

# Preparing a foundation

## Installation manual





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# 1 About this document

This manual is intended for the operator / installer and contains all the important information for preparing a foundation for the following MENNEKES charging stations:

## Charging columns

- Basic
- Premium
- Smart
- AMEDIO

## Wallbox AMTRON®

- Installing on a pole
- Installing on a stainless steel column
- Installing on a concrete column

## Wallbox AMTRON® Compact

- Installing on a pole

In the following manual, the charging columns and the pole, stainless steel column and concrete column are referred to as the “product”.

This manual is a supplement to the operating and installation manual for the charging station.

- 📖 Observe the operating and installation manual for the charging station.

Observe all additional documentation for the use of the product.

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## 1.1 Website

[www.mennekes.org/emobility](http://www.mennekes.org/emobility)



## 2 Installation

Information on the choice of location and the work required in the upstream electrical installation is provided in the respective operating and installation manual for the charging station.

- Observe the operating and installation manual for the charging station.

### 2.1 Preparing the foundation and installing the product on the foundation



When preparing the foundation, the operator / installer is responsible for ensuring that an effective earthing and lightning system is provided and that the charging station is connected to this system. Applicable standards and statutory regulations, especially regarding protective earthing, must be observed.

- ✓ Requirement: The floor must be sufficiently load-bearing, free from subsidence and frost-proof.

The following options for preparing a foundation are available:

1. Prepare your own new foundation.
2. Use an existing foundation.
3. Use a prefabricated foundation from MENNEKES.
4. Use an alternative foundation solution.

#### 2.1.1 Compatibility

The following table shows which products and foundations are compatible with each other.

	Charging columns	Concrete column	Stainless steel column	Pole
Self-fabricated foundation	x	-	x	x
Existing foundation	x	x	x	x
Prefabricated foundation from MENNEKES	x	-	x	x
Alternative foundation solution	x	x	x	x

#### 2.1.2 Self-fabricated foundation

##### Preparing a foundation

To prepare your own new foundation, you will require the associated foundation plate or adaptor plate and the respective foundation fixing set. These are available as accessories from MENNEKES.



The following chapter provides an overview of the accessories required for each respective product:

“4 Appendix” [ 13]



Exception: Concrete column. The foundation fixing set is not designed for the installation of the concrete column because the strength of the threaded rods of the foundation fixing set is inadequate.

- When preparing the foundation, also observe the technical drawings in the appendix.

“4 Appendix” [ 13]

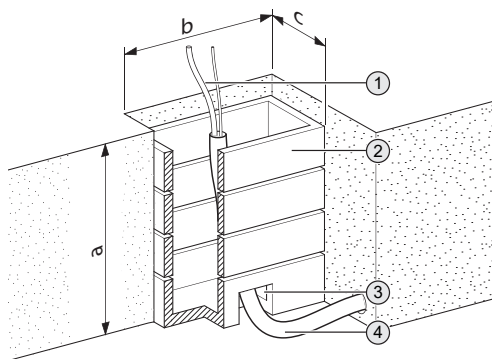


Fig. 1: Formwork

	Basic, Premium, Smart (S / N / SN), AMEDIO, Stainless Steel Column, Pole * [mm]	Smart T / ST [mm]
a	900	1000
b	900	900
c	600	900

\* These dimensions may be too large for the pole. After an independent check, the dimensions for a pole can be reduced if necessary.

- Excavate the foundation hole according to the specified dimensions.
- Insert right-angled shaft elements (2) as permanent formwork.
- Route the supply line (1) and the data line (if applicable) in an empty conduit (4) and into the formwork.

The diameter of the empty conduits must be selected to suit the opening in the foundation plate or adaptor plate. Possible empty conduits for the respective foundation plate or adaptor plate (part number):

- 18514: 2 x empty conduits with max. Ø 70 mm
- 18515: 2 x empty conduits with max. Ø 90 mm
- 18567: 2 x empty conduits with max. Ø 100 mm
- 18590: 2 x empty conduits with max. Ø 50 mm
- 18591: 2 x empty conduits with max. Ø 70 mm



- Close the opening (3) for the empty conduit (e.g. with expanding foam) to avoid leakage of the concrete.

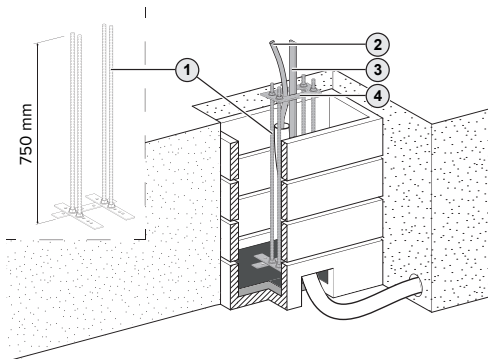


Fig. 2: Insert the foundation fixing set including the foundation plate (example: AMEDIO)

- Install the foundation fixing set (1) including the foundation plate or adaptor plate (4).
- 📖 Installation manual for the foundation fixing set.
- Pour a few centimetres of concrete into the formwork and allow to set, so that the threaded rods of the foundation fixing set protrude at least 50 mm from the base (e.g. paving stones or asphalt). The surface must be horizontal.

- Insert the foundation fixing set including the foundation plate or adaptor plate into the formwork in the desired position.
- Using the nuts, align the foundation fixing set including the foundation plate or adaptor plate in the horizontal plane.
- Route the supply line (2) and the data line (if applicable) through the hole in the foundation plate or adaptor plate.
- If necessary, install the foundation earth electrode (3) as per DIN 18014 (e.g. iron strips). Observe local regulations.

