

ROSA®



2017 - 2018

Outdoor lighting

EDGE LED

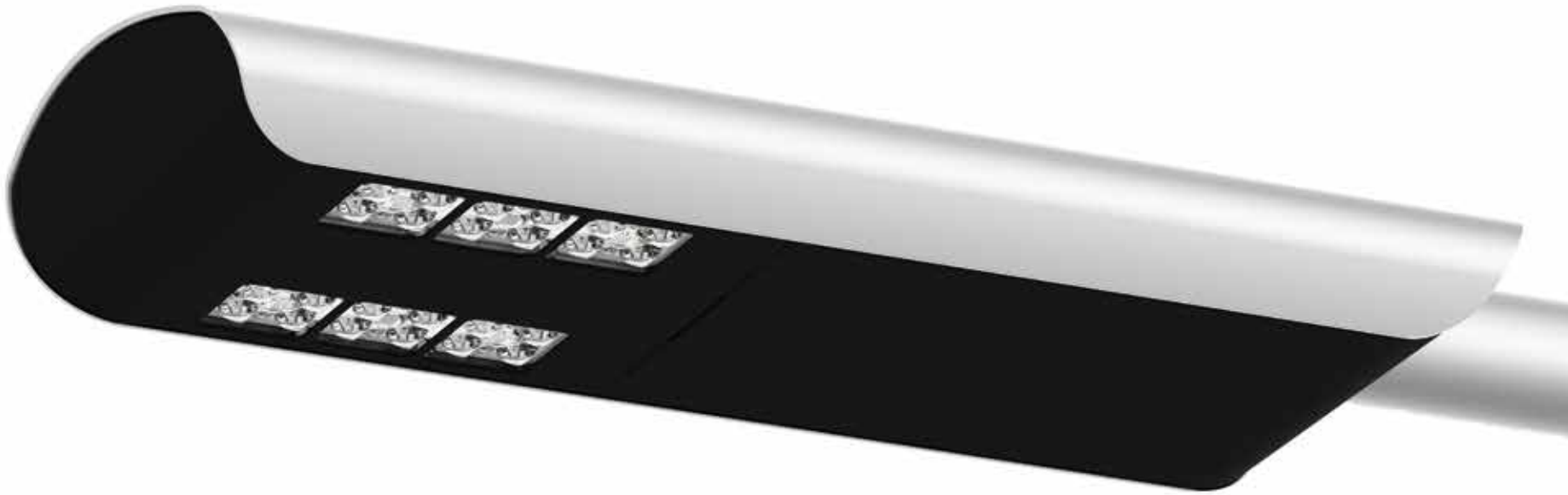
ROSA's inspiration for the use of edge-lit technology in outdoor lighting was the IT industry, which uses this technology in display construction to illuminate TV matrix, smartphones and iPods.

ROSA EDGE diffusers are made of methyl polymethacrylate (PMMA) with spherical grains added. Due to the backlighting of the upper and/or lower edges of the transparent diffusers the light is being emitted evenly throughout their surface.



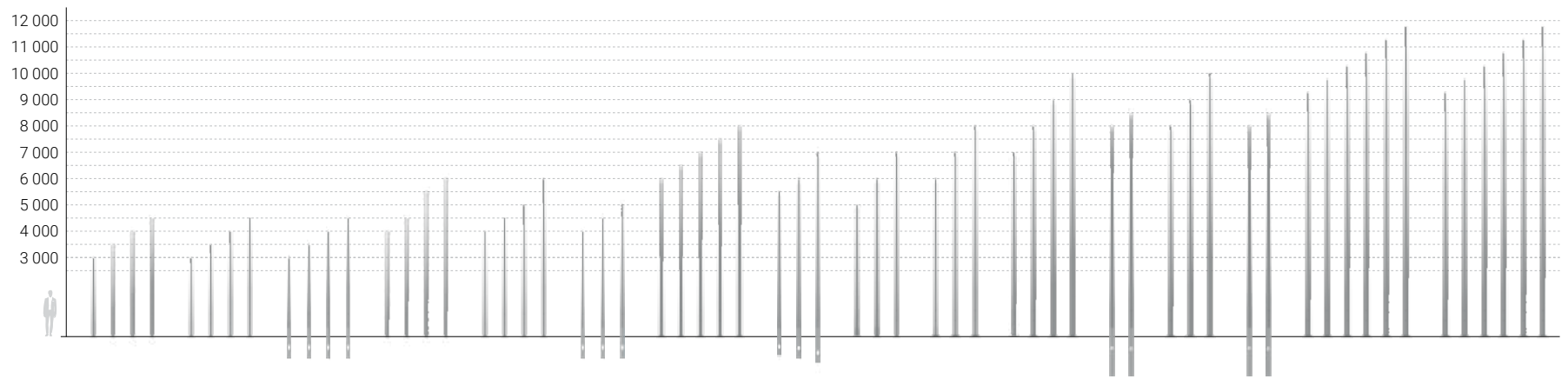


The space in which man lives needs light. It provides comfort and security every day. It also allows you to enjoy the beauty and aesthetics of the world around us. Our offer is a wide range of solutions thanks to which cities, streets and buildings will gain a unique appearance.



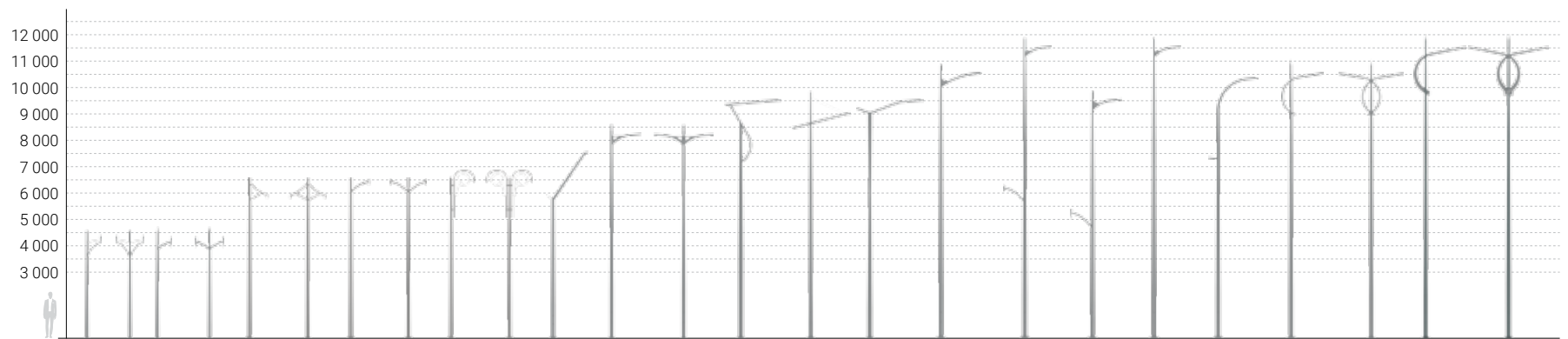
Straight aluminium columns

36-63



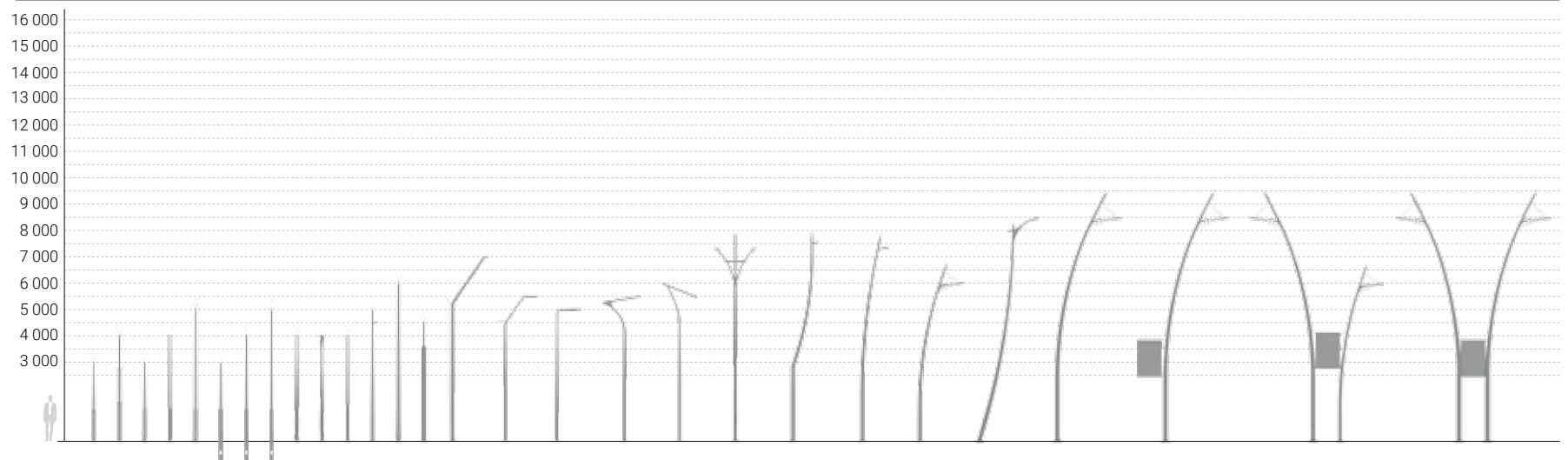
Aluminium columns with welded extension arms

64-75



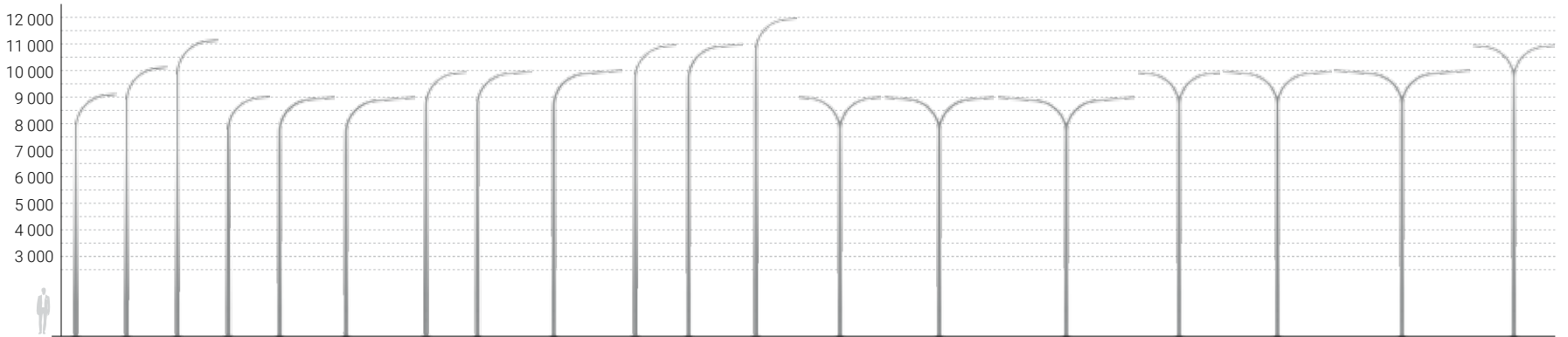
Decorative aluminium columns

76-89



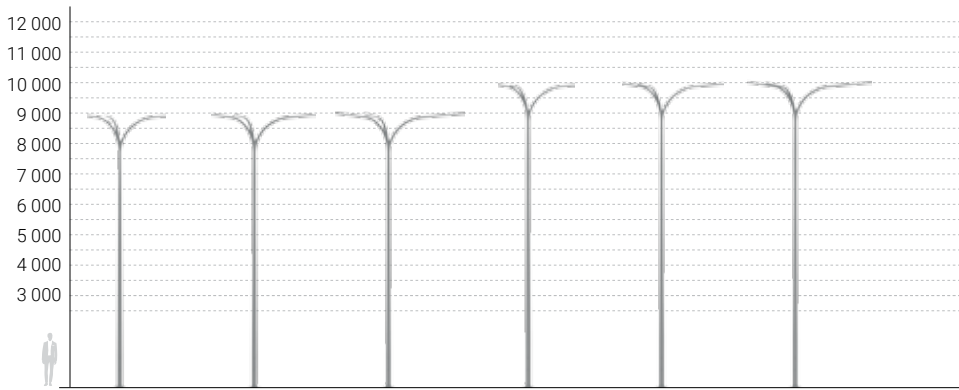
Two-piece aluminium columns with curved extension arms

90-95



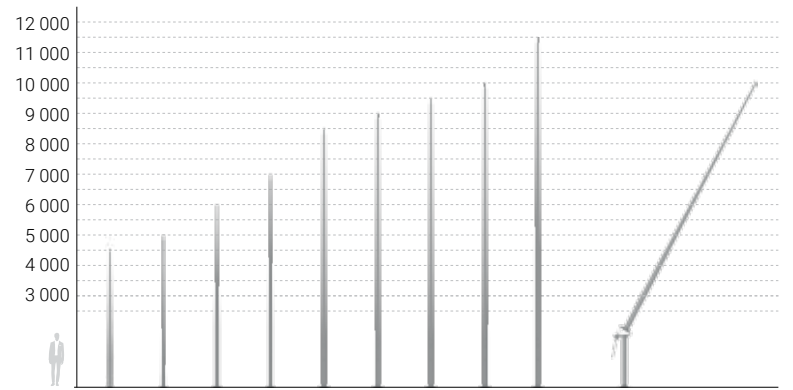
Two-piece aluminium columns with curved extension arms

