Technical Information
TI 09

Cleaning
Conductor type VKS 10

Author TB03

Content

1. Cleaning intervals

A general statement cannot be made since the intervals depend on the local conditions or application conditions and the frequency of use. In general, basic cleaning is recommended once a year.

If contact problems arise, the conductor line has to be cleaned.

Preventive cleaning is only automatically possible for loose dust with the help of our cleaning device ARG 14 ES. This device should be used in the system from commissioning onwards.

2. Safety notes

While maintenance and cleaning work is done, in which carbon dust could get in the ambient air, breathing protection has to be worn:

Breathing protection according to EN 149, Protection level min. FFP2
Order – No.: 1106773 (Protection level FFP2D)

3. Type of soiling

Different cleaning methods have to be used depending on the type of soiling:

3.1 Loose dust and carbon abrasion

Manual cleaning

To remove loose dust and carbon abrasion, the ***disconnected*** conductor line has to be cleaned with help of a standard vacuum cleaner.

Automatic cleaning

To remove loose dust and carbon abrasion, a vehicle is fitted with the cleaning device ARG 14 ES, which, with the help of a special powerail cleaner, vacuums out the conductor line during normal operation.

3.2 Heavier soiling with tightly adherent dirt

Manual cleaning

For heavier soiling caused by light burn points or tightly adherent dirt, the **disconnected** conductor line can e brightened with a rubber block or emery cloth and subsequently cleaned with a vacuum cleaner.

Automatic cleaning

For heavier soiling by light burn points or tightly adherent dirt, powerail cleaners in the form of current collectors can be installed in the system.

The powerail cleaners brighten the conductor surface of the powerails during operation. Any resulting dust and carbon abrasion will be cleaned off during operation using the cleaning device ARG 14 ES.

3.3 Oiled conductor surfaces

The cleaning of oiled conductor surfaces should only be carried out manually with suitable cleaning agents once the surfaces have been **disconnected**.
The cleaning process and the applicable cleaning agents are described in the Technical Information TI02 „Wet cleaning of powerails and conductor lines“.

Powerail cleaners in the form of current collectors can be installed in installations which, from the outset, are expected to experience light coating of oil. They have to be checked, cleaned and replaced at regular short intervals. Already oiled conductor lines cannot be cleaned by retrofitting powerail cleaners.

4. Cleaning materials

4.1 Powerail cleaners in the form of current collectors

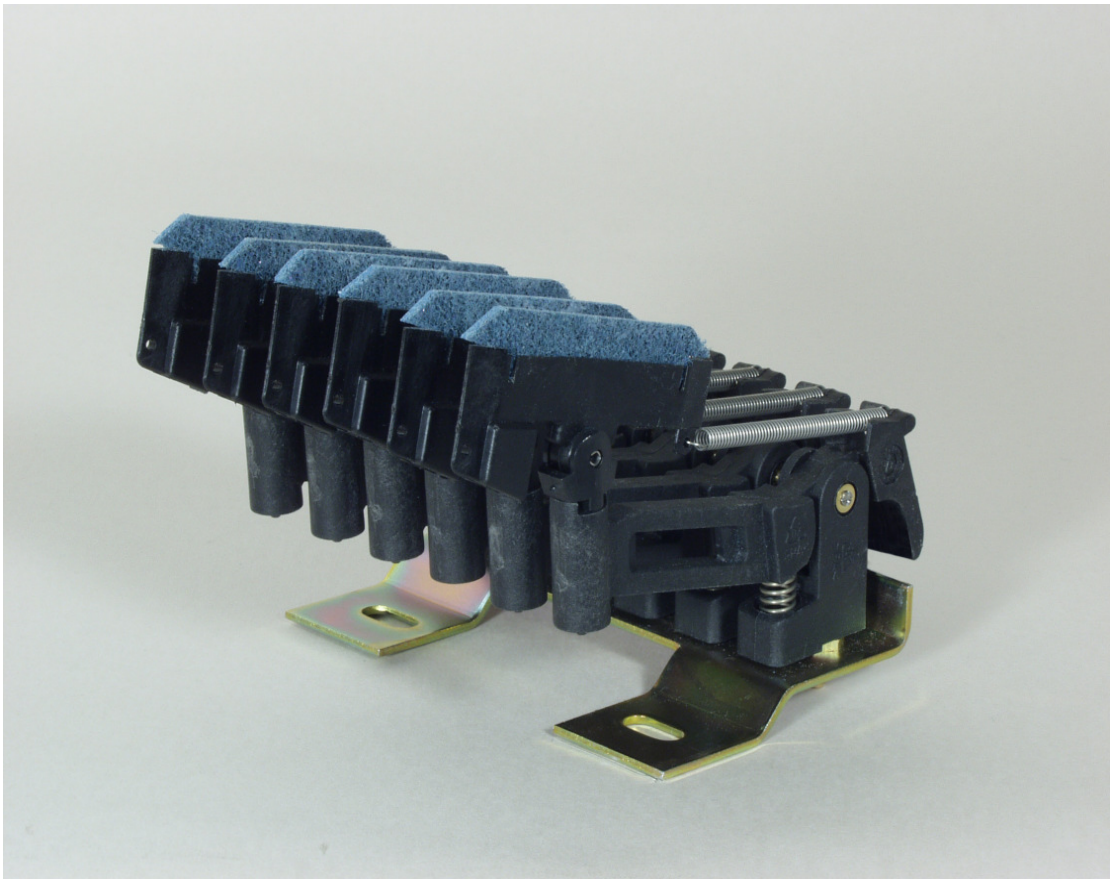
The powerail cleaners could be supplied with the same amounts of poles as the compact current collectors. They differ from „standard“ current collectors only from a cleaning element, which is installed instead of the carbon brush.

