

EVGs* – Electronic ballasts for luminous discharge tubes

* EVG is the common abbreviation of the German term for electronic ballast and used by us as a product name, e.g. EVG 40-3.

Safety notes

- The electrical connection must be carried out by qualified electricians only. Make sure that the circuit is de-energized before connecting. If any malfunction or damage is detected after switching on, the supply voltage must be switched off immediately.
- Only use original parts from the manufacturer for maintenance and repair.
- Do not make any modifications. If subsequent modifications are carried out on the EVGs, liability will pass on to the person carrying out the modifications.
- The manufacturer accepts no liability for damage caused by improper use or extreme external influences. These are for example:
 - **Mistakes during installation of the EVGs:**
 - mechanical modifications to the housing, e.g. by drilling or grinding
 - excessive mechanical stress, e.g. due to bending or squeezing
 - overtemperature due to inadequate clearances
 - heat accumulation due to thermally insulated installation
 - **Environmental and natural influences:**
 - overheating due to excessive ambient temperatures
 - chemical influences from the environment (e.g. sulphur)
 - overvoltage due to lightning
 - **Disturbances in the power grid:**
 - mains over- or undervoltage, voltage imbalance
 - transient overvoltage in the grid or due to contact problems
 - ripple control signals outside the specified limit values

Keep these instructions with the inspection documentation of the system.

Intended use

- Operation of high-voltage luminous discharge tubes (neon tubes)
- Some types provide additional dimming capability via a potentiometer.
- The EVG is intended as a component to be installed in electrical systems by qualified personnel.

Unpacking and checking the content

The packaging must be opened in such a way that the content cannot be damaged. Particular care must be taken when using sharp tools. After unpacking, immediately check the content for damage and compliance with the delivery note. Any defects or deficiencies must be notified to us immediately.

Mechanical installation

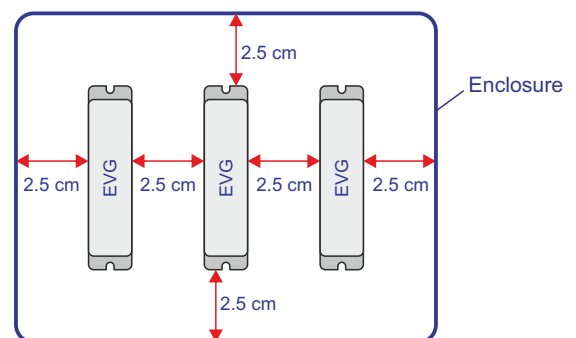
- **Surface:** A solid and flat supporting surface is required to ensure good heat dissipation.
- **Fixing:** With 4 mm screws in the cut-outs provided.
- The ambient temperature must not exceed the specified limit during operation.

Commissioning

- Prior to commissioning the EVG with the luminous discharge tubes, the responsible qualified electrician must make sure that the actual tube length does not exceed the maximum value specified in the table overleaf.
- The luminous discharge tubes must only be connected in a de-energized state. The mains voltage must not be switched on before the electrical connections are complete and the contacts have been checked.
- The EVG housing must not be covered with paint. The type plates must always remain legible and may not be removed or covered after installation.
- Mechanical modification of the EVGs is not permitted and will void the warranty.
- The connections of the EVGs are not protected (degree of protection IP00, even if the EVG itself is IP67-compliant) and must be installed in such a way that the degree of protection required at the installation location (i.e. within the protective enclosure, if applicable) is ensured. The connecting cables attached to the EVG are not longitudinally watertight. The types of cables attached to the EVG according to the data sheet are approved for protected installation (mechanical protection, UV protection) only.
- Protective enclosures must be provided with suitable means to drain water (and condensate).
- The EVG must be fixed safely and must not be used as fixing point for other components (including cables).

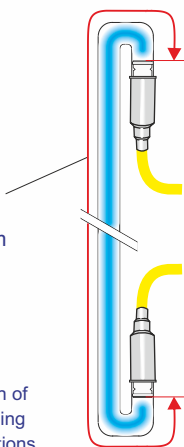
Avoid accumulation of heat

- When installing the EVGs, make sure that any accumulation of heat is avoided.
- The **minimum clearance** between individual EVGs must be **2.5 cm all round**. Sufficient air circulation must be ensured. Exposure to additional heat by sunlight must be avoided. The EVGs can be installed directly on metal surfaces to ensure better heat dissipation.



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The values given represent the maximum tube length which may be connected to the EVG.



The tube length is measured from one electrode to the other.

Basis for the calculation of these values are the filling pressure recommendations of the German Fachverband Lichtwerbung as of November 1992.

