunctions.

Electrical Requirements

At a minimum, each Level 2 charging station, either single or dual port, requires the following:

- A dedicated single phase electrical circuit from 40 A to 80 A
- A new circuit breaker at the electrical panel
- Conductor wiring and circuit protection sized in accordance with all applicable codes

Consequently, CP6000 charging station with two charge ports typically requires two power input circuits, one circuit per port. There may be situations where both ports share a main single circuit. If power capacity is limited at a site or to reduce costs for electrical infrastructure, consider ChargePoint Power Management options for power sharing at the circuit level, panel level, transformer, or site level.

IMPORTANT: Always check local codes to ensure compliance. You may need to adjust these instructions to comply with codes that apply at your installation location.

Additional Electrical Considerations

- CP6000 charging stations are AC electrical vehicle (EV) supply equipment and are permanently connected to AC networks.
- Evaluate existing electrical infrastructure to determine if the existing utility service and electrical panel capacity is sufficient.

- Ensure appropriate electrical wiring, over current circuit protection, and metering, if required, is in place.
- Identify costs for any necessary upgrades and/or a new dedicated electrical panel.
- ChargePoint recommends using a licensed electrician to evaluate available capacity and identify any upgrades that may be required.
- If a dedicated EV electrical panel is required, choose a panel location in close proximity to the charging stations.
- Determine raceway or conduit runs for electrical wiring from the electrical panel.

Charging Station Placement

To help minimize costs, choose station locations that are as close as possible to the available electrical infrastructure. Selecting these types of locations helps minimize long conduit and wire runs, as well as any trenching work.

WARNING: The ChargePoint charging station must be installed on a level concrete base or a flat wall rated for the weight of the station. Asphalt cannot support the full weight of the station. Failure to install the station on a suitable surface may cause the station to tip over, resulting in death, personal injury, or property damage.

Layout Considerations

- Identify station locations for EV charging spots.
- CP6000 charging stations can be installed either indoors or outdoors.
- They can be mounted on walls or in the ground (pedestal mount).
- CP6000 charging stations do not have an integrated active ventilation system.
- To help minimize costs, choose station locations that are as close as possible to the available electrical infrastructure.
- Consider locations where it will be easy to add future stations.
- Consider how easily drivers can find the stations they need to access.
- Identify suitable locations with smooth, plumb surfaces for wall mount stations or suitable floor surfaces for pedestal mount stations.
- Consider a layout to minimize electrical infrastructure costs to all proposed EV parking spaces.
- Avoid or minimize trenching requirements.
- Comply with regional accessibility laws, regulations, and ordinances. The CP6000 charging station must not block ramps or pathways and the height of the interactive display cannot exceed the maximum height as dictated by local laws.
- For stall parking, ChargePoint recommends using perpendicular parking stalls to better accommodate EVs with front and rear charge ports.

- Use dual-port pedestal mount stations where possible in open areas for adjacent parking or adjoining parking spaces.
- Consider protective bollards and wheel blocks where appropriate, especially for open tandem parking spaces.
- If the charging station has a camera, orient the camera towards the parking space.
- Use professional cellular test equipment to measure cellular signal levels to ensure adequate cellular coverage at the station installation location. To ensure adequate signal strength in underground or enclosed parking structures, cellular repeaters may be required. Use an indoor antenna located near EV parking spaces and an outdoor antenna typically located at the garage entrance ceiling or on the rooftop where cellular signals are best. See Connectivity for more details.
- When the charging stations cannot be placed close enough to the source of power to avoid undesirable line losses, consider increasing the size of the conductors. When the circuit conductors must be larger than 1/0 AWG, you must add a disconnect immediately adjacent to the station and terminate the upsized conductor at the line side lug of the disconnect. Then, connect a short length of 1/0 AWG conductor to the load side lug of the disconnect and the station. Adding disconnects close to the stations is also helpful when the circuit breakers are relatively far away.

Plan for the Future

Consider current EV charging needs and also potential future needs as EV adoption grows.

- Consider running raceway or conduit to all planned EV parking spots and pulling electrical wiring from the panel to meet current needs.
- Consider installing a dedicated electrical panel for EV charging and leveraging ChargePoint Power Management. This efficiently uses available power at a site to support more EV charging ports than would otherwise be possible.

Civil and Mechanical Design 2

Use the guidance below to design the civil and mechanical aspects of the site.

Each charging station can be installed attached to a wall or on a concrete pedestal with a Cable Management Kit (CMK). The pedestal can be mounted on a newly poured pad or an existing concrete surface.

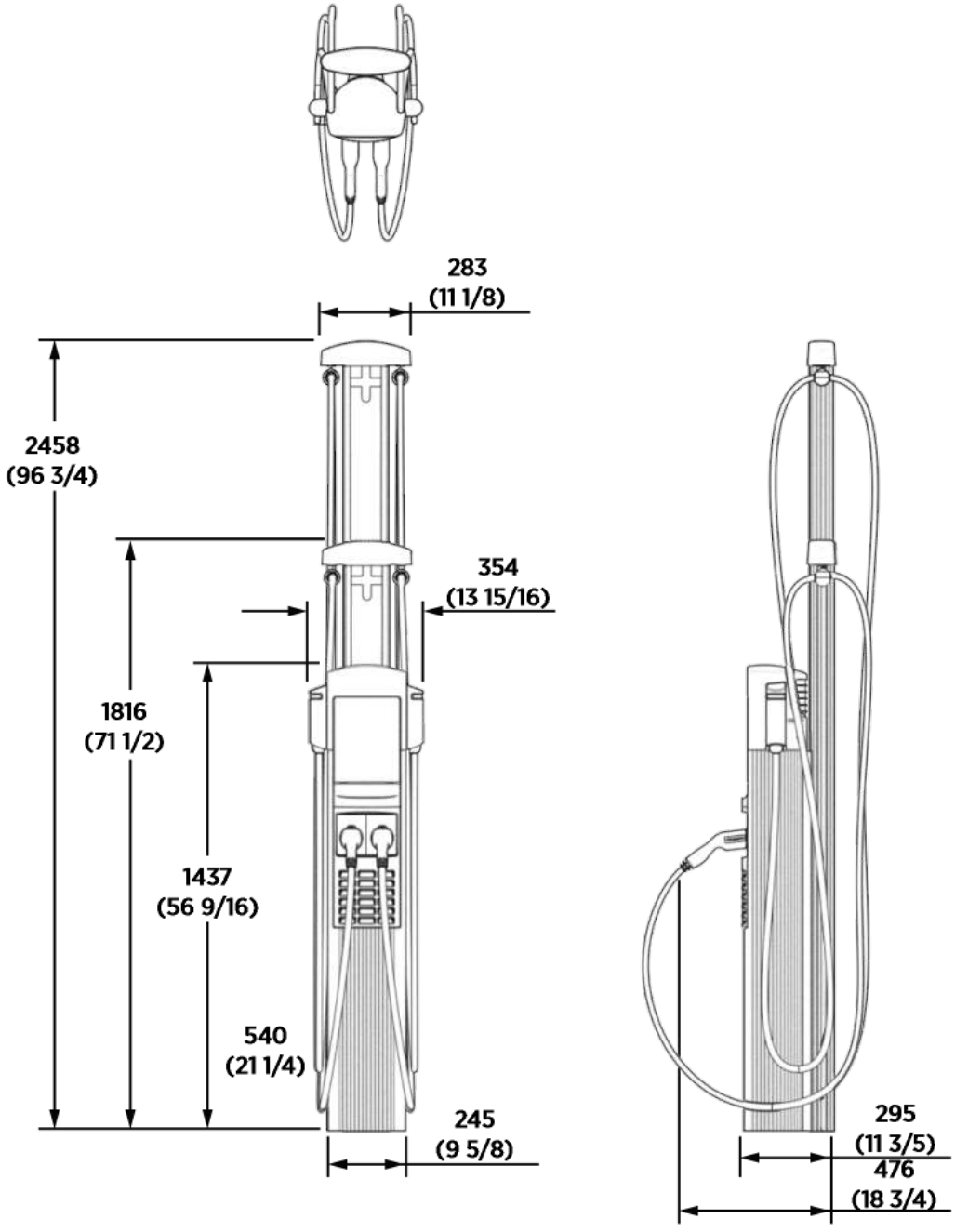
Component Dimensions and Weights

Each CP6000 charging station can be mounted on a pedestal or on a wall with a Cable Management Kit (CMK). The station is a vertical enclosure with the weights and dimensions shown below.

Station Configuration	Approximate Weight
Single port, wall	62 kg (136 lb)
Dual port, wall	68 kg (150 lb)
Single port, pedestal	71 kg (155 lb)
Dual port, pedestal	76 kg (168 lb)