96-97



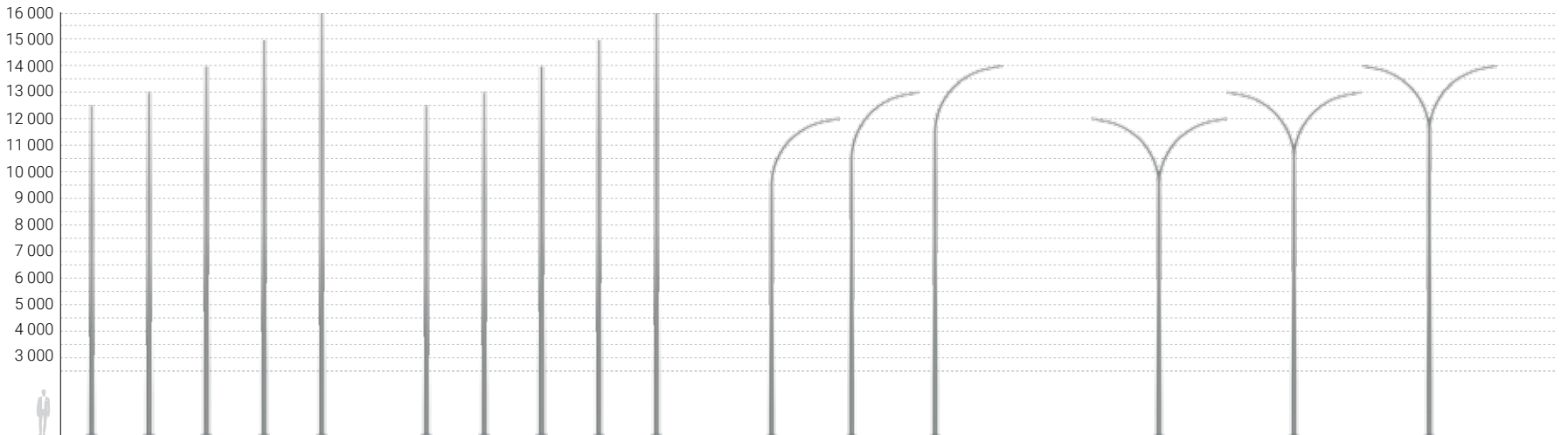
Lowering-and-raising columns

98-101

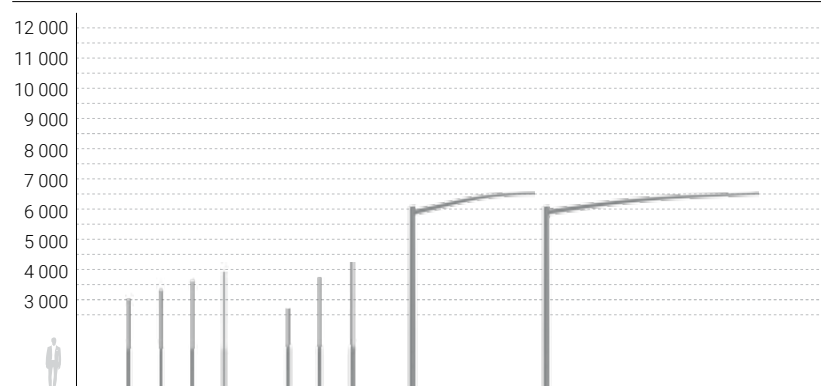


Aluminium light masts

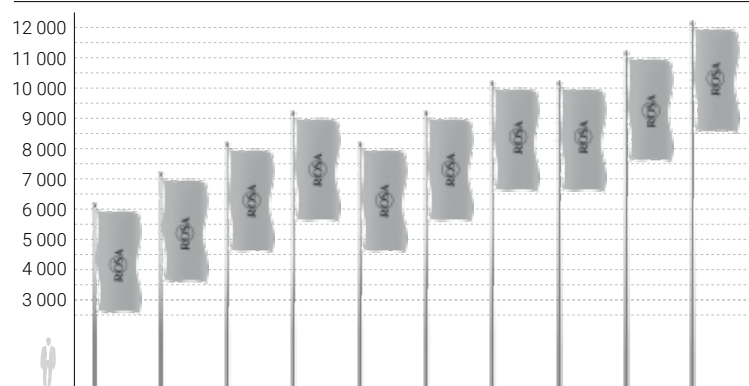
102-105



Aluminium columns for traffic signal lights 106-109

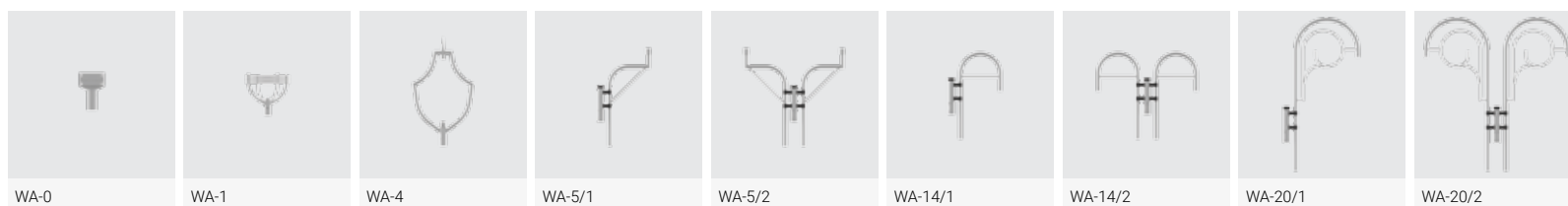


Aluminium flag poles 110-111



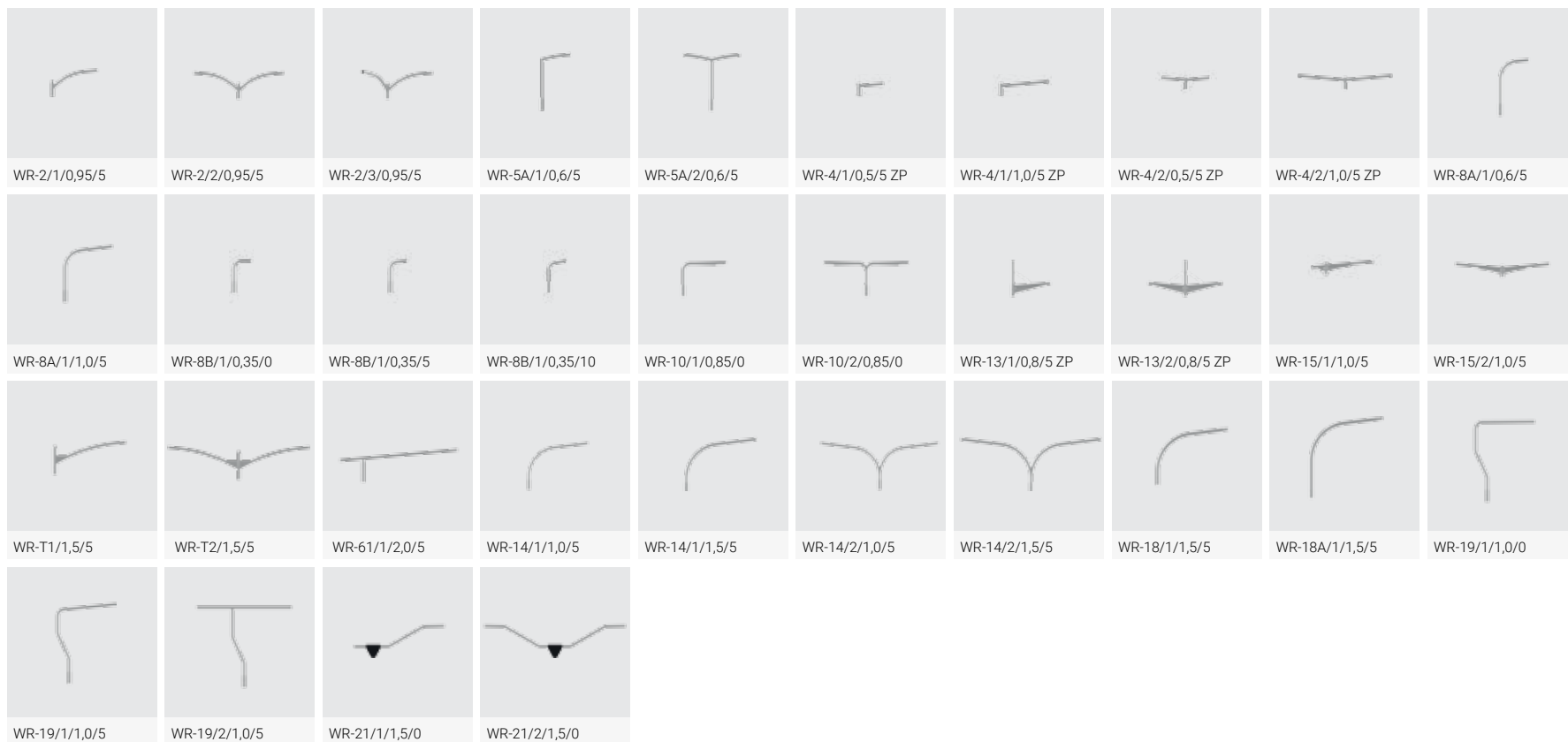
Aluminium Extension arms WA

116-117

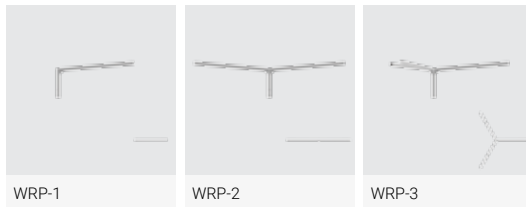


Aluminium Extension arms WR

118-127



Aluminium Extension arms WRP 128-129



Aluminium Extension arms WN

130-131



Aluminium Extension arms WM

132-133



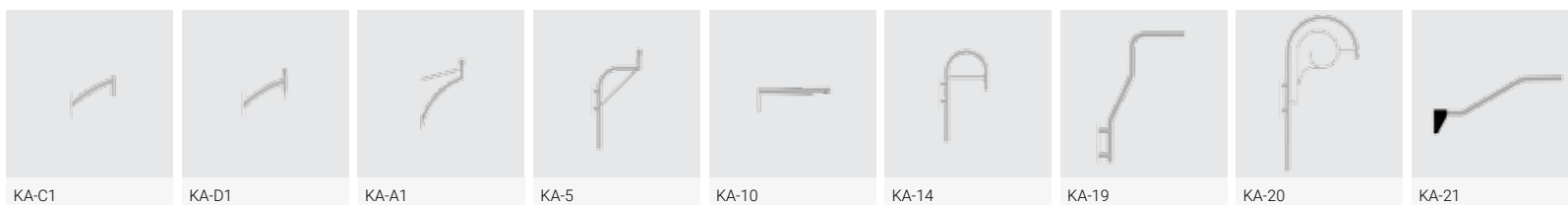
Aluminium Extension arms WRK

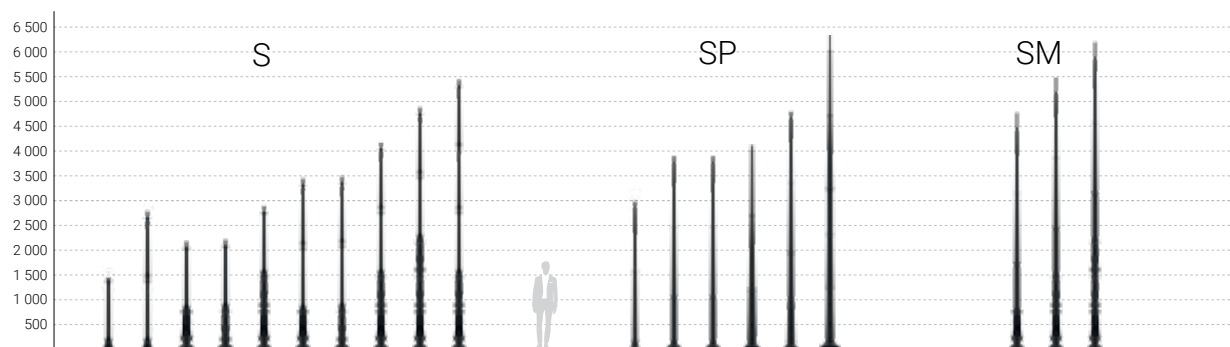
134-135



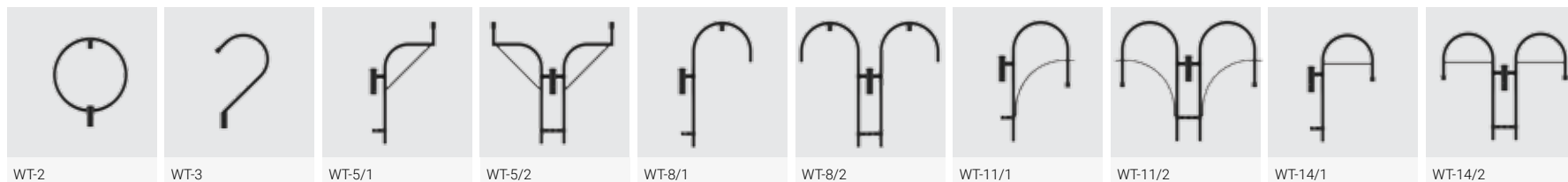
Aluminium Wall brackets KA

136-137

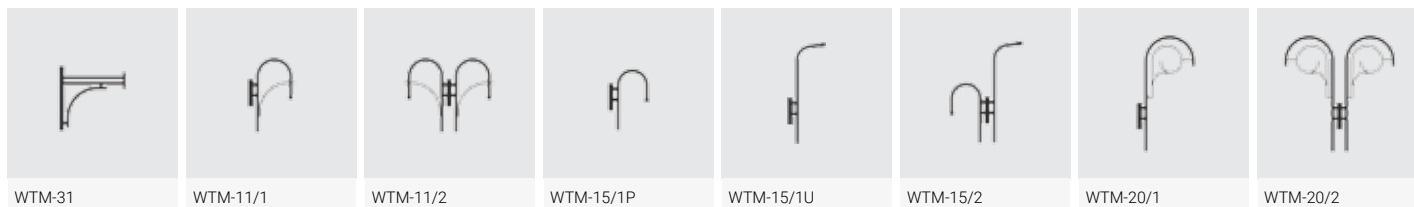




Extension arms WT



Extension arms WTM

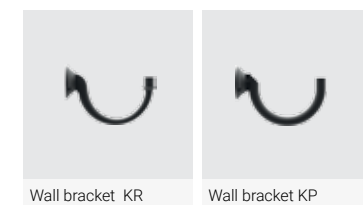
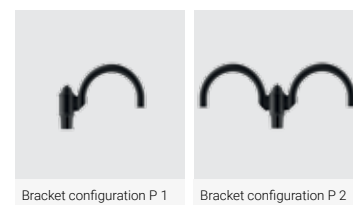


Bracket configuration



Bracket configuration P

Wall brackets



Luminaire LED

166-213

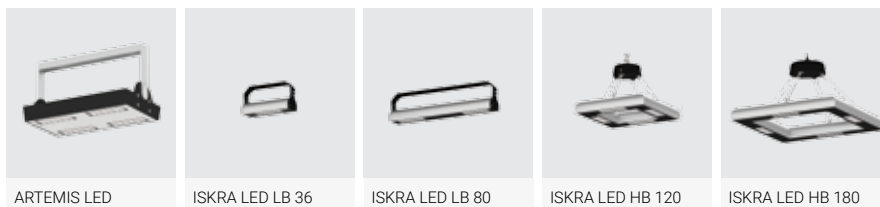


Luminaire LED for pedestrian crossing 214-217



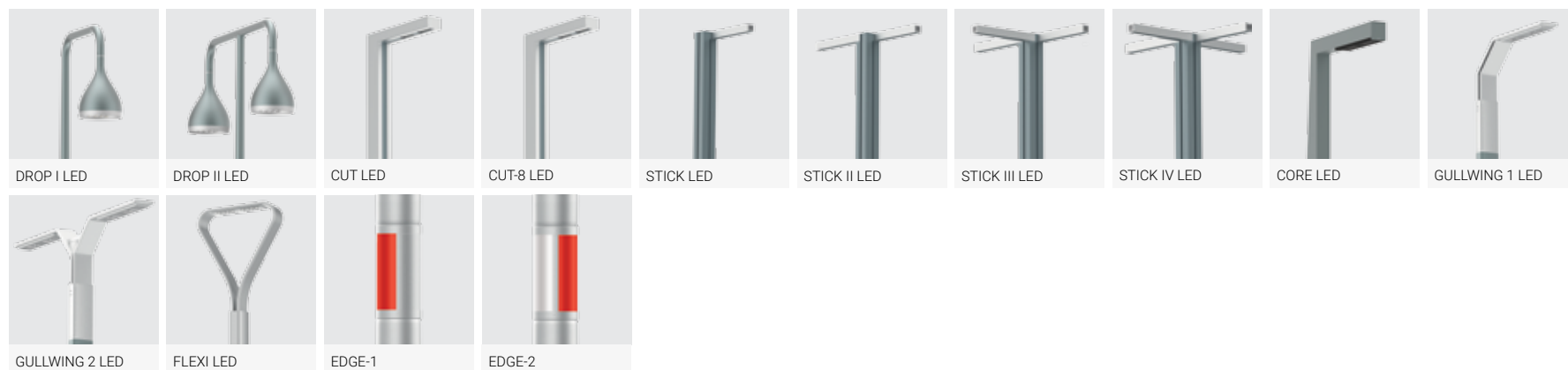
Industrial luminaire LED

218-223



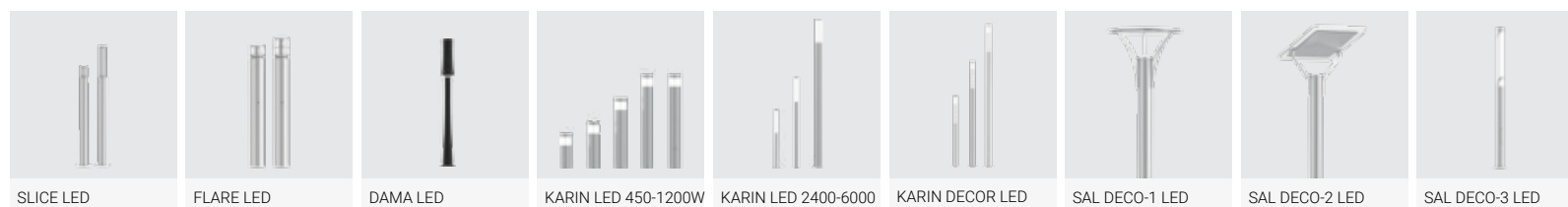
Lighting sets LED

230-253



Lighting columns LED

254-271



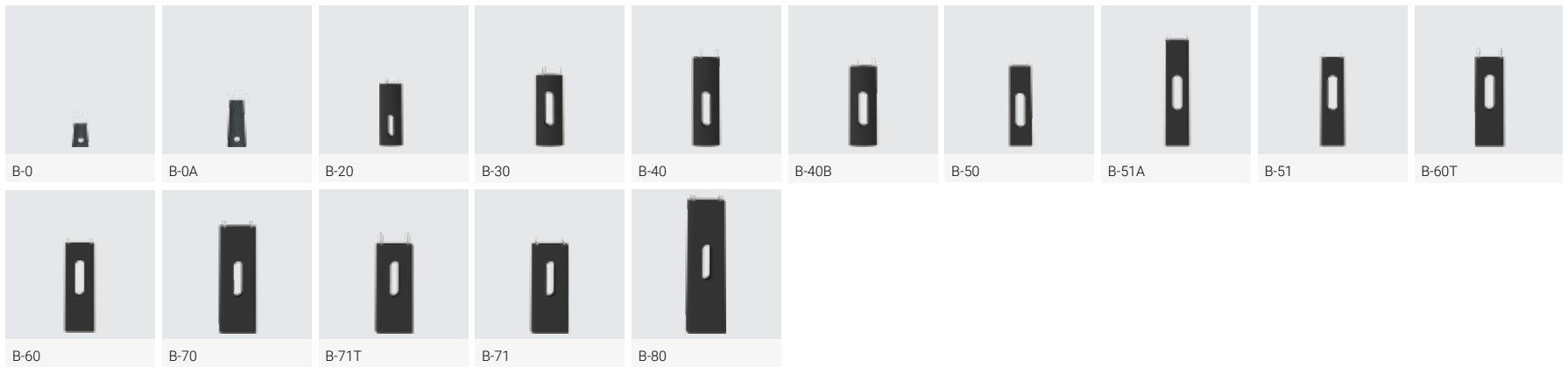
High-intensity discharge luminaires

276-293



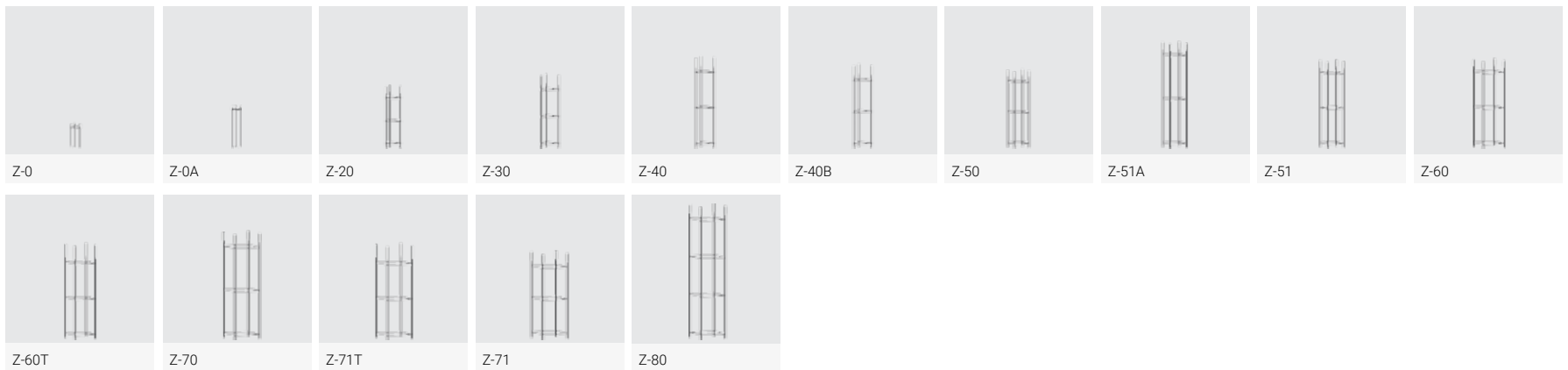
Concrete footings

296-297



Reinforcement baskets

298-299



Connection boxes

300-303



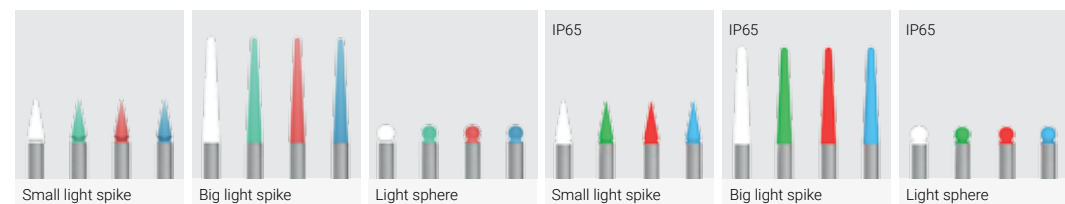
Louvre reflectors

304



Decorative elements

305



ROSA Group, established in 1992 by Stanisław Rosa, is a Polish company specializing in the design and production of complete outdoor lighting sets. At that time company employed several people. Today it is a dynamic company in the lighting industry. In production plants with total area of 24 000 m², located in Tychy and in two foreign companies, ROSA employs over 300 people.

The success of the company is made up of many factors, but the most important are the people who work in it. Tradition, experience, reliability, individual approach to each customer, supported by innovative, creative and ecological solutions are the advantages recognized not only in Poland but also in almost sixty countries on all continents to which we export our products. By deciding to cooperate with ROSA, the customer receives the support, assistance and advisory service of the best specialists in the industry in Poland. Highly specialized engineering staff and our own technical know-how guarantee professional and efficient execution of even the most difficult tasks.



Companies within the ROSA Group:

- **ZPSO ROSA Stanisław Rosa** – producer of aluminium columns, luminaires, connection boxes, plastic coated poles, concrete footings and reinforcement baskets,
- **ZU ROSA Ltd.** – the largest and most modern anodising plant in Central and Eastern Europe using interference colouring technology for profiles up to 10 m long,
- **ROSA Vostok Ltd.** – company which operates on Kazakhstan, Belarus and Russian market (except the Kaliningrad district),
- **ROSA SAH Ltd.** – company which operates on Slovakian and Hungarian markets.



Strength in modernity

We develop Polish technical thought. Our engineering staff and research teams constantly develop innovative product manufacturing methods. The new ROSA automatic production line of aluminium columns, launched in 2015, is the only such investment in the world. Complete automation of production process allows us to produce 1 meter of the column in the record time of 1 minute. ROSA anodising plant is one of the most modern facilities of its kind in Europe. The anodising process is fully automated. The implemented solutions allow for interferential or electrochemical colouring of aluminium elements up to 10m long, also in complex shapes and in 10 colours, each with possibility of chemical brightening.

In 2016 street lighting and park lighting products with modern edge-lit technology have been introduced to the offer. This technology has been so far used primarily in IT and RTV market. ROSA is the first company in the lighting industry which applied this solution in street and park lighting

Confirmed quality

Technologies and methods of producing our products are protected by patents. Our daily activities are based on the Quality Management System ISO 9001: 2008. We have all certificates applicable in the EU including Qualanod, which is awarded to the highest quality of anodic layers and confirms the compliance with European standards. We also have the passive safety certificate for aluminium columns in class 100NE2.

Original design

We are open to new ideas and we are constantly looking for innovative solutions. Our creative approach to lighting has been many times awarded by both Polish and foreign specialists. An example is the lighting set DROP I LED, which received the award in 2014 at the international Red Dot Award and is a winner of the national product design competition "Dobry Wzór – Good Design".

Laboratory of the future

Our laboratories primarily allow for fast and flexible response to market needs as well as creating innovative lighting solutions. The chemical laboratory is equipped with modern equipment for measuring the quality of anodic coatings. The spectrometer determines the qualitative and quantitative composition of the alloy admixtures, which is a key factor in the qualification of aluminium alloys for anodising. The measurement of the quality of oxide coatings colouring splitted into spectral, colour intensity and matt surface level is measured by high quality spectrophotometer.

