

Operating Instructions



F00051y



Distributor ESV61 / ESVY61

Extension cable KE

for AC operation

BA-en-2071-2211



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Dear Customer,

The ESV61 / ESVY61 distributors are designed for distributing high voltage power to the discharging bars operated with alternating voltage.

The number of components connectable to a power supply can be increased via the ESV61 / ESVY61 distributors. In case of larger distances between the power supply and the bars, cable length can be saved by placing the distributor closer to the bars.

The KE extension cable is used to connect bars with a plug-in connection or with a short cable to a power supply unit mounted further away.

The ESV61 / ESVY61 distributors feature the following characteristics:

- high voltage connecting cable with plug (and socket)
- small dimensions
- easy installation
- protection class IP54 design

Please read the operating instructions carefully before starting the instrument. This will help you prevent personal injuries and damage to property.

Please give us a call if you have any suggestions, proposals or ideas for improvements. We greatly appreciate the feedback from the users of our appliances.

1. Overview

1.1 Overview Distributor ESV61

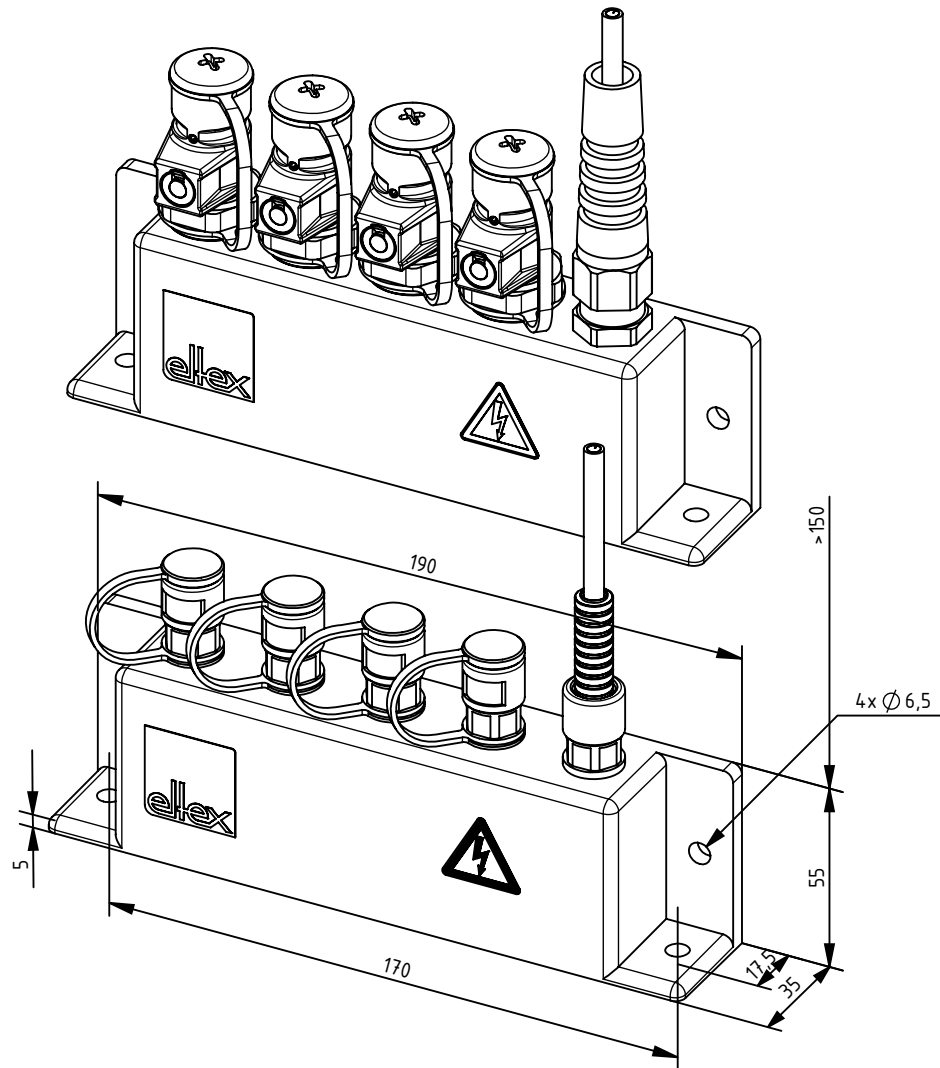


Fig. 1:
Distributor ESV61

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1.2 Overview Distributor ESVY61