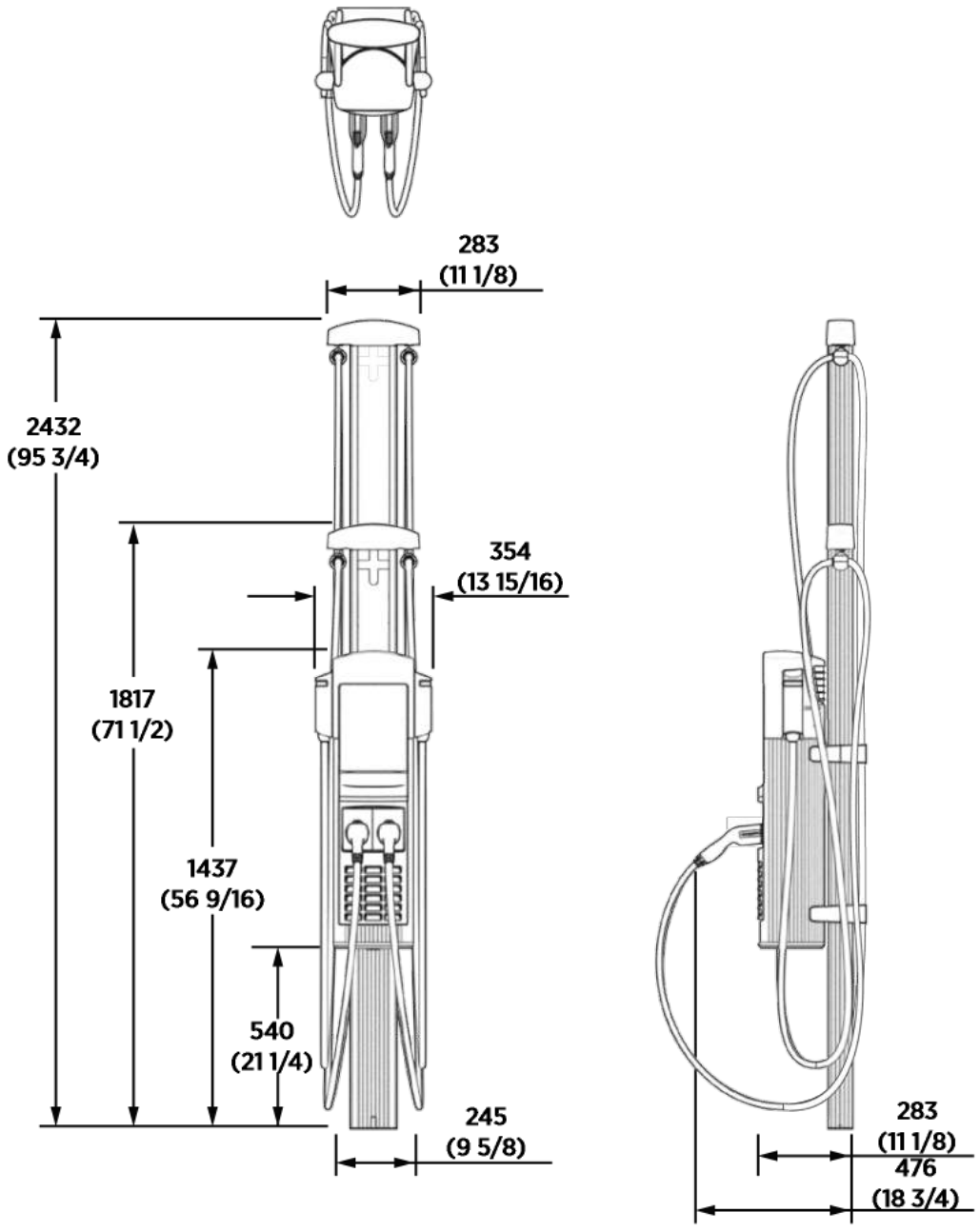
Pedestal Mount With CMK

Note: Images are not to scale. Measurements appear in metric units (mm), followed by imperial equivalents (inches).



Wall Mount With CMK

Note: Images are not to scale. Measurements appear in metric units (mm), followed by imperial equivalents (inches).



Mounting Specifications - Pedestal Mount Stations

IMPORTANT: Use a ChargePoint Concrete Mounting Template (CMT) when installing a new pedestal mount charging station or replacing an existing non-ChargePoint pedestal mount station. You do not need a CMT if you are installing a wall mount charging station or replacing an existing ChargePoint station.

The concrete pad must either be designed to be site-specific or must meet these specifications:

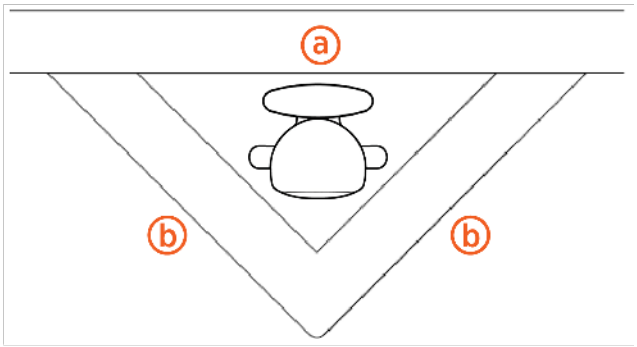
- Must not be installed in asphalt
- Mounting surface must be smooth
- Mounting surface cannot exceed a slope of 6 mm per 300 mm (0.25 in per ft)
- The concrete base must measure at least 600 mm (2 ft) on all sides
- Epoxy anchors can be used (installations in existing concrete)
- No expanding bolts are used
- Consult a civil engineer to ensure sufficient volume and strength of concrete; (installations in existing concrete)

IMPORTANT: If the existing pad does not meet the specifications above, a structural engineer must inspect and approve the pad for CP6000 charging station dimensions and weight.

Pedestal Base Designs

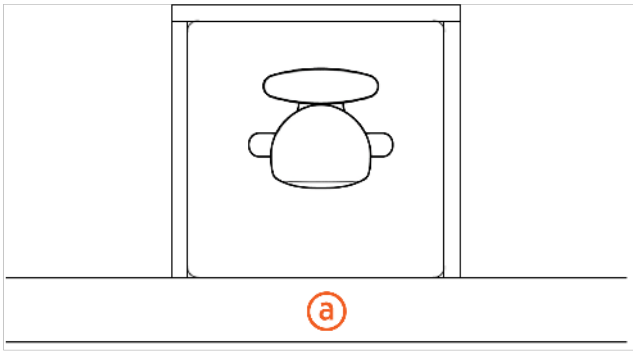
There are three basic pedestal base designs:

- In front of a curb **(a)** - Does not obstruct a pedestrian pathway or disturb landscaping.
  900 mm (3 ft) on each side **(b)**
  Area: 0.42 m^2 (4.5 ft^2)
  Volume: 0.26 m^3 (9 ft^3)



- Behind a curb **(a)** in a planter or berm
  600 mm (2 ft) on each side
  Area: 0.37 m^2 (4 ft^2)
  Volume: 0.23 m^3 (8 ft^3)

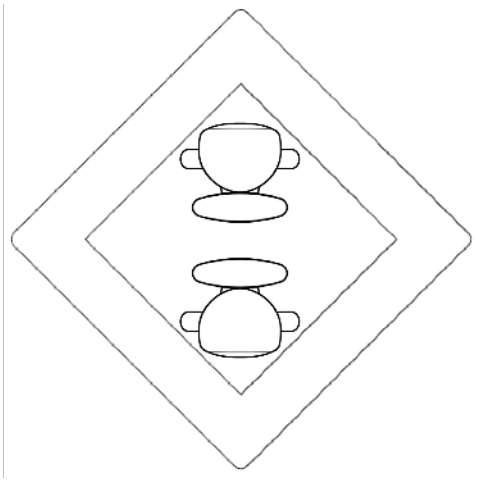
Note: Use a retaining wall as needed to prevent dirt from accumulating on the pad.



- Two stations back to back, centered between four spaces 900 mm (3 ft) on each side

  Area: 0.84 m^2 (9 ft^2)

  Volume: 0.51 m^3 (18 ft^3)

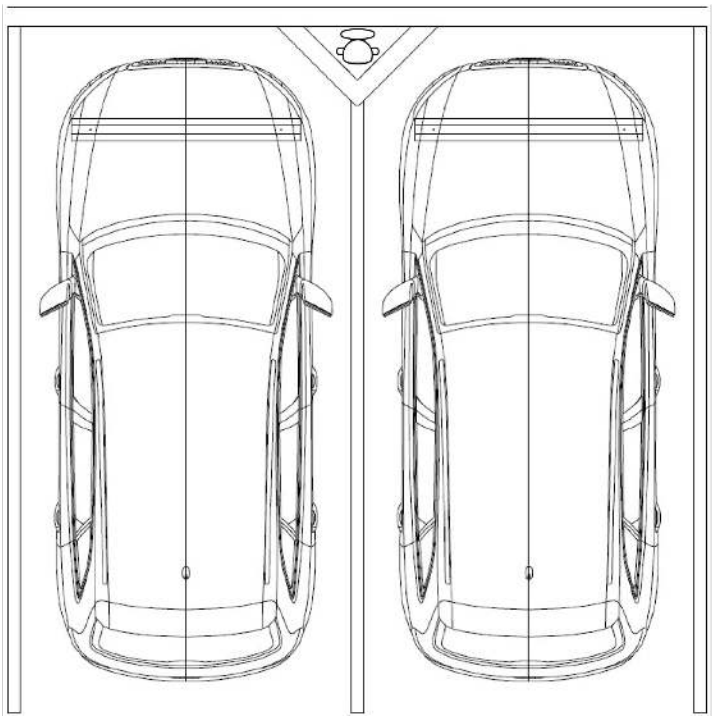


Pedestal Configurations for Different Parking Arrangements

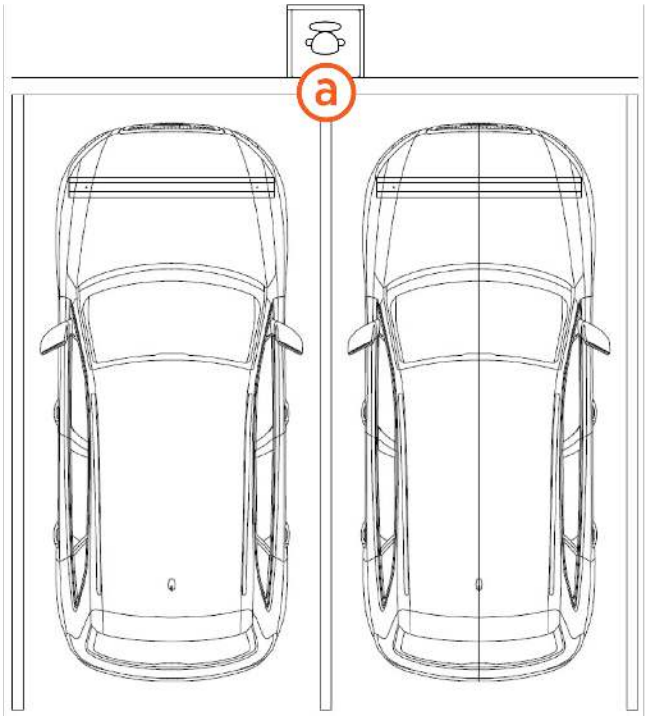
The pedestal base design can be configured in a variety of ways to serve different parking arrangements. Ensure a sufficient volume of concrete to provide anchoring for the charging station.

