

# The base for your electromobility

ULF – Universal charging station foundation



# Legal requirements

## EU directive on electric mobility infrastructure in buildings

At new and renovated residential buildings with more than ten parking spaces, each parking space must be equipped to facilitate the charging infrastructure for electromobility.

At non-residential buildings with more than 20 parking spaces, a number of parking spaces determined by the respective country must be equipped with charging points for electromobility.

The line infrastructure includes the entirety of all cable routing to accommodate electrical and data cables, i.e. cable routes in the form of empty conduits, cable ducts, cable trays, etc. must be installed.

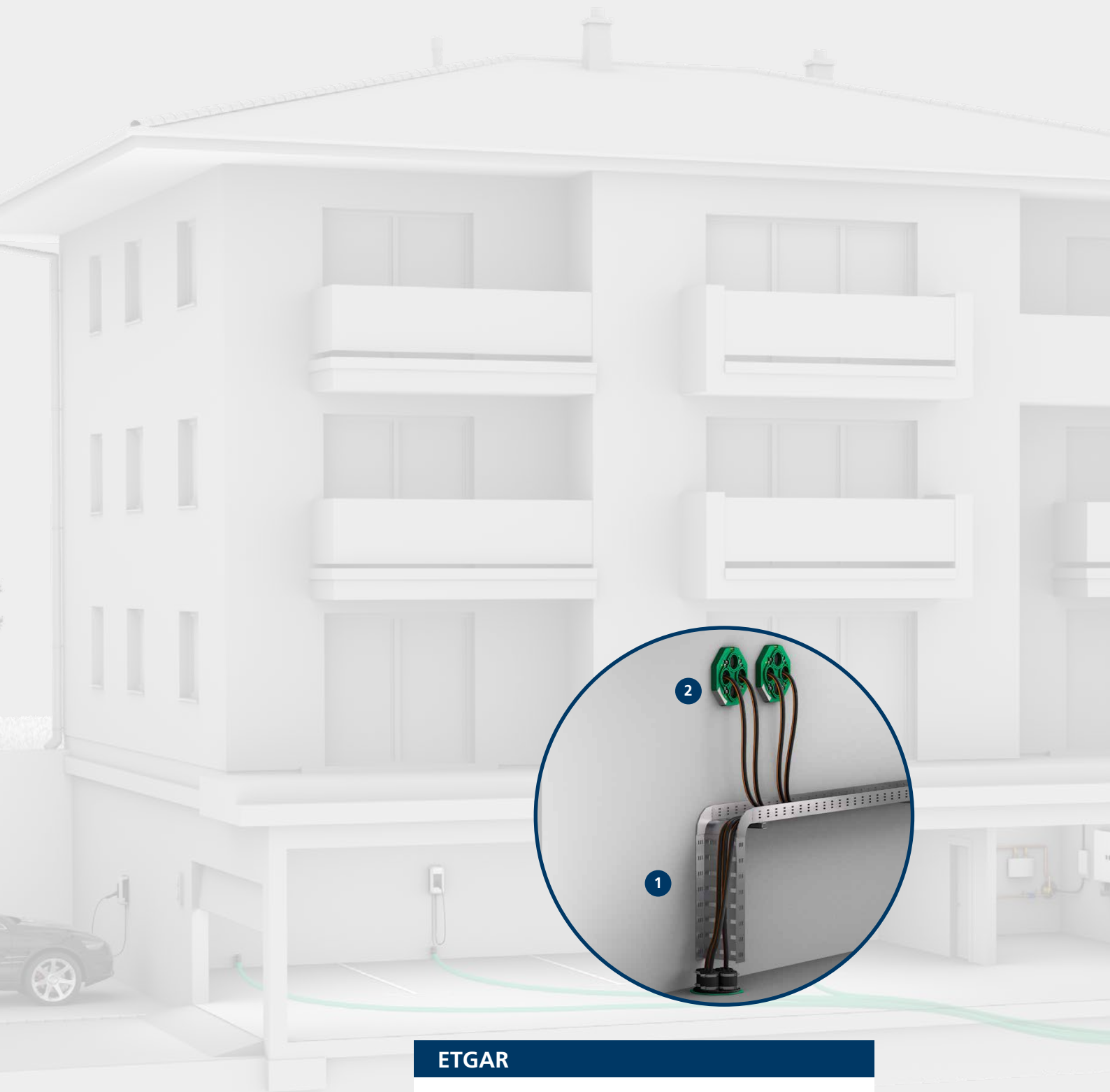
The basis for this is Directive (EU) 2018/844 of the European Parliament. In addition, each country is free to introduce more stringent requirements than the ones contained in the directive.