Blue discharge (outdoor)						
Diameter	10	12	15	18	20	22
1 Syst.	0.9	1.1	1.4	1.7	1.8	2.0
2 Syst.	0.5	0.6	0.8	0.9	1.0	1.1

Blue discharge (indoor)						
Diameter	10	12	15	18	20	22
1 Syst.	1.2	1.5	1.8	2.1	2.3	2.5
2 Syst.	0.8	1.0	1.2	1.4	1.5	1.6

Red discharge						
Diameter	10	12	15	18	20	22
1 Syst.	0.6	0.7	0.9	1.1	1.2	1.2
2 Syst.	0.3	0.4	0.5	0.6	0.6	0.7

990 volts

Blue discharge (outdoor)						
Diameter	10	12	15	18	20	22
1 Syst.	1.6	2.0	2.5	2.9	3.1	3.4
2 Syst.	1.2	1.5	1.8	2.1	2.3	2.5
3 Syst.	0.8	1.0	1.2	1.4	1.5	1.7

Blue discharge (indoor)						
Diameter	10	12	15	18	20	22
1 Syst.	2.0	2.5	3.0	3.5	3.8	4.1
2 Syst.	1.6	2.0	2.4	2.8	3.0	3.3
3 Syst.	1.2	1.5	1.8	2.1	2.3	2.5

Red discharge						
Diameter	10	12	15	18	20	22
1 Syst.	1.0	1.2	1.6	1.9	2.0	2.1
2 Syst.	0.7	0.9	1.2	1.4	1.5	1.6
3 Syst.	0.5	0.6	0.8	0.9	1.0	1.0

1,500 volts

Blue discharge (outdoor)						
Diameter	10	12	15	18	20	22
1 Syst.	2.3	2.8	3.5	4.1	4.4	4.8
2 Syst.	1.9	2.3	2.9	3.4	3.6	4.0
3 Syst.	1.5	1.8	2.2	2.6	2.8	3.1
4 Syst.	1.0	1.3	1.6	1.9	2.1	2.2
5 Syst.	0.6	0.8	1.0	1.2	1.3	1.4

Blue discharge (indoor)						
Diameter	10	12	15	18	20	22
1 Syst.	2.8	3.5	4.2	5.0	5.3	5.8
2 Syst.	2.4	3.0	3.6	4.3	4.6	5.0
3 Syst.	2.0	2.5	3.0	3.5	3.8	4.1
4 Syst.	1.6	2.0	2.4	2.8	3.0	3.3
5 Syst.	1.2	1.5	1.8	2.1	2.3	2.5

Red discharge						
Diameter	10	12	15	18	20	22
1 Syst.	1.5	1.8	2.2	2.7	2.9	3.0
2 Syst.	1.2	1.5	1.8	2.2	2.4	2.5
3 Syst.	0.9	1.1	1.4	1.7	1.8	2.0
4 Syst.	0.7	0.8	1.0	1.2	1.3	1.4
5 Syst.	0.4	0.5	0.6	0.8	0.8	0.9

2,000 volts

Blue discharge (outdoor)						
Diameter	10	12	15	18	20	22
1 Syst.	3.0	3.7	4.5	5.3	5.7	6.2
2 Syst.	2.6	3.2	3.9	4.6	5.0	5.4
3 Syst.	2.1	2.7	3.3	3.9	4.2	4.5
4 Syst.	1.7	2.2	2.7	3.1	3.4	3.7
5 Syst.	1.3	1.6	2.2	2.4	2.6	2.8

Blue discharge (indoor)						
Diameter	10	12	15	18	20	22
1 Syst.	3.6	4.5	5.4	6.4	6.9	7.5
2 Syst.	3.2	4.0	4.8	5.7	6.1	6.6
3 Syst.	2.8	3.5	4.2	5.0	5.3	5.8
4 Syst.	2.4	3.0	3.6	4.2	4.6	5.0
5 Syst.	2.0	2.5	3.0	3.7	3.8	4.1

Red discharge						
Diameter	10	12	15	18	20	22
1 Syst.	1.9	2.3	2.9	3.5	3.7	4.0
2 Syst.	1.6	2.0	2.5	3.0	3.2	3.4
3 Syst.	1.4	1.7	2.1	2.5	2.7	2.9
4 Syst.	1.1	1.3	1.7	2.0	2.2	2.3
5 Syst.	0.8	1.0	1.3	1.6	1.7	1.8

2,500 volts

Blue discharge (outdoor)						
Diameter	10	12	15	18	20	22
2 Syst.	3.2	4.0	5.0	5.8	6.3	6.8
3 Syst.	2.8	3.5	4.3	5.1	5.5	6.0
4 Syst.	2.4	3.0	3.7	4.3	4.7	5.1
5 Syst.	2.0	2.5	3.1	3.6	3.9	4.2
6 Syst.	1.6	2.0	2.5	2.9	3.1	3.4

Blue discharge (indoor)						
Diameter	10	12	15	18	20	22
2 Syst.	4.0	5.0	6.0	7.1	7.6	8.3
3 Syst.	3.6	4.5	5.4	6.4	6.9	7.5
4 Syst.	3.2	4.0	4.8	5.7	6.1	6.6
5 Syst.	2.8	3.5	4.2	5.0	5.3	5.8
6 Syst.	2.4	3.0	3.6	4.2	4.6	5.0