Powerail cleaners have no electrical function and brighten copper surface of the conductor.

In the following are the cleaning collectors which are corresponding to the KUF 25 . This type could be aswell used if the compact collector KESR 32-55 is used. (Other types on request)

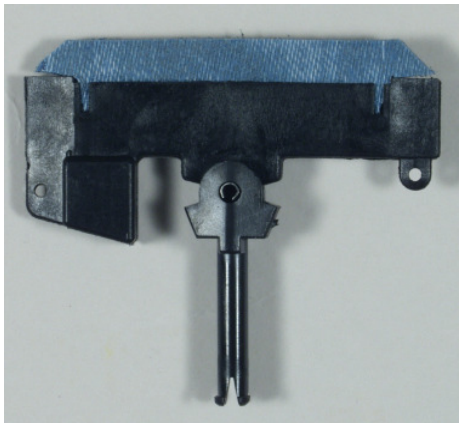
Type	***Description***	***Part-No.***	***Baseplate***
RUF 25-10-14	Compact conductor cleaner	142 368	10-pole
RUF 25-9-14	Compact conductor cleaner	142 367	10-pole / Nr. 10 free
RUF 25-8-14	Compact conductor cleaner	142 366	8-pole
RUF 25-7-14	Compact conductor cleaner	142 901	8-pole / Nr. 8 free
RUF 25-3-14	Compact conductor cleaner	142 832	4-pole / Nr. 4 free
RUF 25	Conductor cleaner	151 684	-
RMK 25	Cleaning head	165 916	-

Compact conductor cleaner RUF 25-6-14



Conductor cleaner RUF 25

Conductor cleaner RMK 25



4.2 Cleaning devices with vacuum cleaner

The cleaning device ARG 14 ES is used during system operation for preventive cleaning.

The following **safety notes** have to be considered:

- Caution with live parts.
  Carbon dust is conductive and could create voltage bridges!

- While cleaning heavily soiled installations, vacuum cleaner filter bags have to be changed in short intervals.

- Do not inhalte carbon dust, do not empty filter bags, dispose them correctly.

