Base for the self-service terminals

Outdoor and indoor terminals can either be installed on an existing foundation or on a newly created one. This is the responsibility of the client, who has to carry out the installation in accordance with the technical and static specifications of the supplier commissioned by PC CADDIE.

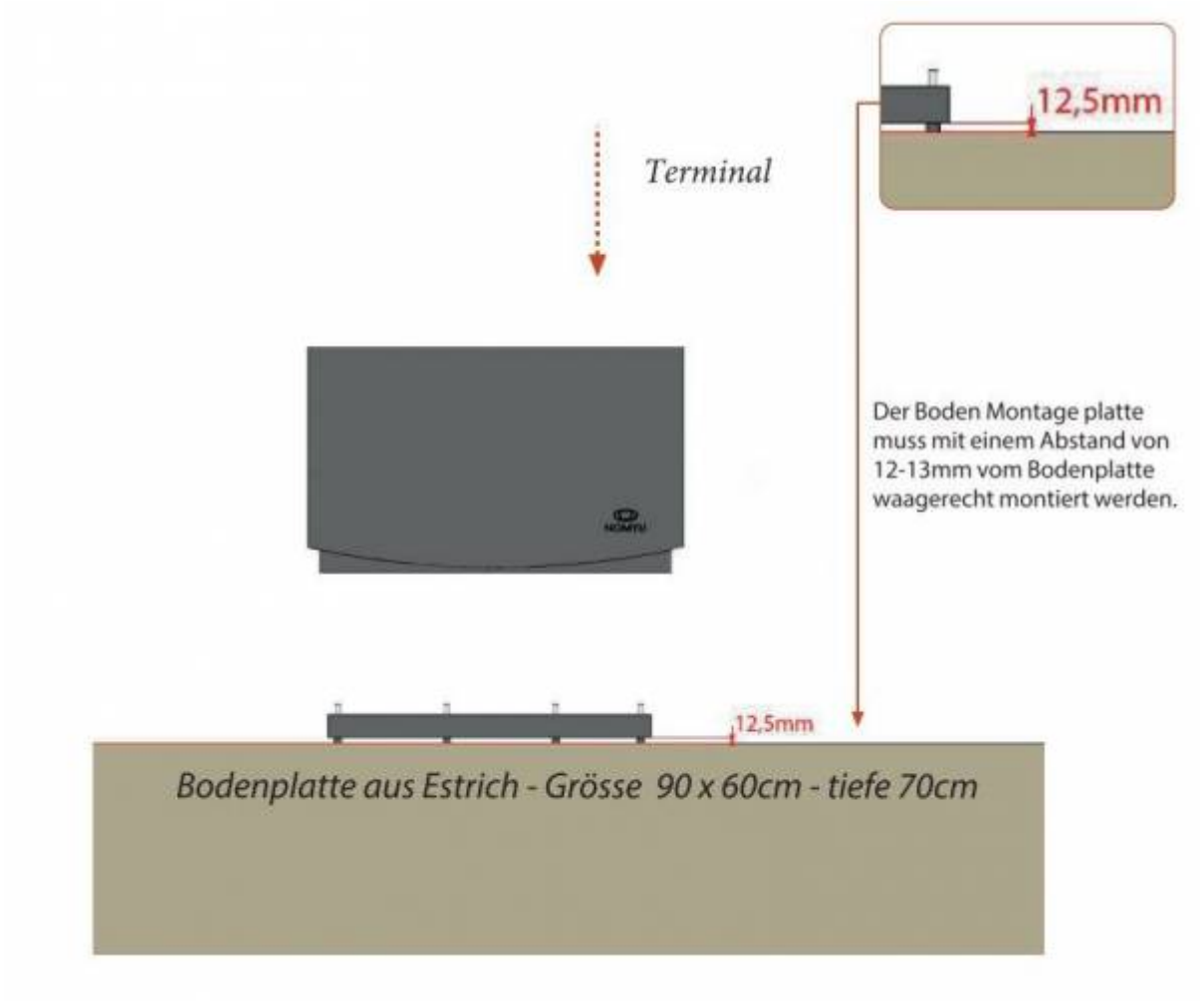
(New-) base with a floor mounting plate

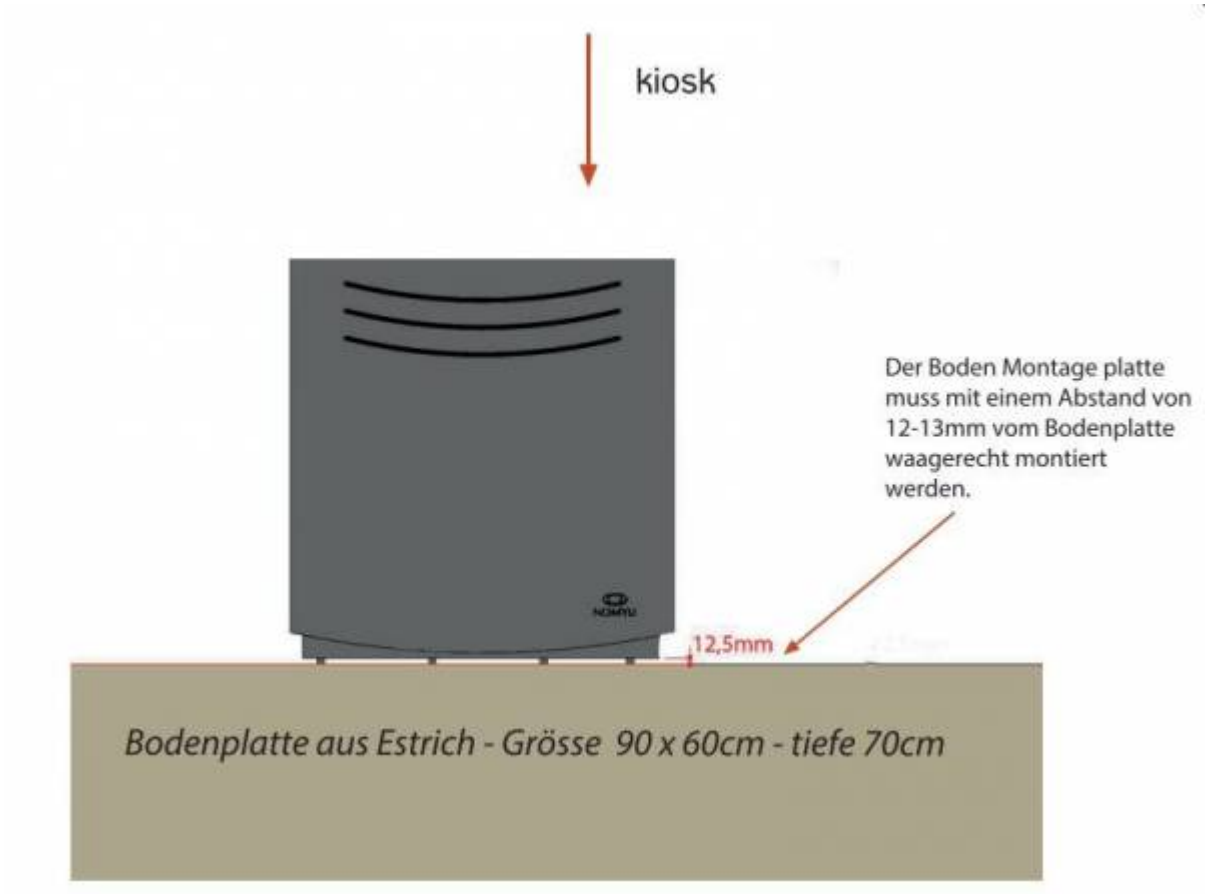
When creating a new foundation (usually for outdoor terminals), the supplier commissioned by PC CADDIE sends a „floor mounting plate“, which the customer must install in accordance with the installation instructions.