Red discharge						
Diameter	10	12	15	18	20	22
2 Syst.	2.1	2.5	3.2	3.8	4.1	4.3
3 Syst.	1.8	2.2	2.8	3.3	3.6	3.8
4 Syst.	1.5	1.9	2.4	2.8	3.1	3.2
5 Syst.	1.3	1.6	2.0	2.4	2.5	2.7
6 Syst.	1.0	1.2	1.6	1.9	2.0	2.1

3,000 volts

Blue discharge (indoor)						
Diameter	8	10	12	15	18	20
2 Syst.	4.3	5.6	7.0	8.5	10.0	10.7
3 Syst.	4.0	5.2	6.5	7.9	9.2	10.0
4 Syst.	3.7	4.8	6.0	7.3	8.5	9.2
5 Syst.	3.4	4.4	5.5	6.7	7.8	8.4
6 Syst.	3.1	4.0	5.0	6.0	7.1	7.6

Blue discharge (outdoor)						
Diameter	8	10	12	15	18	20
2 Syst.	3.1	4.6	5.7	7.0	8.2	8.9
3 Syst.	2.8	4.2	5.2	6.4	7.5	8.1
4 Syst.	2.5	3.8	4.7	5.8	6.8	7.3
5 Syst.	2.2	3.4	4.2	5.2	6.0	6.5
6 Syst.	1.9	2.8	3.5	4.3	5.1	5.5

Red discharge						
Diameter	8	10	12	15	18	20
2 Syst.	2.4	2.9	3.6	4.5	5.4	5.8
3 Syst.	2.2	2.7	3.3	4.1	4.9	5.3
4 Syst.	2.0	2.4	3.0	3.7	4.4	4.8
5 Syst.	1.7	2.1	2.6	3.3	4.0	4.3
6 Syst.	1.5	1.9	2.3	2.9	3.5	3.7

4,000 volts

Blue discharge (indoor)						
Diameter	8	10	12	15	18	20
2 Syst.	5.6	7.2	9.0	10.9	12.8	13.8
3 Syst.	5.3	6.8	8.5	10.3	12.1	13.0
4 Syst.	5.0	6.4	8.0	9.7	11.4	12.3
5 Syst.	4.6	6.0	7.5	9.1	10.7	11.5
6 Syst.	4.3	5.6	7.0	8.5	10.0	10.8
7 Syst.	4.0	5.2	6.5	7.9	9.2	10.0
8 Syst.	3.7	4.8	6.0	7.3	8.5	9.2
9 Syst.	3.4	4.4	5.5	6.7	7.8	8.4

Red discharge						
Diameter	8	10	12	15	18	20
2 Syst.	3.1	3.8	4.7	5.8	7.0	7.5
3 Syst.	2.9	3.5	4.4	5.4	6.5	7.0
4 Syst.	2.7	3.3	4.0	5.0	6.0	6.5
5 Syst.	2.5	3.0	3.7	4.6	5.6	6.0
6 Syst.	2.2	2.8	3.4	4.2	5.1	5.5
7 Syst.	2.0	2.5	3.1	3.8	4.6	5.0
8 Syst.	1.8	2.2	2.7	3.4	4.1	4.4
9 Syst.	1.6	2.0	2.4	3.0	3.6	3.9

5,000 volts

Blue discharge (indoor)						
Diameter	8	10	12	15	18	20
2 Syst.	9.3	12.0	15.0	18.2	21.4	23.0
3 Syst.	9.0	11.6	14.5	17.6	20.7	22.3
4 Syst.	8.7	11.2	14.0	17.0	20.0	21.5
5 Syst.	8.4	10.8	13.5	16.4	19.2	20.7
6 Syst.	8.1	10.4	13.0	15.8	18.5	20.0
7 Syst.	7.8	10.0	12.5	15.2	17.8	19.2
8 Syst.	7.5	9.6	12.0	14.6	17.1	18.4
9 Syst.	7.1	9.2	11.5	14.0	16.4	17.6

Red discharge						
Diameter	8	10	12	15	18	20
2 Syst.	5.2	6.4	7.9	9.8	11.8	12.7
3 Syst.	5.0	6.2	7.6	9.4	11.3	12.2
4 Syst.	4.8	5.9	7.3	9.0	10.8	11.7
5 Syst.	4.6	5.7	6.9	8.6	10.4	1.2
6 Syst.	4.4	5.4	6.6	8.2	9.9	10.6
7 Syst.	4.2	5.1	6.3	7.8	9.4	10.1
8 Syst.	4.0	4.9	6.0	7.4	8.9	9.5
9 Syst.	3.7	4.6	5.6	7.0	8.4	9.1

8,000 volts