The R&D laboratory allows to conduct research and analysis of materials used in various aggressive environments. It is equipped with climate and aging chamber, salt chamber, photometer, resistance testing machine and column fatigue test stand. We thoroughly analyze the components of our products for heat conduction, corrosion resistance, UV resistance, light distribution and photometric properties of the used LEDs. This gives us full control over the manufacturing processes, from raw materials to final products. This allows us to ensure high quality and reliability of the finished product.

ECO revolution

ROSA brand products are aesthetic, easy to install and guarantee long-term operation. They are produced in the process that protects the environment and is intended for use without harm to the environment. In the interest of our environment, we take specific actions each day, which are investment for the future. ROSA LED luminaires significantly reduce energy consumption providing A++ savings class and LEDs are environmentally friendly because they do not emit UV and infrared radiation. Our aluminium products are fully recyclable.



ROSA – and it's all (b)right now!

- **we have been in the lighting industry for 25 years,**
- we offer complex commercial and engineering service,
- we specialize in the production of complete lighting sets,
- we offer a wide range of energy-saving LED luminaires,
- our products made of anodised aluminium are available in 10 colours, each with possibility of chemical brightening,
- we make unusual and unique product solutions of columns, masts and luminaires,
- we have copyright protected technological solutions,
- we offer added value as comfort, safety, quality and aesthetics,
- we illuminate and decorate the surroundings in which we live.



Production of aluminium columns

Material

Conical columns are rolled from EN AW-6060 aluminium alloy tubes. Aluminium column base-plates are pressed from EN AW-5754 aluminium alloy sheet. Used materials guarantee correct automatic welding process, polishing and creation of anodised oxide layers on manufactured products.

Technology of production of standard columns

New, automatic production line consists of six highly technologically advanced stations, which depending on requirements, can work simultaneously or as separate items. Complete automation of aluminium columns' production process significantly increases productivity. Just one minute is needed to produce 1 meter of aluminium column. As a result, production of a ten meter ROSA column takes only 10 minutes. Innovative production line of ROSA aluminium columns is the only such investment in the world and solutions used in it are protected by patent. Each stage of the production process is closely monitored and controlled, which makes the final product stand out for its high quality.

Technology of production of nonstandard columns

In addition to catalogue projects we realize individual orders in accordance with the individual projects. We have practically unlimited production capabilities, which allows to produce any nonstandard column or extension arm. We offer both minor modifications based on standard products listed in the catalogue as well as completely new projects, totally different from our standard offer. Experienced engineers in the Design and Technical Department can create a design and calculation for any customer inquiry. We have a highly expanded and modern machinery park. Devices such as water cutting machine, laser cutting station, CNC machines, benders for columns, aluminium sheets and pipes allow us to make different details of complicated shapes and to cut different decorative elements for columns and extension arms and finally to bend column and extension arms at a given angle.



Wiring chamber

Each aluminium lighting column has a wiring chamber, where the connection box is installed. Cover of the chamber is being cut by laser (straight columns) or by specially designed saw (in case of columns produced outside the technological line) and fixed by bolts. Wire chamber of aluminium columns which are laser cut on the technological line has an ingress protection IP 54. The closure of the chamber is equipped with catch (locks) welded into the cover and chamber, so that the cover additionally transfers the load resulting from the column's operating conditions.

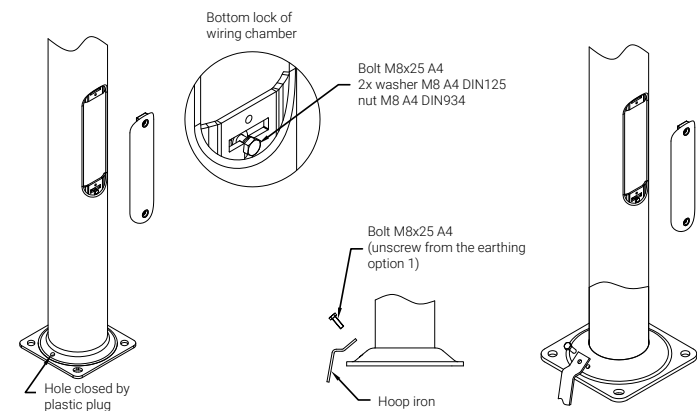


The wiring chamber in aluminium columns

Earthing

There is an M8 bolt in the hole of the lower lock of the chamber for fastening the earthing wire. This location allows easy access to the bolt, thus allows for quick maintenance and assembly.

As an alternative to earthing used in the wiring chamber there is additional earthing possibility in column's base-plate. This solution can be used especially when applying earthing of columns using hoop iron. In this case, earthing is made in column base-plate. The earthing hoop iron is being screwed to the base-plate of the column using bolt M8 taken from wiring chamber (OPTION 1) and screwed into hole made in the base-plate. When using OPTION 1 the hole will stay closed by plastic plug.



Earthing option 1

Earthing option 2

Bolts for wiring chamber cover

The cover is screwed by stainless steel bolts M8 of a special, untypical socket shape, which prevents from opening the chamber by unauthorised persons. O-ring washers are fitted to each bolt to prevent falling out during unscrewing. On customer request, the column can be equipped with triangular head screws.



Triangular key and bolt

Hexagonal key and bolt

Column reinforcement

Columns marked with index "wzm" are reinforced. Reinforcement of the column within the base-plate and wiring chamber by an additional tube or a thicker wall allows the use of more luminaires or extension arms, or their installations in areas exposed to high wind speeds.

Connection of two-piece aluminium columns

Permanent connection of two-piece aluminium columns is assured by using specially designed stainless steel coronet connection clamp.

Connecting element is secured by using:

- 3 bolts M10 – for two-piece columns type SAL,
- 4 bolts M10 – for two-piece masts type MAL.



Connecting clamp for two-piece column type SAL



Connecting clamp for two-piece column type MAL

Resistance calculations

Column resistance calculations are made in resistance program in accordance with standards EN 40 and EN 1991-1-4. Column resistance is calculated for columns without wiring chamber door fitted.

Acceptable column loads

Designing of lighting columns is based on the group of standards EN 40.

1. **EN 40-1** – Lighting columns – Terms and definitions.
2. **EN 40-2** – Lighting columns – General requirements and dimensions.
3. **EN 40-3-1** – Lighting columns – Designing and verification – Specification of characteristic loading and recalled EN 1991-1-4. Designing bases and influencing on construction. 2-4 Wind loads.
4. **EN 40-3-2** – Lighting columns – Designing and verification – Verification by testing.
5. **EN 40-3-3** – Lighting columns – Designing and verification – Verification by calculations.
6. **EN 40-6** – Aluminium lighting columns – requirements.
7. **EN 40-5** – Steel lighting columns - requirements.

The above listed standards, apart from a number of recommendations, specify the method of determining the permissible load on the structure of the column. By calculating the permissible load on the columns, a number of characteristic parameters are taken into account, such as: average wind speed, location category, horizontal deviation, shape factor.



Passive safety

Aware of the safety requirements expected from the producers of lighting columns in order to minimize the danger resulting from road accidents we have carried out passive safety tests on our products according to standard EN 12767 "Passive safety of support structures for road equipment. Requirements and test methods."

As a result of the tests we have obtained the Certificate of Constancy of Performance for aluminium lighting columns in heights from 2 to 12 m:

- SAL and MAL from $\varnothing 114$ to $\varnothing 225$ mm rooted
- SAL from $\varnothing 114$ to $\varnothing 180$ mm with base-plate

According to the requirements of EN 12767 the columns have functional properties in terms of passive safety when impacting a vehicle of 100 NE classification.

Where:

100 – tested impact speed

NE – non-energy-absorbing construction

2 – occupants safety level

Aluminium lighting columns with the passive safety class 100NE2 may be used in a road infrastructure, where the non-energy absorption factor is required for road constructions, e.g. motorways, express ways, country roads. In the event of a car collision with a lighting column, the car will continue driving at a reduced speed and the effects of the accident will be minimized.

Categories and parameters

Definition of standards

1. Construction categories in respect of the energy absorption degree:

HE – high level of energy absorption

LE – low level of energy absorption

NE – no energy absorption

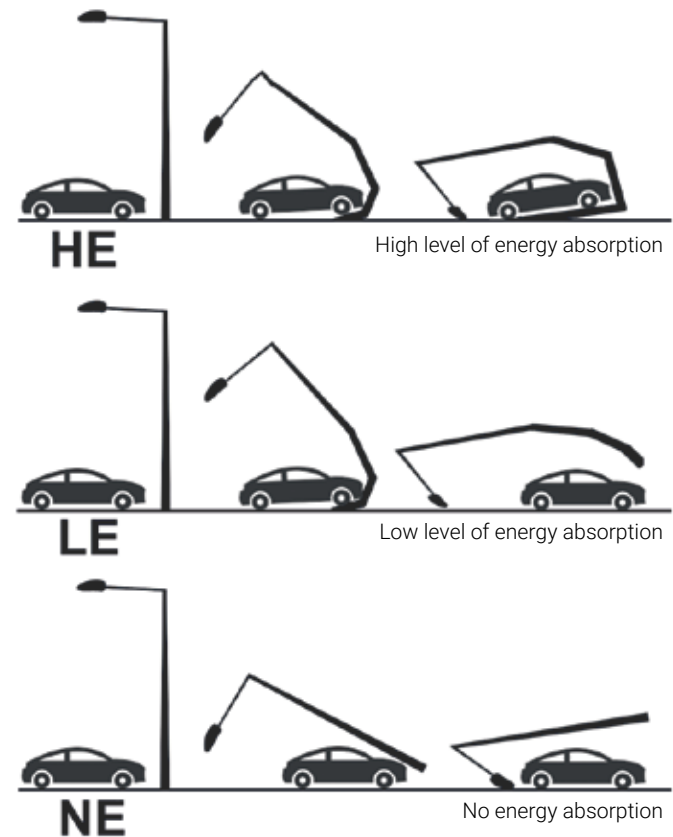
Class „0“ – passive safety requirements are not met

2. Occupants safety levels:

1, 2, 3 – support structures for increased safety

4 – harmless support structures

Levels of energy absorption according to EN 12767



Anodising process

Rosa anodising plant

Anodising plant of aluminium products is part of ROSA GROUP. It has been operating since 2009 and it is today the largest of this kind facility in East-Central Europe. ROSA anodising plant specializes in services such as anodising electrochemical or interference colouring of aluminium materials (including metal sheets, pipes, profiles or other structural elements). Modern interference technology of colouring provides colour palette, which is wider than traditional one, resistant to external factors including UV radiation. ROSA anodising plant anodise elements up to 10 m, simple or complex shapes, in 10 unique anodising colours, each with possibility of chemical brightening.

Anodising process

Raw and unsecured aluminium is susceptible to dirt and it corrodes in the polluted and aggressive environment. We offer to our clients the highest quality products, that's why all of our aluminium columns are anodised. Anodising is a surface treatment of aluminium and its alloys consisting of a controlled electrolytic formation of a protective layer of aluminium oxide. Depending on product destination and terms of use anodised coatings are made in several thickness classes. The thickness of the anodic coating lighting columns is 20 µm. This ensures safe use in moderate and harsh conditions. For exceptionally harsh conditions a coat of 25 µm is recommended. The porous structure of the oxide coating allows to permanent colouring of metal by electrochemical or interference method. In these technologies, metallic fraction is permanently associated with the structure of an anode layer and the appropriate geometry and orientation of the pores determines the perceived colour.

Anodising is used for the following purposes:

- the anti-corrosion and mechanical protection of the metal surface, with particular emphasis on atmospheric corrosion, especially against aggressive environmental factors such as sea water, acid rain, salt etc.,
- decorative – anodised surfaces achieve a smooth, satin finish and additional colouring guarantees exceptional aesthetics of surface finish.

Quality guaranteed!

We have conducted in our R&D laboratory a test of resistance of anodic oxide coatings to UV radiation. The test was performed in accordance with the recommendation of the standard EN ISO 6581 „Anodising of aluminium and its alloys – Determination of the comparative fastness to ultraviolet light and heat of coloured anodic oxidation coatings“. During 14600 h of the samples exposure in Q-Sun Xe-3 device, there was no colour change of observed oxide layers. Such exposure period is equivalent to 20 years of operation in Polish climatic conditions. In order to determine corrosion resistance, the samples of anodised aluminium lighting columns were tested in a salt chamber at a salt concentration of 5% (for comparison, salt concentration in the Baltic Sea is 0.8% and in the North Sea it is 3%).

Exposure of samples in the chamber lasted a total of 20 000 h and despite such a long period of test no corrosion was detected. The test was carried out in accordance with the standard DIN EN ISO 9227, according to the NSS method.

The company received technical approval of the European Association of Surface Treatment Aluminium QUALANOD with the right to use the Quality Label QUALANOD of Anode Coatings, which confirms the highest quality of services provided by ROSA anodising plant.



Value of anodised aluminium?

- anodised coatings are integrally connected with the surface, so there is no possibility of peeling, spalling or delamination,
- long useful lifetime, with the possibility of receiving a guarantee up to 20 years,
- high aesthetics for a long time of use,
- high resistance to UV radiation,
- high abrasion resistance due to greater hardness of the coating,
- corrosion-free,
- availability of a wide range of colours,
- decorative surface function.

	Black steel	Galvanized steel	Hot galvanized steel	Raw aluminium	Anodised aluminium
Model sample					
Test in salt chamber Standard DIN EN ISO 9227- NSS method Test in neutral salt fog					
Test in salt chamber Standard DIN EN ISO 9227- CASS method Test in acid salt fog with addition of copper					

Comparative test result of aluminium material quality with corrosion protection and without such protection.

Anodising process

The process of anodising is carried out on an automated technological line equipped with 27 tanks. This process can be divided into three stages. Between the essential processes the rinsing operation of the product is performed.

Stages of the anodising process:

1. Surface preparation:

- surface pre-treatment phase - removal of grease and other contaminants of various origin from the surface of the aluminium,
- alkaline bath phase – removal of oxide layer from product surface, giving it a matt finish.
- pickling (lightening) phase – removal residual alloy impurities and thin oxide layers and sediments that may remain after the etching process, the removal is necessary to achieve the correct adhesion of the oxide coating to the surface.

2. Anodising and colouring:

- anodising is controlled formation of aluminium oxide layer on the aluminium surface during electrochemical process. Anodised coating is formed by electrolysis, in a sulfuric acid solution involving direct current of a certain density. The anodic coating grows in 2/3 of its thickness into the metal surface and grows 1/3 above it. It becomes much thicker than the natural one, so it effectively protects the aluminium surface from further oxidation i.e. corrosion. Its structure allows permanent colouring of the product by chemical, electrochemical or interference method.
- electrochemical colouring is based on the treatment of the anodised product in the electrolyte containing tin ions. Reduced in a cathode cycle metal is deposited on the bottom of the pores of the oxide coating and gives a permanent colouring to the aluminium surface. This results in a range of colours from bright to dark shades of brown and black.
- interference colouring is preceded by pore shape modification operation of the anodic layer. Then, in such modified pores, the surface of the aluminium is permanently coloured, widening the palette of colours obtained in electrochemical colouring with new colours. This method uses the phenomenon of interference, that is, the overlapping of reflected light waves, leading to the increase or decrease of the amplitude of the incident wave. Modifying this amplitude through the appropriate controlled variation of the pore shape of the anode layer allows for the creation of new colors.

3. Sealing

Sealing aims to close the porous oxide layer, which guarantees proper corrosion resistance. This is the final stage of the anodising process, carried out in a hot dematerialized water bath with small accelerating additives, where the pores of the oxide coating are filled with boehmite and aluminium hydroxide.

Chemical brightening

Chemical brightening is obtained by the chemical etching of the glossy aluminium surface structure before anodising. The process is based on chemical smoothing of the surface structure, this results in a reduction of matt and lightens the metal surface, which gives the gloss finish.

Anodised aluminium – cleaning and maintenance

Proper maintenance and regular cleaning of anodised aluminium products keep their aesthetic and decorative appearance for longer.

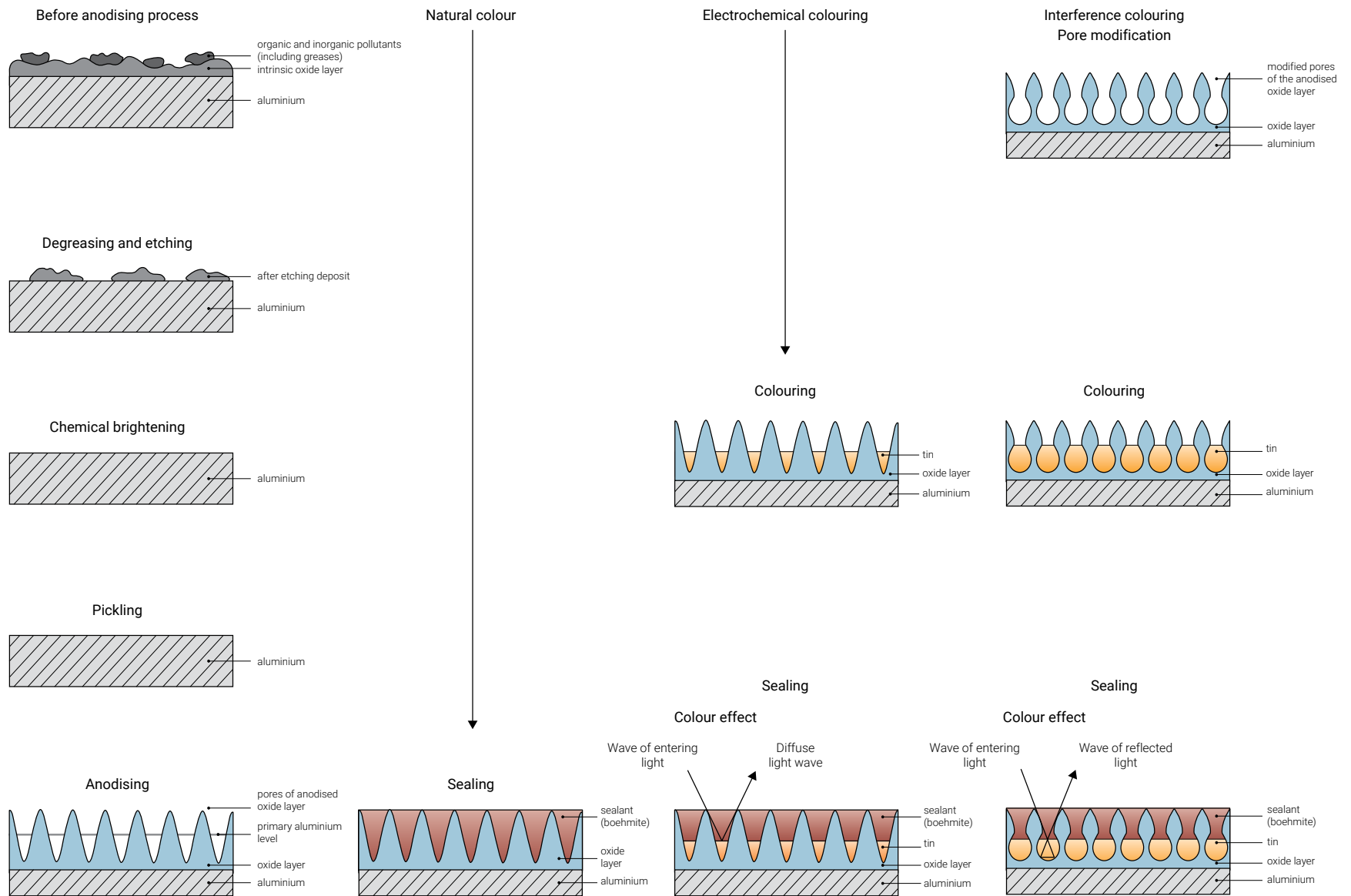
- cleaning has to be done by a neutral, synthetic cleaning fluid and cloth, sponge, chamois leather or soft brush. Then it has to be rinsed with clean water and wiped dry from the top to the bottom with soft, dry cloth.
- stubborn dirt can be removed with slightly abrasive cleaning agents or a cloth covered with fine polishing powder.
- maintenance agents for anodised aluminium elements must have approval certificate for use on anodised aluminium surface.
- do not use soda, alkali and acid solutions. Also do not use any abrasive materials, metallic fiber cloths, hard wire brushes, sharp abrasives, etc.