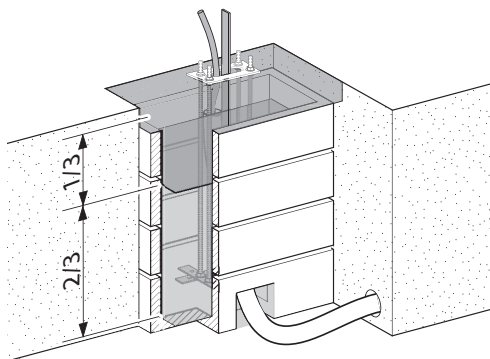


Fig. 3: Fill the foundation with concrete (Example: AMEDIO)

- Fill the bottom two thirds of the foundation with class C20/25 concrete.
- Allow the concrete to set.
- Fill the remaining third of the foundation with non-shrink concrete so that the foundation plate or adaptor plate is resting fully on concrete. Do not set the foundation plate or the adaptor plate in concrete.
- Allow the concrete to set.

#### Installing the product on a self-fabricated foundation

- Insert the supply line into the product together with the data line (if applicable) and the foundation earth electrode (if applicable).

- Place the product on the threaded rods of the foundation fixing set.
- Fasten the product to the threaded rods using the remaining nuts and washers (included in the delivery contents of the foundation fixing set). Tightening torque: 32 Nm.

Specific requirements of the stainless steel column:

- Fasten the adaptor plate to the foundation using the remaining nuts and washers (included in the delivery contents of the foundation fixing set). Tightening torque: 32 Nm.
- Insert the supply line into the product together with the data line (if applicable) and the foundation earth electrode (if applicable).
- Place the product on the adaptor plate.
- Fasten the product to the adaptor plate using the screws and washers (included in the delivery contents of the adaptor plate). Tightening torque: 38 Nm.

### 2.1.3 Existing foundation

#### Check the existing foundation and drill holes



The operator is responsible for ensuring that the product is only installed on an existing foundation that has been checked and approved by a qualified engineer. The screw connection must be suitable for the design of the existing foundation and must have the required strength as specified in chapter “Overview of foundation solutions”. If the required mechanical strength of the foundation and the screw connection is not guaranteed, this can lead to dangerous situations due to an exposed supply line.

📄 “4 Appendix” [ 13]

The matching foundation plate is required to install a charging column on an existing foundation. The foundation plate forms a drip edge for rainwater

and makes opening the product easier. The foundation plate is available as an accessory from MENNEKES. The foundation plate or adaptor plate is not required to install the stainless steel column, the concrete column and the pole.



The following chapter provides an overview of the accessories required for each respective product:  
 "4 Appendix" [ 13]



## ATTENTION

### Material damage due to corrosion

Drilling through the fixing holes of the foundation plate will damage the powder coating and leads to corrosion of the foundation plate.

- ▶ Use the foundation plate only as a template for marking the drill holes.

- ▶ Route the supply line through the foundation plate together with the data line (if applicable) and foundation earth electrode.
- ▶ Place the foundation plate on the foundation.
- ▶ Correctly align the foundation plate.
- ▶ Mark out the drill holes on the foundation.
- ▶ Lift the foundation plate off the foundation.
- ▶ Drill holes in the foundation. Select the diameter of the drill holes according to the required screw connections.

Specific requirements of the stainless steel column, concrete column and pole:

- ▶ Align and mark the drill holes on the foundation according to the respective dimensions.  
 "3 Dimensions of the accessories" [▶ 8]
- ▶ Drill holes in the foundation. Select the diameter of the drill holes according to the required screw connections.

### Installing the product on an existing foundation

- ▶ Place the foundation plate on the drill holes of the foundation (if applicable).

- ▶ Insert the supply line into the product together with the data line (if applicable) and the foundation earth electrode (if applicable).
- ▶ Place the product on the drill holes of the foundation.
- ▶ Fasten the product and the foundation plate (if applicable) to the foundation using suitable screw connections.
- Observe the manufacturer's manual for the screw connections.

### 2.1.4 Prefabricated foundation

The products can be installed directly on the prefabricated foundation from MENNEKES. No additional accessories are required (exception: stainless steel column) and there is no need for drill holes / empty conduits. The prefabricated foundation is available as an accessory from MENNEKES.



The following chapter provides an overview of the accessories required for each respective product:  
 "4 Appendix" [ 13]



Exception: Concrete column. The concrete column is not suitable for installation on the prefabricated foundation.

### Installing the prefabricated foundation

- Installation manual for the prefabricated foundation.

### Installing the product on the prefabricated foundation

- ▶ Insert the supply line into the product together with the data line (if applicable) and the foundation earth electrode.
- ▶ Place the product on the drill holes of the prefabricated foundation.
- ▶ Fasten the product to the prefabricated foundation using the screws (included in the delivery contents of the prefabricated foundation). Tightening torque: 70 Nm.



Specific requirements of the stainless steel column:  
To install the stainless steel column on the prefabricated foundation, the associated adaptor plate is required. The adaptor plate is available as an accessory from MENNEKES.

- ▶ Place the adaptor plate on the drill holes of the prefabricated foundation.
- ▶ Fasten the adaptor plate to the prefabricated foundation using the screws (included in the delivery contents of the prefabricated foundation). Tightening torque: 70 Nm.
- ▶ Insert the supply line into the product together with the data line (if applicable) and the foundation earth electrode (if applicable).
- ▶ Place the product on the adaptor plate.
- ▶ Fasten the product to the adaptor plate using the screws and washers (included in the delivery contents of the adaptor plate). Tightening torque: 38 Nm.