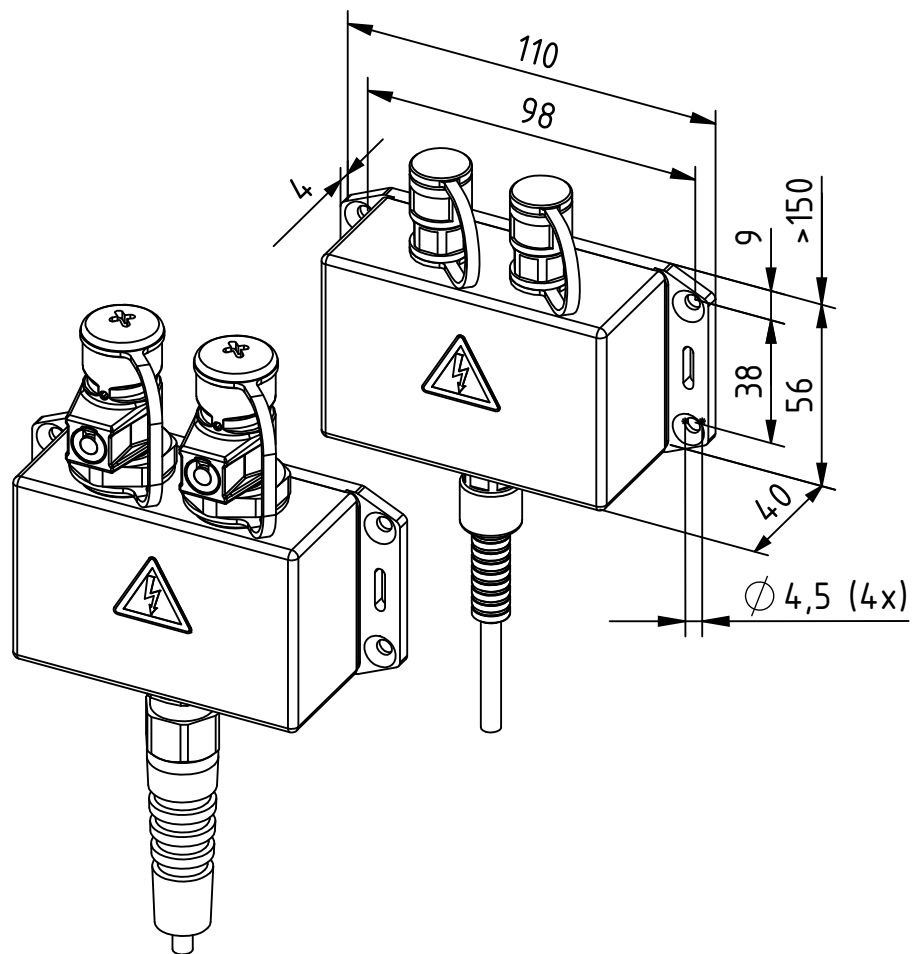


Fig. 2:
Distributor ESV61

Z-113530y

1.3 Variants of the distributor ESV61 and ESVY61

Plug types (L, S and Y, Z) are available for connecting to the power supply, and 2 socket contacts (S and Z) are available for connecting the bars, the ion blower nozzles and the ion blower heads:

- If you have chosen to wire your bars to the series ES5x or PI power supplies, we recommend to use the ESV61/LS_ version (plug L / socket S).
- If you are using the ES24 power supply, we recommend the ESV61/YZ_ version (plug Y / socket Z).

Beyond that, any combination is possible.

Depending on the bars and power supply units, the combination of plug and socket must be defined.

The length of the connection cable can be selected from 0.5 m to 39.5 m in 0.5 m steps; versions with protective hose (plug variants L and Y) only from 1.0 m.