4.2.1 Cleaning device ARG 14 ES

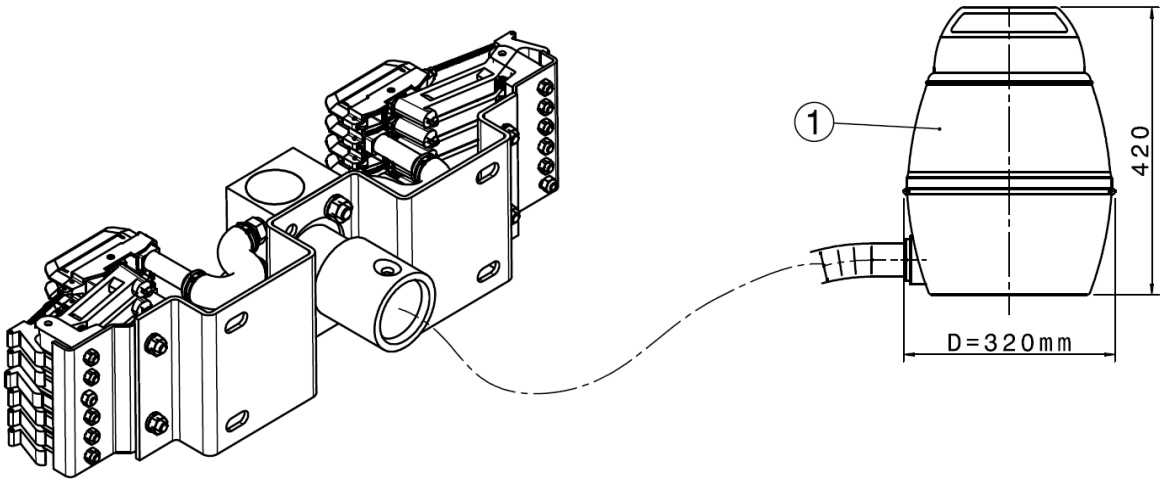
The cleaning device consists of a industrial vacuum cleaner (230 V) with a dust container and a suction head which is equipped with the respective number of poles. It is fitted to the vehicle by others.

Order details could be found in our leaflet „Conductor cleaning device ARG 14 ES“.

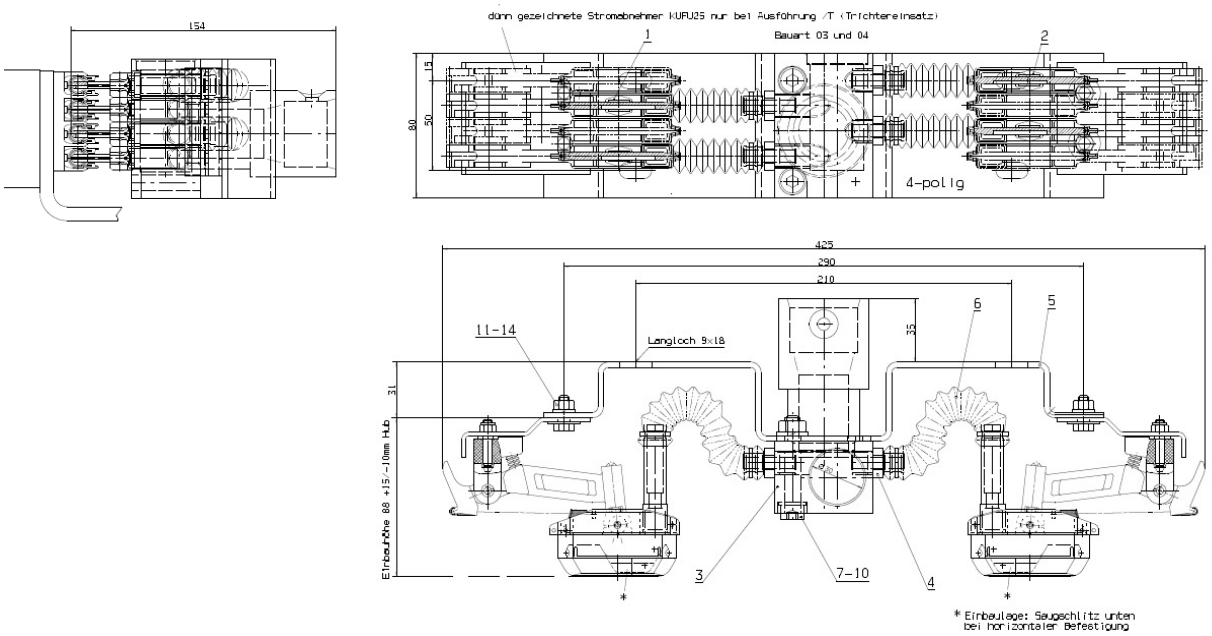
4.2.1.1 Safety instructions

a) The cleaning device has to be positioned in a way which ensures clear passage through the system without damaging other components.
b) Extended usage may result in the fact that single components are dusted with carbon wear and could be live!