Note: CP6000 charging stations are available in several configurations. The images in this guide might not match your station exactly; however, the information is applicable unless otherwise noted.

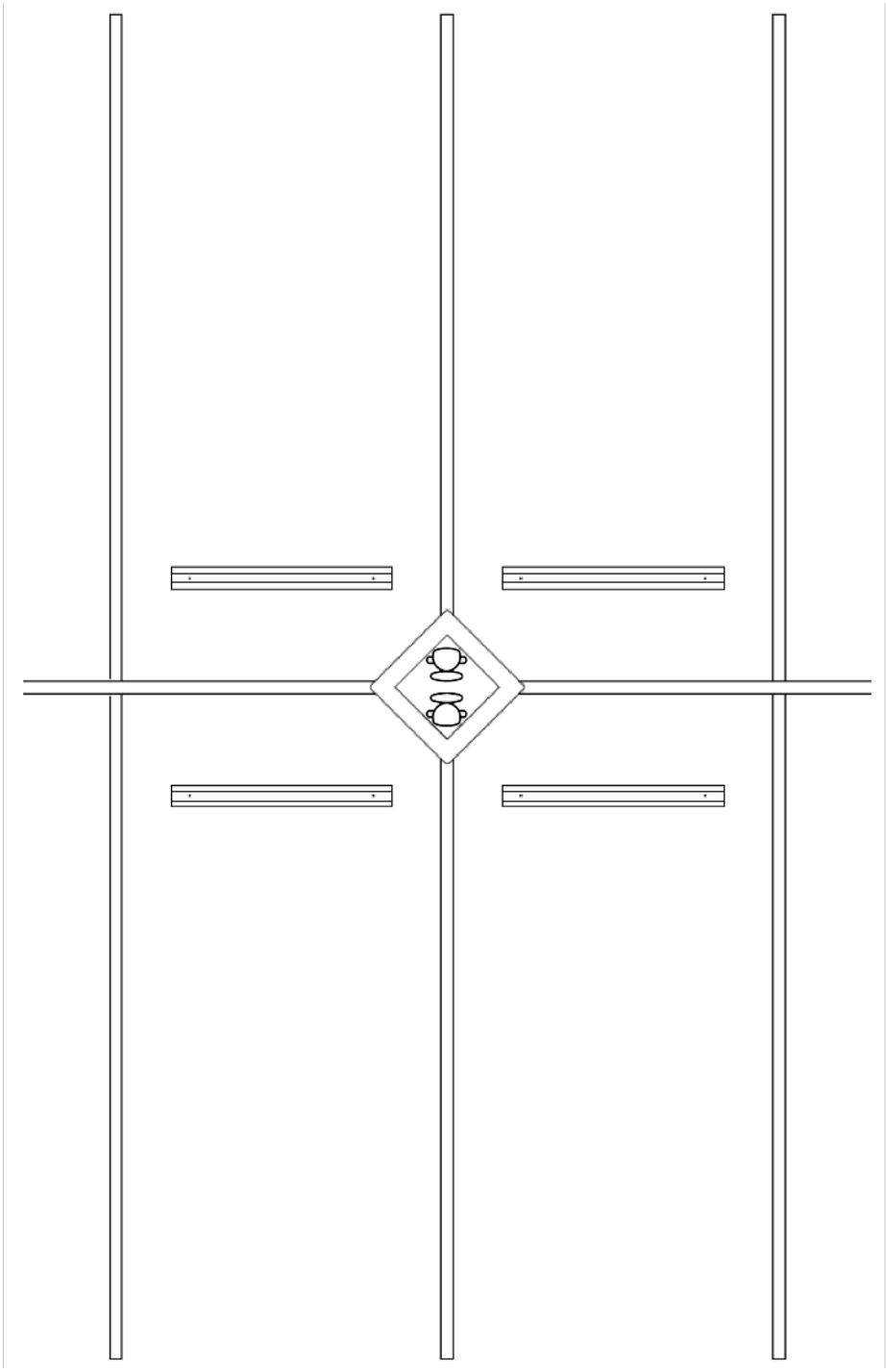
- Place the station against the curb between spaces with wheel stops 900 mm (3 ft) from the front of each stall. The base of the charging station can be flush with the parking spaces or at curb level.



- Place the station in a planter or berm between spaces with wheel stops 900 mm (3 ft) from the front of each stall or the curb **(a)**.



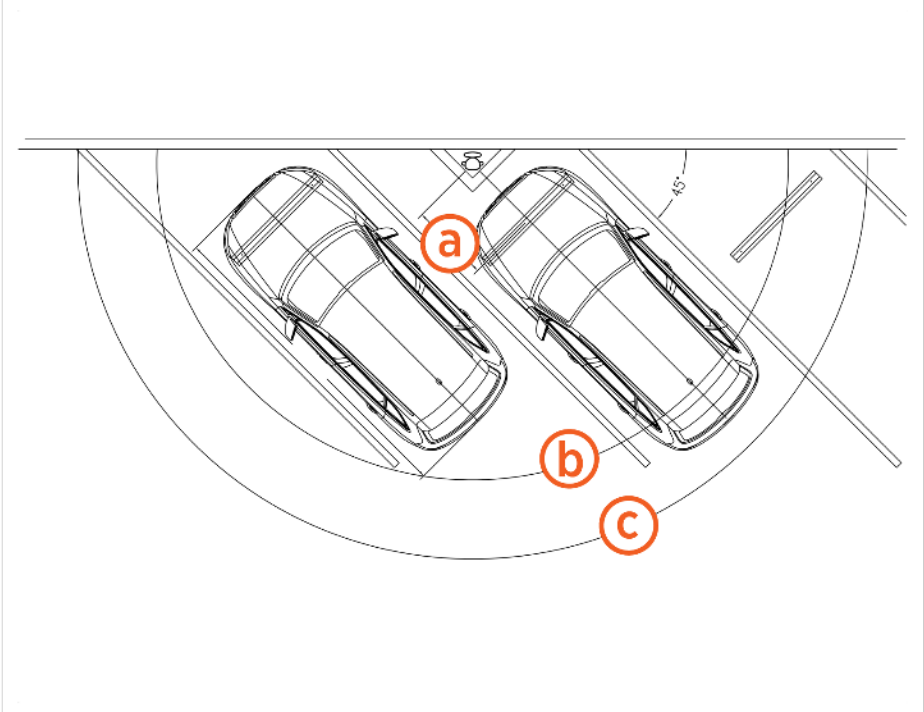
- Place two stations back to back centered on four spaces with wheel stops 900 mm (3 ft) from the front of each stall. The base of the charging station can be flush with the parking spaces or at curb level.



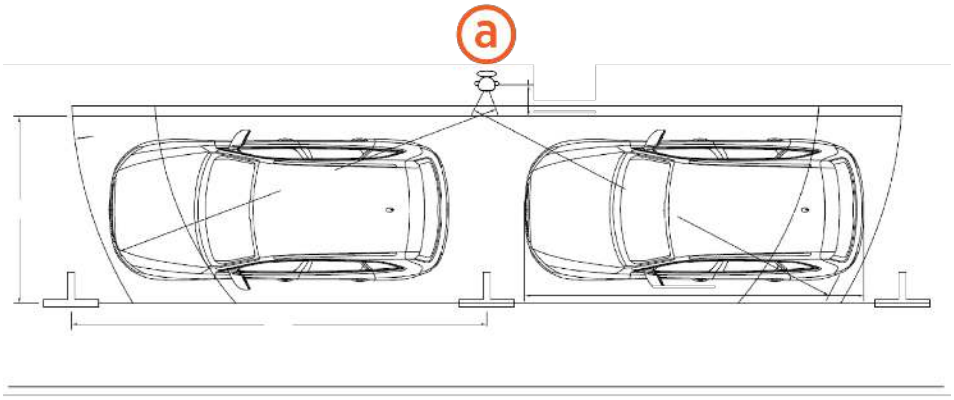
- When placing a dual holster station centered on the right space, the charging cables can reach two vehicles. Place a wheel stop 1220 mm (4 ft) **(a)** from the center of the charging station.

  Note the following details for this arrangement:

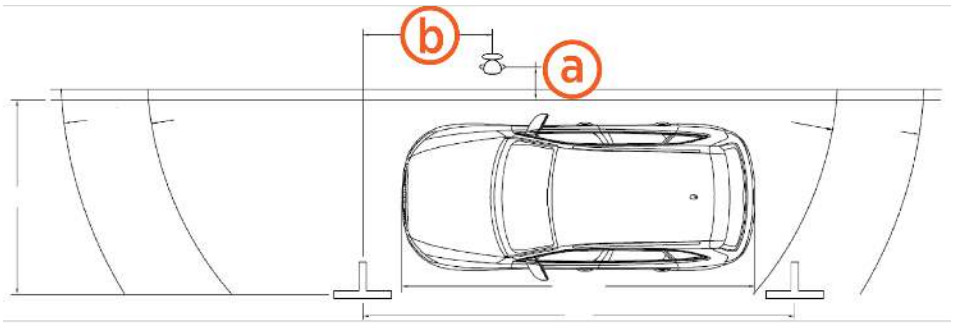
  - The arc shows the usable reach of the two charging cable lengths available: 5.5 m (18 ft) **(b)** and 7 m (23 ft) **(c)**.
  - The 7 m (23 ft) cord option is recommended for this configuration.
  - The base of the charging station can be flush with the parking spaces or at curb level.
  - Be sure to install 'EV Charging Station' signs on both spaces.



- Place a dual holster station centered between two parallel parking spaces, each 6 m (20 ft) long. Place the station **(a)** 450 mm (18 in) from the curb. A 7 m (23 ft) charging cable is recommended.



- Place a single holster station for a single parallel parking space 6 m (20 ft) long. Place the station **(a)** 450 mm (18 in) from the curb, and 1.8 m (6 ft) from the front of the parking space **(b)** This allows the cord to reach any part of the vehicle without blocking the curb side doors.