Dry etching technology

The so-called dry **etching technology** involves surface treatment by shot blasting method. The process is carried out using a modern machine to matt the surface by subjecting the workpieces to abrasive blasting operations using shot with a diameter of about 0.1 mm, giving the surfaces a delicate, satin appearance. This type of technology allows to significantly eliminate all kinds of surface defects arising from extrusion or rolling processes such as streaks, thermal lines, etc. and minor mechanical damages in the form of scratches and abrasions. The surfaces thus obtained are characterized by much better quality compared to traditional chemical etching. Used technical solutions allow to shot blast elements from sheet thickness of 1mm without the risk of surface damage.



Anodising process of aluminium products



Anodising colour palette



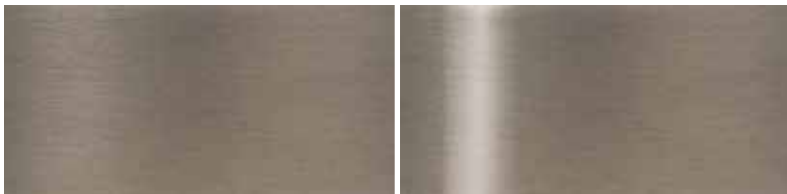
Natural **C-0**

Natural **C-0W**



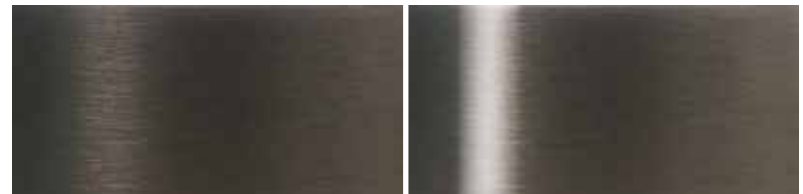
Champagne **C-32**

Champagne **C-32W**



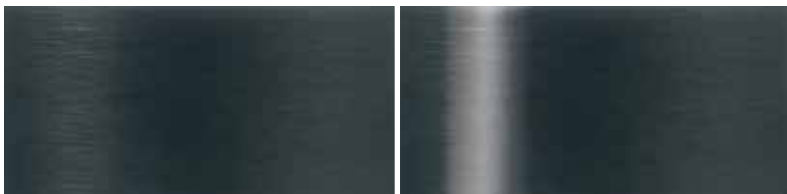
Olive **C-33**

Olive **C-33W**



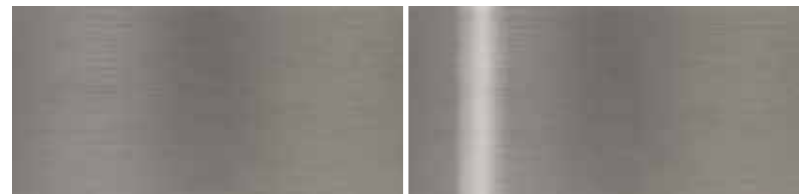
Brown **C-34**

Brown **C-34W**



Black **C-35**

Black **C-35W**



Inox **C-45**

Inox **C-45W**



Grey **CI-63**

Grey **CI-63W**



Graphite **CI-65**

Graphite **CI-65W**



Green **CI-75**

Green **CI-75W**



Anthracite **CI-78**

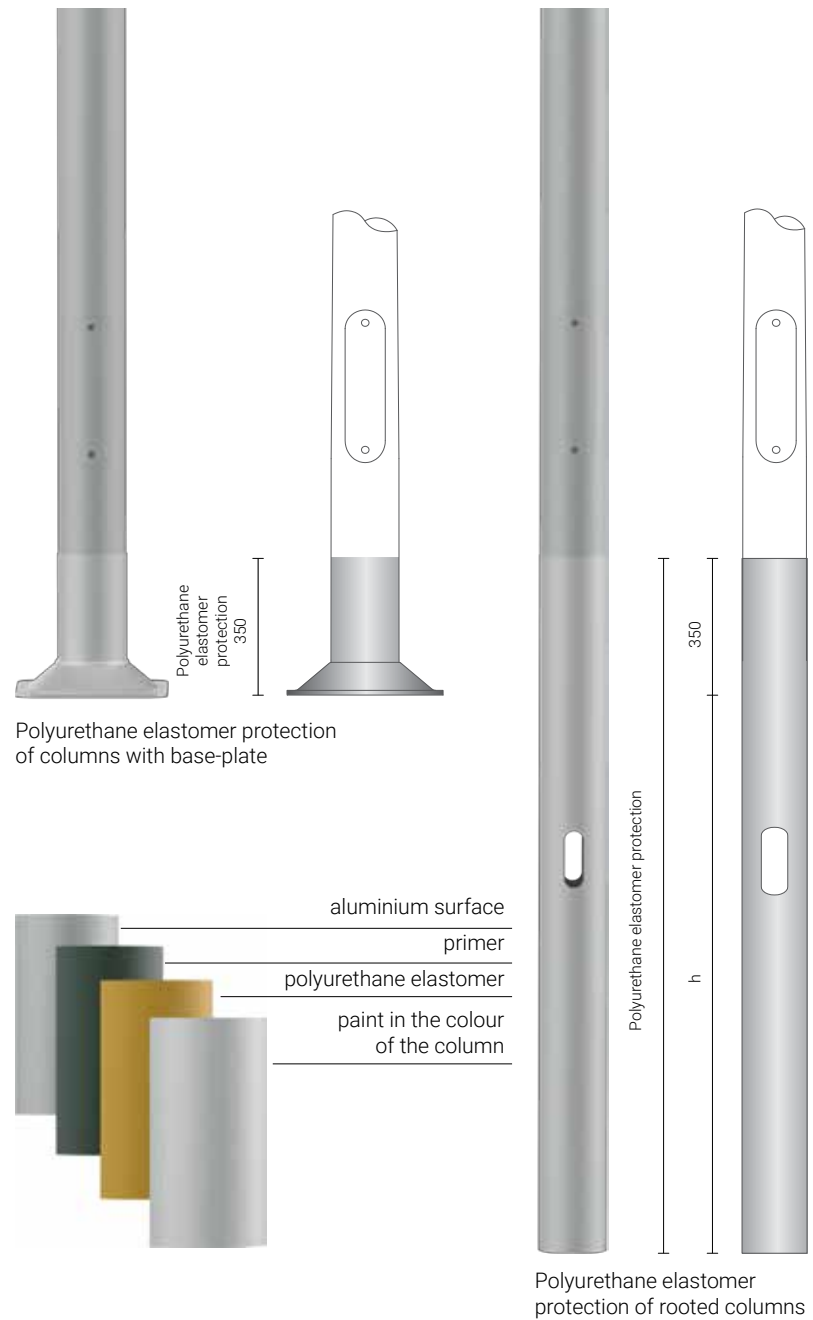
Anthracite **CI-78W**

Real anodising colour can differ presented colour sample.
"W" means brightening.

Elastomer protection

In very unfavorable (environmental) conditions, the base-plates and parts of the rooted column are exposed to the adverse effects of salt and ammonia compounds and mechanical damage. For additional corrosion protection at the bottom of the column, we offer the option of covering the base-plate including holes for mounting bolts and a fragment of rolled part up to 350 mm by polyurethane elastomer. The thickness of the protective coating is within the range of 0.7 mm to 1 mm with a hardness of about 90°sh. The surface of the elastomer is painted with a UV-resistant paint, similar to the colour of the anodic coating of the column. Elastomer protection is in accordance with the EN-40 standards, i.e. the European requirements for aluminium lighting columns.

All rooted columns type SAL dz are protected by a polyurethane elastomer as standard. Both material and production technology are environmentally friendly.



Production of plastic coated poles

Stylish plastic coated poles are elements of small architecture and are designed to illuminate parks, squares, green spaces and urban markets. Variety of shapes and heights of poles allows to adjust the lighting to the surrounding.

Plastic coated poles are characterized by high aesthetics, easy transport and assembly, resistance to adverse external factors, high mechanical resistance.

Pole construction

Plastic coated pole is built of three connected elements:

- supporting structure made of steel tubes of hybrid construction, welded to the steel base-plate which is reinforced with angle braces,
- external components made of special composition of plastics by thermoforming and injection molding method,
- self-extinguishing, rigid polyurethane foam that fills the space between the structure and the plastic coating of the pole.

The pole steel construction was specially designed to absorb the load created mostly by wind pressure.

Plastic coating is made in two versions:

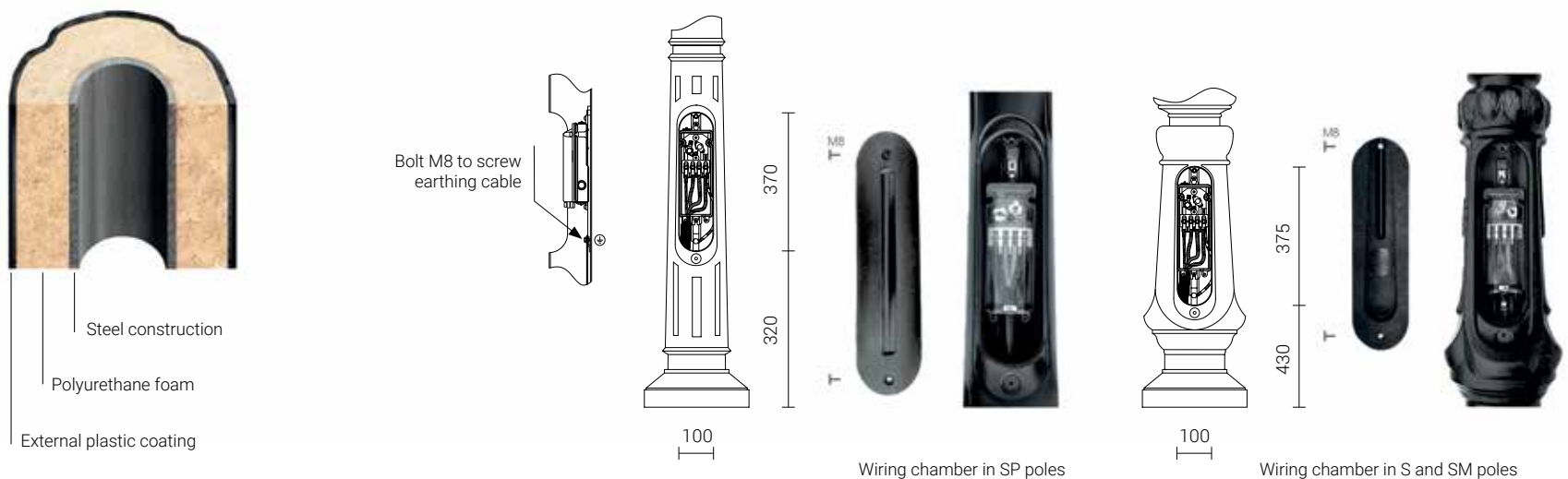
- standard thermal resistance – poles used in countries where air temperature varies between -30°C to $+40^{\circ}\text{C}$,
- high thermal resistance – poles used in countries where air temperature is less than -30°C and exceeds $+40^{\circ}\text{C}$. This applies to poles in black colour. This type of pole is additionally marked with letter "F".

Poles with wiring chamber are additionally marked with letter "W". The wiring chamber is located in the first, lower section of the lighting pole. It is designed for installation connection box on the aluminium rail located on the back of the steel structure of the pole. The rail fixing clamp can be used as a protective clamp. The wiring chamber is protected by decorative plastic cover in identical colour and texture to the pole.

Plastic coated poles are characterized by:

- corrosion resistance,
- light weight to facilitate transport and assembly,
- aesthetic appearance,
- resistance to adverse weather conditions,
- resistance to salt, ammonia and other caustic substance,
- UV resistant,
- high mechanical qualities,
- suitable for every climatic zone,
- low cost of maintenance.

Wiring chamber



Types of plastic coated poles

Plastic coated poles are produced in three versions:

- S – traditional,
- SP – straight,
- SM – composite.

Types of spigot

Three types of spigot are used depending on type of plastic coated pole:

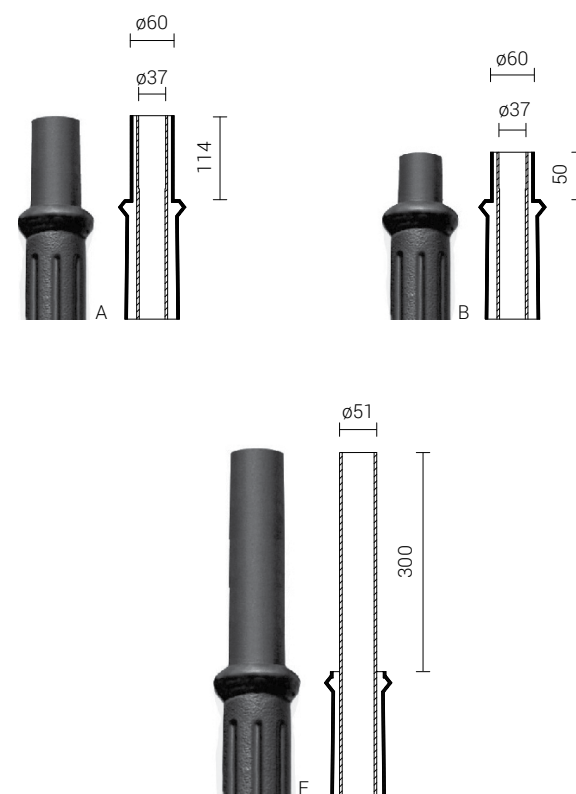
- type „A“ – designed for assembly arm systems in poles type S and SP and extension arms WT in poles type SP,
- type „B“ – designed for using luminaires with assembly spigot $\varnothing 60$ mm (OS -1 LED, OS -11 LED, ELBA LED, ELBA, OS -1, OP, OPA -1) in poles type S and SP,
- type „E“ – designed for assembly extension arms WTM in poles type SM.

The spigot is an integral and non-modified part of the pole.



Example of construction of a pole S-40W

Example of construction of a pole SM-1W



Cross-section of spigots in plastic coated poles

Luminaires

LED luminaires

ROSA LED luminaires feature an unique design, innovative LED light sources and anodising technology. In our products we focus on quality, durability and aesthetics. In the ROSA LED offer you can find park luminaires designed for illuminating urban areas (parks, traffic routes, plazas and squares); street luminaires dedicated to highways, roads, avenues and industrial areas; floodlights used to illuminate architectural elements, sports facilities, car parks and other outdoor areas; there are also industrial luminaires available for high- and low-bay applications as well as gas stations.

ROSA LED luminaires – real benefits:

- reduction of electricity consumption up to 75%
- lower operating and maintenance costs
- possibility of applying power reduction
- reduction in number of used lighting points
- aesthetic and decorative appearance

Light sources

ROSA LED products are equipped with state of the art light sources, capable of reaching luminous efficacy up to 136lm/W on luminaire level.

Light colour temperature, colour rendering index

ROSA LED luminaires are available as standard with three colour temperatures: 3500 K, 4000 K or 5000 K.

Light colour	Correlated colour temperature (CCT)	Colour rendering index (CRI)
Warm white	3500 K	>80
Neutral white	4000 K	>70
	5000 K	>70

Warm white light colour of 3500 K and neutral white light of 4000 K is preferred in lighting of urban spaces and parks (marked with number "3 and 4" in the product code). While neutral white light colour of 5000 K, due to higher luminous efficacy is commonly used in street lighting (marked with number "6" in product code). Selecting one of these options depends only on the customer's preference. It is also possible to order luminaires with different colour temperature: 2700 K, 3000 K, 4500 K as a custom made variant.

Optics

ROSA LED luminaires use only optics made of PMMA (polymethyl methacrylate) with increased temperature resistance. It is used both in lenses and lamp diffusers/light diffusing plates (ELBA LED, ATLANTIS LED, CORONA LED, KARIN LED, OS-11 LED).

Standard LED module – used in park luminaires and lighting sets: DROP LED and FLEXI LED



Replaceable led module

Interchangeable module contains 12 LEDs. It is available with six unique optical systems. Module has a thermal protection sensor, increased resistance to electrical discharges and IP66 ingress protection. Assembly and disassembly of the module can be done using standard tools.



Luminaire construction

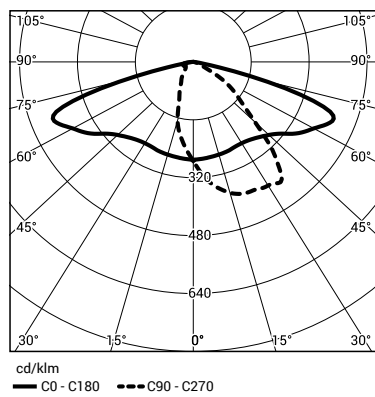
Housings of ROSA LED luminaires and lighting sets are made of profiles and sheets of high-quality aluminum alloy* subjected to anodising process. They are characterized by high thermal properties (conductivity >200 W/mK). Anodising process protects luminaire body from corrosion and aggressive external factors such as acid rain, sea water, UV radiation, salt, while giving it a decorative character. In addition to aesthetics, it improves heat dissipation via thermal radiation, maintaining low operating temperatures of LED is the key for its longevity.

* exceptions are luminaires OS-1 LED, ELBA LED, ATLANTIS LED, MAGNOLIA LED and LUNOIDA LED.

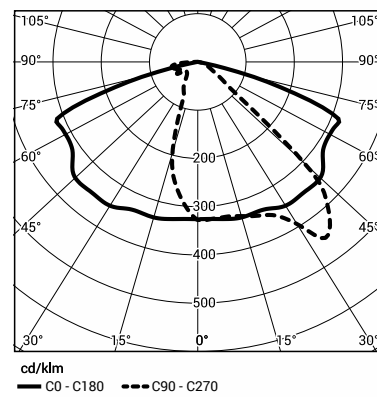


Available optics for replaceable LED module

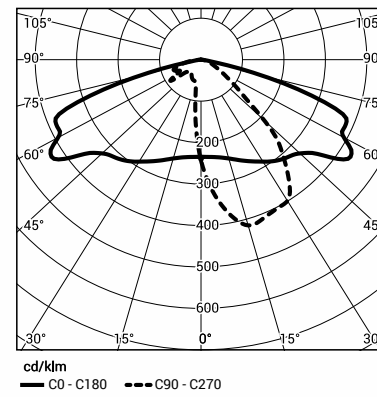
DW



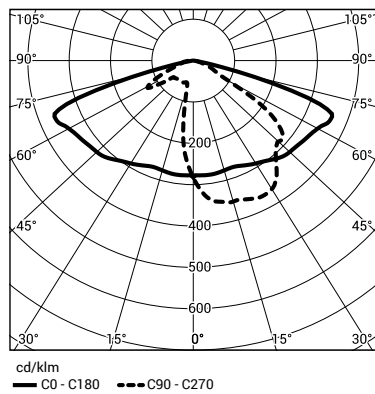
ME



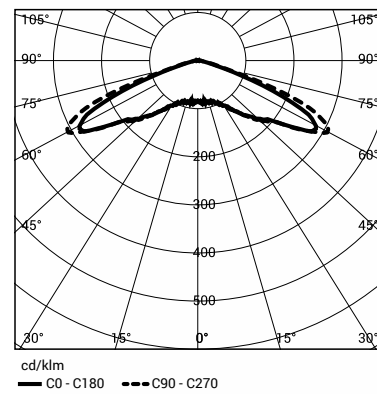
T2



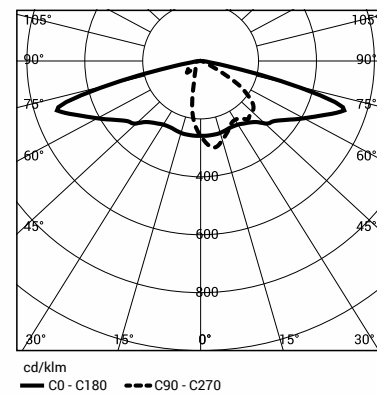
T3



VS



SP



Power driver

In LED luminaires we use highly efficient current and programmable constant, drivers of Philips Xitanium and Osram 4DIM. These LED drivers offer high reliability and flexibility due to a large number of programmable options, which can be applied accordingly to customer requirements. A number of functions are available at the user's disposal: adjustable output current, DALI interface, optional 1-10 V, programmable time profiles. Additionally, the driver has an option to monitor temperature of LED modules, it will reduce luminaire power when it detects temperature higher than recommended. This protects LEDs from overheating, and hence from faster wear.

