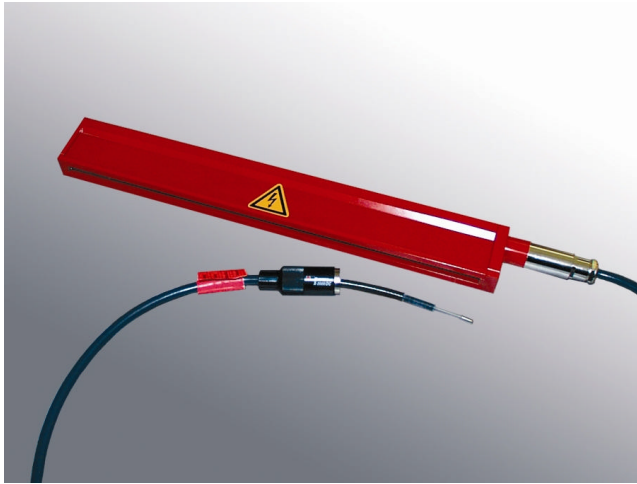


Operating instructions ALW



The resistance-coupled charging electrode ALW



Charge Line

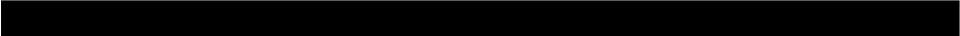


V03




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Keep in a safe place for future reference!

Types: Charging electrode ALW

1 Notes on operating instructions

In these operating instructions, the "Charging electrode ALW" is also referred to as "unit".

1.1 Pictorial markings used

- In these operating instructions



WARNING!
High voltage!
Danger of fatal accidents!



WARNING!
Only plug in/unplug coaxial connector when the charging generator is switched off!



CAUTION!
Important instructions!

- On the unit



WARNING!
High voltage!
Danger of fatal accidents!

2



Safety

CAUTION!

The units must be protected from humidity and moisture!

The unit is operationally safe, provided that it is operated in accordance with its intended use.

In case of misuse, dangers may result:

- for life and limb of the operator,
- for the unit and other assets.

Also note Chapter 3.1 (Important installation notes, page 8).



CAUTION!

The operator of the units must take care to ensure sufficient ventilation during operation!

During operation of the units, small quantities of ozone will form.

In order to ensure adherence to maximum permitted ozone concentrations at the workplace, make sure that the workplace is ventilated sufficiently during operation of the units.

2.1

Intended use

The unit carries positive or negative high voltage, depending on the upstream charging generator. It is intended exclusively for the charging of material webs in industrial production processes, e.g. on packaging machines. HAUG charging generators only must be used for the high-voltage supply of the units.



CAUTION!

Do not install or use the units in areas subject to explosion hazards!

For reasons of safety, unauthorized conversions and modifications of the unit are not permitted.

The installation and operating conditions indicated in these Operating Instructions must be adhered to.

2.2 Danger sources



WARNING!
High voltage!
Danger of fatal accidents!



WARNING!
Only plug in/unplug coaxial connector when the charging generator is switched off!



CAUTION!
The operator must provide protective equipment against direct contact when installing the charging electrodes!

The units connected to the charging generator conduct high voltage during operation. Any contact may lead to injury and consequential accidents. After the charging generator has been switched off, the high voltage on the charging electrode will reduce only slowly. Residual voltage may be present for as long as 30 s.

Defective high-voltage plugs and cables may lead to danger of electric shocks. Shut down the unit immediately in case of visible damage and suspected electrical defects.

2.3 Operator qualifications

The unit may be installed and put into operation by trained electricians only and by authorized persons informed about the potential dangers. The above mentioned persons must have read the operating instructions and must follow the instructions, notes and safety advice.

3 Installation

The unit may be installed by trained electricians only and by authorized persons informed about the potential dangers. The above mentioned persons must have read the operating instructions and must follow the instructions, notes and safety advice.

3.1 Important installation instructions



WARNING!
High voltage!
Danger of fatal accidents!



WARNING!
Only plug in/unplug coaxial connector when the charging generator is switched off!



CAUTION!
The operator must provide protective equipment against direct contact of the operator with the units!
Do not touch the pins installed in the units!

The operation of the unit is not affected by the position in which it is installed. Do not connect the units to the charging generator until installation is completed.

3.2**ALW**

The paragraph numbers refer to the illustrations (serving as examples) included at the end of these operating instructions.

1

The units are not effective over their full length. The ratio of the effective length (l2) to the total length (l1) is as indicated in the sketches.
 $l2 = l1 - 40 \text{ mm.}$

2

Do not install the unit directly on a grounded part of the machine. Install the unit on isolated mountings in the machine / plant. Use special plastic holders and plastic screws (see Accessories, page 14) for mounting.

3

Distance B to grounded machine part always greater than distance A.