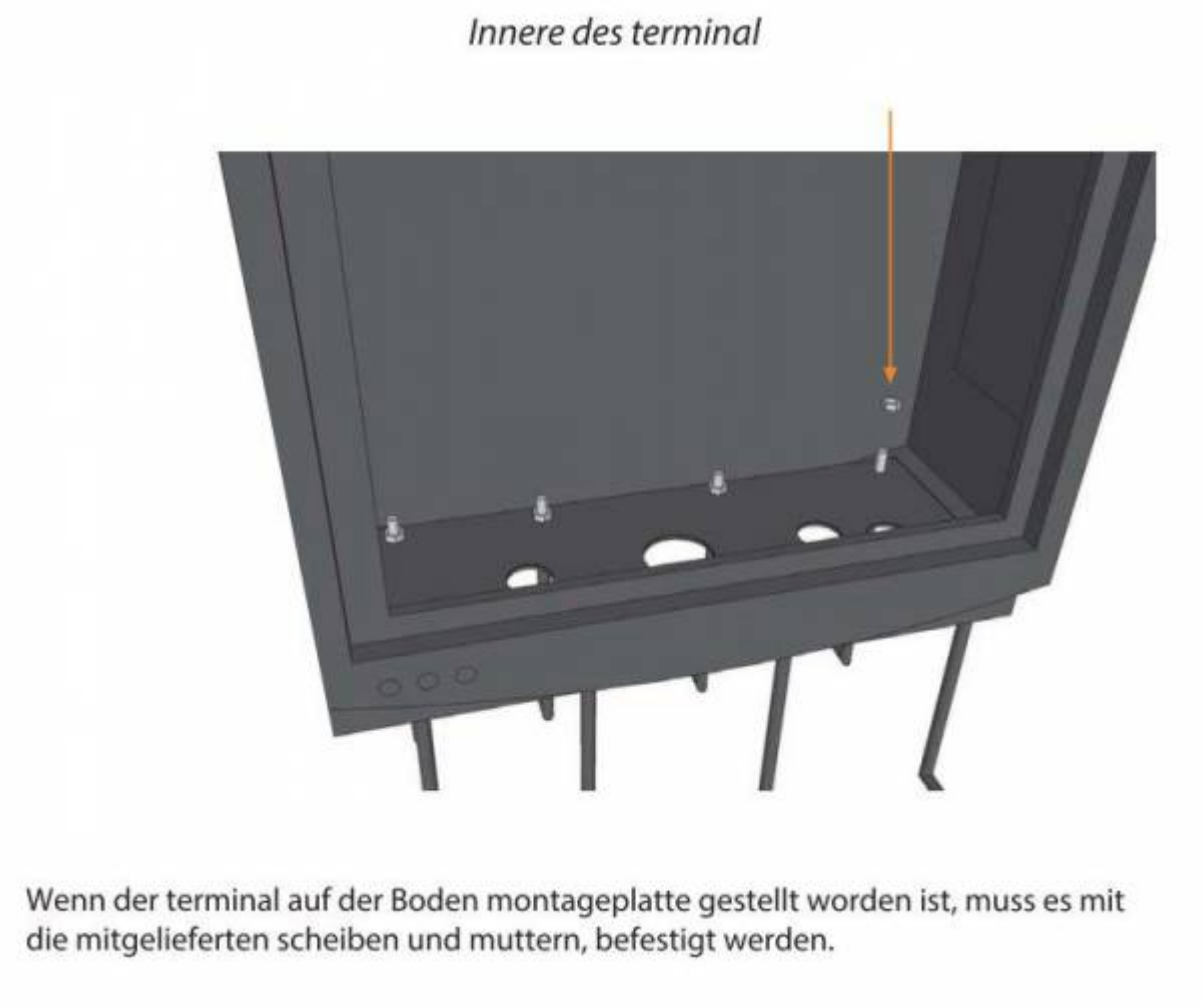
Delivery of the base plate in a packed box