### 2.1.5 Alternative foundation solutions

Some companies sell alternative foundation solutions on which MENNEKES charging stations can be installed. All the necessary information is available from MENNEKES on request.

To contact MENNEKES directly, please use the form on our website under "Contact".

 "1.1 Website" ▶ 2]

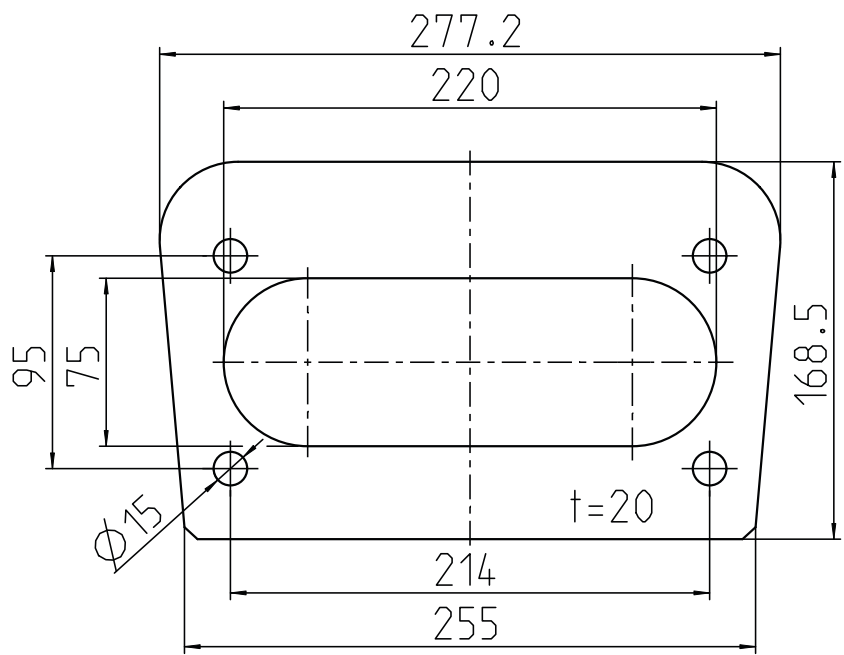
### 2.1.6 Concluding tasks



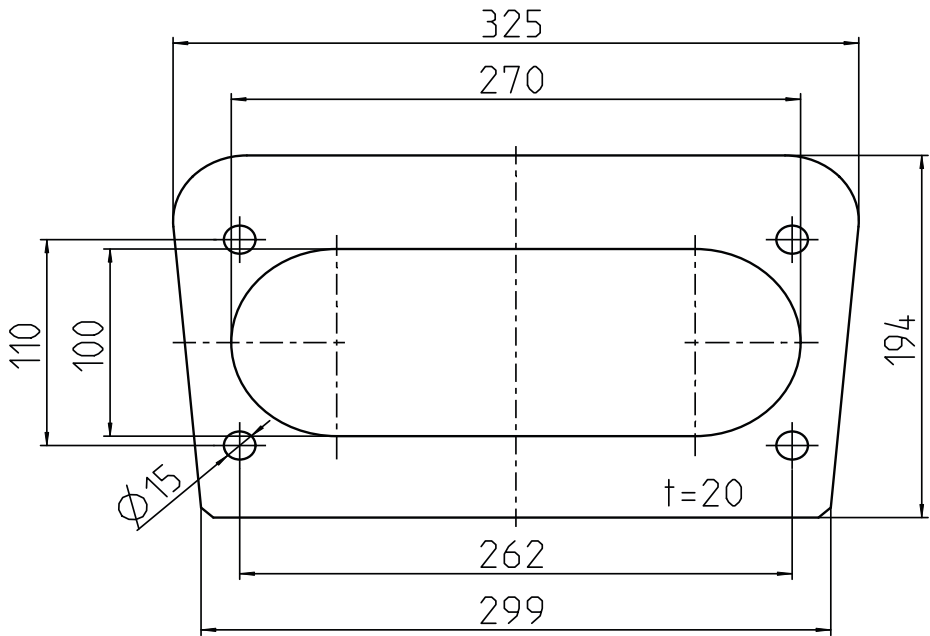
MENNEKES recommends protecting the product with curbs or bollards provided by the customer.

3    Dimensions of the accessories

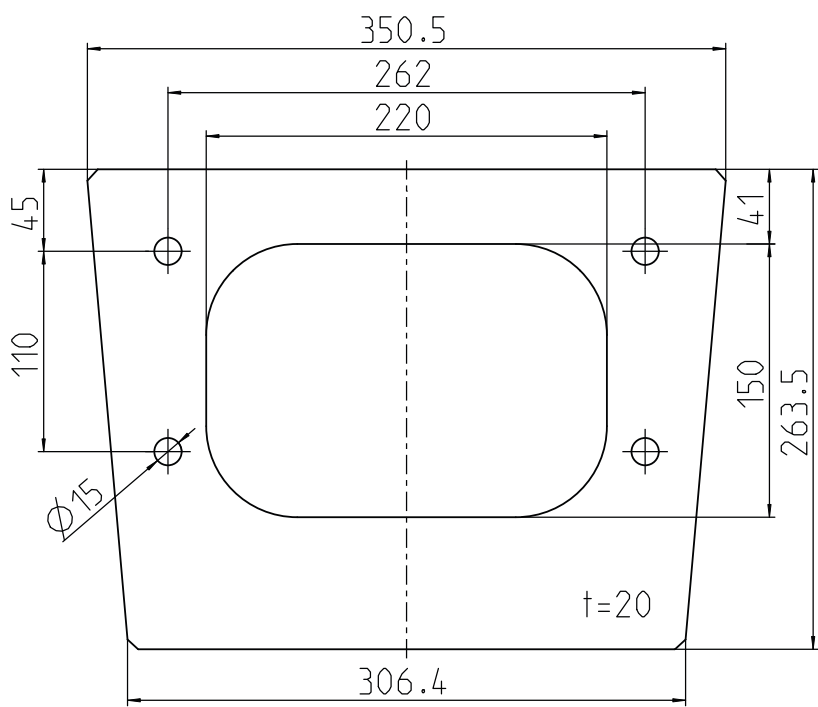
Dimensions of foundation plate 18514 (charging column Basic, Premium and Smart (S))