## Our solutions

**We offer various solutions for setting up a charging infrastructure that meets your needs.**

**While our ULF foundation solution is speeding up expansion in public and semi-public areas, our comprehensive ETGAR system makes it possible to supply outdoor areas with electricity.**



Our solutions for buildings without basement



Our solutions for buildings with basement

## ETGAR

### Building services outlet

-  HAB ETGAR BHP 1
-  HAW-M ETGAR BHP 2

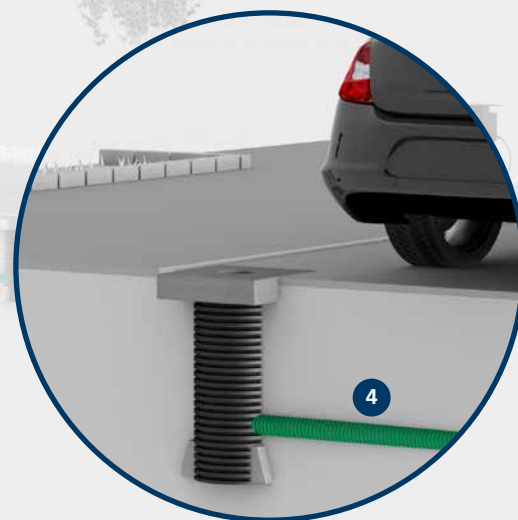


The ETGAR building services outlet routes the electrical cables from the connection room to all the facilities on the property and the associated parking spaces that are subsequently to be supplied with electricity. The building services outlets meets all building sealing requirements – such as gas and water tightness as well as radon protection.

## Ready for electromobility!

### Benefits of our solution

- complete system for distributing electric power supply to the properties entire grounds from the building connection room
- retrofitting the empty conduit system is possible at any time without digging
- can be individually expanded, combined and extended thanks to the modular structure



### ULF

#### Connection point

ULF **3**



The universal charging station foundation is suitable for quickly and easily setting up a charging infrastructure at parking spaces. Its low weight makes installation and assembly particularly easy. It can be combined and expanded with the ETGAR system or other empty pipe solutions.

### ULF

#### Preparation connection point

ULF **4**



Even while planning the building and its parking spaces, the universal charging station foundation can be installed ready for connection. This means that subsequent civil engineering work can be avoided and the installation of a charging station can be carried out at any time without complications.

# Commercial and public spaces

Intelligent charging infrastructure for powering vehicles in the commercial and public spaces:

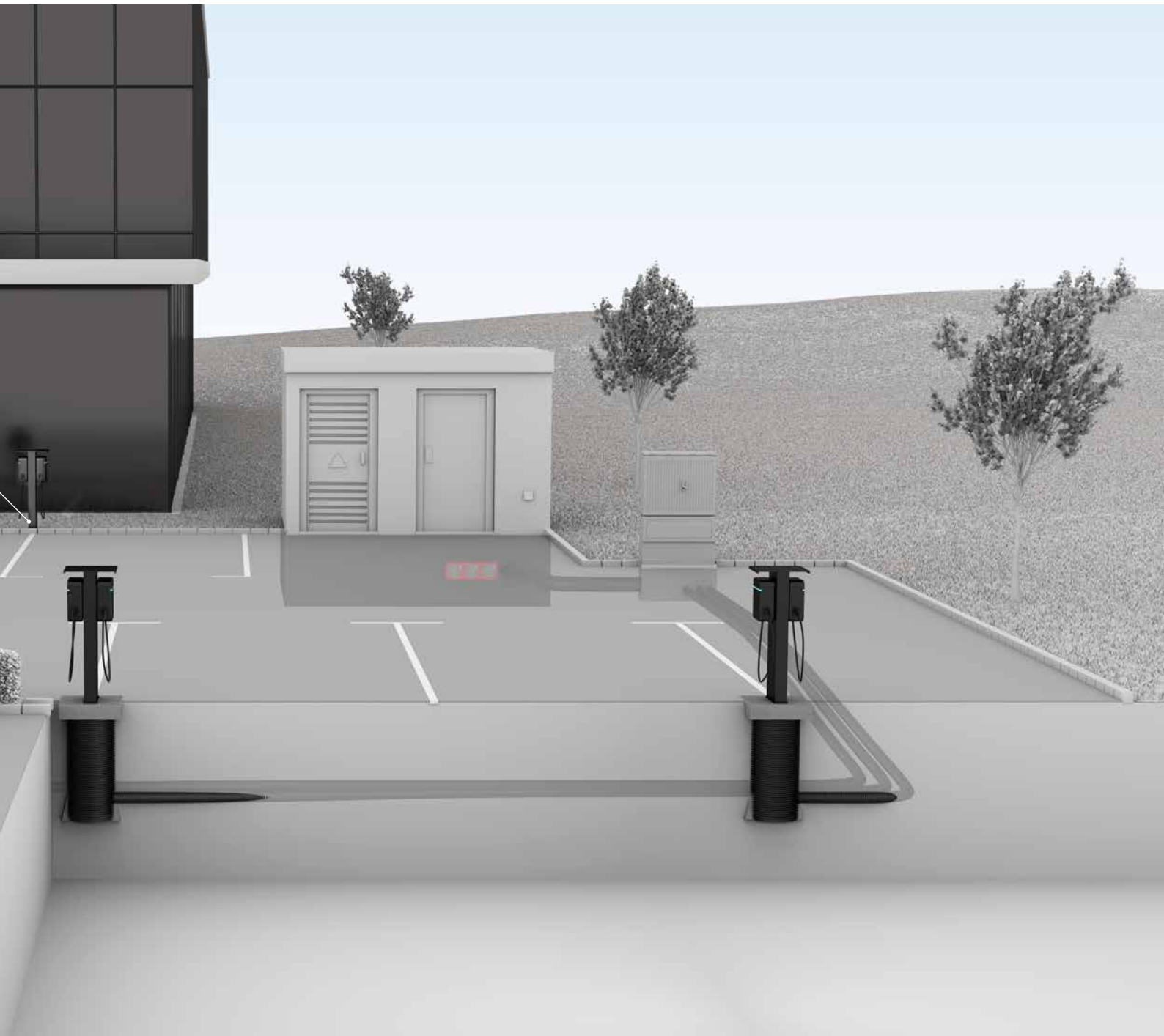
## Commercial space

- companies
- hotels
- gastronomy
- housing industry

## Public space

- cities
- municipalities
- public institutions





## Integrated charging infrastructure

Companies, service providers, hotels and other semi-public facilities will demonstrate a greater need for charging stations in the future.

For the predicted upturn in electromobility, the corresponding charging infrastructure will be expanded. Moreover, the European government supports the Europe-wide expansion of the charging infrastructure through Directive (EU) 2018/844. Here, the individual member states are asked to define

country-specific regulations for the minimum number of charging points.

With the universal charging station foundation (short ULF), Hauff-Technik has created an innovative and universal foundation for charging stations.