Floor mounting plate before potting in the foundation

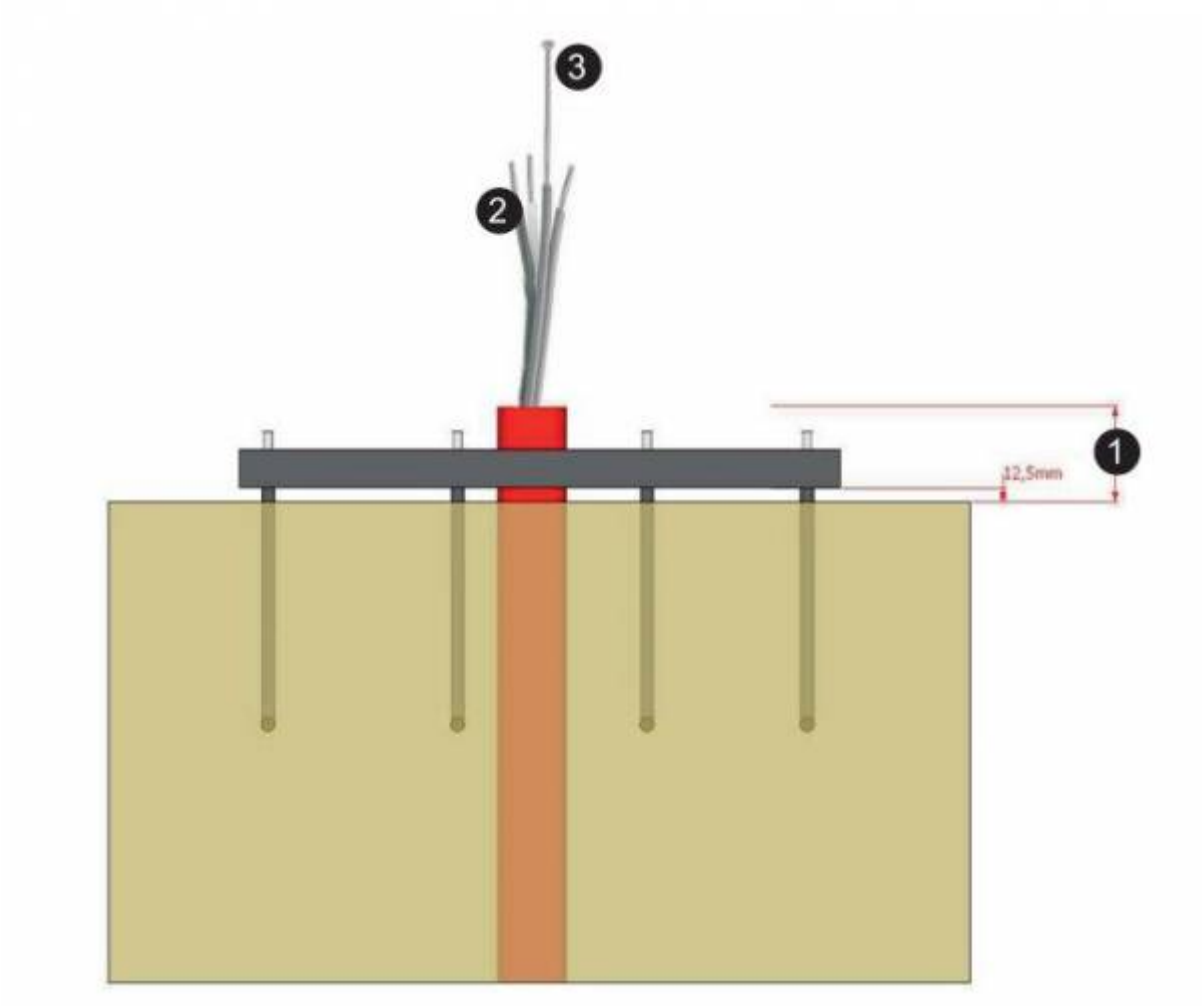
Sketches for attaching to the floor mounting plate


12,5mm
Terminal
Der Boden Montage platte muss mit einem Abstand von 12-13mm vom Bodenplatte waagerecht montiert werden.
12,5mm
Bodenplatte aus Estrich - Grösse 90 x 60cm - tiefe 70cm


kiosk
Der Boden Montage platte muss mit einem Abstand von 12-13mm vom Bodenplatte waagerecht montiert werden.
12,5mm
Bodenplatte aus Estrich - Grösse 90 x 60cm - tiefe 70cm



Preparation of the wiring



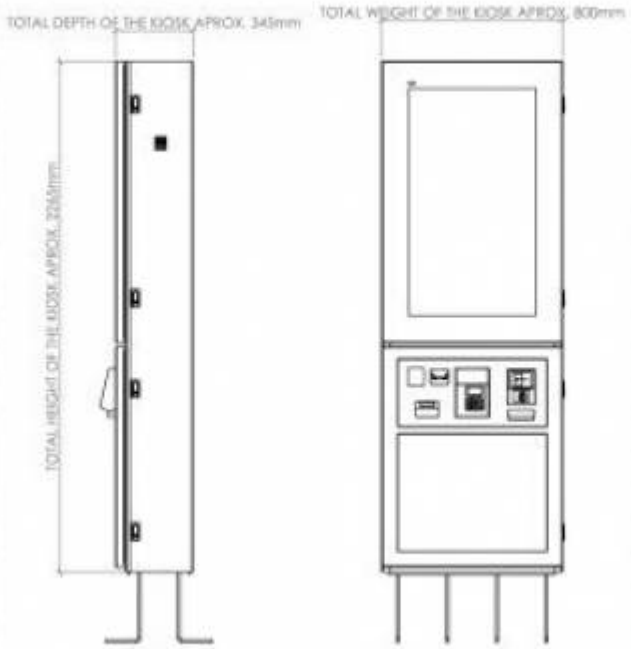
Screw connection on existing foundation / structural requirements

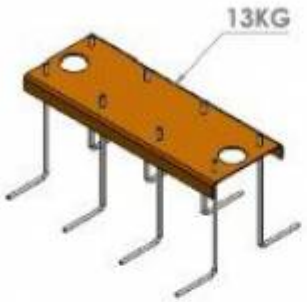
If a pre-existing foundation is to be used, its structural requirements must be guaranteed on the part of the customer, in order to absorb wind and external forces.