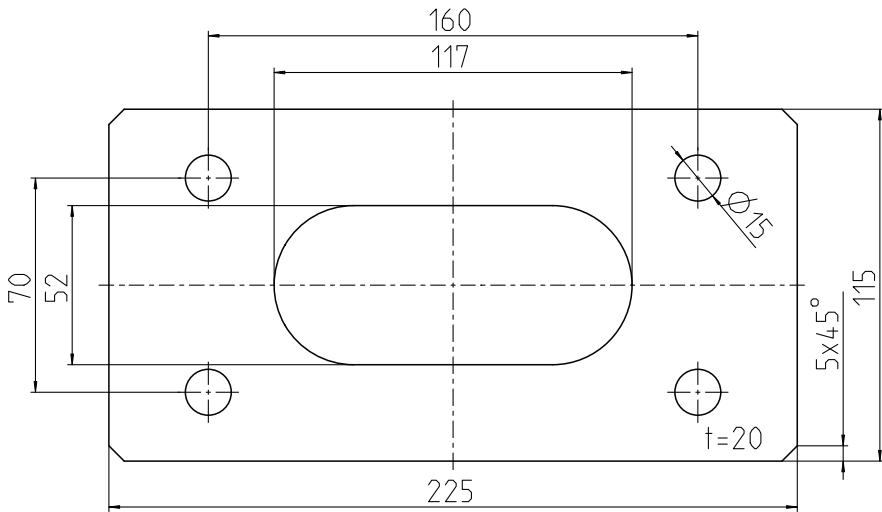
**Dimensions of foundation plate 18515 (charging column Smart N / SN)**



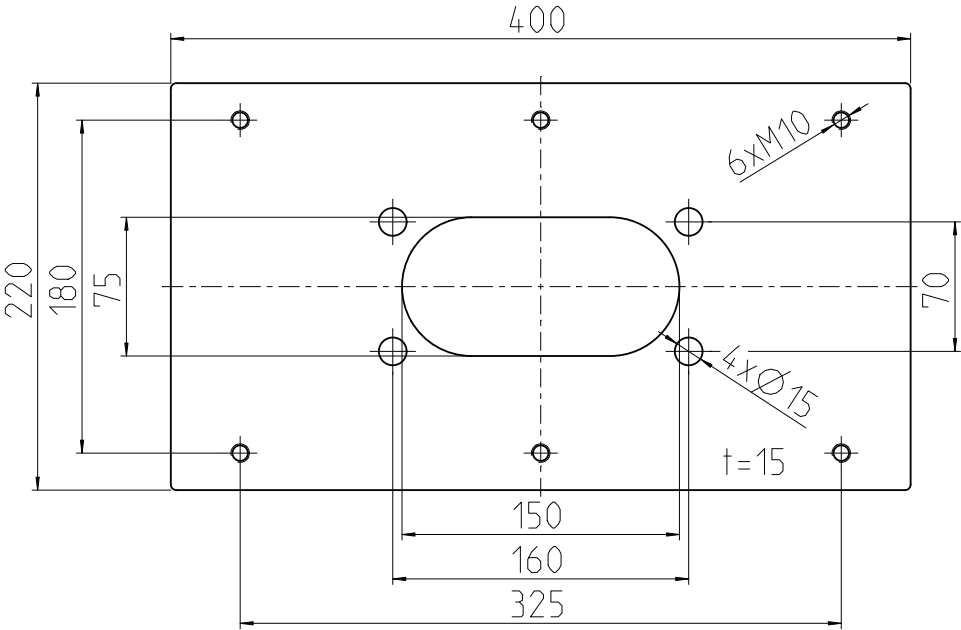
Dimensions of foundation plate 18567 (charging column Smart T / ST)



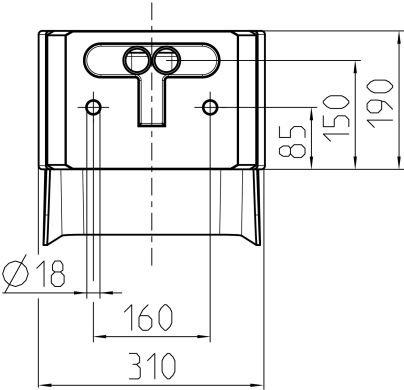
**Dimensions of foundation plate 18590 (charging column AMEDIO, pole)**



Dimensions of adaptor plate 18591 (stainless steel column)















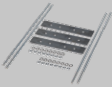
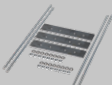
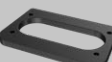
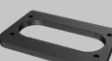





Dimensions of the concrete column - view from below



## 4 Appendix

### See also

-  Overview of foundation solutions [► 14]
-  Drawing 1024389 [► 15]
-  Drawing 1112296 [► 16]