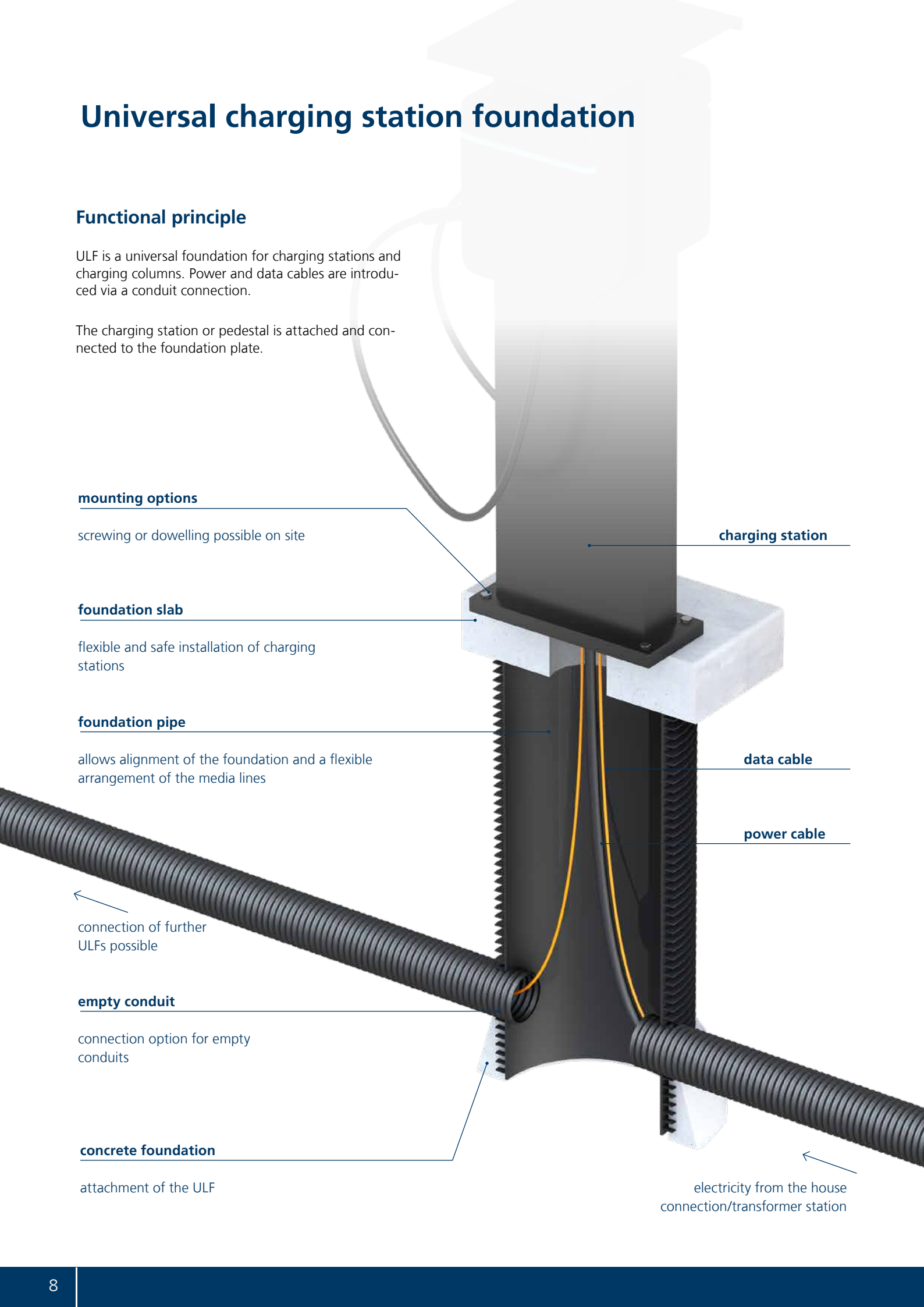
ULF offers a foundation solution for various types of charging stations, charging columns and for a variety of installation situations.

# Universal charging station foundation

## Functional principle

ULF is a universal foundation for charging stations and charging columns. Power and data cables are introduced via a conduit connection.

The charging station or pedestal is attached and connected to the foundation plate.