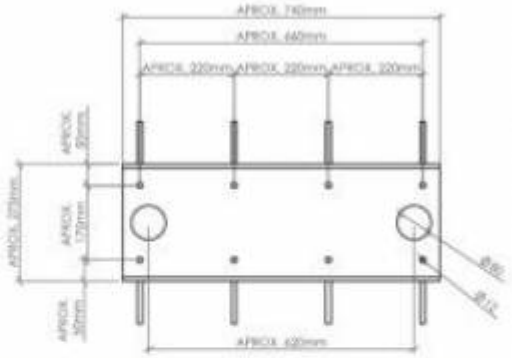
Reaction forces in bolt connection

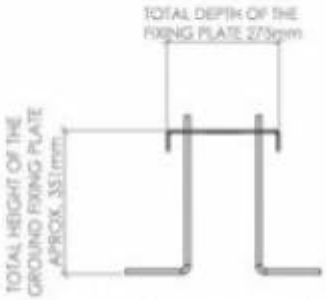
Rev.	Date	Changes	Prepared by	Reviewed by
1.	16-10.2019	Original	STH	TRI

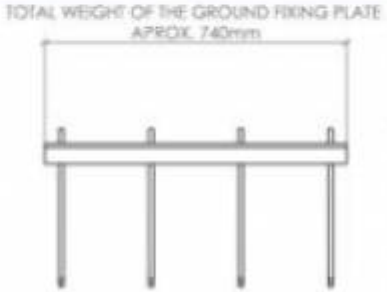
Introduction: This calculation estimates the probable bolt forces the vending machine shown below.











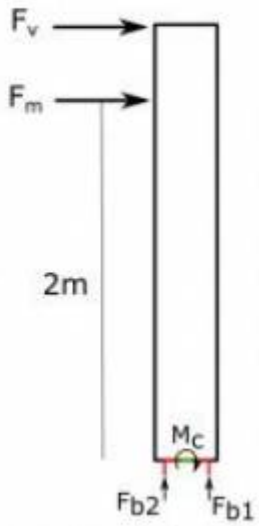
Load assumptions: It is assumed that the vending maching is load by a windgusts of 35 m/s. Conservatively the wind force will be applied at the very top of the structure. Additionally a force equivalent to 100kg will be applied at 2m above ground level. See sketch below.

Partial Load factors:

Load factor for loads	$\gamma := 2$

Structural definitions:

Number of bolts	$n_{bolts} := 8$
Height of the structure	$h := 2265\ mm$
Width of the structure	$b := 800\ mm$
Surface area	$A := h \cdot b = 1.81\ m^2$
Mass of the structure	$m_{cog} := 280\ kg$
Distance between bolts	$d_{bolts} := 225\ mm$



Load for structure:

Wind speed: $v := 35 \frac{m}{s}$

Wind density $\rho := 1.25 \frac{kg}{m^3}$

Wind load $F_v := \gamma \cdot \frac{1}{2} \cdot \rho \cdot v^2 \cdot A = 2.77\ kN$

Load at 2m: $F_m := \gamma \cdot 100\ kg \cdot g = 1.96\ kN$

Moment at the bottom center $M_c := F_v \cdot h + F_m \cdot 2000\ mm = 10207.19\ N \cdot m$

Normal forces for one bolt $F_{bolt} := \frac{M_c}{d_{bolts} \cdot \frac{n_{bolts}}{2}} - \frac{m_{cog} \cdot g}{n_{bolts}} = 11\ kN$

Shear forces for one bolt $V_{bolt} := \frac{F_v + F_m}{n_{bolts}} = 591.99\ N$

Provided the circumstances described in the Load Assumptions section, one bolt at bottom of the structure experiences normals forces of 11 kN and shear forces 0.6kN.

-- End of calculation --

The instructions are also available as PDF (only in German):

montage_platte_fuer_bodenmontage.pdf