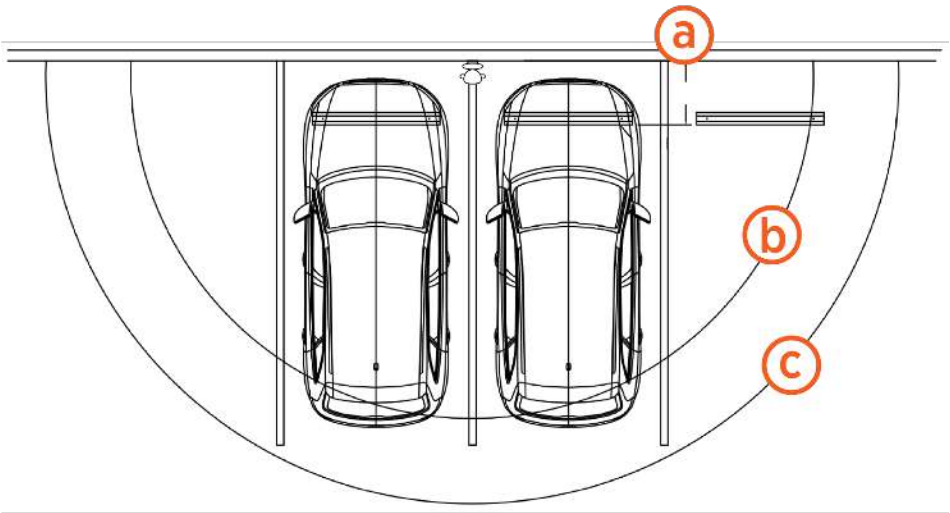


Mounting Specifications - Wall Mount Stations

For wall mounted stations:

- The wall must be smooth, stable, and plumb.
- The minimum height of the wall must be 1160 mm (45.7 in) above a finished floor.
- Place wheel stops 900 mm (3 ft) **(a)** from the wall.
- The arcs show the usable reach of two charging cable lengths available, 5.5 m (18 ft) **(b)** and 7 m (23 ft) **(c)**.

Note: Ensure the space between the wall and the charging station is clear and free of debris.



IMPORTANT: Ensure the wall supports the station. If mounting to a hollow wall, bridge at least two studs using a 41 mm (1 5/8 in) channel strut.

WARNING: If not installed correctly, the ChargePoint charging station may pose a fall hazard, leading to death, personal injury, or property damage. Always use the provided Concrete Mounting Template shown preinstalled here, or a ChargePoint-approved surface mounting solution, to install the ChargePoint charging station. Always install in accordance with applicable codes and standards using licensed professionals. Non approved installation methods are performed at the risk of the contractor and void the Limited One-Year Parts Exchange Warranty.

Drainage

Ensure any slopes, walls, or fencing at the site do not trap water around the charging station installation site. The system is only built to withstand water to the height of the conduit stub-up.

WARNING: Exposing the ChargePoint charging station to water above the height of the conduit stub-up could create an electrocution, shock, or fire hazard. Cut power to the charging station if it has been exposed to standing water and contact ChargePoint before the charging station is powered on.

Clearances

For pedestal installations, the conduit stub-up must be a minimum of 230 mm (9 in) from any obstructions to the rear. This includes other charging stations. Check applicable codes for any additional clearance requirements.

Accessibility

Comply with regional accessibility laws, regulations, and ordinances. The CP6000 charging station must not block ramps or pathways and the height of the interactive display cannot exceed the maximum height as dictated by local laws.

Signage

Refer to local and regional code to design the following elements for the site:

- Any required re-striping of parking spaces
- EV or Accessible EV signs
- EV or Accessible EV paint markings on and around the parking spaces

Electrical Design 3

The CP6000 charging stations are available with a maximum amperage of either 50 A or 80 A.

If the charging station allows a maximum of 50 A, Power Select current options include 16 A, 24 A, 32 A, 40 A, 48 A, and 50 A.

If the charging station allows a maximum of 80 A, Power Select current options include 16 A, 24 A, 32 A, 40 A, 48 A, 50 A, 56 A, 64 A, 72 A, and 80 A.

Power Share allows a dual-port station to share power from a single circuit across two ports, adjusting power depending on whether one or both are charging. Standard wiring uses an independent circuit for each port. Power Share can be used in combination with Power Select.

Refer the CP6000 datasheet at chargepoint.com/guides for information about the following:

- Electrical input
- Electrical output
- Mounting and functional interfaces
- Safety and connectivity features
- Safety and operational ratings

General Wiring Considerations

Ensure that the installation location is equipped with service wiring that supports the charging station's power requirements.

Conduit and wire size are determined based on the length of runs from the electrical panel to the station location. Service wiring must be run through conduit to comply with local electrical codes. Consult national and local codes or a project engineer to determine the grade, quality, and size of the conduit or cable.

Attach the conduit with a listed adapter. Use a sealing method that meets all applicable code requirements.

The CP6000 Concrete Mount Kit accommodates service wiring through the flare, conduit, or locally appropriate wiring method. Visit Pedestal Mount Concrete Preparation for more information.

Note: All wiring and conduit is supplied by the contractor unless otherwise indicated.

For full product specifications, refer to the CP6000 Datasheet.

Wall Mount Considerations

- CP6000 wall mounted charging stations use surface mount wiring.
- When pulling electrical wiring for wall mount stations, the conduit and wire must be brought to the location where the stations will be mounted. Flex conduit is typically used to bring the wire to the station. Wiring is brought in through knock outs in the bottom of the charging station.

Pedestal Mount Considerations

- CP6000 pedestal mounted charging stations typically require service wiring installed underground to enter through the bottom of the station.
- When pulling electrical wiring for CP6000 pedestal mount, ensure at least 1.5 m (5 ft) of wire remains above grade.

Conduit

The outside diameter of conduit must not exceed the sizes called out in the pedestal mounting template: 95 mm (3.74 in). Conduit stub-ups must measure between 152 mm (6 in) and 590 mm (23.25 in) above grade.

Conduit stub-ups must not extend higher than 600 mm above ground level.

Electrical Supply Requirements

Wiring must be sized in accordance with all applicable codes for continuous load devices. The main standard for cable size is based on IEC 60364-5-52:2009 and IEC 60364-5-54:2011. The terminal block accepts stranded or solid conductors up to 1/0 AWG (50 mm^2). The appropriate size depends upon the distance between the electrical panel and the charging station installation site and the maximum current in the circuit.

When planning multiple EV charging stations, it is best practice to separate non-continuous from continuous loads, with all branch circuits for EV charging on a dedicated electrical panel assembly with adequate circuit breakers. When sizing new electrical panels dedicated for EV charging, all branch circuits must support continuous load.

CP6000 charging stations are designed for connection to and operation on rated voltages of 208 V or 240 V (phase to phase) at 60 Hz. Source must have neutral bonded to ground to establish 120 V phase to ground.

CAUTION: CP6000 charging station is rated Over-voltage Category III and includes surge protection for absorbing transient over voltages. CP6000 charging stations are tested to IEC 61000-4-5 (4 kV) standards. In countries where extra Surge Protection Device protection is required, check the national codes for categorization and installation of the equipment.

CAUTION: Use copper conductors only.

Use new circuit breakers only.

Port Capacity	Breaker Rating
80 A /port	100 A breaker per port
48 A/port	60 A breaker per port
40 A/port	50 A breaker per port

Ensure all power and ground connections (especially those at the breaker) are clean, tight, and torqued to specification. Remove all oxide from all conductors and terminals before connecting wiring.

Be aware of these requirements before installing the charging station:

- CP6000 charging stations comply with Class B.
- The CP6000 is Class I grounded equipment and must be grounded.

Consult your electricity grid operator regarding requirements for local regulations. Depending on the desired rated power, the installation of the charging station may require registration with and approval by your electricity grid operator.

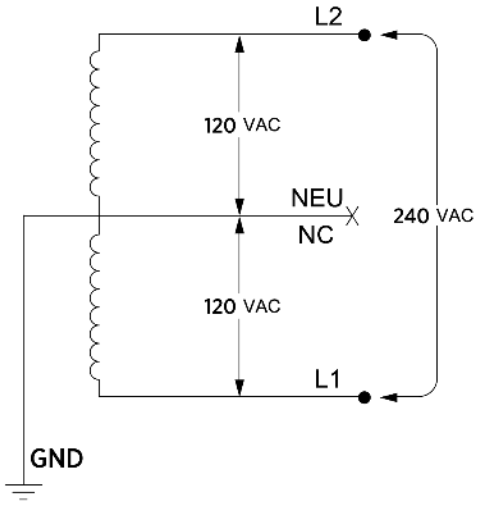
Grounding Requirements

CP6000 charging stations must be connected to a grounded, metal, permanent wiring system. An equipment-grounding conductor must be run with circuit conductors and connected to an equipment-grounding terminal on the charging station.

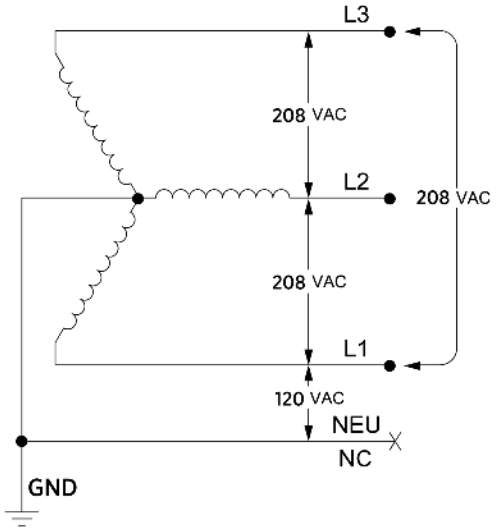
A grounding conductor that complies with applicable codes must be grounded to earth at the service equipment or, when supplied by a separate system, at the supply transformer, or may be grounded to an earth electrode. Ensure the grounding conductor complies with all applicable codes.