1.4 Overview Extension cable KE/_B

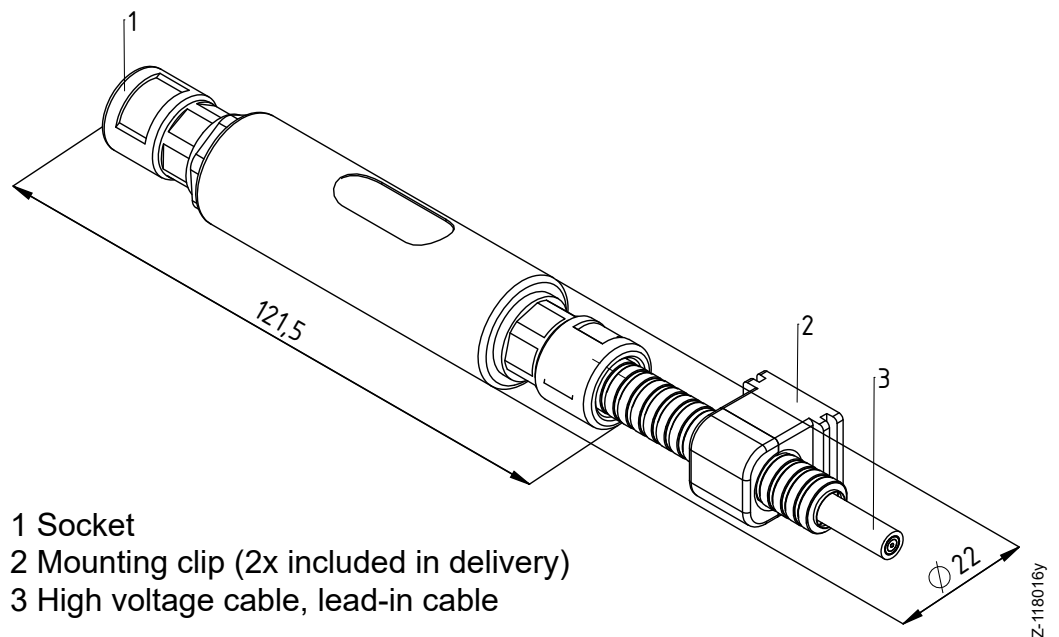


Fig. 3:
Extension cable
KE/_B

1.5 Variants of the extension cable KE/_B

Different plug types are available for connecting to the power supply

- If you have chosen to wire your bars to the series ES5x or PI power supplies, we recommend to use the KE/LB___ version (plug L / socket B, cable length 010 - 395 dm).
- If you are using the ES24 power supply, we recommend the KE/YB___ version (plug Y / socket B, cable length 010 - 060 dm).

2. Safety

The extension cable KE and the ESV61 / ESVY61 distributors have been designed, built and tested using state-of-the-art engineering, and have left the factory in a technically and operationally safe condition. If used improperly, the units may nevertheless be hazardous to personnel and may cause injury or damage. Read the operating instructions carefully and observe the safety instructions.

Always observe the rules and regulations applying in your country with reference to opening and repairing electrical appliances.

The manufacturers will not assume any liability and warranty if the units are used improperly or used outside the intended purpose.

For warranty conditions, please refer to the General Terms and Conditions (GTC), see www.eltex.de.

2.1 Proper use

The extension cable KE and the distributors ESV61 / ESVY61 must be operated only in connection with the appropriate Eltex discharging bars for AC operation and with the appropriate Power Supplies.

Modifications or changes made to the distributor are not permitted.

Use only original Eltex spare parts and equipment.

2.2 Identification of risks and hazards

Possible risks and hazards resulting from the use of units are referred to in these operating instructions by the following symbols:



Warning!

This symbol appearing in the operating instructions refers to operations which, if carried out improperly, may result in serious personal injuries.



Caution!

This symbol appearing in the operating instructions refers to operations which, if carried out improperly, may result in damage to property.

2.3 Work and operational safety



Warning!