4

The pins of the unit must face the material web to be charged. The optimum distance of the units to the material web is approx. 10 - 20 mm. The optimum distance of the counter-electrode is determined as follows:
A: Metallic grounded counter-electrode = direct contact with material web
B: Active counter-electrode = 20 – 30 mm
C: Bipolar charging = 10 – 20 mm distance to material web per unit.

5

Partial cover for smaller web widths. When changing to smaller web widths, part of the units (ALS, AE SL and SA) may be covered with a plastic cover (see Accessories, page 14). The cover may be cut to the required length. In case of bipolar charging, the counter-electrode should be covered at the same time.

6

Install high-voltage cables without kinks. The smallest bending radius is 50 mm.

4

Application

The unit may be put into operation by trained electricians only or by persons instructed in the potential dangers. The above mentioned persons must have read the operating instructions and must follow the instructions, notes and safety advice.



CAUTION!

The operator of the units must take care to ensure sufficient ventilation during operation!



CAUTION!

The units must be protected from humidity and moisture!

Disconnect the units properly from the voltage supply and dry if they have become wet or moist.

The units are intended for the electrostatic charging of material webs in connection with a HAUG charging generator.
E.g. in the packaging industry.

4.1

Putting into operation

Conditions:

The charging generator and the units must be connected properly.

1. The unit is properly connected.
2. Switch on the charging generator.

5 Remedy of defects



WARNING!
High voltage!
Danger of fatal accidents!



WARNING!
Only plug in/unplug coaxial connector when the charging generator is switched off!



CAUTION!
After the charging generator has been switched off, the high voltage on the charging electrode will reduce only slowly. Residual voltage may be present for as long as 30 s.

Any remedy of defects must be carried out by trained electricians only. The above mentioned person must have read the operating instructions and must follow the instructions, notes and safety advice.

In case of defects regarding the charging generator and the charging unit, please check for correct installation and implement the troubleshooting.

5.1 Troubleshooting

Faults	Measures
No charging	Check charging generator
	Check connection
	Clean charging unit
Sparks-over	Repeat the setting of the charging generator
	Check charging unit for damages

If this does not remedy the fault, please return the unit with the charging generator to HAUG for checking (see reverse).

6 Maintenance and repairs



WARNING!
High voltage!
Danger of fatal accidents!

This unit does not include any parts which can be repaired by the operator.

Should the unit prove defective or if a defect is suspected, switch off unit immediately and secure against subsequent reuse.

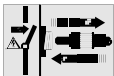
7

Clean at intervals of no more than 14 days using the special cleaning brush RB1 and special cleaning fluid SRM1 or the special cleaning system RS1 (see Accessories, page 14).

6.1 Cleaning



WARNING!
High voltage!
Danger of fatal accidents!



WARNING!
Only plug in/unplug coaxial connector when the charging generator is switched off!



CAUTION!
For particular applications (e. g. food, pharmaceuticals and cosmetics) where the special cleaning agent SRM1 must not be used, please confer with Haug GmbH & Co. KG first.



CAUTION!
High-voltage plugs and sockets must be protected from moisture.
Never use a high-pressure cleaner on any account.

6.1.1**Dry cleaning**

1. Before cleaning the unit, disconnect it first from the voltage supply.
2. Use the special cleaning brush RB1.
3. Brush off the ionizing pins using the special cleaning brush RB1 and then blow off with clean compressed air (max. 6 bar).
4. Reconnect the unit properly to the voltage supply.

6.1.2**Moist cleaning****CAUTION!**

Only clean the unit moist – never wet!

Do not use water to clean the unit!

Only use cleaning agents recommended by Haug GmbH & Co. KG.

1. Before cleaning the unit, disconnect it first from the voltage supply.
2. Only use the special cleaning brush RB1 with the special cleaning agent SRM1 or the special cleaning system RS1.
3. Moisten the special cleaning brush RB1 with the special cleaning agent SRM1 and brush the ionizing pins. Then blow off the unit with clean compressed air (max. 6 bar) and allow to dry.
4. Before connecting the unit to the voltage supply, check the high-voltage connections and high-voltage plugs. The connections must be clean and dry.
5. Reconnect the unit properly to the voltage supply.

6.2 Accessories

Article	Order number
Plastic cover	on request
Plastic screws M 8x40	X - 4355
Plastic nut M 8	X - 4171
Plastic washer ø 8,5 mm	X - 4095
Special cleaning fluid SRM1	10.7220.000
Special cleaning brush RB1	10.7218.000
Special cleaning system RS1	10.7218.001
Circular brush for special cleaning system TBR	X - 6822

7 Technical data

7.1 Supply voltage

The charging units are supplied with high-voltage from Haug charging generators.