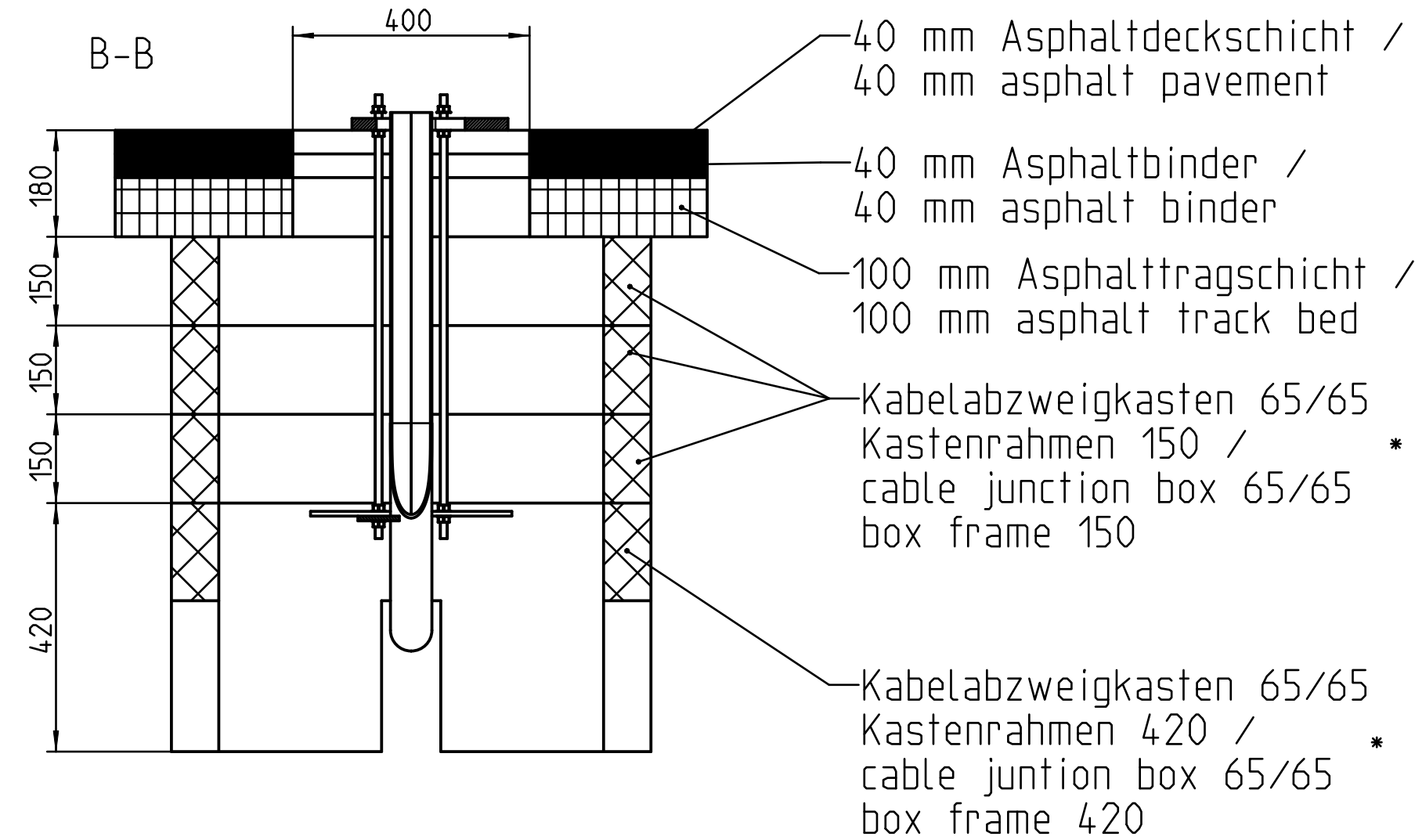
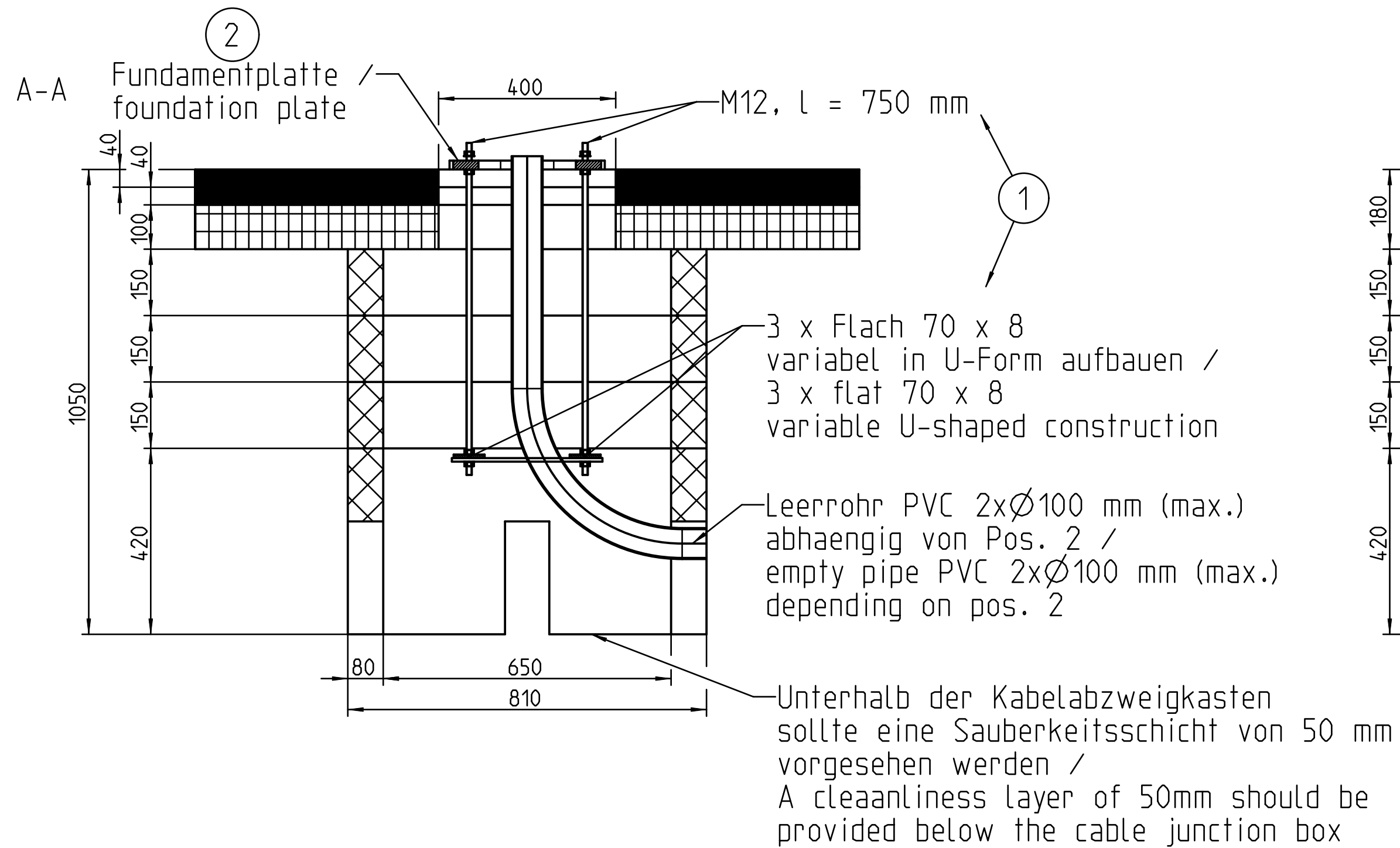
Product			Basic (S) 	Premium (S), Smart (S) 	Smart N / SN 	Smart T / ST 	AMEDIO 	Stainless steel column for AMTRON® / Stainless steel column for 2 AMTRON® 	Concrete column for AMTRON® including protective roof 	Pole for AMTRON® / Pole for 2 AMTRON® 	Pole for AMTRON® Compact / Pole for 2 AMTRON® Compact 
	Part number	Size	13115xx / 3115xx	13136xx / 13196xx / 3136xx / 3196xx	3164xx / 3165xx	3166xx	1406xxxxx / 1408xxxxx	18558 / 18566	18553	18592 / 18593	18594 / 18595
		Specification	1300 mm	1380 mm	1580 mm	1775 mm	1362 mm	1330 mm	1400 mm	1231 mm	1333 mm
Foundation fixing set	18516 	■ The product is fixed to four M12 threaded rods made of galvanised steel of strength class 4.6. ■ Tightening torque: 32 Nm	Required for: ■ Self-fabricated foundation. - The foundation plate 18514 is also required. - Execute the foundation according to drawing 1024389.	Required for: ■ Self-fabricated foundation. - The foundation plate 18514 is also required. - Execute the foundation according to drawing 1024389.							
	18517 				Required for: ■ Self-fabricated foundation. - The foundation plate 18515 is also required. - Execute the foundation according to drawing 1024389.	Required for: ■ Self-fabricated foundation. - The foundation plate 18567 is also required. - Execute the foundation according to drawing 1112296.	Required for: ■ Self-fabricated foundation. - The foundation plate 18590 is also required. - Execute the foundation according to drawing 1024389.	Required for: ■ Self-fabricated foundation. - The adaptor plate 18591 is also required. - Execute the foundation according to drawing 1024389.		Required for: ■ Self-fabricated foundation. - The foundation plate 18590 is also required. - Execute the foundation according to drawing 1024389.	Required for: ■ Self-fabricated foundation. - The foundation plate 18590 is also required. - Execute the foundation according to drawing 1024389.