Carefully observe the following notes and the complete [chapter 2 "Safety", page 8!](#)

- Always switch off the power supply and disconnect the mains power supply before making any repairs and before cleaning and servicing the distributor, the power supply and the bars (see [chapter 5 "Maintenance", page 13](#)).
- Before carrying out any work involving the units, the machine which has the units fitted must not be in operation (see [chapter 5 "Maintenance", page 13](#)).
- Any work involving the units must be carried out by qualified electricians (see [chapter 5 "Maintenance", page 13](#)).
- Connect / disconnect the high voltage cables only if the power supply unit is switched off (see [chapter 3.3 "Connecting the high voltage cable", page 11](#)).
- In applications involving moving bars (e.g. film draw strips), the high voltage cable must be attached such that there is no cable movement near the connection zone of the power supply unit resp. the distributor (see [chapter 3.3 "Connecting the high voltage cable", page 11](#)).
- Seal unused connecting sockets with blanking plugs (see [chapter 3.3 "Connecting the high voltage cable", page 11](#), [chapter 5 "Maintenance", page 13](#)).
- Push the high voltage cables into the sockets up to the stop. Make sure that the locking pin is fully engaged (see [chapter 3.3.1 "Discharge plug Y and Z", page 12](#)).
- To pull out the high voltage plug, use a flat screwdriver to lift the locking pin (see [chapter 3.3.1 "Discharge plug Y and Z", page 12](#)).
- Please note the maximum total lengths of the bars and the high voltage cables in the Operating Instructions of the used Power Supply (see [chapter 3.4 "Maximum active bar length and length of the high voltage cable", page 12](#)).
- Before starting up the unit, make sure that the extension cable and the distributor has been mounted correctly, that the high voltage cables have been installed properly and that the connections at the distributor are in good working (see [chapter 4 "Operation", page 13](#)).
- Make sure that the cable inlets and the connections are clean at all times (see [chapter 5 "Maintenance", page 13](#)).
- Check the electric leads and high voltage cables at regular intervals. Any damaged components must be repaired or replaced before the operation of the unit is continued.
- Protection class IP54 applies only in case of sealed cable connections.

2.4 Technical advance

The manufacturer reserves the right to make changes to the technical specifications without prior notice in order to adapt the units to state-of-the-art engineering. Eltex will provide the latest information on any changes or modifications in the operating instructions on request.

3. Installation and assembly

3.1 Assembly of the distributor and the extension cable

The ESV61 / ESVY61 distributors are designed for wall-mounted installation and are attached via mounting brackets (see chap. 7, dimensions). Make sure that the connections remain accessible at all times.

The plug socket of the extension cable can be mounted on a wall using the enclosed fastening clips.

3.2 Selecting the discharge plug of the input line

ESV61 / ESVY61 distributors with the discharge plug Y or Z can be connected to the ES24 power supplies and with the discharge plug L or S to the ES5x and PI power supplies.

The KE/_B extension cable with discharge plug Y can be connected to the ES24 power supplies and with discharge plug L to the ES5x and PI power supplies.

3.3 Connecting the high voltage cable



Warning!

Connect or disconnect the high voltage cables only with the power supply switched off and the machine which has the units fitted must not be in operation-

Connect the bars to the ESV61 resp. ESVY61 distributor via the prefabricated high voltage cable.

Connect the bar to the extension cable KE/_B via the prefabricated high voltage cable.

In applications involving moving bars, the high voltage cable must be attached such that there is no cable movement near the connection zone of the power supply unit resp. the distributor.

Seal unused connections with blanking plugs.



3.3.1 Discharge plug Y and Z

Push the high voltage cables into the sockets up to the stop. Make sure that the locking pin is fully engaged.

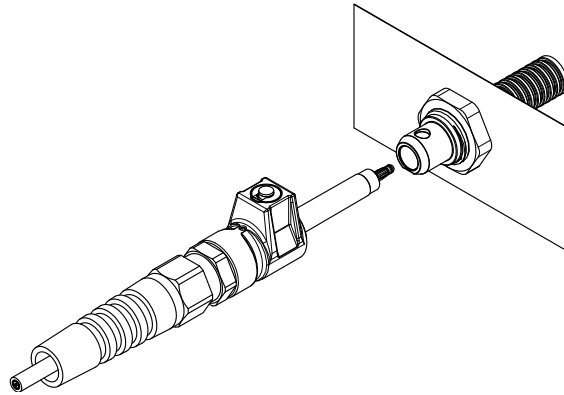


Fig. 4:
Connecting the
high voltage cable
with plug Y

To pull out the high voltage plug, use a flat screwdriver to lift the locking pin.

