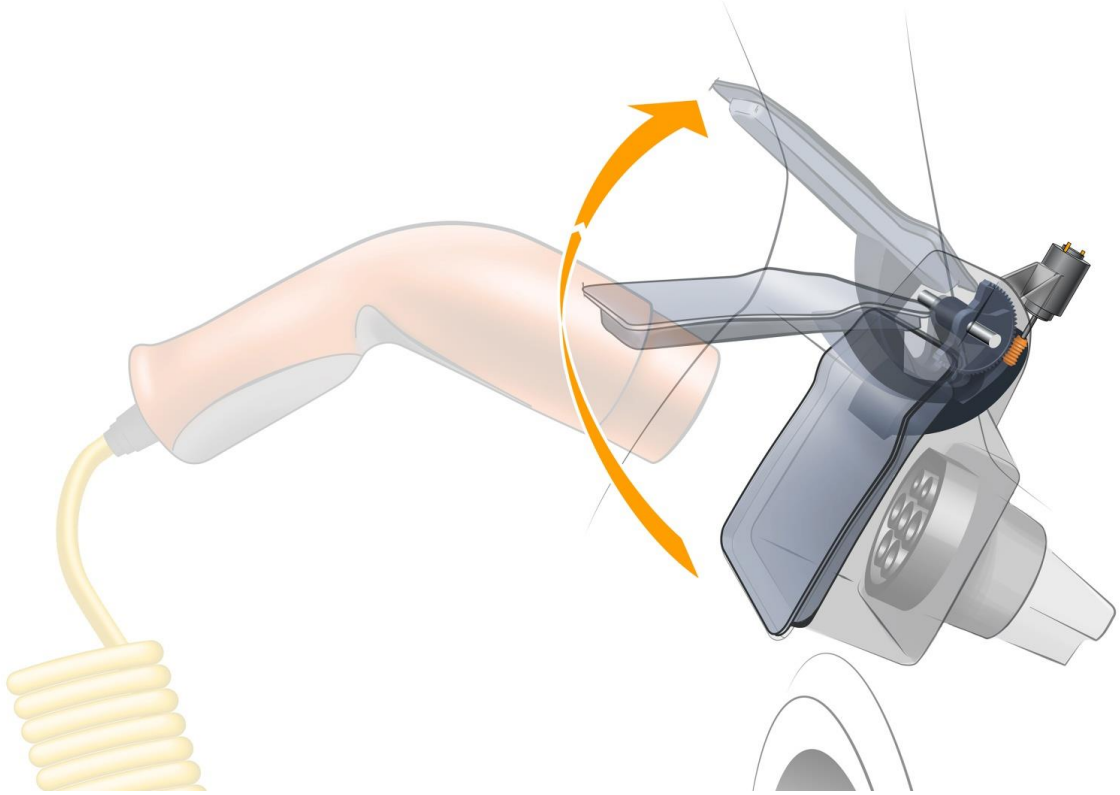
Kunststoff Schwanden

Innovative Plastic Solutions



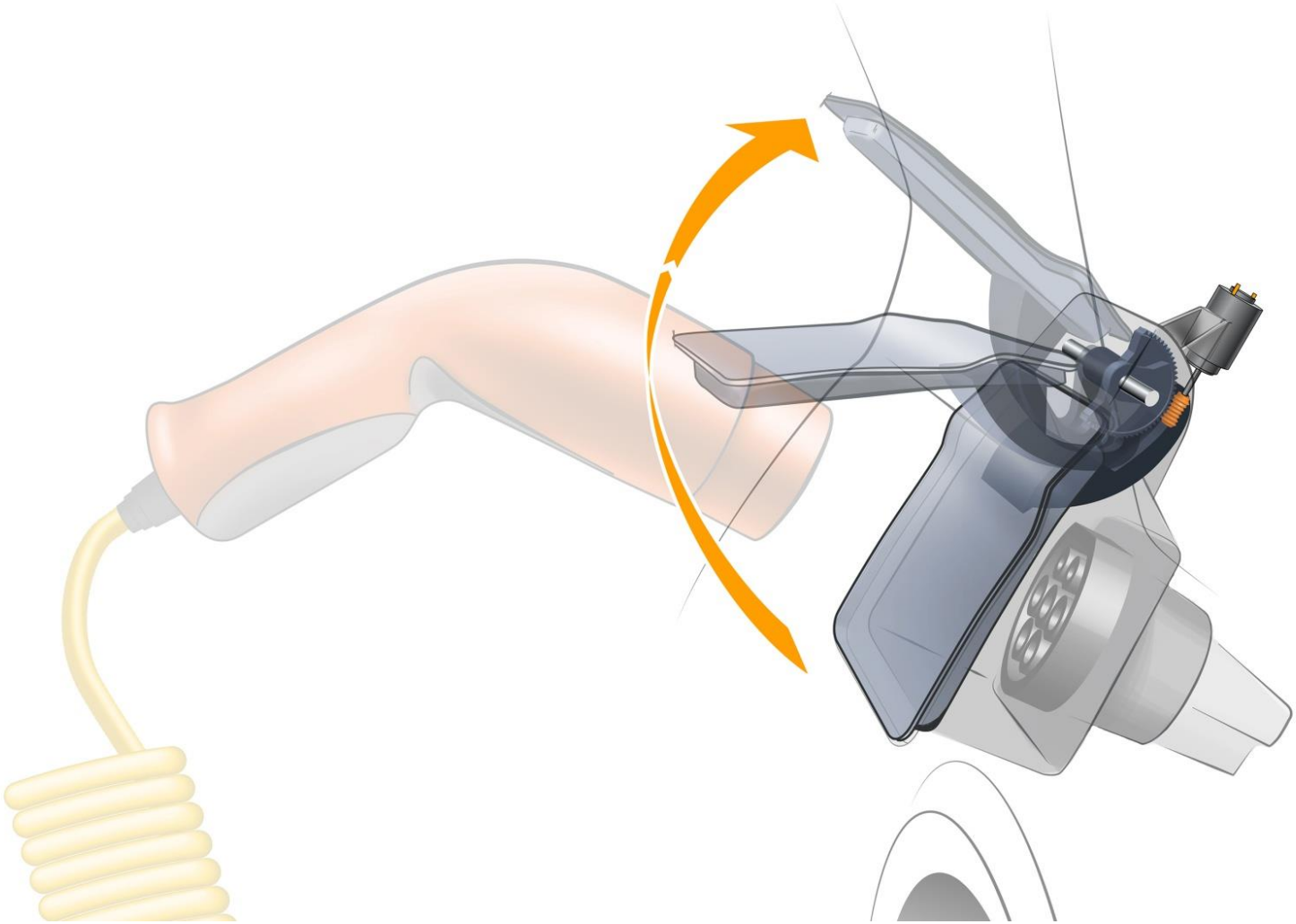
Charging system with a vertically electrical mechanism

Concepts for the future

Previous Construction

- Self-opening flap (actuated by pressure) with manual closure by the user.
- Opening flap to the side.
- High risk of demolition of the flap during the loading process, since it protrudes far out of the vehicle.
- Locking actuator necessary as break-in protection.
- Insertion aid for hinge arm necessary so that the flap always closes safely and the gap and joint dimensions remain uniform.
- Tank filler/plug-in recess, socket and plug are completely exposed to all weather conditions during charging (sun, dirt, rain, snow).