The driver is enclosed in a body with connectors that facilitates possible replacement with simple tools only.



LED driver parameters, used in selected street luminaries:

Model	Output power range [W]	Output voltage range [Vdc]	Output current range [mA]	Supply voltage [Vac]	Insulation class	Ingress protection IP
Xi FP 75W 0.3-1.0A SNLDAE 230V S240 sXt	3-75	35-108	300-1050	220-240 V	II	IP66
Xi FP 150W 0.3-10A SNLDAE 230V S240 sXt	5-150	70-214				

Programmable time profiles guarantee increased LED lighting savings. Our clients has a choice of up to five power levels, ranging from 10 to 100% of rated power, at any luminaire operation time interval. Driver utilize selected time profile – variable luminaire power level according to investor needs during operation hours. This solution reduces luminaire overall power consumption, which translates into economic savings.

External control system

ROSA LED luminaires are equipped with DALI interface or 1-10V (as standard or as an option, depending on lighting fixture type), which enables them to be connected to an independent controller or a connected control system that limits energy consumption.

Proper control of luminaires output power depending on f.ex. traffic on selected stretch of road, can provide additional savings of 40-70%. The ability to join luminaires to specific groups (f.ex. a group of pedestrian crossings or a group of major city roads) facilitates simultaneous control of classified luminaires. In addition, the lighting control system enables reporting of faults (f. ex. when a luminaire stops working – it can signal an error via in-system notification, e-mail or sms).

Advantages:

- reduces energy consumption and running costs,
- monitoring and remote control of urban lighting,
- real-time light intensity control,
- programming of switching times and power intensity of luminaires for selected time of day, year.

Overvoltage protection

Outdoor lighting utilising LED technology is particularly prone to overvoltages and surges in electrical network or from atmospheric events such as lightning. All ROSA LED luminaires are equipped with 10 kV overvoltage protection, which lowers the overvoltages to a safe level for the electronics used in the LED luminaires. This protection significantly increases luminaire resistance to electrical discharges (up to 15 surges at 10 kV). In addition, in case of higher number of surges or higher single surge - it breaks and cuts off the luminaire from the mains.

LED economy

ROSA LED luminaires provide high economical savings and are one of the most efficient on the market. In comparison with other luminaires ROSA LED products achieve much higher luminous efficiency, up to 136 lm/W. This allows for lower energy consumption even by 75% (as in case of Mira LED 36 compared with standard fixture with 70W sodium lamp) and ensures lifetime of at least 50 000 hours (L90F10) or 100 000 hours (L80F20).

Ecology

ROSA LED luminaires are manufactured without harm to the natural environment and with care of our habitat.

- LEDs do not emit UV or infrared radiation,
- LEDs consume less energy than HID light sources reducing carbon dioxide emission by electricity suppliers,
- light sources used in the luminaires meet the requirements in terms of the EN 62471 standard „Photobiological safety of lamps and lamp systems“, which means that they do not cause eye damage in normal operating conditions,
- luminaires are made of renewable materials, mainly aluminium, which can be recycled.
- ROSA LED products are compliant with RoHS Directive, which limits the use of hazardous materials in electronics,
- according with policy of limiting light pollution, luminous flux emitted from LED street luminaires is only directed downwards.

ROSA Designer

Available on the App Store

The electronic products' catalogue

ROSA DESIGNER is a complete range of products: columns, extension arms, luminaires or whole lighting sets. Wide range of products allows to easily use the catalogue and selection of elements so that the final effect not only meets the visual but also technical expectations. Check all the possibilities.



Complete panel

Composing the lighting set has never been so easy. Effortless in use panel allows for quick and accurate adjustment of the selected products. Just a few clicks to connect all the necessary elements and determine their colour from the anodising colour palette.



Spatial visualization

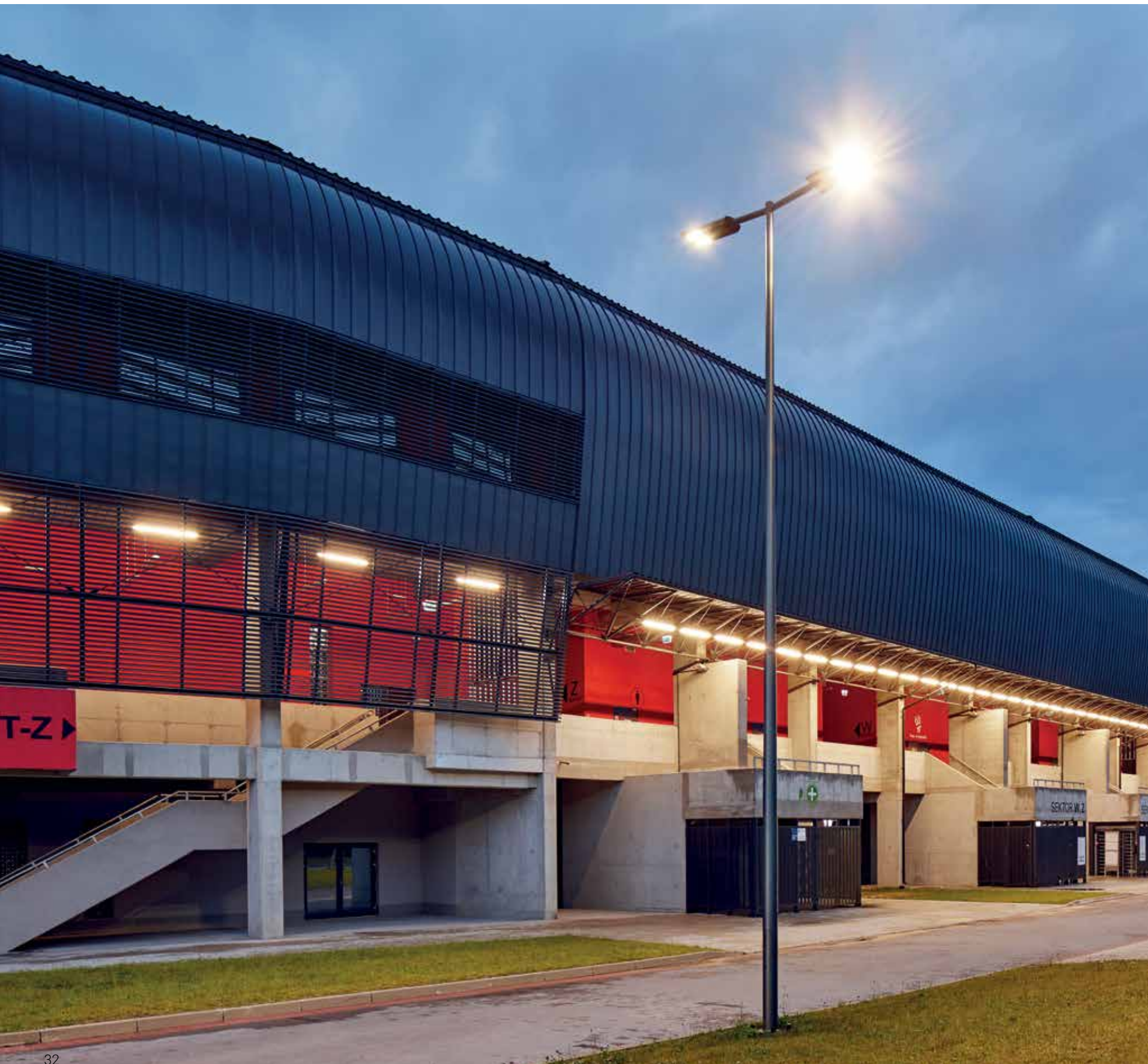
You do not need imagination – simply go to the Visualizer to see how the composed lighting set will be presented in a specific location. Take a picture of the street or square and place the selected lighting in it. And everything is light up ...



Automatic inquiry generation

From the application level there are technical drawings of individual products available. Log in to be able to generate a product list.

Straight aluminium columns





Municipal Stadium, Tychy, Poland
Architectural design studio: Perbo-Projekt Sp. z o.o.



PE Academy Gorzów Wielkopolski, Poland
Architectural design studio: K2 Biuro Architektoniczne Kamiński, Kamińska, Kurkowski S.C.

Lubomirskiego Street, Cracow, Poland
Architectural design studio: Agencja Architektoniczna Centrum Sp. z o.o.



National Polish Radio Symphony Orchestra, Katowice, Poland
Architect: Tomasz Konior, Design studio: Konior Studio





Straight aluminium columns

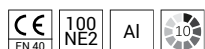
ø114 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Diameter of the column ending: ø60 mm

Luminaire mounting: directly on the column, luminaires with mounting ø60 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



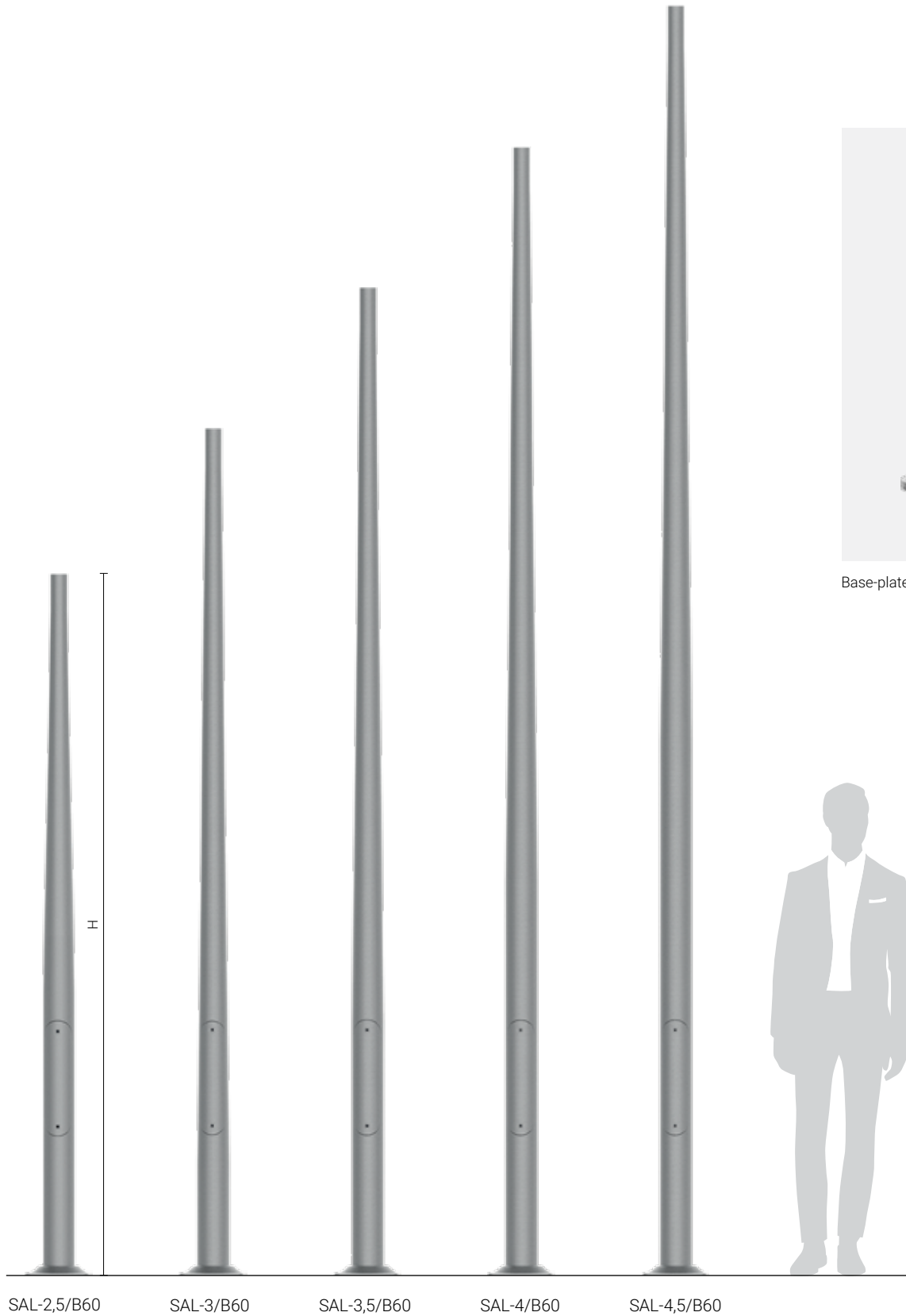
Column type	SAL-2,5/B60	SAL-3/B60	SAL-3,5/B60	SAL-4/B60	SAL-4,5/B60
Height of the column H [mm]	2500	3000	3500	4000	4500
Code	42126/C...	42120/C...	42101/C...	42102/C...	42103/C...
Net weight [kg]	7,1	8,3	9,8	11,4	12,9
Approximate unit volume [m ³]*	0,056	0,067	0,078	0,09	0,1
Recommended luminaires for column top mounting	ISKRA LED ALFA, ELBA LED, ATLANTIS LED, MIRA LED, ELBA, OPA-1, OP, OZ				
Recommended extension arms and luminaires	WA-1 – luminaire: OPA-1, OP; WR-8B/1/0,35/... – luminaire ISKRA LED WR-4/1/0,5/5 ZP – luminaire ISKRA LED				
Concrete footing / reinforcement basket type	B-50 / Z-50				
Threaded anchor ending	4 x M14				
Concrete footing / reinforcement basket code	311150 / 311205				
Fasteners	4006				
Dimension of the base plate (side / bolt spacing / thickness) [mm]	224 / 180 / 8				

* For order of more than 10 pcs stated volume may change according to packing
/C... – choice of anodising colour

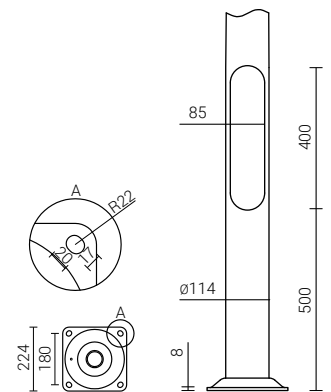
Komarno, Slovakia



Luminaire: ISKRA LED ALFA
Column: SAL-4/B60



Base-plate of aluminium column 224 x 180 x 8



Straight aluminium columns

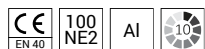
ø114 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Diameter of the column ending: ø60 mm

Luminaire mounting: directly on the column, luminaires with mounting ø60 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



Column type	SAL-3/D60	SAL-3,5/D60	SAL-4/D60	SAL-4,5/D60
Height of the column H [mm]	3000	3500	4000	4500
Code	42122/C...	42114/C...	42115/C...	42116/C...
Net weight [kg]	8,7	10,2	11,7	13,3
Approximate unit volume [m ³]*	0,087	0,101	0,115	0,13
Recommended luminaires for column top mounting	ISKRA LED ALFA, ELBA LED, ATLANTIS LED, MIRA LED, ELBA, OPA-1, OP, OZ			
Recommended extension arms and luminaires	WA-1 – luminaire: OPA-1, OP; WR-4/2/0,5/5 ZP, WR-8B/1/0,35/... – luminaire ISKRA LED WR-4/1/0,5/5 ZP – luminaire ISKRA LED			
Concrete footing / reinforcement basket type	B-51 / Z-51			
Threaded anchor ending	4 x M18			
Concrete footing / reinforcement basket code	311151 / 311251			
Fasteners	4008			
Dimension of the base plate (side / bolt spacing / thickness) [mm]	260 / 200 / 8			

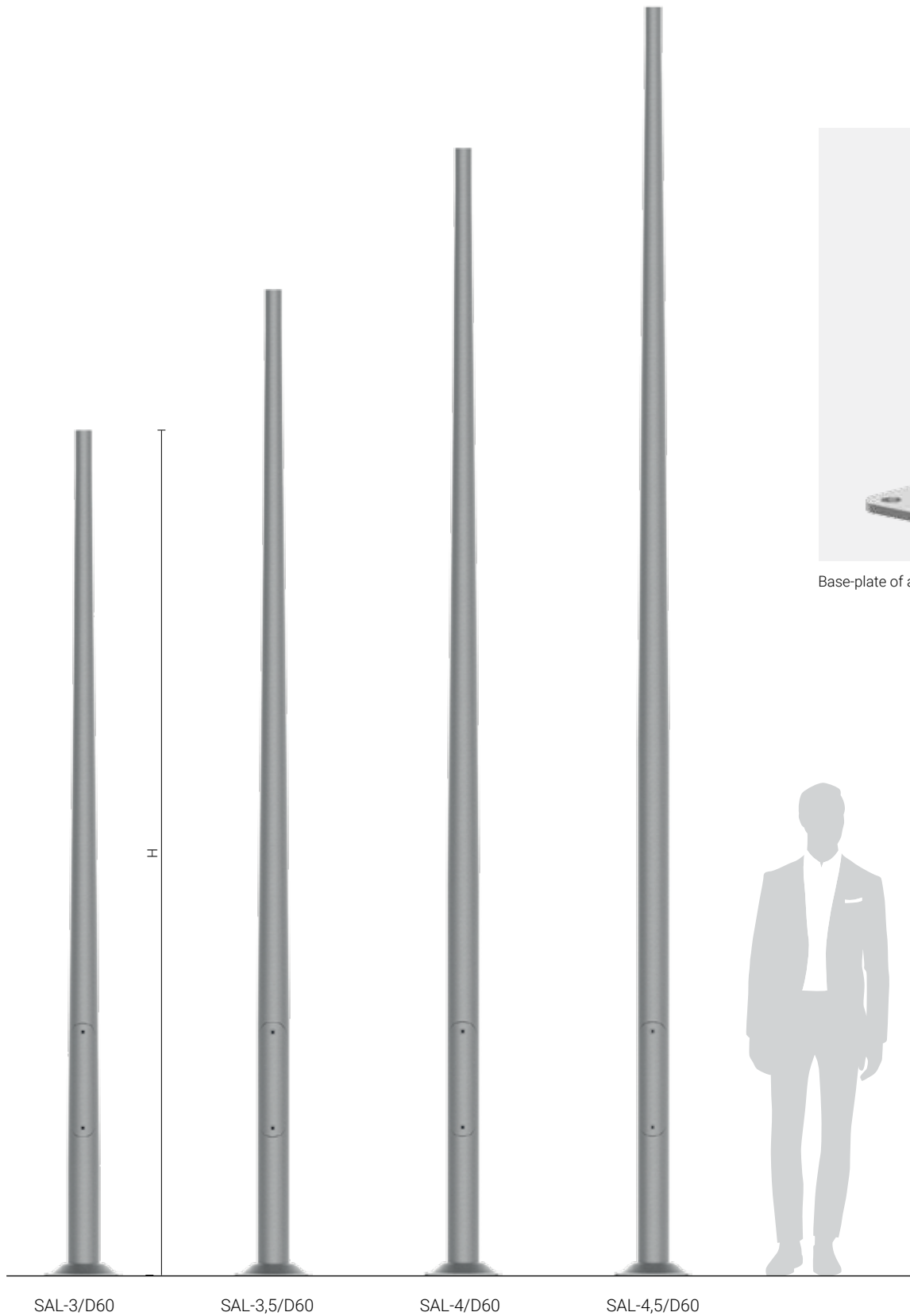
* For order of more than 10 pcs stated volume may change according to packing
/C... – choice of anodising colour