3.3.2 Discharge plug L and S

Push the high voltage cables into the sockets up to the stop. Then secure the adapter in the socket with the clip provided (see Fig. 5).

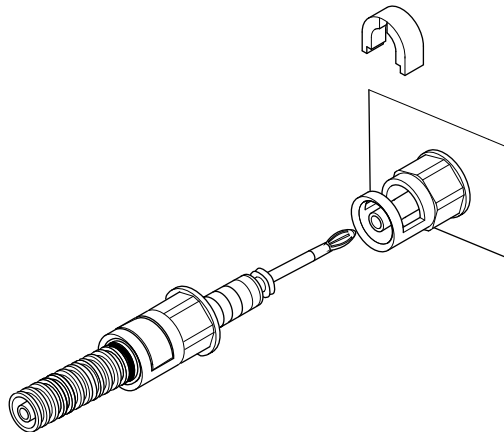


Fig. 5:
Connecting the
high voltage cable
with plug L



3.4 Maximum active bar length and length of the high voltage cable

Both the lengths of the high voltage cable and of the active bars are limited. The shielded high voltage cables cause a capacitive load on the transformer inside the power supply. The maximum load capacity depends on the total active length of the bar, the total length of all high voltage cables, and on the power supply unit used.

The details given in the operating instructions for the power supply must be observed.

4. Operation

4.1 Startup



Before starting up the unit, make sure that the extension cable and the distributor has been mounted correctly, that the high voltage cables have been installed properly and that the connections at the distributor are in good working order.

The extension cable resp. the distributor are now operational.

The high voltage can now be switched on at the power supply.

5. Maintenance



Warning!

Electric shock hazard!

- Switch the power supply off and disconnect the supply voltage before carrying out any maintenance or repair work.
- The machine which has the units fitted must not be in operation.
- Any work involving the units must be carried out by qualified electricians.

Extension cable and Distributor

- The extension cable and the distributor do not require any special maintenance. Make sure that the connections are placed correctly!
- Seal unused connecting sockets with blanking plugs.
- The cable inlets must be kept clean.

6. Technical specifications Distributors ESV61 and ESVY61 and Extension cable KE

as shown on
appliance
marking:



Supply voltage	max. 6 kV AC, max. 250 Hz
Operating ambient temperature	0...+70 °C (+32...+158 °F)
Storage temperature	-10...+80 °C (+14...+176 °F)
Ambient humidity	max. 80 % r.h., non-dewing
High voltage connection	high voltage connecting cable with plug ESV61: 4 pcs. plug-type ESVY61: 2 pcs. plug-type KE/_B: 1 pc. plug-type
Enclosure	ESV61 / ESVY61: plastic with mounting drill-hole KE/_B: Aluminium
Protection class	IP54 according EN 60529
Dimensions	ESV61: 55 x 190 x 35 mm (H x B x T), see Fig. 6 ESVY61: 56 x 110 x 40 mm (H x B x T), see Fig. 7 KE/_B: 22 x 121.5 mm (Ø x L), see Fig. 8
Weight	ESV61: approx. 1 kg ESVY61: approx. 0.3 kg KE/_B: approx. 0.075 kg (plus 0.075 kg per m cable length)