New concept - vertically electrical opening kinematics

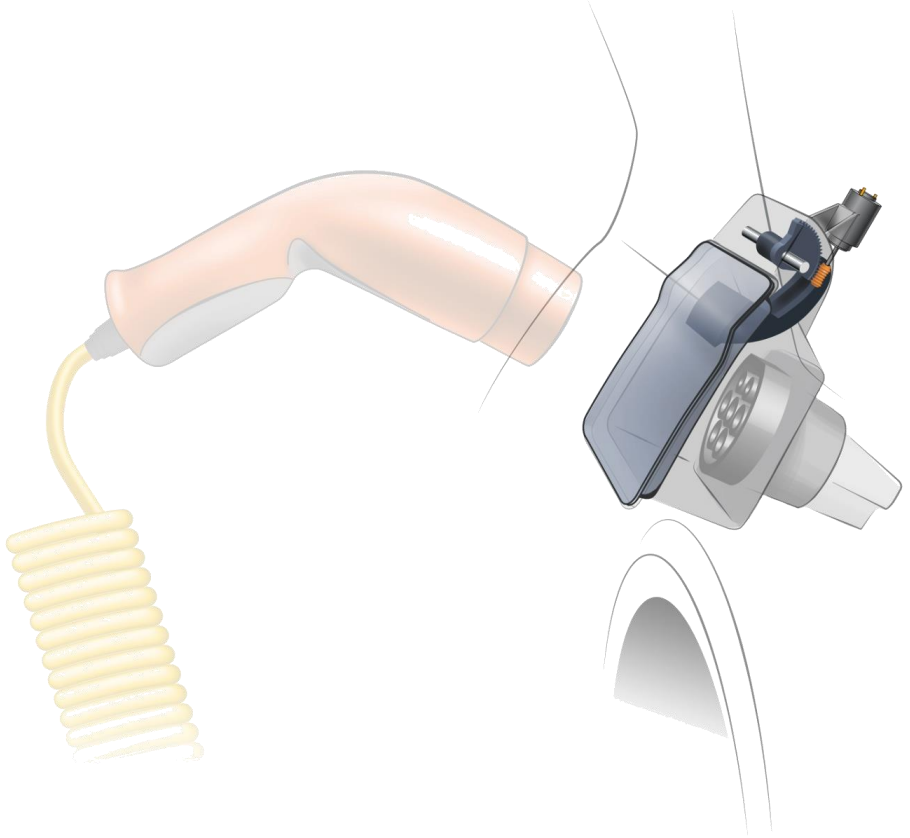


Detailed view of a closed flap

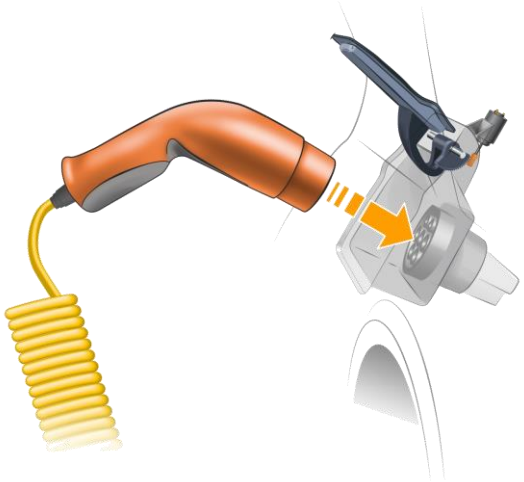
Situation:
The flap is closed.

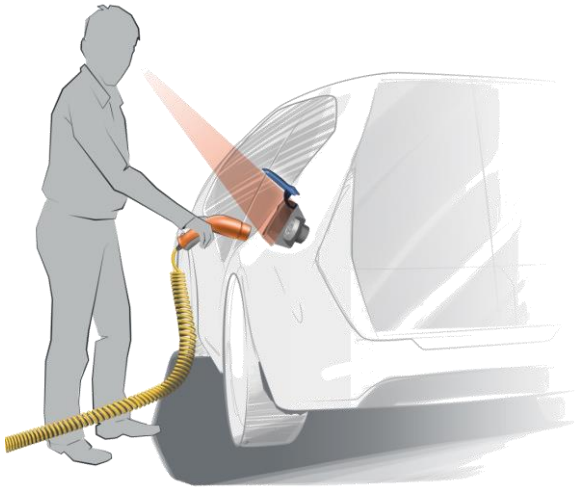
Advantages:

- Self-locking operator offers highest possible theft protection.
- Thus no central locking actuator necessary.



Detailed view of an opened flap



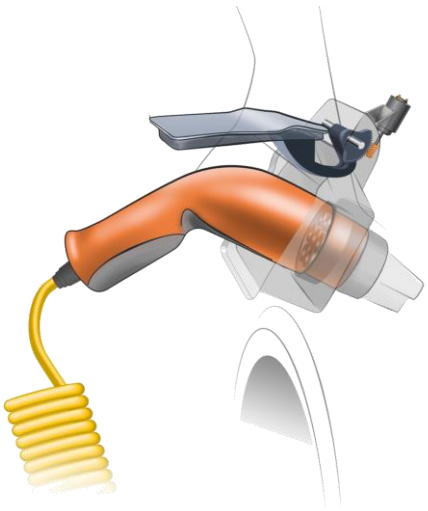


Situation:
Vehicle is not locked, the flap fully opened and the vehicle is ready for loading.

Advantages:

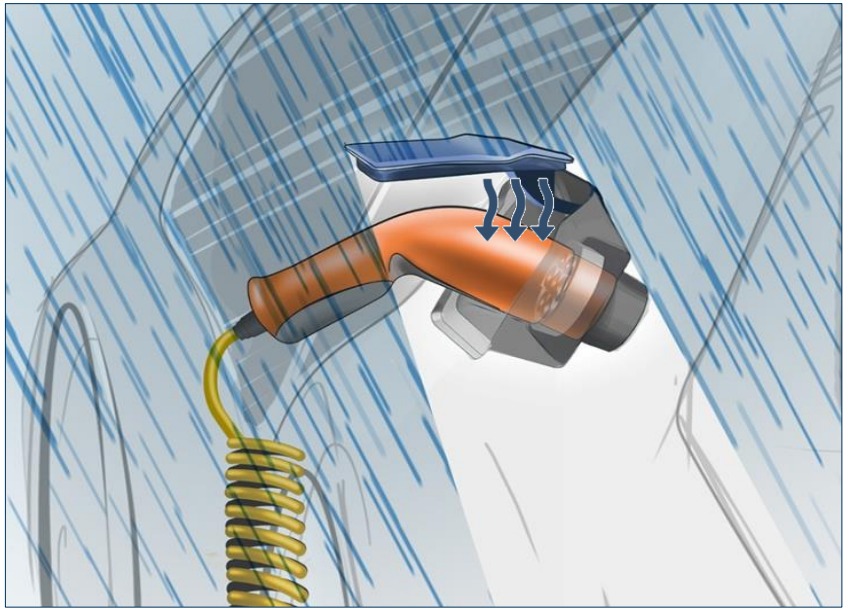
- Flap was automatically opened to the top by an electrical actuator.
- Ergonomics: through wide opened flap you get a good view of the socket, so that the plug can be easily inserted.

Situation:
Flap automatically returns to a pre-set position. The vehicle is being charged and locked.



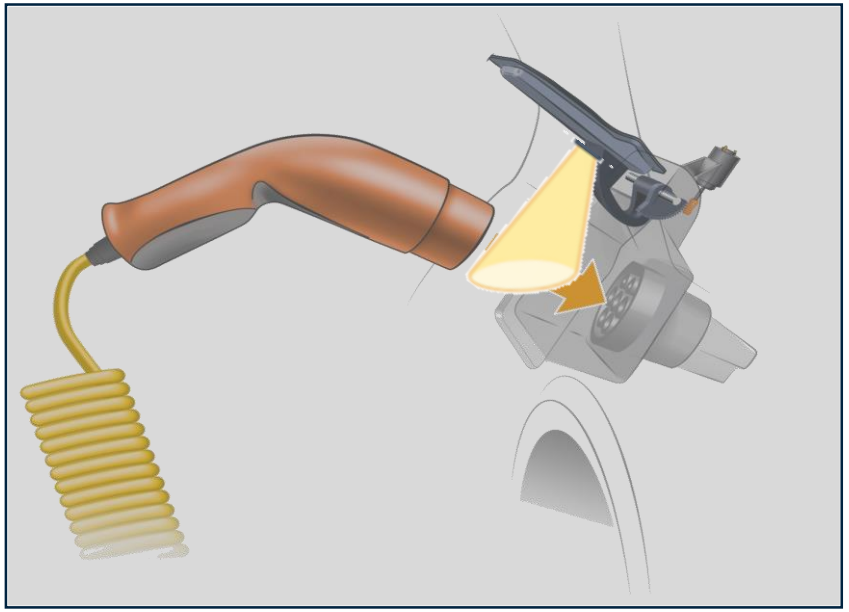
Advantages:

- The half-closed flap offers protection against unfavorable weather influences (sun, heat, rain, snow oder ice)
- Significantly lower risk of damage, as the flap is closer to the vehicle.

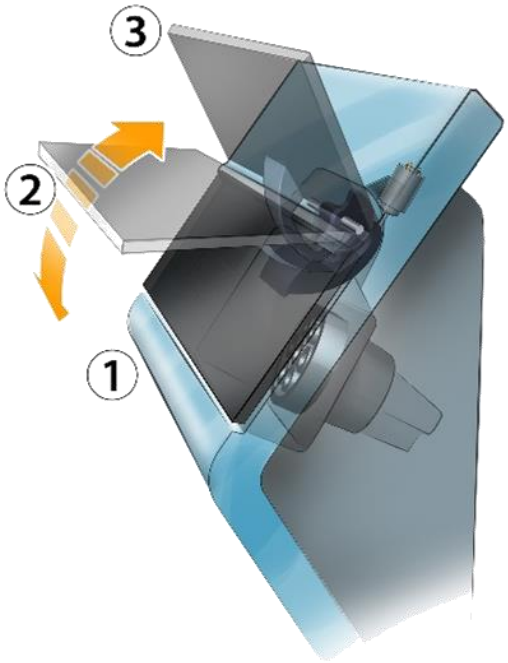


(Infrared) radiant heater for continuous drying during heavy rain, snowfall or ice.

Integration of LED-lighting in the flap to illuminate the tank filler/plug-in recess



When not in use or during charging, the socket is protected from adverse weather conditions (sun, heat, rain, snow or ice).



Use of vertical opening kinematics at a charging station.