7.2 Ambient conditions

Ambient temperature:	
Rated application range	+5 °C to +80 °C
Extreme range for storage and transport	-15 °C to +60 °C
Humidity:	
Rated application range	20 % to 65 % RF
Extreme range for storage and transport	0 % to 85 % RF

7.3 Dimensions

Cross-section:	
ALW	30 x 64 mm
Standard lengths: see Table on page 16	
ALW axial	300 to 2011 mm
ALW radial	291 to 2002 mm
High tensions lead:	1 to 3 m

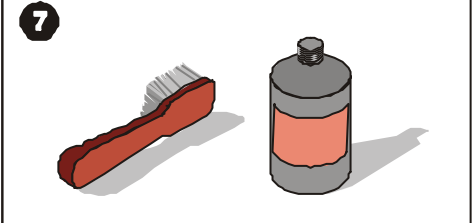
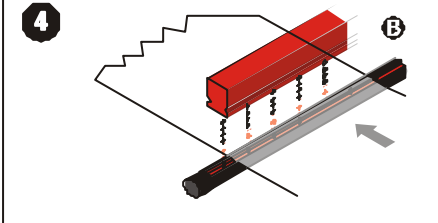
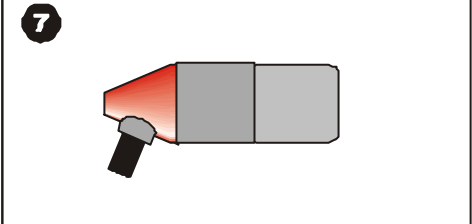
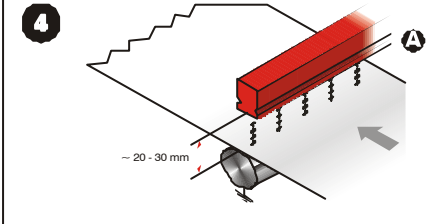
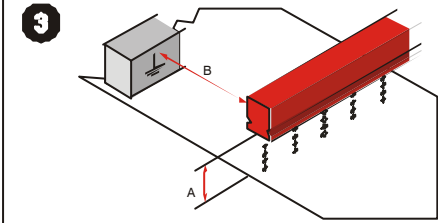
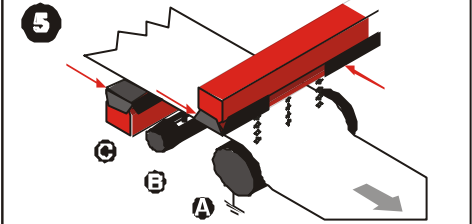
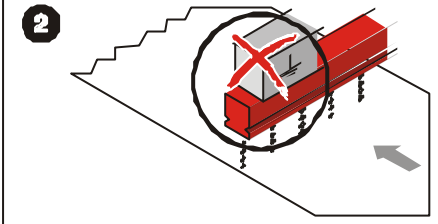
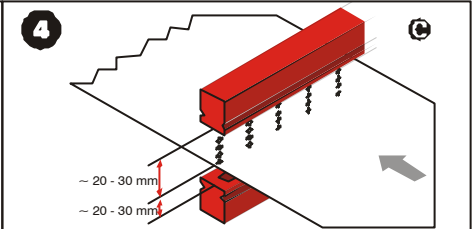
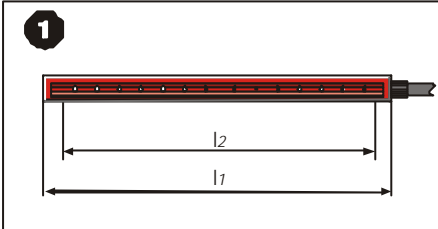
7.4 Table of standard lengths

Bar length in mm		Effective operating length in mm	Bar length in mm		Effective operating length in mm
Axial	Radial		Axial	Radial	
300	291	271	1201	1192	1172
330	321	301	1231	1222	1202
360	251	331	1261	1252	1232
390	381	361	1291	1282	1262
420	411	391	1321	1312	1292
450	441	421	1351	1342	1322
480	471	451	1381	1372	1352
510	501	481	1411	1402	1382
540	531	511	1441	1432	1412
570	561	541	1471	1462	1442
600	591	571	1501	1492	1472
630	621	601	1531	1522	1502
660	651	631	1561	1552	1532
690	681	661	1591	1582	1562
720	711	691	1621	1612	1592
750	741	721	1651	1642	1622
780	771	751	1681	1672	1652
810	801	781	1711	1702	1682
840	831	811	1741	1732	1712
870	861	841	1771	1762	1742
900	891	871	1801	1792	1772
930	921	901	1831	1822	1802
960	951	931	1861	1852	1832
990	981	961	1891	1882	1862
1021	1012	992	1921	1912	1892
1051	1042	1022	1951	1942	1922
1081	1072	1052	1981	1972	1952
1111	1102	1082	2011	2002	1982
1141	1132	1112			
1171	1162	1142			

8**Disposal**

Observe and maintain national and regional waste disposal regulations for the disposal of the unit!

NOTES:



made by



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