7. Dimensions

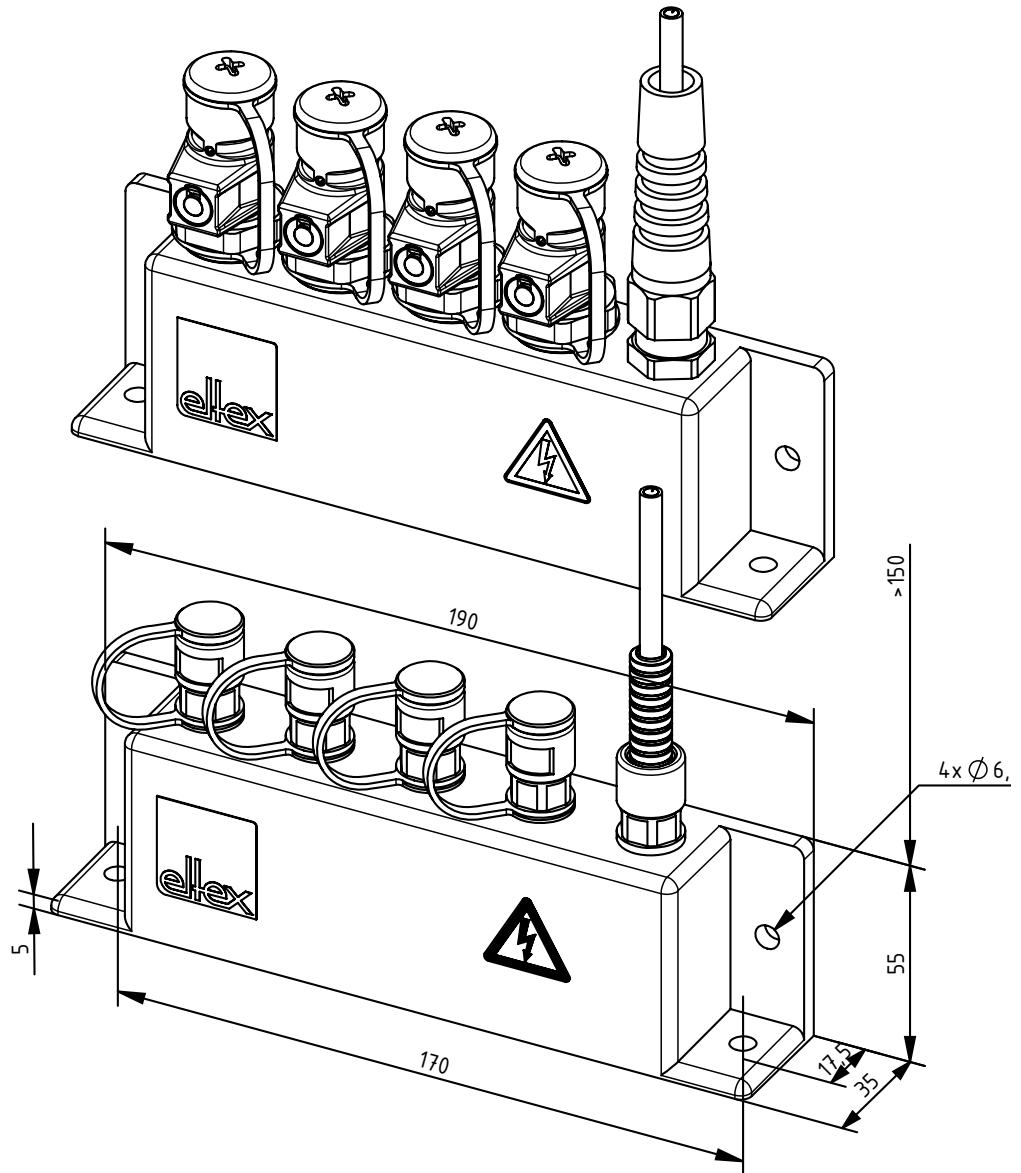


Fig. 6:
Dimensions
Distributor ESV61

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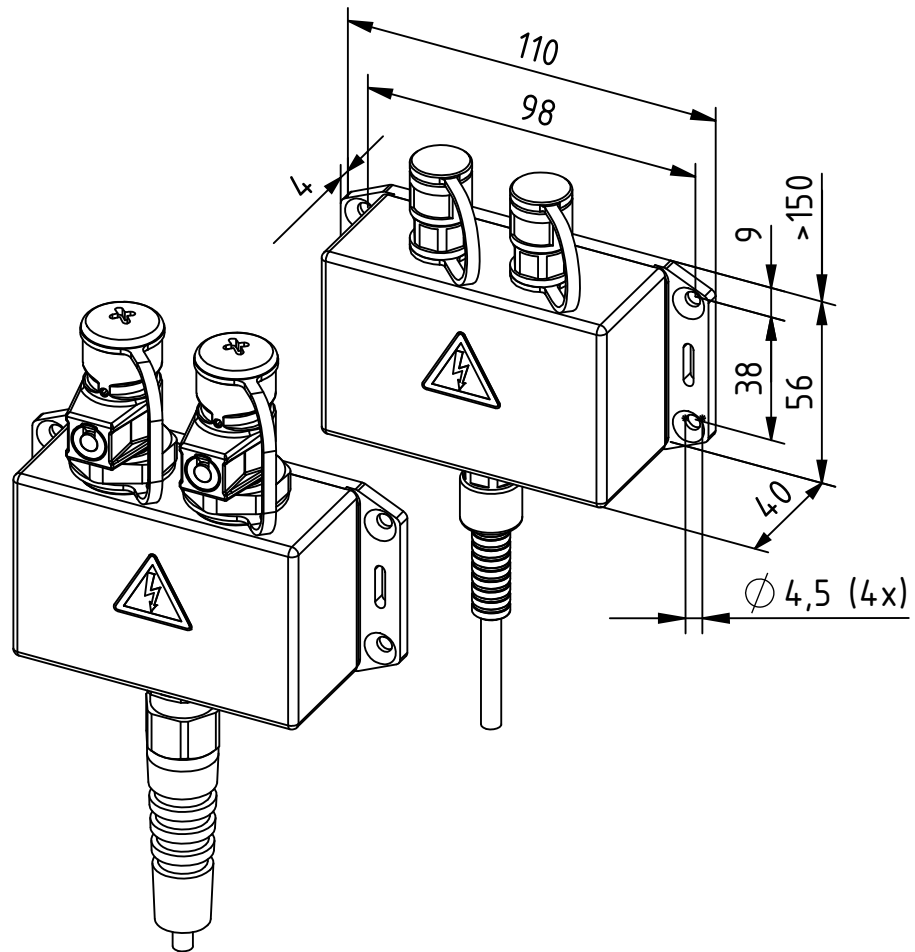


Fig. 7:
Dimensions