Tymbark, Poland

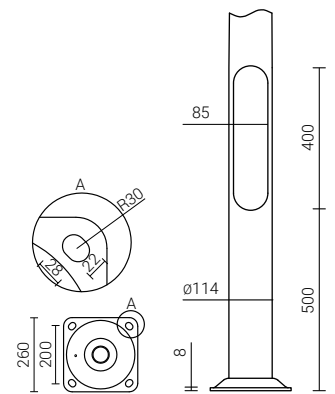


Luminaire: ATLANTIS LED
Column: SAL-4/D60





Base-plate of aluminium column 260 x 200 x 8



Straight aluminium columns

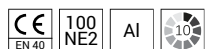
ø114 mm at ground level

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Diameter of the column ending: ø60 mm

Luminaire mounting: directly on the column, luminaires with mounting ø60 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



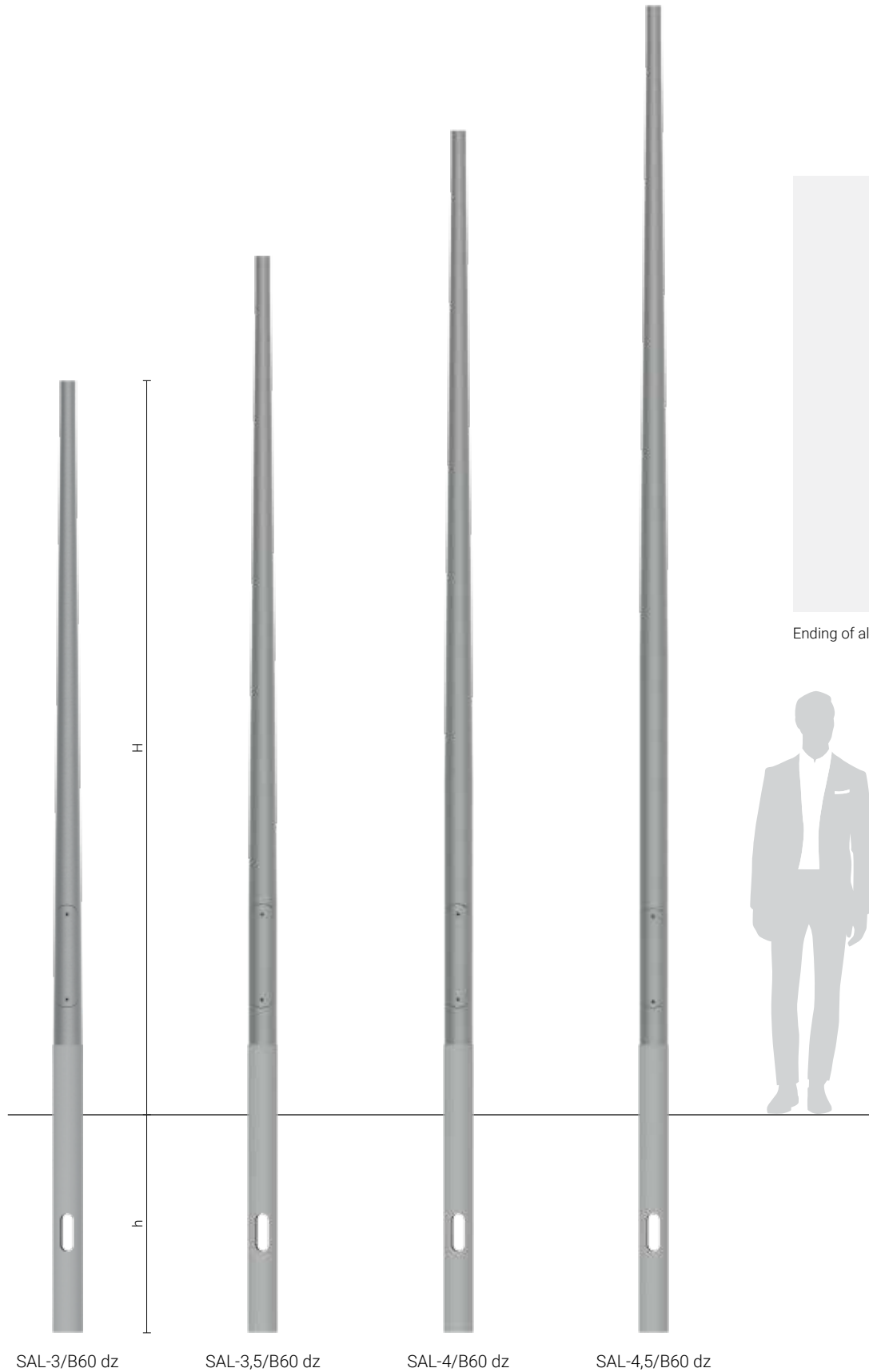
Column type	SAL-3/B60 dz	SAL-3,5/B60 dz	SAL-4/B60 dz	SAL-4,5/B60 dz
Height of the column H [mm]	3000	3500	4000	4500
Code	42124/C...	42108/C...	42111/C...	42107/C...
Net weight [kg]	9,8	11,3	12,9	14,4
Approximate unit volume [m ³]*	0,024	0,027	0,03	0,033
Recommended luminaires for column top mounting	ISKRA LED ALFA, ELBA LED, ATLANTIS LED, MIRA LED, ELBA, OPA-1, OP, OZ			
Recommended extension arms and luminaires	WA-1 – luminaire OPA-1, OP; WR-4/2/0,5/5 ZP, WR-8B/1/0,35/... – luminaire ISKRA LED			
	WR-4/1/0,5/5 ZP – luminaire ISKRA LED	–		
Rooted section h [mm]	800			

* For order of more than 10 pcs stated volume may change according to packing
/C... – choice of anodising colour

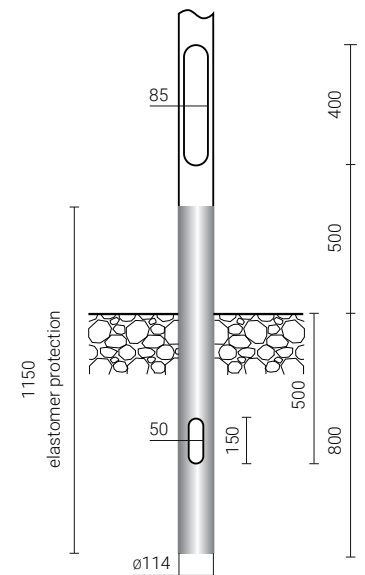
Suwałki, Poland



Luminaire: ELBA LED
Column: SAL-4/B60 dz



Ending of aluminium column



Straight aluminium columns

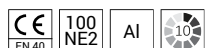
ø120 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Diameter of the column ending: ø60 mm

Luminaire mounting: directly on the column, luminaires with mounting ø60 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



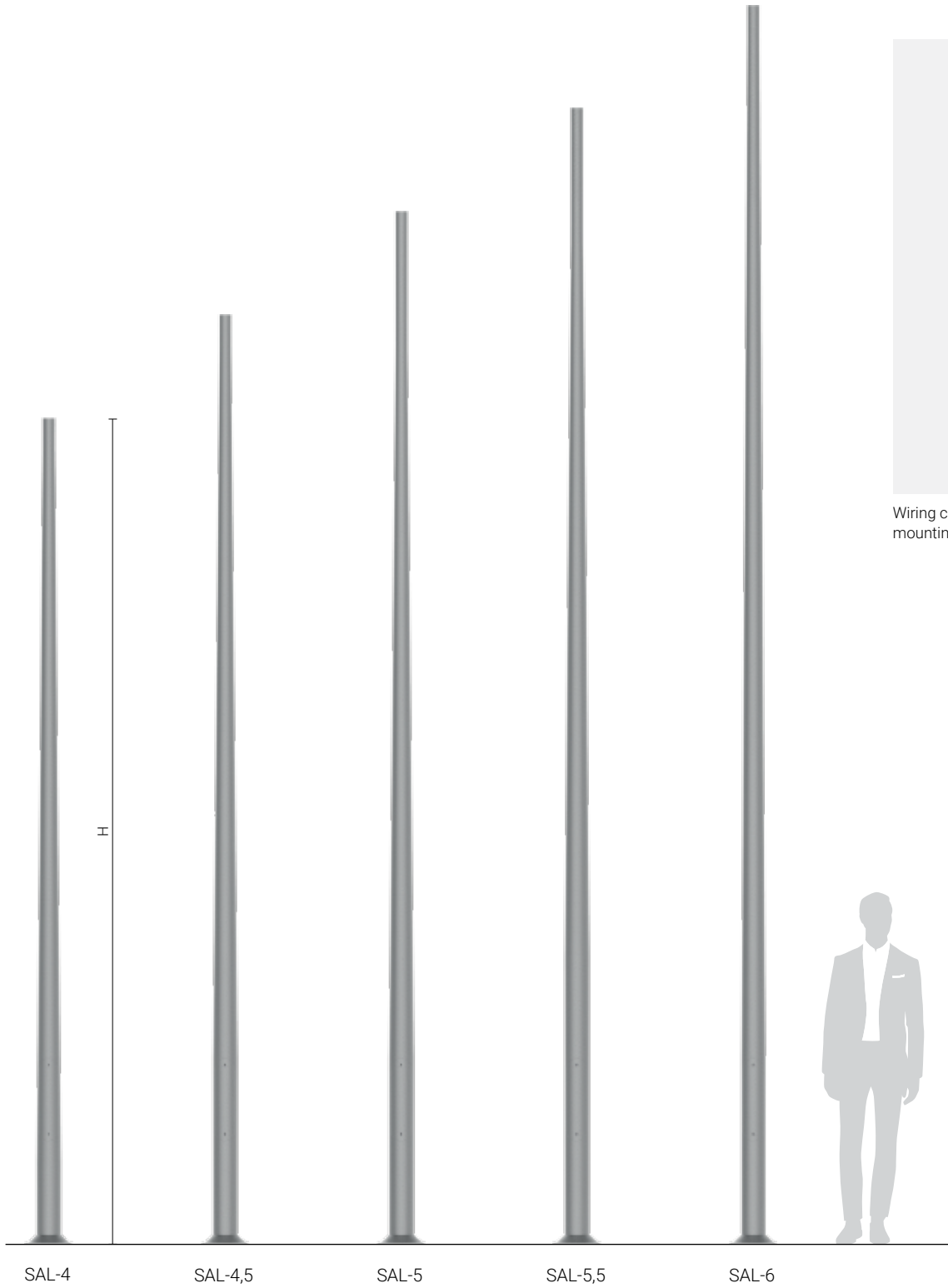
Column type	SAL-4	SAL-4,5	SAL-5	SAL-5,5	SAL-6
Height of the column H [mm]	4000	4500	5000	5500	6000
Code	42201/C...	42202/C...	42203/C...	42205/C...	42207/C...
Net weight [kg]	13,9	15,9	16,9	19,0	21,1
Approximate unit volume [m³]*	0,09	0,101	0,112	0,123	0,134
Recommended luminaires for column top mounting	ISKRA LED ALFA, ISKRA LED P ALFA, ELBA LED, ATLANTIS LED, COSMO DELTA LED, VEGA LED ALFA, VEGA LED BETA, MIRA LED, MIZAR LED, ELBA, OPA-1, OP, OZ				
Recommended extension arms and luminaires	WA-4 – luminaire: OW, OW LED; WA-5/1 – luminaire ELBA LED, ATLANTIS LED, OPA-1, OP, OZ; WA-14/1 – luminaire OW LED, OW, DROP LED; WR-4/1/0,5/5 ZP, WR-4/2/0,5/5 ZP – luminaire VEGA LED				
	WR-10/1/0,85/0, WR-10/2/0,85/0 – luminaire ISKRA LED, ISKRA LED P; WR-8B/1/0,35/... – luminaire VEGA LED				–
	WA-14/2, WA-20/1 – luminaire OW LED, OW, DROP LED			–	
Concrete footing / reinforcement basket type	B-50 / Z-50				
Threaded anchor ending	4 x M14				
Concrete footing / reinforcement basket code	311150 / 311205				
Fasteners	4006				
Dimension of the base plate (side / bolt spacing / thickness) [mm]	224 / 180 / 8				

* For order of more than 10 pcs stated volume may change according to packing /C... – choice of anodising colour

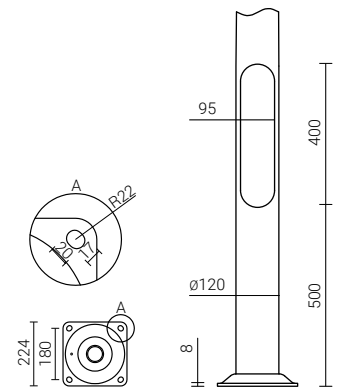
Tychy, Poland



Luminaire: ISKRA LED ALFA
Column: SAL-5



Wiring chamber of aluminium column with mounting rail for connection box



Straight aluminium columns

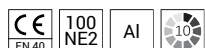
ø120 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Diameter of the column ending: ø60 mm

Luminaire mounting: directly on the column, luminaires with mounting ø60 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



Column type	SAL-4E	SAL-4,5E	SAL-5E	SAL-6E
Height of the column H [mm]	4000	4500	5000	6000
Code	42217/C...	42218/C...	42219/C...	42223/C...
Net weight [kg]	14,3	16,4	17,4	21,5
Approximate unit volume [m ³]*	0,116	0,13	0,145	0,174
Recommended luminaires for column top mounting	ISKRA LED ALFA, ISKRA LED P ALFA, ELBA LED, ATLANTIS LED, COSMO DELTA LED, VEGA LED ALFA, VEGA LED BETA, MIRA LED, MIZAR LED, ELBA, OPA-1, OP, OZ			
Recommended extension arms and luminaires	WA-4 – luminaire OW, OW LED; WA-5/1 – luminaire ELBA LED, ATLANTIS LED, OPA-1, OP, OZ; WA-14/1 – luminaire: OW LED, OW, DROP LED; WR-4/2/0,5/5 ZP – luminaire ISKRA LED			-
	WA-5/2 – luminaire ELBA LED, ATLANTIS LED, OPA-1, OP, OZ; WA-14/2, WA-20/1 – luminaire OW LED, OW, DROP LED; WR-8B/1/0,35/... – luminaire VEGA LED; WR-10/1/0,85/0 – luminaire ISKRA LED			
	WR-10/2/0,85/0 – luminaire ISKRA LED			
Concrete footing / reinforcement basket type	B-51 / Z-51			
Threaded anchor ending	4 x M18			
Concrete footing / reinforcement basket code	311151 / 311251			
Fasteners	4008			
Dimension of the base plate (side / bolt spacing / thickness) [mm]	260 / 200 / 8			

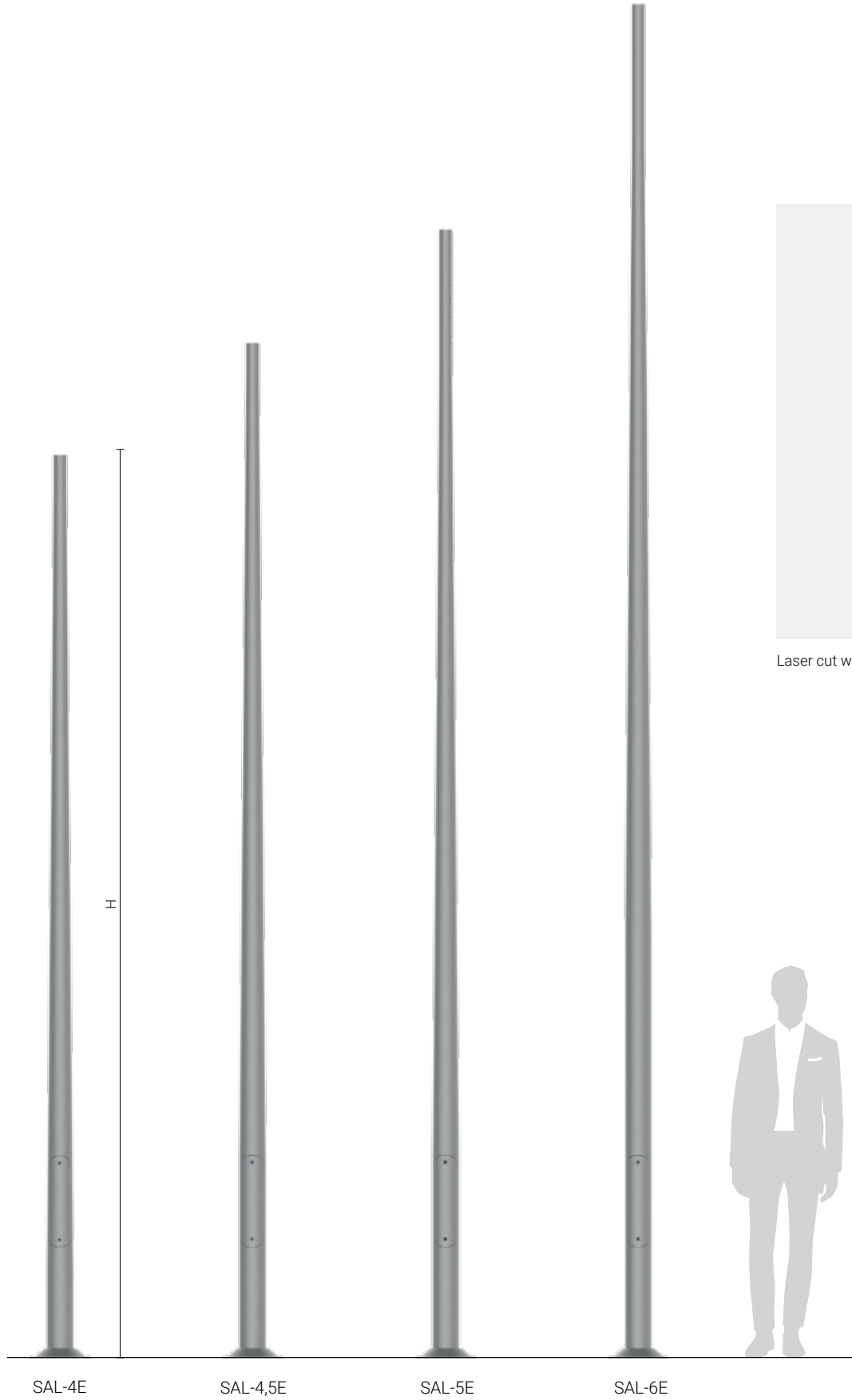
* For order of more than 10 pcs stated volume may change according to packing /C... – choice of anodising colour



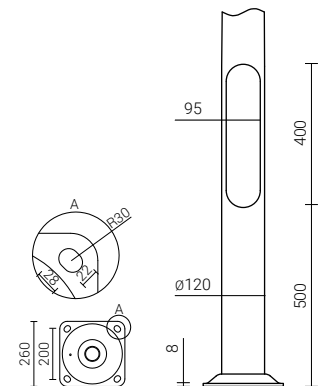
Gorzów Wielkopolski, Poland

Luminaire: VEGA LED ALFA
Column: SAL-5E





Laser cut wiring chamber of aluminium column



Straight aluminium columns

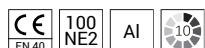
ø120 mm at ground level

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Diameter of the column ending: ø60 mm

Luminaire mounting: directly on the column, luminaires with mounting ø60 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