### mounting options

screwing or dowelling possible on site

### foundation slab

flexible and safe installation of charging stations

### foundation pipe

allows alignment of the foundation and a flexible arrangement of the media lines

### empty conduit

connection option for empty conduits

### concrete foundation

attachment of the ULF

charging station

data cable

power cable

electricity from the house connection/transformer station



# Foundation comparison



Precast foundation



ULF



Foundation concreted on-site

## Features

Weight	100 kg – 900 kg	< 40 kg	–
Chemical resistance	depending on the concrete quality	acid and alkali resistance	depending on the concrete quality
Surface	smooth and even	very smooth and even	depending on the processor
Frost and de-icing salt resistance	only with special concrete	resistant through polymer concrete (FX4)	only with special concrete
Height adjustment	–	can be cut to length on site	–
Water absorption	depending on the concrete quality	low	depending on the concrete quality

## Installation

Installation complexity	low	low	very high
Formwork work	–	–	laborious/complex
Laying foundation	only possible with crane/excavator	1 person	2 persons
Installation time	fast	fast	time consuming
Transport costs	very high	low	low
Cable routing	integrated	integrated	on site

## Installation

Variety of charging station models	type-related	flexibly applicable	type-related
Mounting options	threaded sleeves, tie rods, concrete screws, dowels	threaded sleeves, tie rods, concrete screws, dowels	concrete screws, dowels, tie rods

# Universal charging station foundation

for the installation of charging columns and charging pedestals



## ULF

Universal foundation solution for the installation of charging columns and charging pedestals.

Fastening option on the polymer concrete slab.

Connection of power and data cables via an empty pipe connection.

## Advantages



- Universal foundation system for the installation of charging columns and charging pedestals
- Adaptation possibility of empty pipes
- Replacement or exchange of the charging station possible without removing the foundation

## Scope of delivery

- 1 piece of ULF with blind plate

## Dimensions

- total length: 750 mm
- foundation slab: ULF300: 300 x 300 mm, ULF380: 380 x 380 mm, ULF470: 470 x 470 mm
- height foundation slab: 80 mm
- foundation slab opening: ULF300/ULF380: 110 mm, ULF470: 150 mm

- foundation pipe (Øi): ULF300: DN200, ULF380: DN250, ULF470: DN300

## Properties

- Weight: ULF300: 16 kg, ULF380: 24 kg, ULF470 1x110: 38 kg, ULF470 1x150: 35 kg

## Material

- polymer concrete slab: polymer concrete
- foundation pipe: PVC

Type	Size (mm)	Foundation pipe Øi (mm)	Article code	Article number	GTIN
ULF300	300 x 300	200	<b>ULF300 1x110</b>	3030512350	4052487243452
ULF380	380 x 380	250	<b>ULF380 1x110</b>	3030490218	4052487242851
ULF470	470 x 470	300	<b>ULF470 1x150</b>	3030490219	4052487242875
		300	<b>ULF470 1x110</b>	3030540367	4052487245111

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## Accessories

Figure	Item	Article code	Article number	GTIN
	Hole saw for the Universal charging station foundation	<b>Lochsaege 76 SET</b>	3030505139	4052487245418
		<b>Lochsaege 114 SET</b>	3030505140	4052487245425
	Concrete screw for the Universal charging station foundation	<b>Betonschraube 6x60 A2K SW13</b>	3030515187	4052487245456
		<b>Betonschraube 6x60 A4 SW13</b>	3030504407	4052487245449
	Sleeve caps for ETGAR foundation box	<b>ETGAR ANS 4x5-25</b>	3030449206	4052487239899

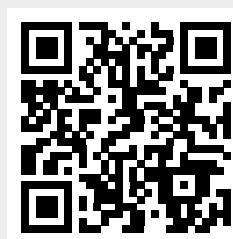


ULF – Universal charging station foundation

[www.bit.ly/ulf-en](http://www.bit.ly/ulf-en)

The universal charging column foundation is compatible with the charging columns and wallbox pedestals of various manufacturers.

Find the solution that suits you on our website!