4.2.1.2 Dimensions of cleaning device ARG 14 ES



Dimensions suction head for ARG 14 ES 4-pole



4.2.1.3 Design and function

The device consists of the following main components:

- Suction head
- Inductrial vacuum cleaner with filter

These are connected in the stated order with flexible suction hoses. The industrial vacuum cleaner sucks in air via the filter and the suction head.The suction head consists of a special conductor cleaner, which has intake openings on the bottom. This are directly above the carbon wear. They are able to suck in dry dust and abrasion. The conductor cleaner are connected with flexible suction hoses to the collector tube.

The conductor cleaners have the same degree of space to move as the collector units and could therefore compensate any occuring tolerances during normal operation.

Technical data vacuum cleaner

Maintenance free

Rated input :	1,2 kW
Maximal Rating :	1,3 kW
Conncecting voltage:	230V AC 50 Hz
Current draw:	7 A
Starting current max.:	8 A
Air transportation:	2.280 L/min.
Max. vacuum:	230 mbar
Noise:	63 dB (A)
Exchangeable filter bags	
Main filter-Type:	cotton
Filter size:	2.100 cm²
Dust bag volume:	6.25 Liter
Weight:	5 kgs

4.2.1.4 nstallation and maintenance

The support of the cleaning device has to be designed according to the installation location of the customer. General has the suction head to be arranged n the pivot point of a running gear.
The electrical connecting is made by the customer.
To provide a correct exhaust are according to the pollution degree the conductor cleaners and the suction hoses of the suction head to be checked of passage and if needed to change or to pierce
Worn off conductor cleaners have to be replaced.
According to this the filter bags have to be changed.
Snap fittings makes this easy.
The fan is maintenance free and suitable 100% duty cycle

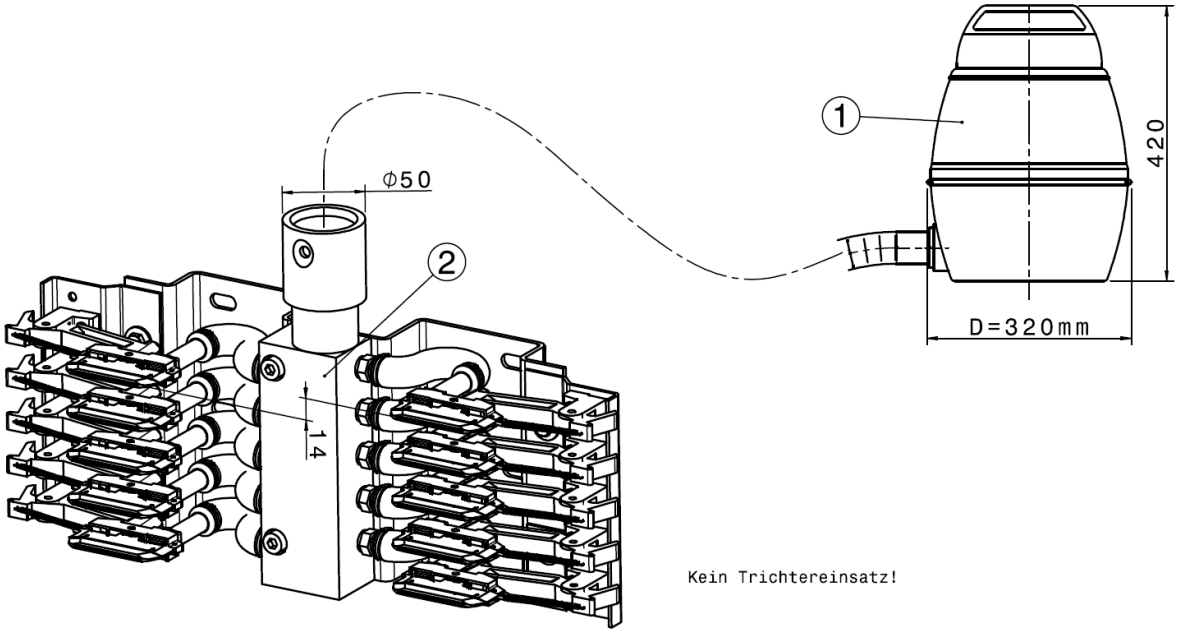
4.2.1.5 Information about use

Depending on the degree of soiling, the cleaning device is switched on at intervals specified by the installation operator. It is recommended to use the cleaning device in the installation from commissioning onwards.