Distributor
ESVY61

Z-113530ay

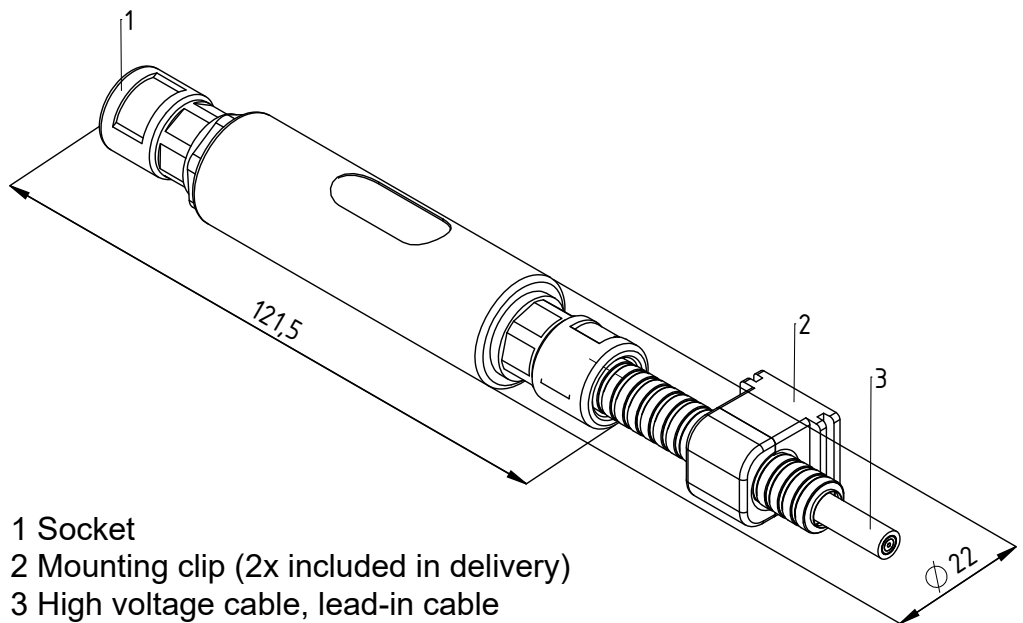


Fig. 8:
Dimensions
Extension cable
KE/_B

- 1 Socket
- 2 Mounting clip (2x included in delivery)
- 3 High voltage cable, lead-in cable