Foundation plate	18514 		Required for: ■ Self-fabricated foundation. - The foundation fixing set 18516 is also required. ■ Existing foundation.	Required for: ■ Self-fabricated foundation. - The foundation fixing set 18516 is also required. ■ Existing foundation.							
	18515 				Required for: ■ Self-fabricated foundation. - The foundation fixing set 18517 is also required. ■ Existing foundation.						
	18567 					Required for: ■ Self-fabricated foundation. - The foundation fixing set 18517 is also required. ■ Existing foundation.					
	18590 						Required for: ■ Self-fabricated foundation. - The foundation fixing set 18517 is also required. ■ Existing foundation.			Required for: ■ Self-fabricated foundation. - The foundation fixing set 18517 is also required.	Required for: ■ Self-fabricated foundation. - The foundation fixing set 18517 is also required.
Adaptor plate	18591 	■ The delivery contents of the adaptor plate also include 6 stainless steel hexagon screws (V2A) ISO 4017 - M10 x 20 of strength class 80 for installing the stainless steel column. ■ Tightening torque (for installing the stainless steel column on the adaptor plate): 38 Nm						Required for: ■ Self-fabricated foundation. - The foundation fixing set 18517 is also required. ■ Prefabricated foundation 86005000.			
Prefabricated foundation	Version 1 86004000 	■ The delivery contents of the prefabricated foundation also include four stainless steel screws (V2A) according to ISO 4017 - M12 x 35 of strength class 80 for installing the product. ■ Tightening torque: 70 Nm			Required for: ■ Prefabricated foundation.	Required for: ■ Prefabricated foundation.					
	Version 2 86005000 		Required for: ■ Prefabricated foundation.	Required for: ■ Prefabricated foundation.			Required for: ■ Prefabricated foundation.	Required for: ■ Prefabricated foundation. - The adaptor plate 18591 is also required.		Required for: ■ Prefabricated foundation.	Required for: ■ Prefabricated foundation.