4.2.2 Cleaning device ARG 14 ES/V

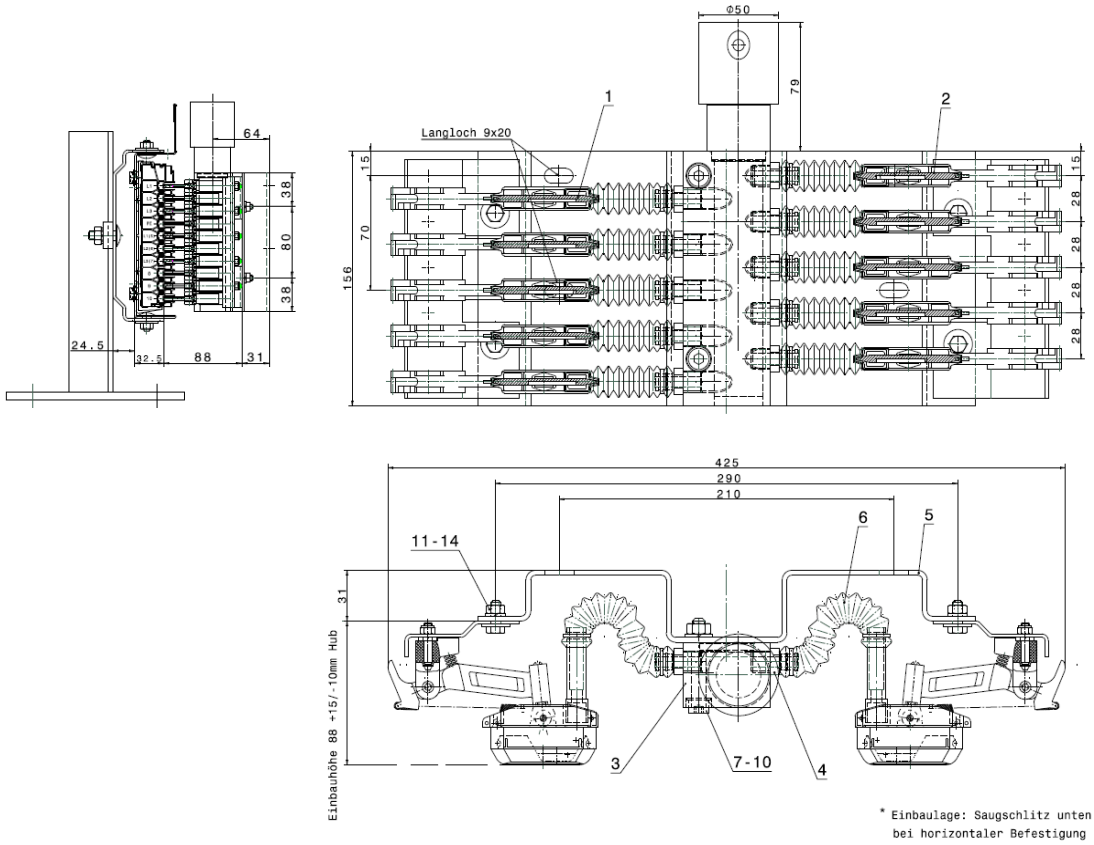
Function und technical Data as with ARG 14 ES.
Design of the sucction head with sucction connection to the top with narrow site locations.

Dimensions cleaning device ARG 14 ES/V



Type	*Description*	*Voltage*	*Part-No.*	*Number of poles*
ARG 14 - 10 ES/V	Cleaning device	230V / 50 Hz	143 231	10-pol.
ARG 14 - 10 ES/V	Cleaning device	110V / 60 Hz	143 183	10-pol.

Dimensions sucction head for ARG 14 ES/V



Description	***Part-No.***	***Number of poles***
Saugkopf für ARG 14 - 10 ES/V	142 860	10-pol.

Order details of spare parts could be found in the leaflet „Conductor cleaning device ARG 14 ES“.

5. Disposal notes

The carbon dust in the filter bag or the air filter could be disposed in common amounts (upto approx. 2 L) in the commercial waste.

Higher amounts have to be disposed to a regular recovery service according to effective disposal law.