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8. Spare parts and accessories

Article	Article No.
High voltage cable with flexible tube from distributor ESVY61/_S to bar R51A (specify cable length)	KE/LL_ _ _ _
High voltage cable without flexible tube from distributor ESVY61/_S to bar R51A (specify cable length)	KE/SS_ _ _ _
High voltage cable with flexible tube from distributor ESV61 resp. ESVY61/_Z to bar R51A (specify cable length)	KE/YL_ _ _ _
High voltage cable without flexible tube from distributor ESV61 resp. ESVY61/_Z to bar R51A (specify cable length)	KE/ZS_ _ _ _
High voltage cable with flexible tube from distributor ESV61 resp. ESVY61/_Z to bar R51A or to blower head R36 / R55 or to blower pistol PR36 / PR55 (specify cable length)	KE/YW_ _ _ _
High voltage cable without flexible tube from distributor ESV61 resp. ESVY61/_Z to bar R51A or to blower head R36 / R55 (specify cable length)	KE/ZY_ _ _ _
Plug "L" Set for prefabricating the high voltage cable with flexible tube for power supply ES50 / ES51 and distributor ESVY61/_S	103289
Plug "S" Set for prefabricating the high voltage cable without flexi- ble tube for power supply ES50 / ES51 / PI and distributor ESVY61/_S	101366
Plug "Y" Set for prefabricating the high voltage cable with flexible tube for power supply ES24	111602
Plug "Z" Set for prefabricating the high voltage cable without flexi- ble tube for power supply ES24	101406
Blanking plug for high voltage connection, plug Y, Z	111937
Blanking plug for high voltage connection, plug L, S	100597
Operating instructions (specify language)	BA-xx-2071

Please specify the article number when ordering.

EU-Declaration of Conformity

CE-2071-en-2104

Eltex-Elektrostatik-Gesellschaft mbH
Blauenstraße 67 - 69
D-79576 Weil am Rhein



declares in its sole responsibility that the product

Distributor ESV / ESV61 / ESVY61 / R51V

complies with the following directives and standards.

Relevant EU-Directive:

2014/35/EU

Low Voltage Directive

Harmonized standard applied:

EN 60204-1:2018

Safety of machinery – Electrical equipment of machines –
General requirements

Relevant EU-Directive:

2011/65/EU

RoHS Directive

in the version effective at the time of delivery.

Eltex-Elektrostatik-Gesellschaft mbH keep the following documents for inspection:

- proper operating instructions
- plans
- other technical documentation

Weil am Rhein, 09.04.2021
Place/Date



Lukas Hahne, Managing Director

UKCA Declaration of Conformity

CA-2071-en-2208

Eltex-Elektrostatik-Gesellschaft mbH
Blauenstraße 67 - 69
D-79576 Weil am Rhein



declares in its sole responsibility that the product

Distributor ESV / ESV61 / ESVY61 / R51V

complies with the following directives and standards.

Applicable Regulation:

S.I. 2016 No. 1101

Electrical Equipment (Safety) Regulations

Used Designated Standard:

BS EN 60204-1:2018

Applicable Regulation:

S.I. 2012 No. 3032

RoHS Regulations

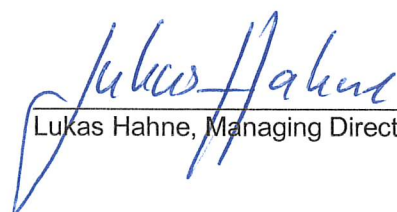
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- proper operating instructions
- plans
- other technical documentation

Weil am Rhein, 30.08.2022

Place/Date



Lukas Hahne, Managing Director

Eltex offices and agencies

The addresses of all
Eltex agencies can be
found on our website at
www.eltex.de



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