Connect To These Systems

- 120/240 V AC, 1Ø Bonded Neutral
  Station is connected to L1 and L2
  Neutral is not used



- 120/208 V AC, 3Ø Wye Bonded Neutral
  Station may be connected to any two lines
  Neutral is not used



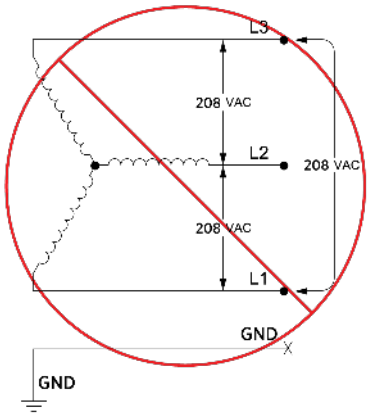
Do Not Connect to These Systems

- 208 V AC 3Ø Wye, ungrounded

  Floating Neutral

  Voltage of either line to ground is undetermined

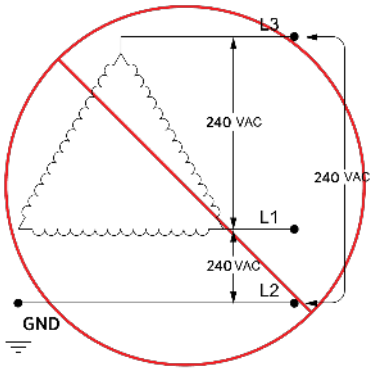
  Neutral is not grounded



- 120/240 V AC 3Ø Delta, corner-grounded

  Voltage of any line is not 120 V nominal relative to ground

- Any system where the center point of the AC power source is not grounded.



Connectivity 4

A consistently strong cellular signal is needed before installers can activate the vehicle charging station. Weak or sporadic signal can affect crucial aspects of the charging station, including:

- Accuracy in reporting
- Ability for drivers to use the mobile app
- Ability for customer support to troubleshoot problems
- Support for advanced features such as Power Management or Waitlist

A strong signal is also required for the ChargePoint Assure maintenance and management programs.

ChargePoint stations use cellular data connections to reach ChargePoint Cloud Services. This allows secure, PCI-compliant data connections without requiring any other form of internet connectivity at an install site or imposing additional network management responsibilities on a site host.

Each station has its own cellular connection.

Signal Strength and Quality

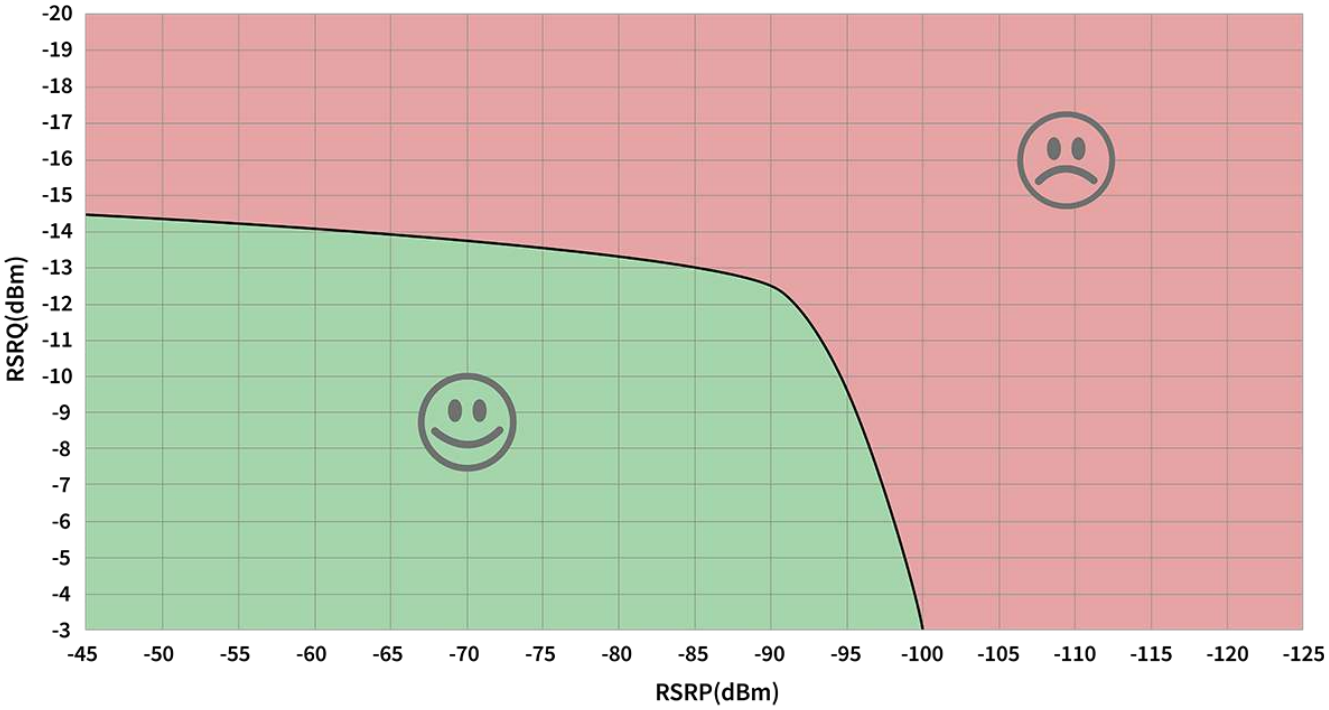
You must use a cellular signal detection device (such as a Siretta Snyper LTE or equivalent) to take signal strength readings at the exact proposed mounting location of the charging station. If the charging station does not have its own cellular connection, take the signal strength reading at the proposed mounting location of the gateway station.

In North America, ChargePoint products all support LTE bands 2, 4, and 5. The most commonly supported carriers to check during site evaluation are:

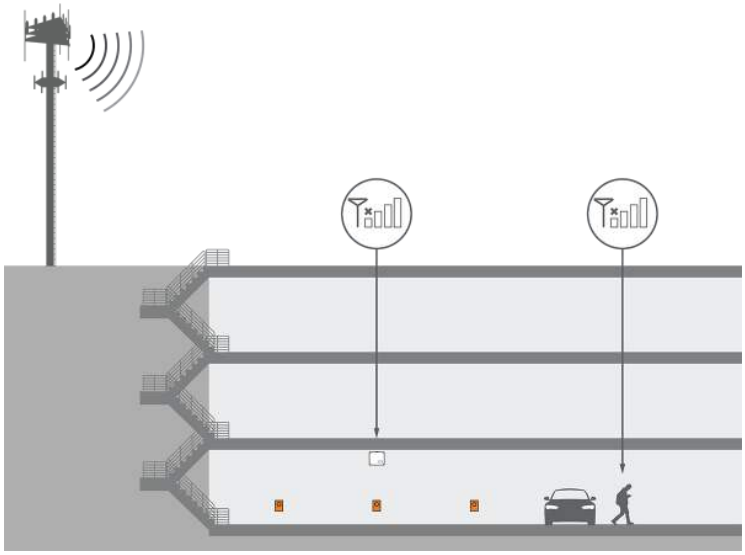
- US: AT&T, T-Mobile, and Verizon
- Canada: Rogers, Telus, and Bell

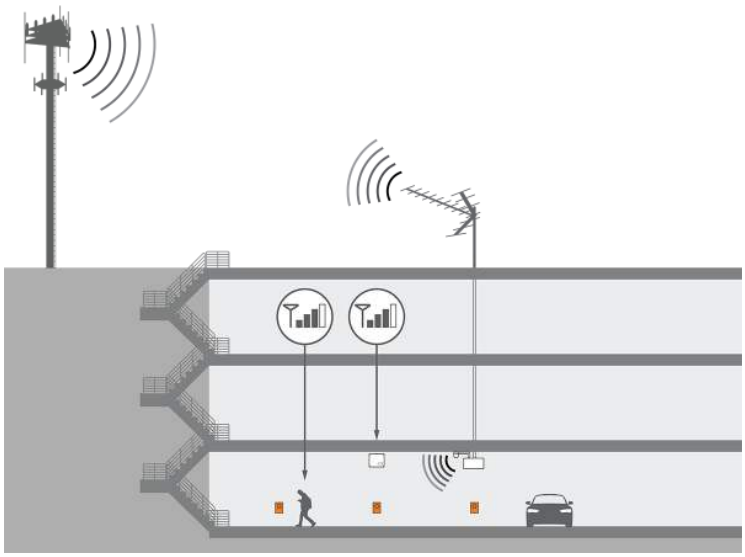
You must test the LTE signal strength at the proposed mounting location of every gateway station and ensure the location meets the minimum RSRQ at -12.5 dB or better, for RSRP measured at -90 dBm or better. Refer to the graph for acceptable combinations.

Note: These numbers are all negative, so -70 dBm is stronger than -85 dBm, and -90 dBm is weaker.



If the signal strength is weaker than this, take cellular readings at the location where any cellular signal booster antennas will be installed. Ensure enough signal exists for that repeater model. Install repeaters to boost the strength of the cellular signals. Repeaters are often required when installing charging stations in an underground garage or enclosed parking structure.





For other regions, or if the site does not have strong signal on these bands, contact your ChargePoint representative for additional solutions.

ChargePoint strongly recommends a consultation with a cellular connectivity specialist before all installations. A consultation can verify:

- Service with a supported carrier on a supported LTE band
- Available signal and local noise levels on applicable bands
- Site changes to correctly meet your needs, both for station bandwidth and other phone coverage for customer or tenant satisfaction

Repeaters

Some sites require repeaters to ensure strong signal to all stations. If a repeater is required, look for a model with these features:

- Specifically LTE compatible on the listed bands
- Multi-carrier
- Multi-band
- Not already dedicated to FirstNet or other first responder-specific networks
- Auto-gain recommended

Note: Do not rely on readings taken with a cell phone when conducting site surveys. Many signal boosters and network extenders may not be compatible with ChargePoint hardware, including certain types of Distributed Antenna Systems (DAS), micro/nano/pico/femto-cells, and carrier- or band-specific signal boosters.