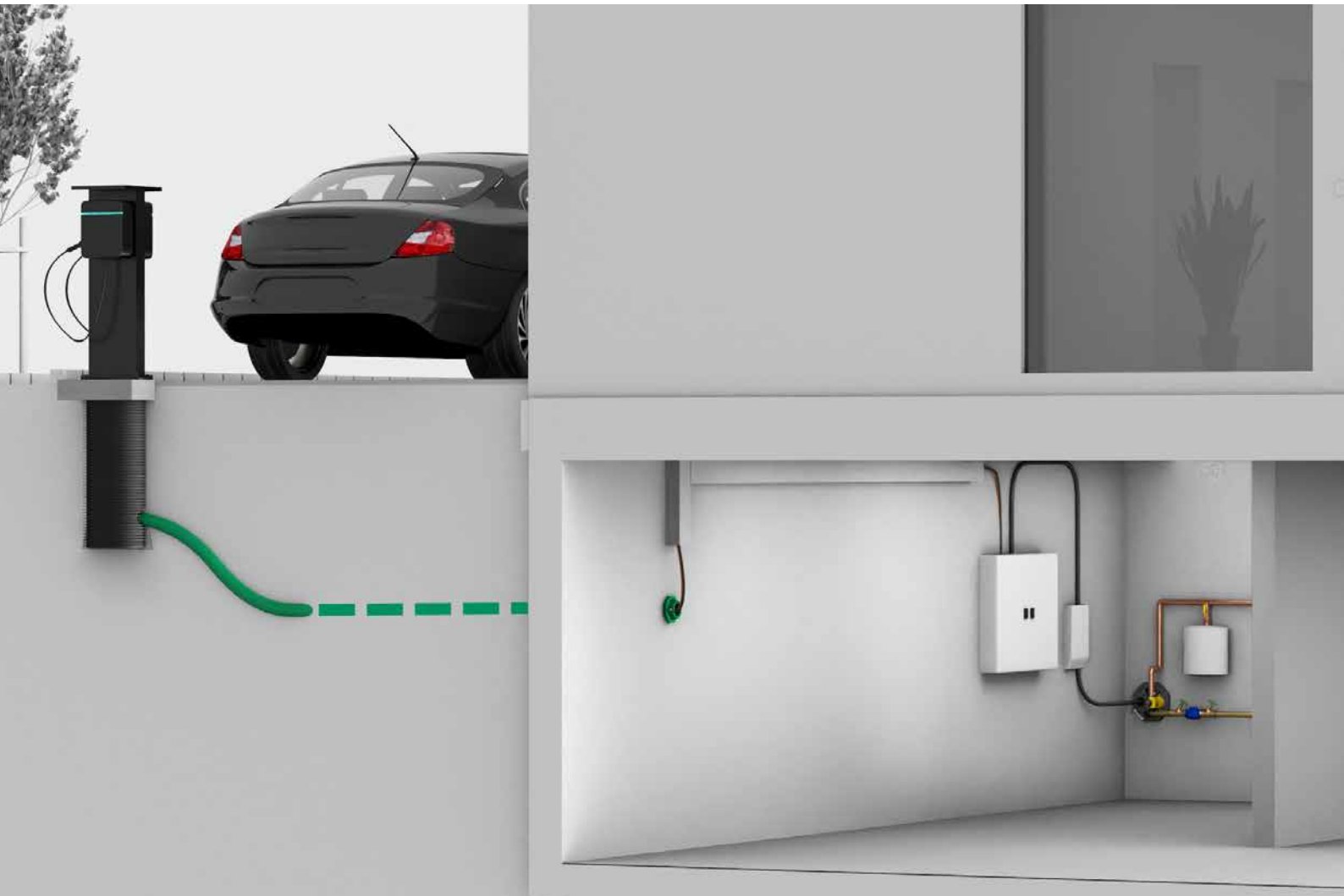


# Electromobility in the private sphere

With our solutions you can also create a basis for e-mobility in your private space.

The complete ETGAR system is suitable for distributing electricity easily and reliably across the entire property. The electricity is routed out of the building via the building services outlet to precisely where it is needed using an empty conduit system.