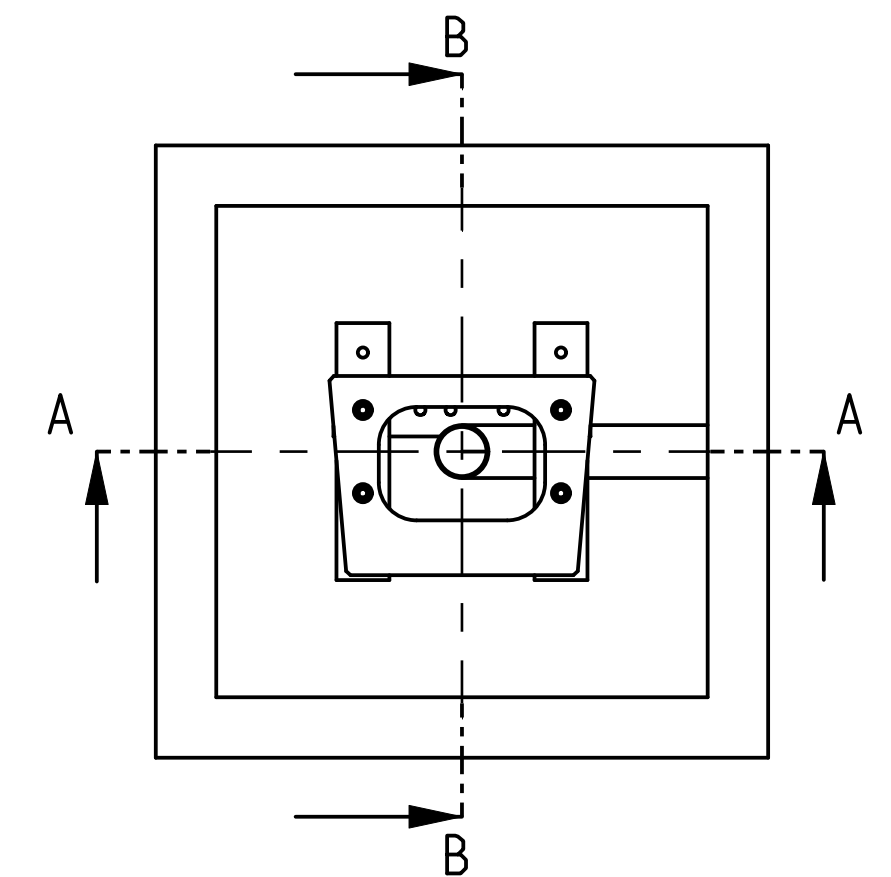
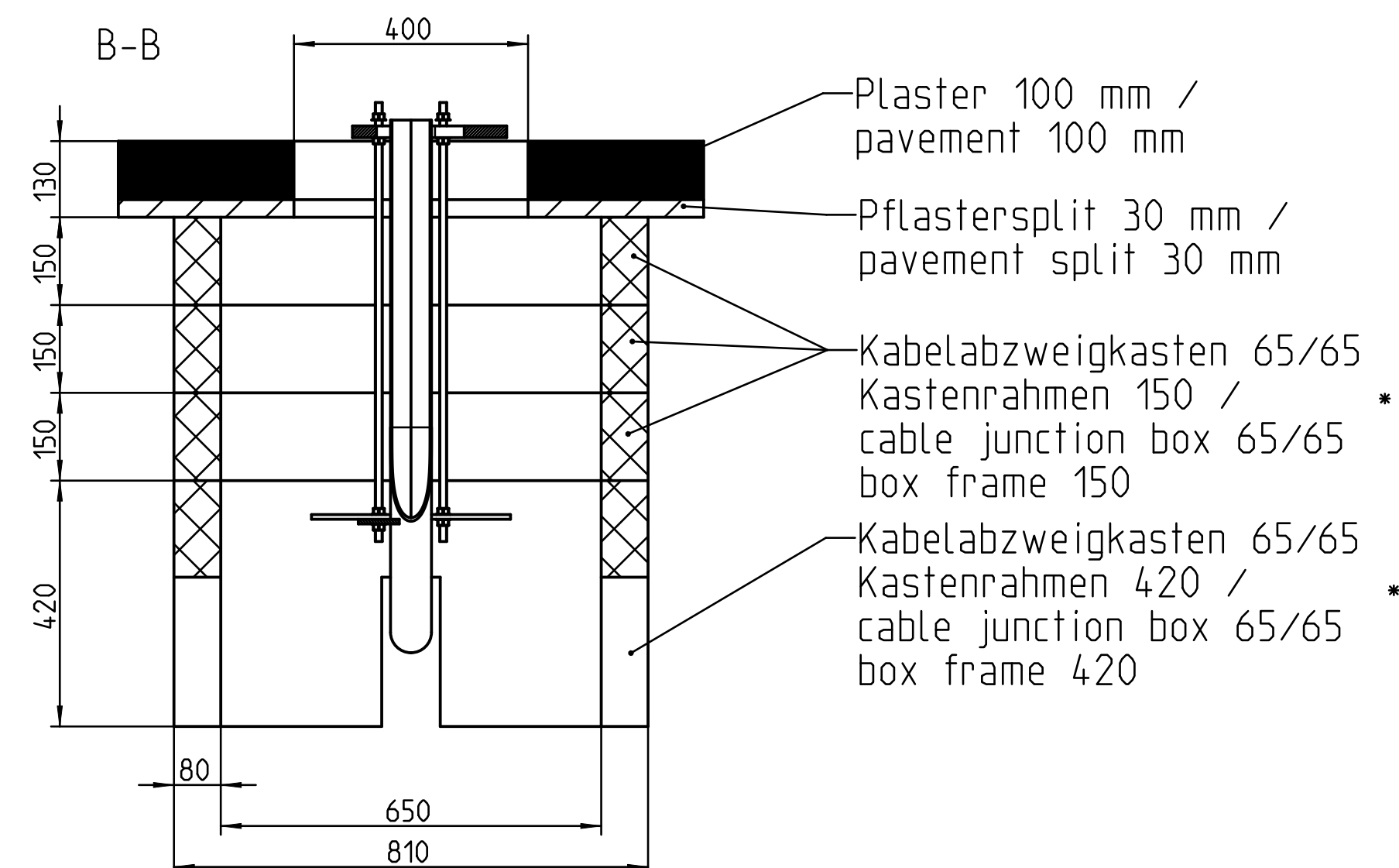
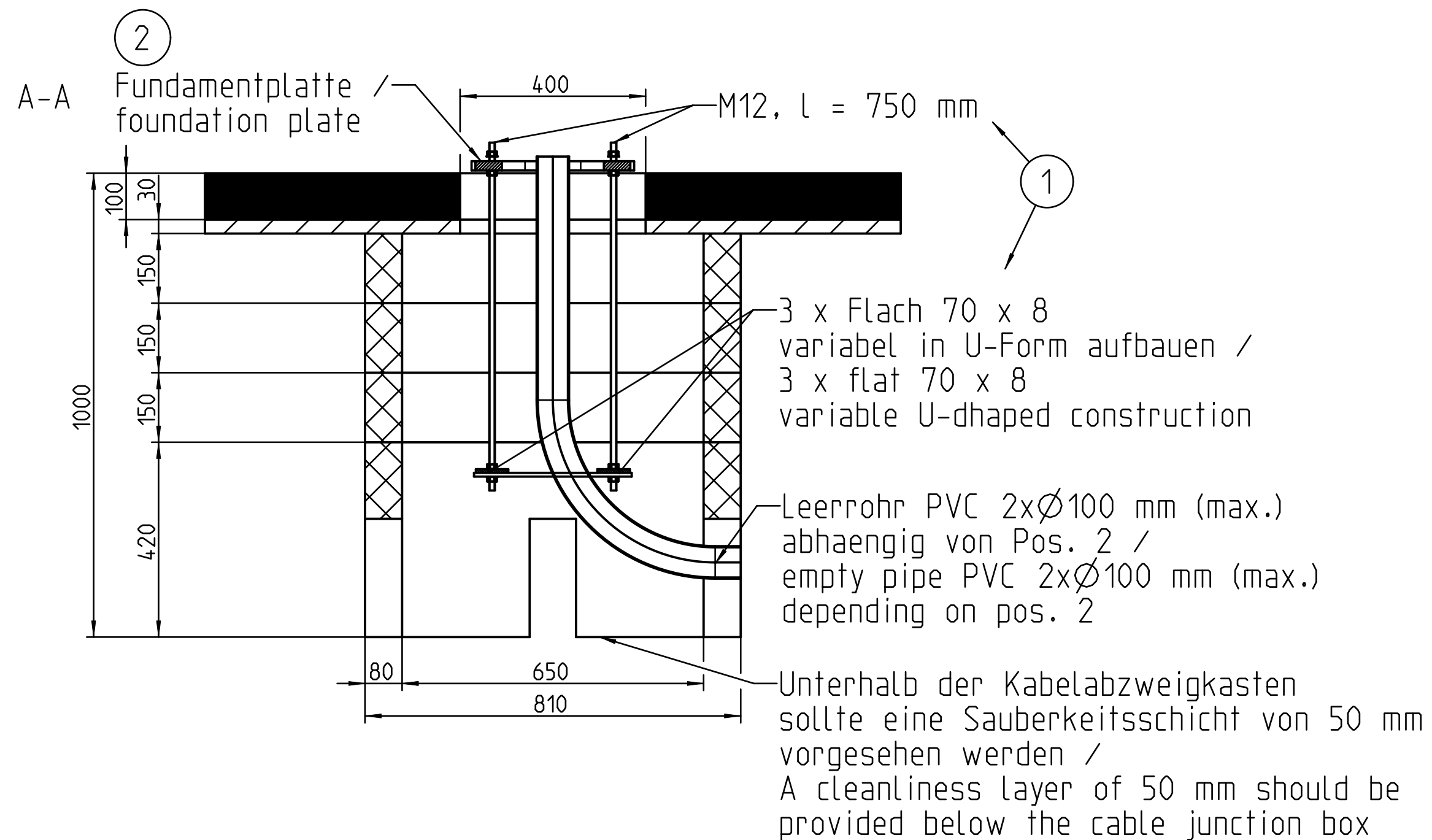
Drawing 1112296 - Self-fabricated foundation for charging columns (T, ST)

Beispiel Asphaltdeckschicht  
example asphalt pavement



Pos.-Nr.	Bestell-Nr. / order number	Bezeichnung / Designation
2	18567	Fundamentplatte Smart T, Smart ST / Foundation plate Smart T, Smart ST
1	18517	Fundament-Befestigungs-Set AMED10, Standfuß, Edelstahlsäule, Smart (S)N, (S)T / Foundation fixing set AMED10, stainless steel pole, Stainless Steel column, Smart (S)N, (S)T

Beispiel Pflasterdecke  
example pavement



- \* Mindestgröße
- Maße Herstellerabhängig
- \* Minimum size
- Dimensions Manufacturer-dependent

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