Pedestal Mount Concrete Preparation 5

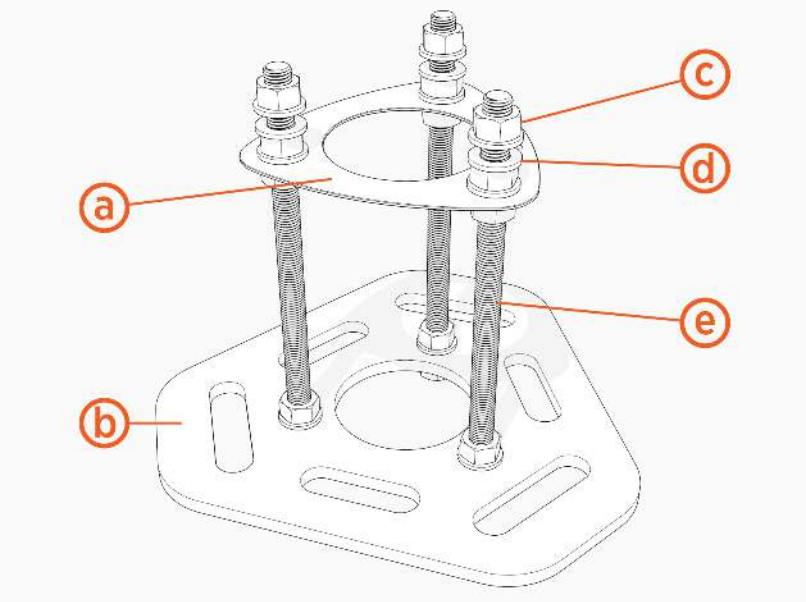
Concrete Mounting Template

You must use a ChargePoint Concrete Mounting Template (CMT) when installing a new pedestal mount charging station or replacing an existing non-ChargePoint pedestal mount station.

Use a CMT when installing charging stations on existing concrete (on an intermediate floor only).

You must order the CP6000 CMT separately, with sufficient lead time before site construction. This kit ships separately from the ChargePoint CP6000 charging station.

a. Upper template
b. Lower template
c. Nuts (x 15)
d. Washers (x 18)
e. Anchor bolts (x 3)



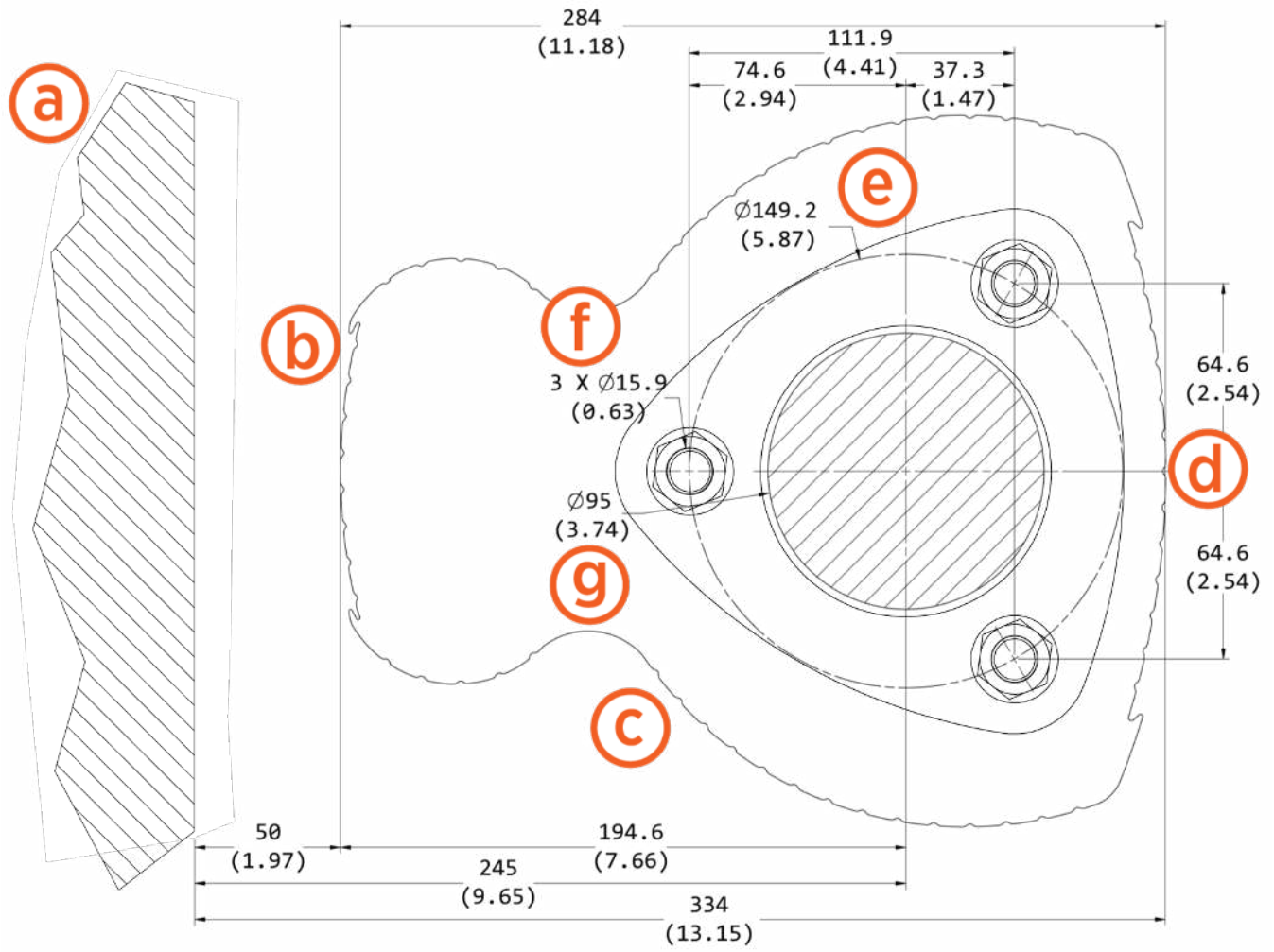
Note: You do not need a CMT if you are installing a wall mount charging station or replacing an existing ChargePoint station.

The Concrete Mounting Template kit components you need to use, the tools required, and the installation steps vary depending on the type of installation: new concrete or existing concrete.

WARNING: Do not use expanding anchor bolts. Do not install the CP6000 on an asphalt surface.

CMT - Pedestal Mount With CMK

Note: Images are not to scale. Measurements appear in metric units (mm), followed by imperial equivalents (inches).



a. Wall
b. CMK footprint
c. Pedestal footprint
d. Front
e. Bolt circle
f. Bolt or anchor
g. Conduit stub-up within this area (new concrete only)

Tools and Materials

In addition to the CP6000 Concrete Mounting Template kit, the site construction team needs:

- Digging tools (shovel, spade, etc.)
- Materials to prepare the form for pouring concrete
- Concrete as specified by site drawings
- Rebar as specified by site drawings
- 24 mm (1 in) wrench
- Level
- Cut-resistant gloves
- Drill or hydraulic hole punch (if using armored cable)
- Conduit, ducting, or armored cable in the amounts and types specified by site drawings, that complies with local code (see the rest of this document for conduit sizes and routing)

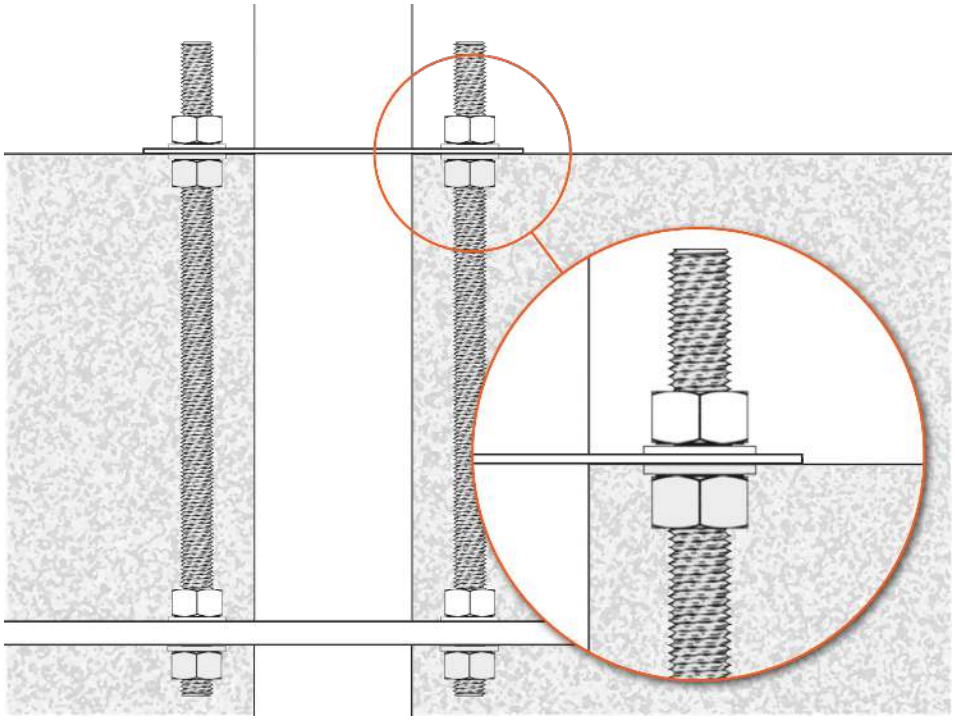
Installation into New Concrete

WARNING: Failure to install the ChargePoint CP6000 in accordance with these instructions and all local building practices, climate conditions, safety standards, and all applicable codes and ordinances may lead to risk of death, injury, or property damage, and will void the Limited One-Year Parts Exchange Warranty.