The Universal charging station foundation ULF serves as a ready-to-connect foundation system with which the empty conduits are connected.



Single building services outlet for connecting an electronic device.

# Electromobility system overview

## Power source

## Distribution

## Deployment

### Power distribution via the house connection



**ETGAR building package for single-line building service outlets**  
for buildings with basement and one corrugated pipe connection



**Universal wall sleeve 100**  
for new construction and one corrugated pipe connection



**ETGAR building package for multi-line building service outlets**  
for buildings with basement and four corrugated pipe connections



**ETGAR building developer package for building services outlets**  
for new construction and four corrugated pipe connections



**Building services outlets, ETGAR multiple/single outer sealing element**  
for stock



**ETGAR building package for building services outlets**  
for buildings without basement and four corrugated pipe connections



**ETGAR corrugated pipe**  
ø 75 mm



**ULF**



**PE corrugated pipe**

*cable duct as intermediate distributor necessary*



**ULF**

### Power distribution via a transformer station



**HSI150**  
single wall insert



**HSI150 system cover**



**HSI150 DFK**  
polymer flange for dowelling



## Building services outlets for buildings without a basement

Figure	Item	Article code	Article number	GTIN
	ETGAR building developer package for building services outlets For buildings without a basement	<b>HAB ETGAR BHP<sup>1)</sup></b>	3030404422	4052487231626

<sup>1)</sup> Scope of delivery see: [www.hauff-technik.com](http://www.hauff-technik.com)



## Building services outlets for buildings with a basement

Figure	Item	Article code	Article number	GTIN
	ETGAR building package for multi-line building service outlets for buildings with a basement	<b>HAW-M ETGAR BHP<sup>1)</sup></b>	3030458211	4052487239936
	ETGAR wall sleeve for building services outlet For ETGAR BHP	<b>HAW-M ETGAR FR</b>	3030458206	4052487239912
	Building services outlets, ETGAR multiple/single outer sealing element	<b>HAW-M ETGAR AD</b>	3030490272	4052487241939
	ETGAR building package for single-line building service outlets for buildings with a basement	<b>HAW-E ETGAR BHP<sup>1)</sup></b>	3030458216	4052487239967
	Universal wall sleeve for any type of wall	<b>UFR100/200</b>	3030300244	4052487216098
	ETGAR exterior sealing element for single-line building service outlet for ETGAR building package for single-line building service outlet	<b>HAW-E ETGAR AD</b>	3030491405	4052487242028

<sup>1)</sup> Scope of delivery see: [www.hauff-technik.com](http://www.hauff-technik.com)

# Distribution on the property or to the parking spaces

Figure	Item	Article code	Packing unit	Article number	GTIN
	PE corrugated pipe for ETGAR BHP	<b>HAB ETGAR WR75 GR30000</b>	1	3030401995	4052487231374
			6		4052487231671
	ETGAR extension set for ETGAR BHP	<b>HAB ETGAR VLS</b>	1	3030404455	4052487231657
			6		4052487231640
	Sleeve caps for ETGAR foundation box	<b>ETGAR ANS 4x5-25</b>	1	3030449206	4052487239899
			10		4052487239905
	Extension sleeve for ETGAR building services outlet	<b>ETGAR MA70-84/70-84</b>	1	3030403633	4052487232302
			12		4052487231886
	ETGAR foundation box for ETGAR BHP	<b>ETGAR FB</b>	1	3030454134	4052487239851
			32		4052487239868
	ETGAR foundation box set for ETGAR BHP	<b>ETGAR FB SET<sup>1)</sup></b>	1	3030482075	4052487242202
			4		4052487241908
	ETGAR carrier plate for ETGAR foundation box	<b>ETGAR FB TPL</b>	1	3030454138	4052487239875
			32		4052487239882
	Universal charging station foundation for the installation of charging columns and charging pedestals	<b>ULF300 1x110</b>	1	3030512350	4052487243452
			9		4052487243674

<sup>1)</sup> Scope of delivery see: [www.hauff-technik.com](http://www.hauff-technik.com)

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