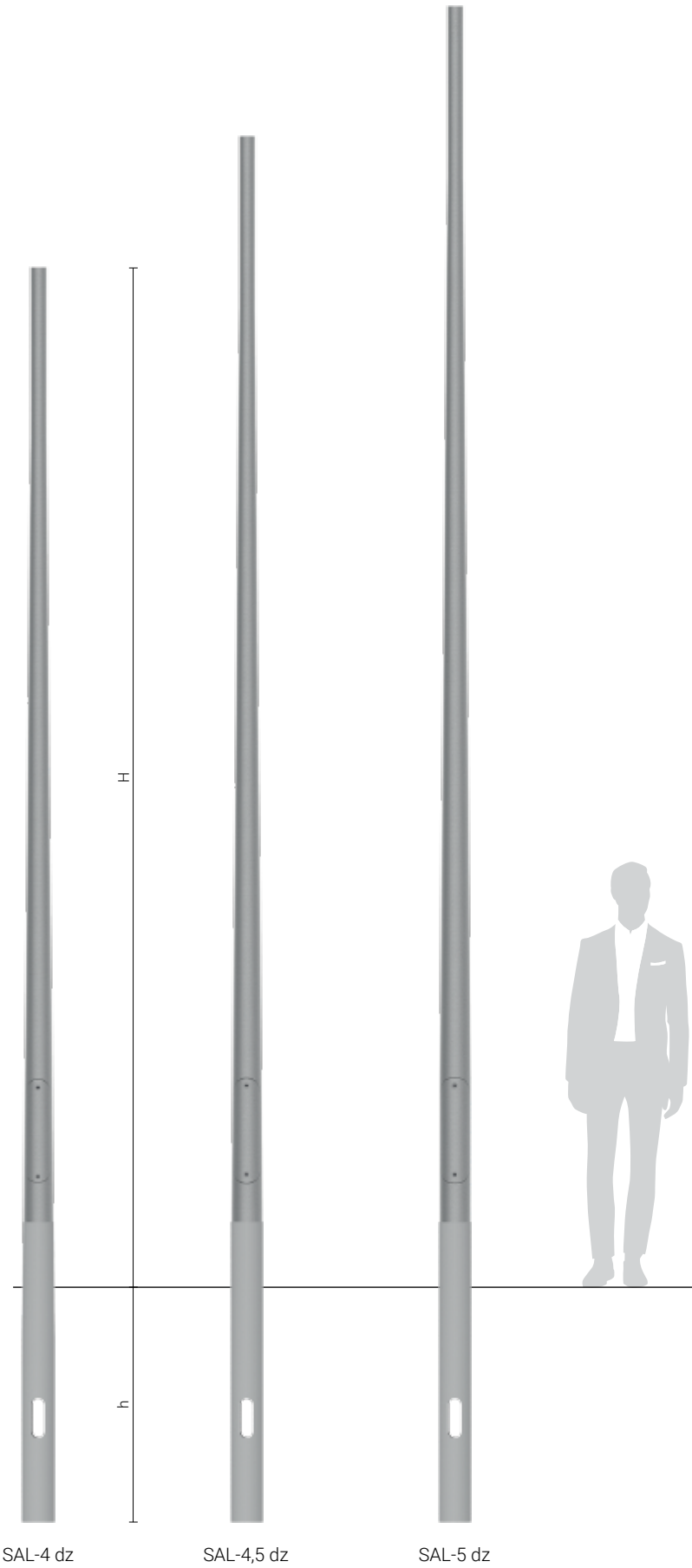
Column type	SAL-4 dz	SAL-4,5 dz	SAL-5 dz
Height of the column H [mm]	4000	4500	5000
Code	42231/C...	42232/C...	42233/C...
Net weight [kg]	15,7	17,4	19,5
Approximate unit volume [m ³]*	0,032	0,035	0,039
Recommended luminaires for column top mounting	ISKRA LED ALFA, ISKRA LED P ALFA, ELBA LED, ATLANTIS LED, COSMO DELTA LED, VEGA LED ALFA, VEGA LED BETA, MIRA LED, MIZAR LED, ELBA, OPA-1, OP, OZ		
Recommended extension arms and luminaires	WA-4 – luminaire OW, OW LED; WA-5/1 – luminaire ELBA LED, ATLANTIS LED, OPA-1, OP, OZ; WA-14/1 – luminaire OW LED, OW, DROP LED; WR-4/1/0,5/5 ZP, WR-4/2/0,5/5 ZP, WR-8B/1/0,35/... – luminaire VEGA LED, WR-10/1/0,85/0 – luminaire ISKRA LED, ISKRA LED P		
	WR-10/2/0,85/0 – luminaire ISKRA LED, ISKRA LED P		–
Rooted section h [mm]	800		

* For order of more than 10 pcs stated volume may change according to packing /C... – choice of anodising colour

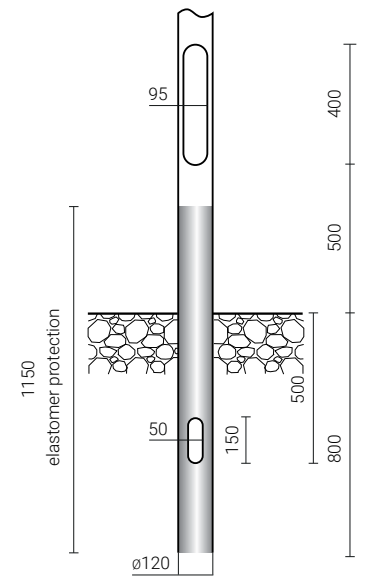
Wrocław, Poland



Luminaire: MIZAR LED
Column: SAL-4 dz



Installation wires' hole for rooted aluminum columns



Straight aluminium columns

ø146 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection

in the colour of the column up to the height of 350 mm

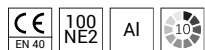
(other height on customer's request)

Diameter of the column ending: ø60 mm

Luminaire mounting: directly on the column, luminaires with mounting

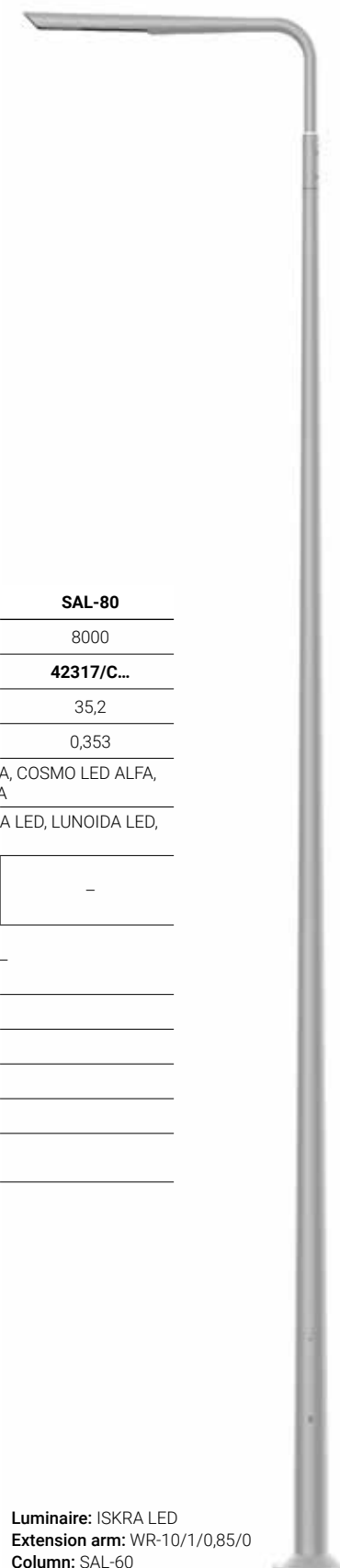
ø60 mm with weight and surface parameters not exceeding the data from

the strength table included in the technical data sheet

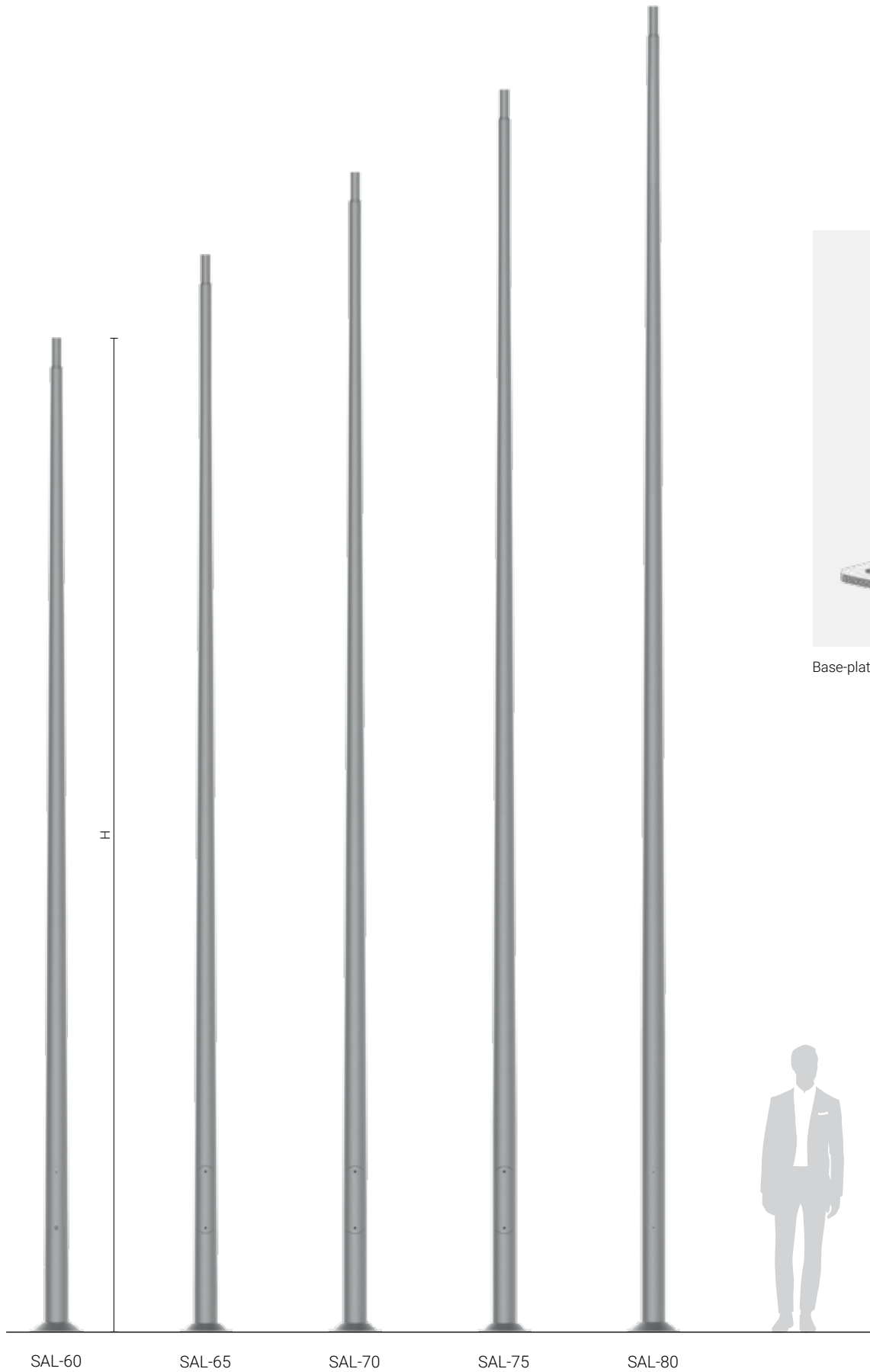


Column type	SAL-60	SAL-65	SAL-70	SAL-75	SAL-80
Height of the column H [mm]	6000	6500	7000	7500	8000
Code	42313/C...	42314/C...	42315/C...	42316/C...	42317/C...
Net weight [kg]	25,4	27,3	30	32,6	35,2
Approximate unit volume [m ³]*	0,265	0,287	0,309	0,331	0,353
Recommended luminaires for column top mounting	ISKRA LED ALFA, ISKRA LED P ALFA, COSMO DELTA LED, VEGA LED ALFA, VEGA LED BETA, COSMO LED ALFA, URSA LED ALFA, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA				
Recommended extension arms and luminaires	WR-4/1/1,0/5 ZP – luminaire CUDDLE LED, URSA LED, ISKRA LED, COSMO LED, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA, WN-1 – luminaire ARTEMIS LED				
	WR-2/1/0,95/5, WR-4/2/1,0/5 ZP, WR-13/1/0,8/5 ZP, WR-15/1/1,0/5 – luminaire CUDDLE LED, URSA LED, ISKRA LED, COSMO LED, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA; WN-2 – luminaire ARTEMIS LED				–
	WR-8A/1/0,6/5, WR-5A/1/0,6/5 – luminaire CUDDLE LED, URSA LED, ISKRA LED, COSMO LED, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA				–
Concrete footing / reinforcement basket type	B-60 / Z-60				
Threaded anchor ending	4 x M18				
Concrete footing / reinforcement basket code	311160 / 311206				
Fasteners	4008				
Dimension of the base plate (side / bolt spacing / thickness) [mm]	320 / 250 / 10				

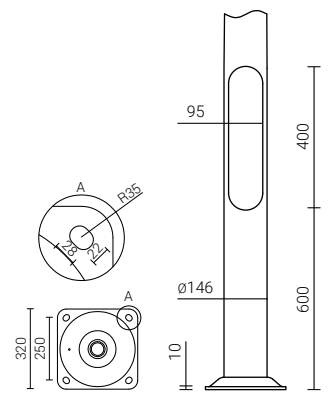
* For order of more than 10 pcs stated volume may change according to packing
/C... – choice of anodising colour



Luminaire: ISKRA LED
Extension arm: WR-10/1/0,85/0
Column: SAL-60



Base-plate of aluminium column 320 x 250 x 10



SAL-60

SAL-65

SAL-70

SAL-75

SAL-80

Straight aluminium columns

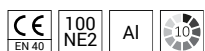
ø146 mm at ground level

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Diameter of the column ending: ø60 mm

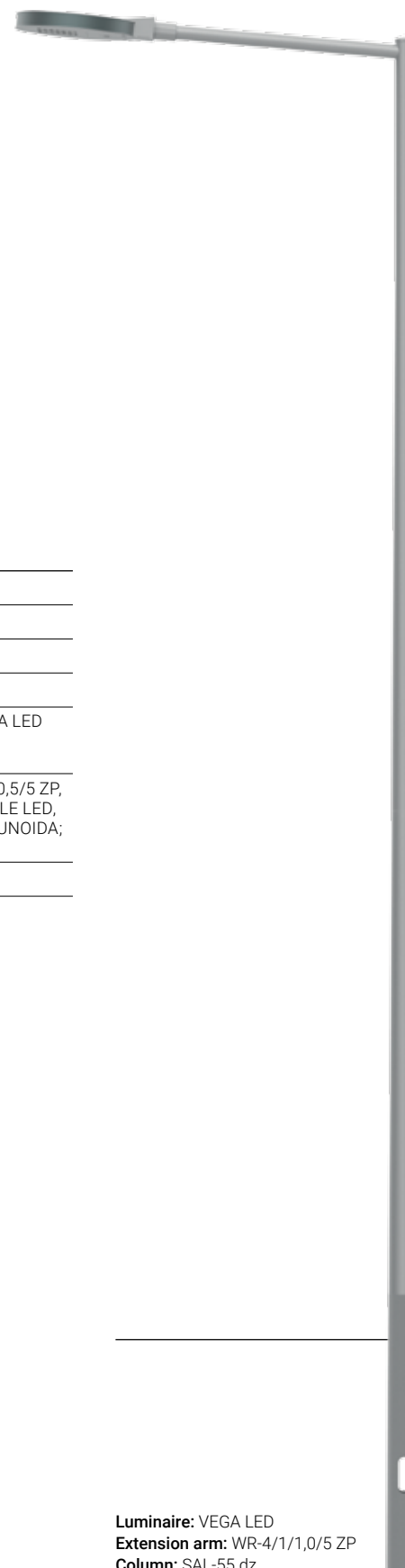
Luminaire mounting: directly on the column, luminaires with mounting ø60 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



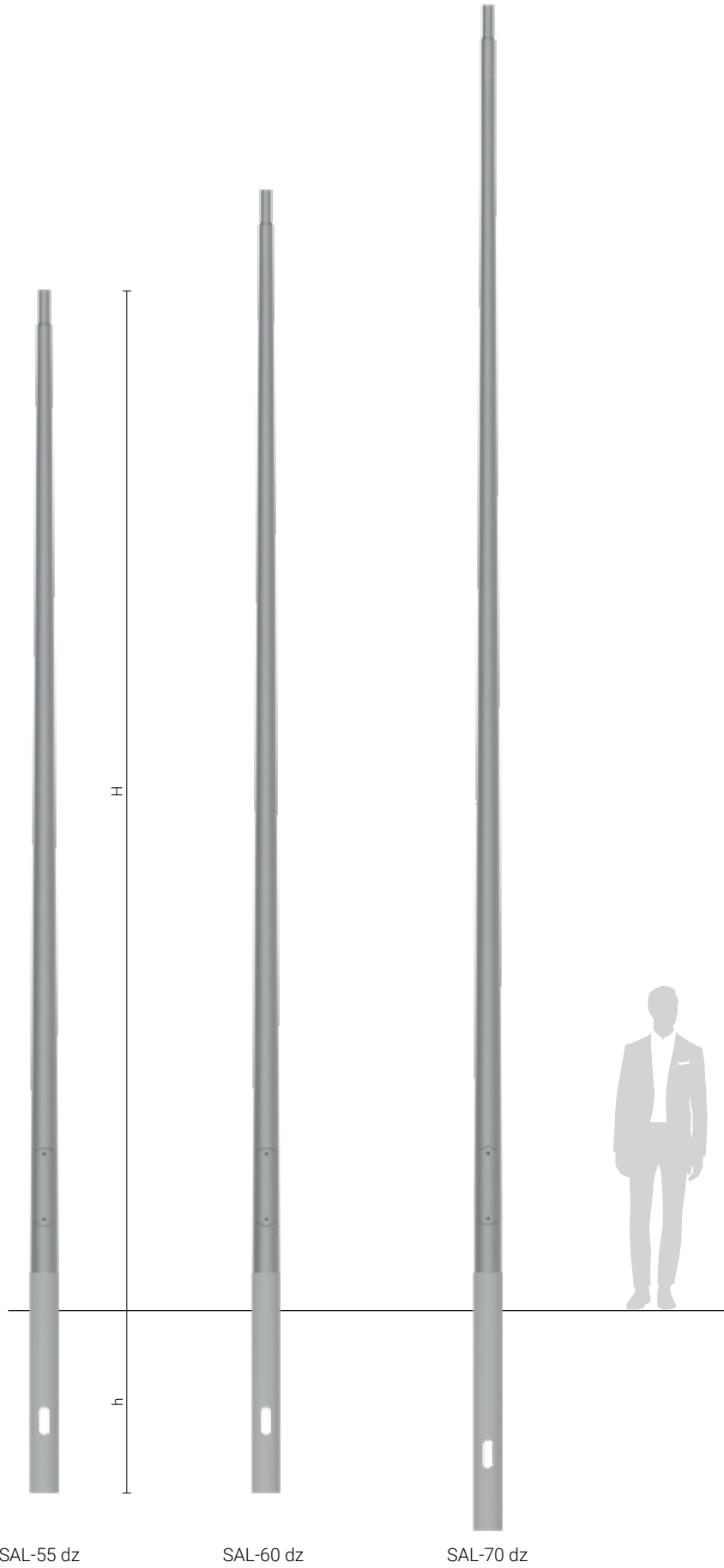
Column type	SAL-55 dz	SAL-60 dz	SAL-70 dz
Height of the column H [mm]	5500	6000	7000
Code	42322/C...	42323/C...	42325/C...
Net weight [kg]	24,1	26,7	32,8
Approximate unit volume [m ³]*	0,064	0,069	0,082
Recommended luminaires for column top mounting	ISKRA LED ALFA, ISKRA LED P ALFA, COSMO DELTA LED, VEGA LED ALFA, VEGA LED BETA, COSMO LED ALFA, URSA LED ALFA, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA		
Recommended extension arms and luminaires	WN-1, WN-2 – luminaire ARTEMIS LED; WR-2/1/0,95/5, WR-4/1/0,5/5 ZP, WR-4/2/0,5/5 ZP, WR-5A/1/0,6/5, W-8A/1/0,6/5, WR-13/1/0,8/5 ZP, WR-15/1/1,0/5 – luminaire CUDDLE LED, URSA LED, ISKRA LED, COSMO LED, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA; WA-20/1 – luminaire OW LED, OW, DROP LED		
Rooted section h [mm]	800	800	1000

* For order of more than 10 pcs stated volume may change according to packing
/C... – choice of anodising colour

