



**Power Pack
EN 92 Ex
For potentially
explosive atmospheres
of zones 1 and 2**





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Types

EN 92 Ex	(115 V)	01.7746.200
EN 92 Ex	(230 V)	01.7747.200



Keep in a safe place for future reference!

1 Notes on operating instructions

The power pack “EN 92 Ex“ is also referred to as “unit” in these operating instructions. Ionizing units for use in potentially explosive atmospheres are also referred to more simply as “ionizing units”.

1.1 Pictorial markings used

➤ In these operating instructions



NOT FOR USE by persons with pacemaker!



WARNING!
High voltage!
Danger of fatal accidents!
Do not open unit!



ATTENTION!
Important instructions!

➤ On the unit



WARNING!
High voltage!
Danger of fatal accidents!
Do not open unit!

2 Safety



NOT FOR USE!

Persons wearing heart pacemaker must maintain a safety distance of more than 50 cm from the ionizing unit!

Make sure that you read and observe the operating instructions of the connected ionizing units!

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 4.1 (refer to page 9 "Important installation notes").

2.1 Intended use



ATTENTION!

Power pack EN 92 Ex may be installed in potentially explosive atmospheres of zones 1 and 2!

The power pack is exclusively intended for the supply of high voltage to HAUG ionizing units for use in potentially explosive atmospheres. The unit generates an alternating high voltage of approx. 7 - 8 kVrms. It is intended, in connection with an ionizing unit, for the removal of electrostatic charges from, for example, glass, paper, plastics etc.

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!
Do not open unit!

Defective high-voltage terminals 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 Installer qualifications

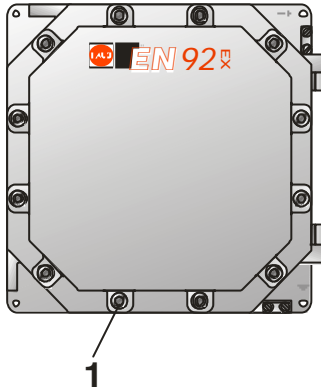
This unit must only be installed by trained electrical engineers qualified in explosion protection. The above mentioned person must have read the operating instructions and must follow the instructions, notes and safety advice.

2.4 Operator qualifications

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

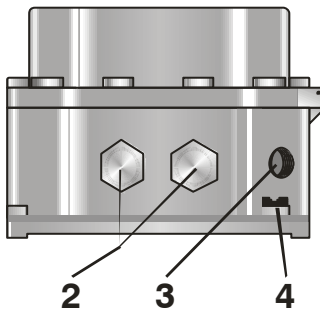
3 Description of unit

Figure 1



1. Lid screws (10,8 Nm)

Figure 2



2. Feed for high-voltage sockets
3. Feed for mains supply
4. Ground connection

4 Installation

This unit must only be installed by trained electrical engineers qualified in explosion protection. The above mentioned person must have read the operating instructions and must follow the instructions, notes and safety advice.



ATTENTION!

During installation, the installation rules and the wiring rules and country-specific installation regulations for potentially explosive atmospheres must be observed!

4.1 Important installation instructions



WARNING!

*High voltage!
Danger of fatal accidents!
Do not open unit!*



ATTENTION!

Make sure that the permitted connected length on the power pack is not exceeded!

If the connected length is exceeded, the power pack will overheat during operation and may get damaged as a result. In addition, proper operation of the connected ionizing units is no longer ensured. You will find the maximum connected length in Section “Technical Data”.

The operation of the power pack is not affected by the position in which it is installed. The cable entries and the lid screws must be mounted carefully. For torques, refer to page 16 “Tightening torques”.

Do not place the unit on a surface generating or radiating heat. Avoid installation positions exposed to direct sunlight.

4.2 Setting up, connecting



WARNING!

*High voltage!
Danger of fatal accidents!
Do not open unit!*



ATTENTION!

For safety reasons, power packs must be connected to the supply voltage via separate emergency stop switch.

This switch can be dispensed with, however, if the supply voltage of the power packs is connected via an emergency stop safety system of the plant in which they are used.



ATTENTION!

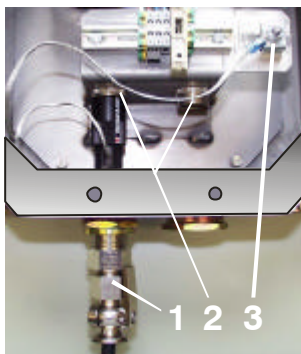
Make sure that the permitted connected length on the power pack is not exceeded!

If the connected length is exceeded, the power pack will overheat during operation and may get damaged as a result. In addition, proper operation of the connected ionizing units is no longer ensured. You will find the maximum connected length in Section "Technical Data".