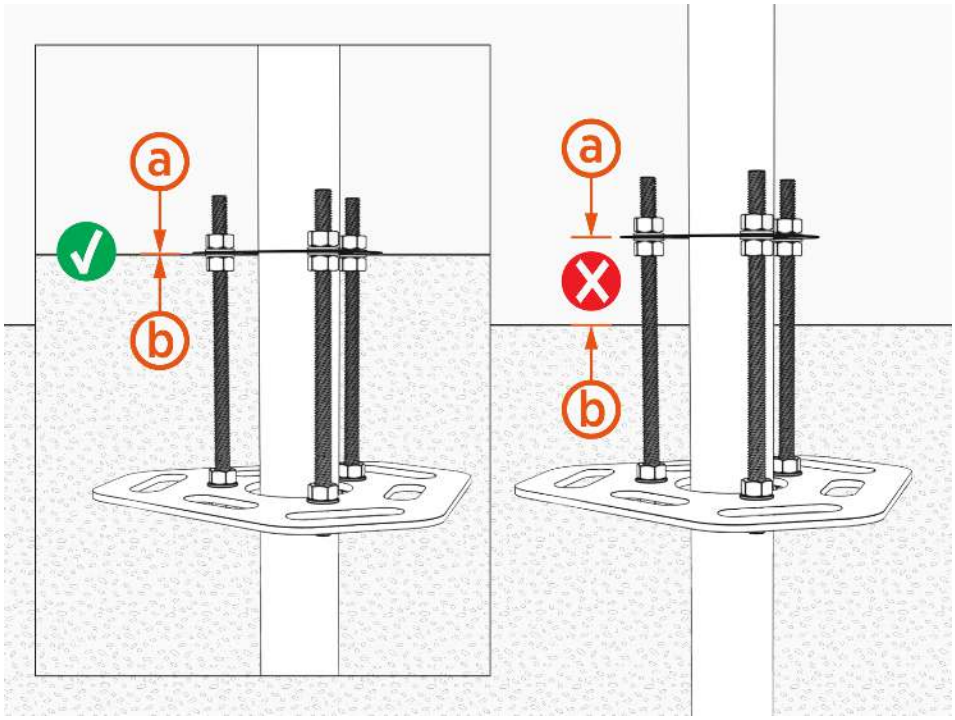
1. Trench and excavate an opening to accommodate the wiring conduit and the concrete mounting pad that meets local codes and requirements, per site drawings.
2. Run conduit to each station as needed. If the station needs wired Ethernet access, run Ethernet conduit.
3. Build the form and lay rebar for the foundation.
    - The concrete block must measure at least 600 mm (24 in) on all sides.
    - The conduit stub-up needs to measure between 152 mm (6 in) and 590 mm (23.2 in) above the concrete surface

    IMPORTANT: It is critical that the conduits are positioned properly and plumb. The tolerance where the conduits enter the station is 2 mm (1/16 in).
4. Align the CP6000 CMT over the conduit stub-ups with the two bolts facing forward and the third bolt to the rear.

5. Slide the CP6000 CMT over the conduit stub-ups until the top surface of the template is level with the top surface of the concrete when poured.

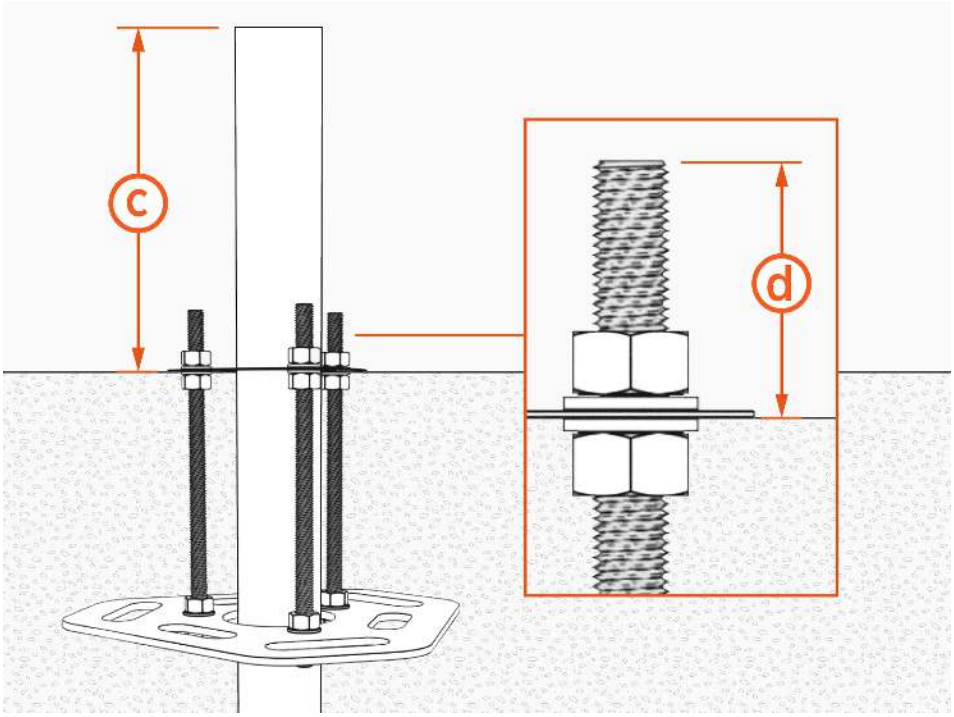


The bottom of the upper template **(a)** must align with the surface of the concrete **(b)**.

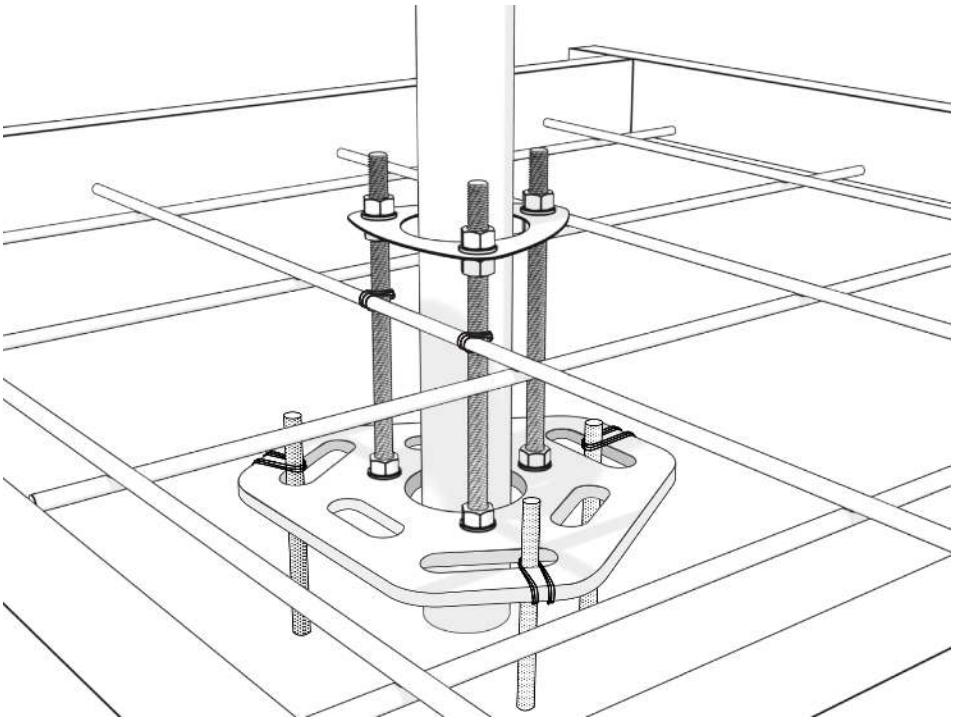


6. Ensure the conduits are plumb.

7. Use a level to check that the CP6000 CMT is level from front to back and from side to side.
8. Conduit height **(c)** must be between 152 mm (6 in) and 590 (23-1/4 in). Each bolt **(d)** must extend between 60 mm (2-1/2 in) and 100 mm (4 in) above the concrete surface.



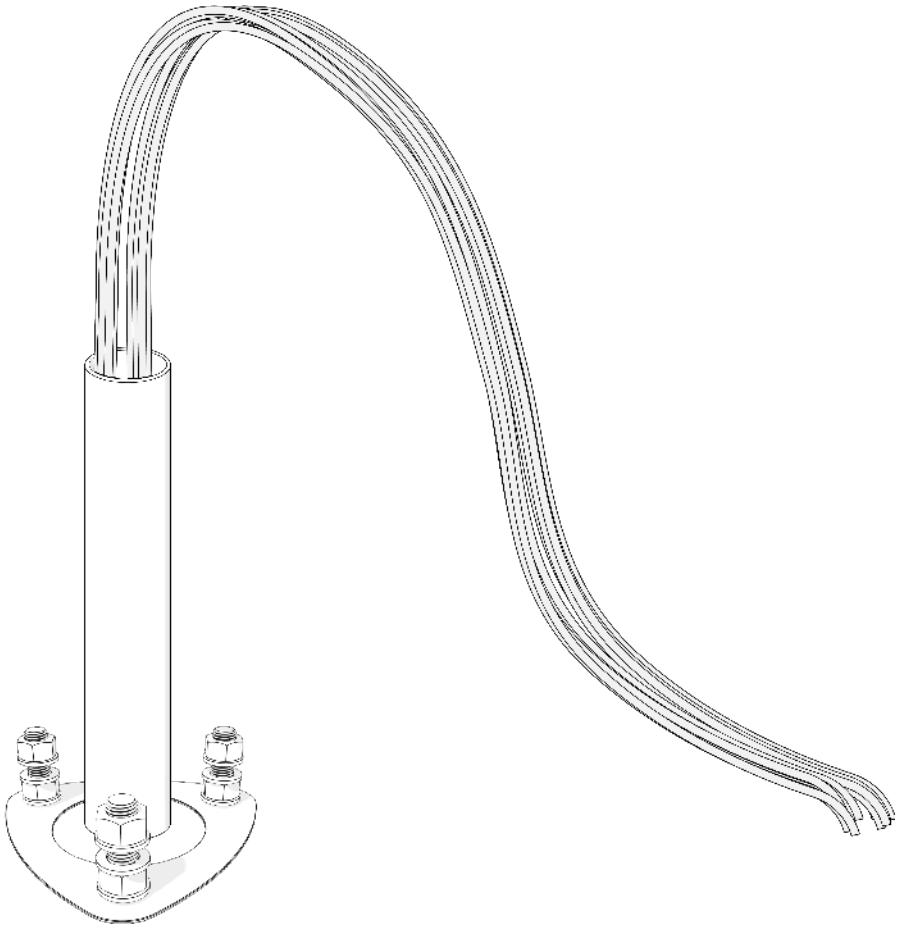
9. Before pouring concrete, tie the CP6000 CMT to rebar to help hold it in place.