1. Before connecting always check that the unit is suitable for the local mains voltage (the voltage is indicated on the name plate). Incorrect mains voltage may result in damage to the unit.
2. Attach unit at the required location.
3. Open the housing lid and connect the ionizing units (see page 11, Section 4.3). Do not exceed the permitted connected length on the power pack.
 - Route the HV cable through the feed and connect to the HV socket.
 - Connect the screening of the HV cable to the ground connection.
 - Tighten the screwed cable glands with the specified torques (see page 16 "Tightening torques").
4. Route the mains supply through the feed and connect as shown in Section 4.4. Tighten the screwed cable glands with the specified torques (see page 16 "Tightening torques").
5. Close the lid and tighten screws using a torque wrench. For torques, refer to page 16 "Tightening torques".
6. Connect the PE conductor (green-yellow) with the protective earth of the mains. Connecting the PE conductor via parts of a machine body is insufficient.
7. Connect the power pack to the mains.
8. Put unit into operation.

4.3 Connect ionizing unit

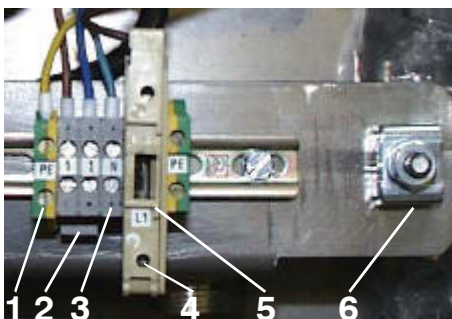
Figure 3



1. Screwed cable gland
2. HV sockets
3. Ground connection

4.4 Connect mains supply

Figure 4



1. Protective earth (PE) conductor
2. Bridge
3. Mains connection (N)
4. Mains connection (L)
5. Fuse
6. Screening mains cable

5

Application

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

Switch on the mains voltage, once the power pack and the ionizers have been connected correctly and the power pack is closed.

6 Remedy of defects



WARNING!
High voltage!
Danger of fatal accidents!
Do not open unit!

Any defects must be repaired only by trained electrical engineers qualified in explosion protection. 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 power pack and the ionizing unit, please check for correct installation and fusing first (for replacement, refer to page 14, chapter 7.1).

6.1 Troubleshooting



ATTENTION!
Carry out troubleshooting outside the explosion hazard zone!

Faults	Measures
No ionization	Check mains voltage
	Check fuse (for replacement, refer to page 14, chapter 7.1)
	Check connection
	Clean ionizing unit
	Check ionizing unit for damages. If damaged, immediately shut down and secure against restarting.

If this does not remedy the defect, please return the unit and the ionizing unit to HAUG GmbH & Co. KG (see address on back page) for examination.

7 Maintenance and repairs



WARNING!

*High voltage!
Danger of fatal accidents!
Do not open unit!*

This unit does not include any parts which can be repaired by the operator. HAUG GmbH & Co. KG only is authorized to repair or calibrate the unit.

7.1 Replacing fuse

1. Switch off unit.
2. Determine and remove the cause for the blown fuse.
3. Open lid and swing open fuse holder.
4. Replace fuse and reattach fuse holder.
5. Close the lid and tighten screws using a torque wrench. For torques, refer to page 16 "Tightening torques".

Use the following fuses only:

Unit type		Fuse
01.7746.200	115 V	500 mA slow; 5 x 20 mm
01.7747.200	230 V	250 mA slow; 5 x 20 mm

The unit type and the rated voltage are indicated on the nameplate. Only use fuses of the type indicated.

8 Technical data

8.1 Characteristics and specification

Reference temperature 23 °C

High-voltage terminals	2
High voltage	U = approx. 7 - 8 kVAC
Short-circuit current	$I_k \leq 3 \text{ mA}$
Connected length (ionizing bar + HV cable)	Max. 18 m

8.2 Supply voltage



CAUTION!

Always connect the PE conductor (green/yellow conductor) to the protective earth of the mains!

Unit type	Nominal value	Operating range	Frequency range	Power input
01.7746.200	115 VAC	$\pm 10 \%$	50 - 60 Hz	$P_{\max} = 80 \text{ VA}$
01.7747.200	230 VAC	$\pm 10 \%$	50 - 60 Hz	$P_{\max} = 80 \text{ VA}$

8.3 Marking

All units are marked as follows:

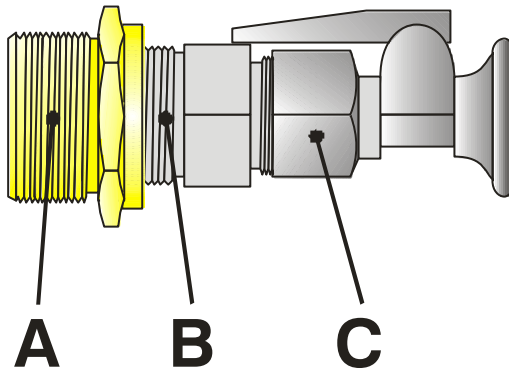


II 2G EEx d IIB T6

8.4 Tightening torques

Lid screws M8	10,8 Nm
Filler plug M32	50 Nm
A: Reducer	50 Nm
B: Screwed cable gland	20 Nm
C: Cable entry point	10 Nm

Figure 5



Screwed cable gland for HV cable and mains supply

- A:** Reducer
- B:** Screwed cable gland
- C:** Cable entry point

8.5 Ambient conditions

Ambient temperature:	
Rated application range	+5 °C to +45 °C
Extreme range for storage and transport	-15 °C to +60 °C
Humidity:	
Rated application range	20 % to 65 % RH
Extreme range for storage and transport	0 % to 85 % RF
Air pressure:	
Rated application range	800 mbar to 1060 mbar
Vibrations:	
Extreme range for storage and transport	max. 1.5 g (10 to 55 Hz), 1 h
Shock	max. 15 g in each direction
Recommended service position:	
	vertical, supply cable downwards

8.6 Housing

Degree of protection according to protection class	Ex-d
Connection to supply voltage	On terminal blocks
Mains cable:	
Manufacturer	Lapp Kabel
Types	Ölflex 140 CY, 3 x 2,5 mm ²
Dimensions:	
Height	approx. 280 mm
Width	approx. 280 mm
Depth	approx. 215 mm
Weight:	
	approx. 15 kg

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Disposal

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


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EG - Konformitätserklärung

EC - Declaration of Conformity

Déclaration de conformité CE

HAUG GmbH & Co. KG • Friedrich-List-Str. 18 • D-70771 Leinf.-Echterdingen

Die Fa. „The company, La société

HAUG GmbH & Co. KG
Friedrich-List-Str. 18
70771 Leinf.-Echterdingen

 erklärt in alleiniger Verantwortung, dass das elektrische Betriebsmittel
 declares hereby in sole responsibility, that the electrical product
 déclare de sa seule responsabilité, que le produit électrique

Ex-Ionisationsgerät

 in Verbindung mit den Netzteilen
 in combination with the power packs
 en combinaison avec les alimentations

Multistat Ex (230V) 01.7760.030, Multistat Ex (115V) 01.7759.030,
Multistat Ex (230V) 01.7954.000, Multistat Ex (115V) 01.7955.000,
EN 92 Ex (230V) 01.7747.200, EN 92 Ex (115V) 01.7746.200
EN 92 Ex (230V) 01.7747.201, EN 92 Ex (115V) 01.7746.201

 mit den folgenden Normen oder normativen Dokumenten übereinstimmt:
 is in conformity with the following standards or normative documents:
 est conforme aux normes ou aux documents normatifs suivants:

Niederspannungsrichtlinie Low voltage directive Directive sur les basses tensions	2006/95/EG 2006/95/EC 2006/95/CE	EN 61010 (VDE 0410)
EMV Richtlinie Electromagnetic compatibility Compatibilité électromagnétique	89/336/EWG 89/336/EEC 89/336/CEE	EN 61000-6-2/6-3
ATEX Richtlinie im Ex-Bereich Norm ATEX explosive atmospheres Normes ATEX atmosphères explosibles	94/9/EG 94/9/EC 94/9/CE	zertifiziert durch* certified by* certifié par* DMT 02 ATEX E 212 X BVS 03 ATEX E 194 X BVS 07 ATEX E 028 X

 * DEKRA EXAM GmbH
 Dinnendahlstr. 9, D-44809 Bochum
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Leinfelden-Echterdingen, 11.05.2007

i.V.


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 SWK: DE37 0804 0017 0001 1606 00
 Deutsche Bank AG - Konto 33 14 135 (62.2.000.730.70)
 Deutsche Bank AG - Konto 1005 086 08 (62.2.000.900.00)
 Bayer HypoVereinsbank - Konto 322 000 044 (62.2.000.000.00)
 SW: Bank: Kofno 29 17 902 (62.2.000.501.01)
 LIS: 02 96 00 140 940 227

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 Persönlich haftende Gesellschafterin: HAUG GmbH
 Sitz: Leinfelden-Echterdingen
 eingetragen beim Amtsgericht Stuttgart HRK 309
 Steuer-Nummer: 9713/170607

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HAUG

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