IMPORTANT: The CP6000 CMT and the conduit must be secured in place to prevent them from moving out of position while the concrete is poured and curing.

10. Pour the concrete.

    Note: Make sure the concrete surface between the conduits is completely level and free of any irregularities.



11. Refer to the measurements in this guide and ensure the anchor rod locations are correct before the concrete is dry.
12. Use a level to ensure the bolts are plumb.

You are now ready to install the CP6000 pedestal mount charging station.

Install on Existing Concrete

IMPORTANT: Always check local codes to ensure compliance. You may need to adjust these instructions to comply with codes that apply at your installation location.

Review the CP6000 Site Design Guide and ensure that the dimensions of the existing concrete slab meet the requirements.

If you are installing a Cable Management Kit (CMK), make sure there is adequate clearance behind the power stub-up for the CMK.

To safely mount a CP6000 charging station, the concrete must be at least 150 mm (6 in) thick. At this thickness, all of the CP6000 mounting bolts must be positioned as follows:

- At least 380 mm (15 in) from the front edge
- At least 300 mm (12 in) from the side edges
- At least 150 mm (6 in) from the rear edge of the concrete slab

IMPORTANT: If the existing pad does not meet the specifications above, a structural engineer must inspect and approve the pad for CP6000 charging station dimensions and weight.

Replace an Existing Charging Station

If you are replacing a CPF50 charging station, contact ChargePoint to order a CPF50 Adapter Kit.

If an existing charging station (from a manufacturer other than ChargePoint) is already in place at the installation site, complete these tasks:

- Turn off all power to the station and disassemble according to the original manufacturer's instructions.
- Cut away any existing bolts or non-power conduit stub-up to ground level.
- You may need to plug cut-away conduits at the slab end and disconnect wiring at the other end.

IMPORTANT: If existing conduit stub-up diameter is greater than 32 mm (1-1/4 in), you must remove the concrete and replace it.

Tools Required

Electric hammer drill with 12 mm (1/2 in) or larger chuck.

Consumables Required

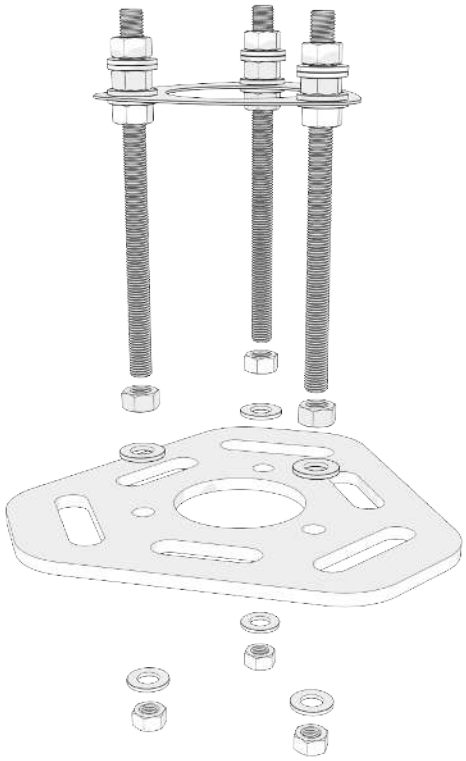
The following table lists and describes consumable items that you will need. The quantity listed in the table is based on installation of one charging station.

Note: The consumption rate of these products varies depending on conditions at the installation site.

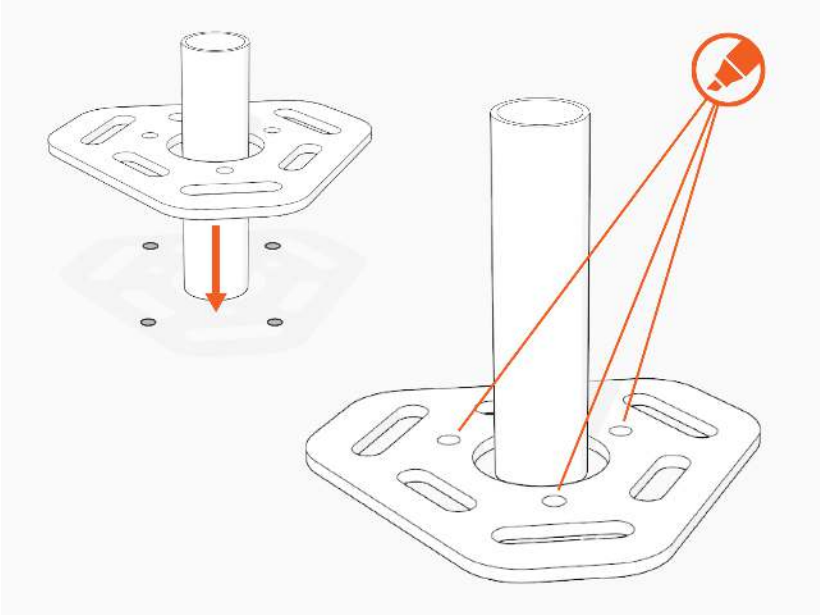
Quantity	Description	Purpose
1	Epoxy adhesive for concrete such as Hilti RE-500	Fill drilled holes.
1	Electrical cleaning and maintenance aerosol, any angle spray duster, 235 ml (8 oz)	Clean drilled holes. Note: Compressed air will work.
1	Slow spiral round-shank masonry drill bit • 19 mm (3/4 in) diameter • 12.5 mm (1/2 in) shank • 254 mm (10 in) drill depth • 305 mm (12 in) length overall	Drill 19 mm (3/4 in) holes in concrete. Note: The holes must be at least 150 mm (6 in) deep.
1	Drill bit for concrete embedded rebar, round • 19 mm (3/4 in) bit size • 12.5 mm (1/2 in) shank diameter • 305 mm (12 in) length overall	Drill 19 mm (3/4 in) hole through rebar.
1	Nylon loop handle brush • 19 mm (3/4 in) brush diameter • 75 mm (3 in) length brush • 216 mm (8 1/2 in) length overall	Clean drilled holes.
1	Push-on round cap, fits 16 mm (5/8 in) - 17.5 mm (11/16 in) OD, 12.7 mm (1/2 in) inside height, pack of 100	Keeps the epoxy inside the drilled holes in situations where the slab is only 150 mm (6 in) deep.

Installation Instructions

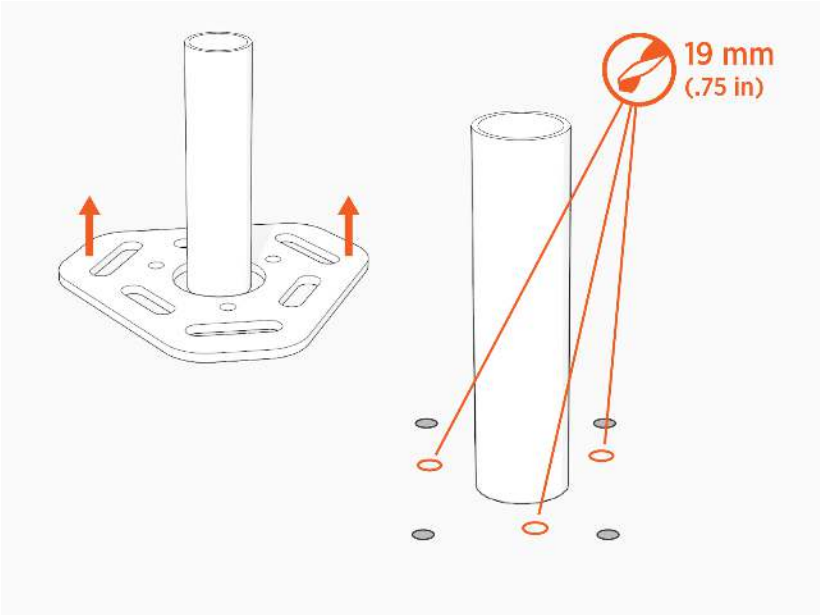
1. Remove the lower template and all nuts and washers from below the upper template.



2. Place the lower template on the concrete and mark the hole locations.
    - When placing the template, consider the charging station's total footprint.
    - If installing over an existing conduit stub-up or armored cable, position the center of the template around that stub-up / cable.



3. Remove the template and drill three 19 mm (0.75 in) diameter holes 250 mm (9.85 in) deep into the concrete.
    - You may need two drill bits: one for the concrete (with the pilot) and another for the rebar (without the pilot). Always start the hole using the standard drill bit, and then switch to the rebar drill bit only if drilling through rebar.



4. Remove all dust from inside the drilled holes using compressed air, a vacuum, or a brush.
5. Remove the bolts from the upper template.
6. Fill each hole with epoxy to about 65 to 75 mm (2.5 to 3 in) below the top of the hole. Continue immediately to the next step because the epoxy sets quickly.

   Note: Inserting the threaded bolts displaces the epoxy, causing it to fill the holes to the grade level. If the epoxy is below grade level after the next step, add more epoxy.

7. Place the upper template over the holes.
8. Insert the bolts through the upper template into the holes.

   IMPORTANT: Rotate the bolts as you insert them. This allows the epoxy to fully coat the threads of the bolts, reducing the amount of trapped air.

   Note: Leave the upper template in place.
9. Use a bubble level to ensure the bolts are plumb.
10. Allow the epoxy to cure (depending on cure times recommended by the epoxy manufacturer).

You are now ready to install the CP6000 pedestal mount charging station.

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