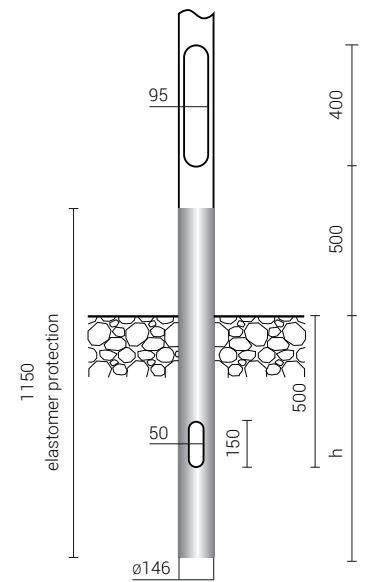
EtK, Poland



Luminaire: VEGA LED
Extension arm: WR-4/1/1,0/5 ZP
Column: SAL-55 dz



Ending of aluminium column



Straight aluminium columns

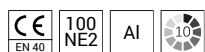
ø146 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Diameter of the column ending: ø60 mm

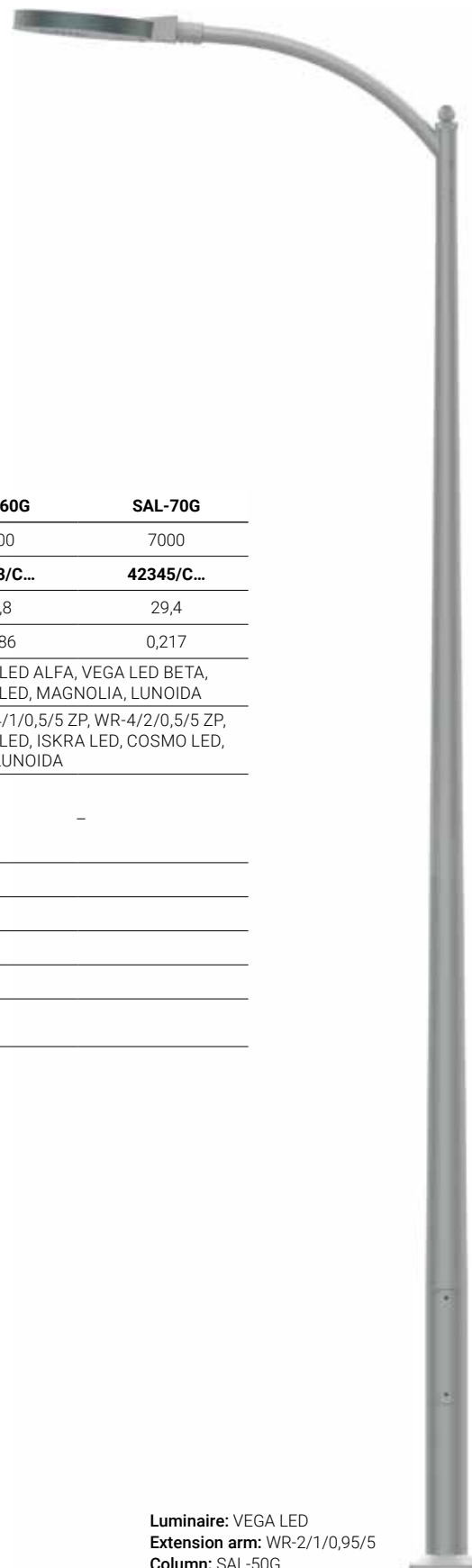
Luminaire mounting: directly on the column, luminaires with mounting ø60 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



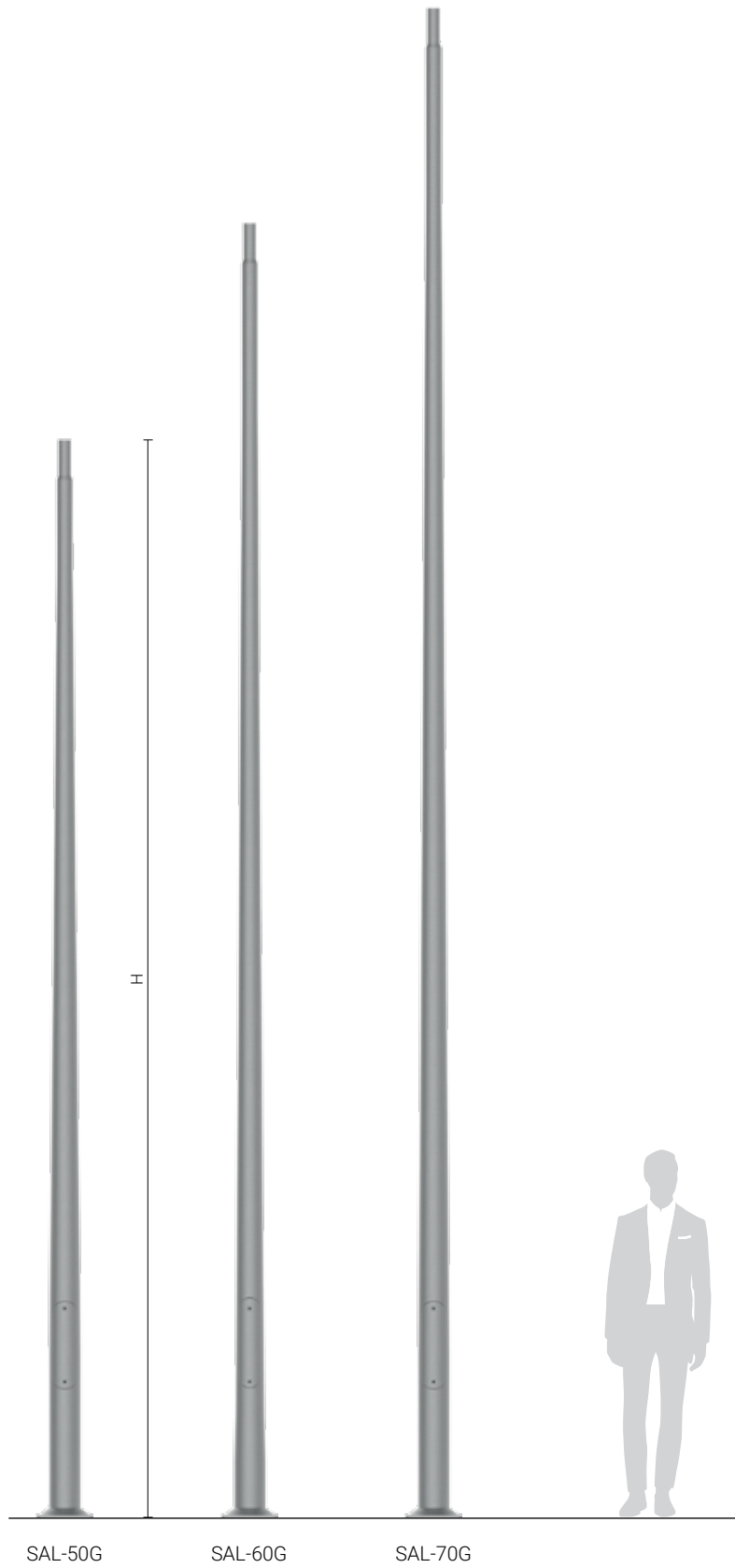
Column type	SAL-50G	SAL-60G	SAL-70G
Height of the column H [mm]	5000	6000	7000
Code	42341/C...	42343/C...	42345/C...
Net weight [kg]	22,8	24,8	29,4
Approximate unit volume [m ³]*	0,155	0,186	0,217
Recommended luminaires for column top mounting	ISKRA LED ALFA, ISKRA LED P ALFA, COSMO DELTA LED, VEGA LED ALFA, VEGA LED BETA, COSMO LED ALFA, URSA LED ALFA, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA		
Recommended extension arms and luminaires	WA-20/1 – luminaire OW LED, OW, DROP LED; WR-2/1/0,95/5, WR-4/1/0,5/5 ZP, WR-4/2/0,5/5 ZP, WR-8A/1/0,6/5, WR-13/1/0,8/5 ZP – luminaire CUDDLE LED, URSA LED, ISKRA LED, COSMO LED, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA		
	WR-5A/1/0,6/5, WR-8B/1/0,35/... – luminaire CUDDLE LED, URSA LED, ISKRA LED, COSMO LED, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA; WN-2 – luminaire ARTEMIS LED	-	
Concrete footing / reinforcement basket type	B-51 / Z-51		
Threaded anchor ending	4 x M18		
Concrete footing / reinforcement basket code	311151 / 311251		
Fasteners	4008		
Dimension of the base plate (side / bolt spacing / thickness) [mm]	260 / 200 / 12		

* For order of more than 10 pcs stated volume may change according to packing /C... – choice of anodising colour

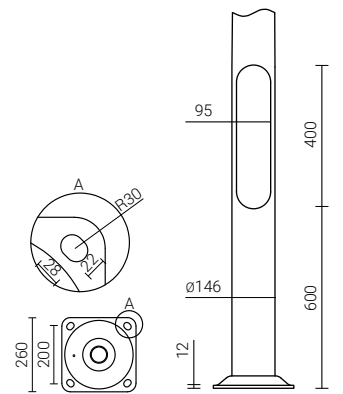
Czechowice-Dziedzice, Poland



Luminaire: VEGA LED
Extension arm: WR-2/1/0,95/5
Column: SAL-50G



Assembly of aluminium column's door



Straight aluminium columns

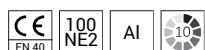
ø146 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Diameter of the column ending: ø60 mm

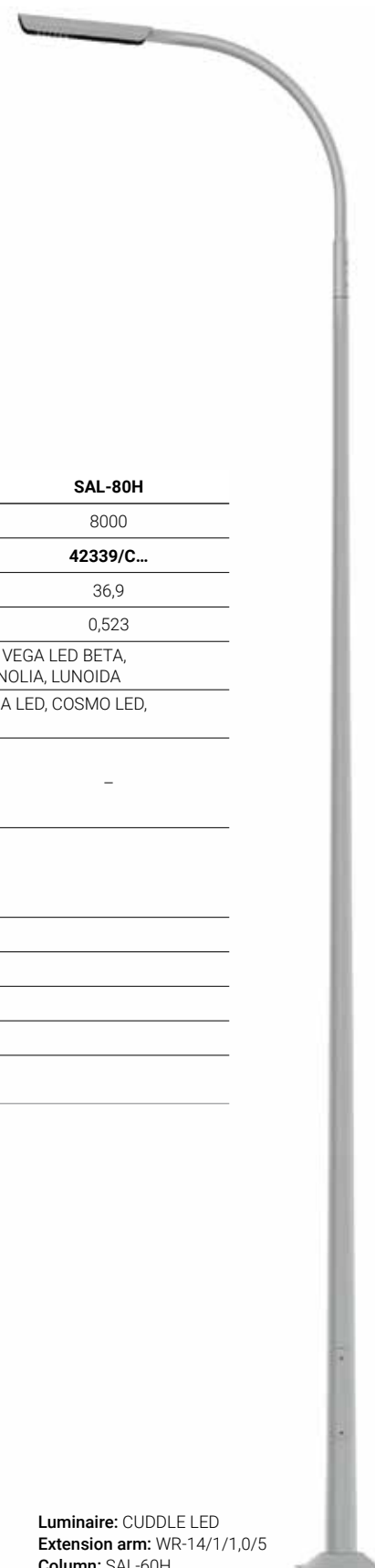
Luminaire mounting: directly on the column, luminaires with mounting ø60 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



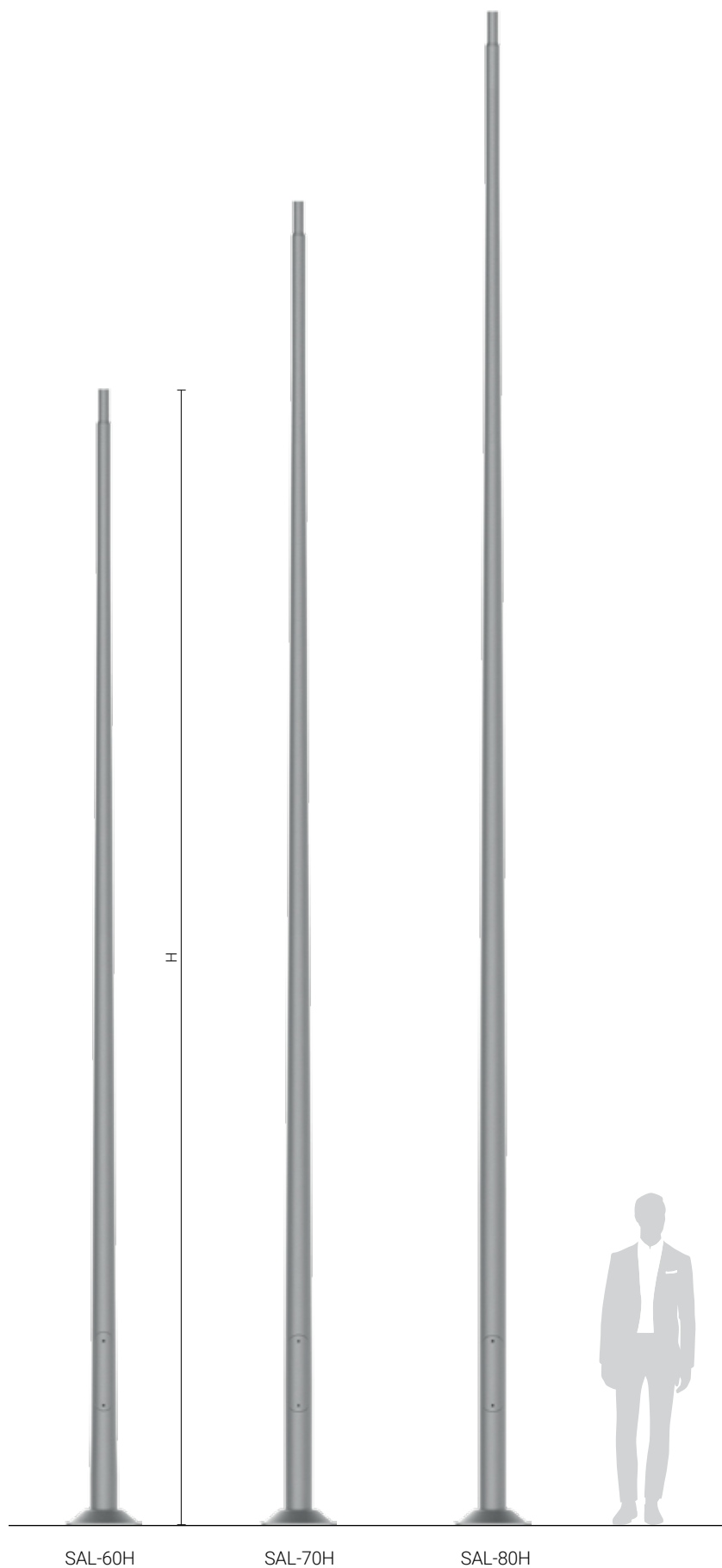
Column type	SAL-60H	SAL-70H	SAL-80H
Height of the column H [mm]	6000	7000	8000
Code	42345/C...	42337/C...	42339/C...
Net weight [kg]	27,1	31,7	36,9
Approximate unit volume [m ³]*	0,392	0,458	0,523
Recommended luminaires for column top mounting	ISKRA LED ALFA, ISKRA LED P ALFA, COSMO DELTA LED, VEGA LED ALFA, VEGA LED BETA, COSMO LED ALFA, URSA LED ALFA, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA WR-4/1/1,0/5 ZP, WR-4/2/1,0/5 ZP – luminaire CUDDLE LED, URSA LED, ISKRA LED, COSMO LED, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA		
Recommended extension arms and luminaires	WR-2/2/0,95/5, WR-5A/1/0,6/5, WR-5A/2/0,6/5, WR-8A/1/1,0/5, WR-13/2/0,8/5, WR-15/1/1,0/5, WR-15/2/1,0/5 – luminaire CUDDLE LED, ARTEMIS LED, URSA LED, ISKRA LED, COSMO LED, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA		–
	WA-20/2 – luminaire OW LED, DROP LED, OW WR-14/1/1,0/5 – luminaire CUDDLE LED, URSA LED, ISKRA LED, COSMO LED, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA		–
Concrete footing / reinforcement basket type	B-71 / Z-71		
Threaded anchor ending	4 x M24		
Concrete footing / reinforcement basket code	311171 / 311271		
Fasteners	4012		
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 10		

* For order of more than 10 pcs stated volume may change according to packing /C... – choice of anodising colour

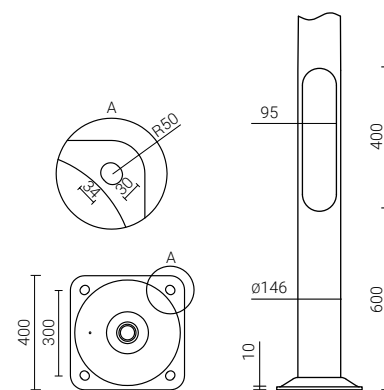
Tychy, Poland



Luminaire: CUDDLE LED
Extension arm: WR-14/1/1,0/5
Column: SAL-60H



Base-plate of aluminium column 400 x 300 x 10



Straight aluminium columns

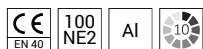
ø178 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Diameter of the column ending: ø60 mm

Luminaire mounting: directly on the column, luminaires with mounting ø60 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



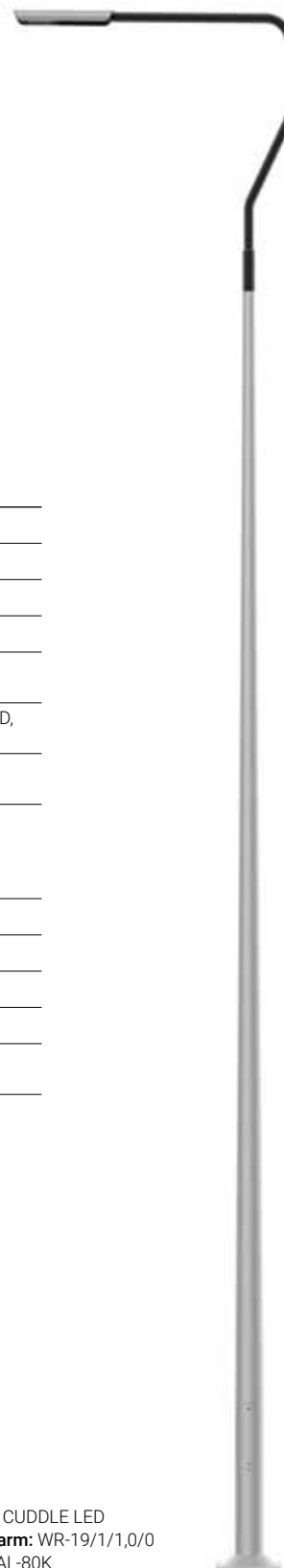
Column type	SAL-70K	SAL-80K	SAL-90K	SAL-100K
Height of the column H [mm]	7000	8000	9000	10000
Code	42628/C...	42630/C...	42632/C...	42634/C...
Net weight [kg]	35,3	37,4	42,7	47,5
Approximate unit volume [m ³]*	0,458	0,525	0,589	0,654
Recommended luminaires for column top mounting	URSA LED ALFA, MAGNOLIA LED, LUNOIDA LED, COSMO LED ALFA, LUNOIDA, MAGNOLIA			
Recommended extension arms and luminaires	WR-2/1/0,95/5, WR-4/1/1,0/5 ZP, WR-4/2/1,0/5 ZP, WR-15/1/1,0/5 – luminaire CUDDLE LED, URSA LED, COSMO LED, MAGNOLI LED, LUNOIDA LED, MAGNOLIA, LUNOIDA			
	WR-2/2/0,95/5, WR-15/2/1,0/5 – luminaire CUDDLE LED, URSA LED, COSMO LED, MAGNOLI LED, LUNOIDA LED, MAGNOLIA, LUNOIDA			-
	WR-8A/1/1,0/5, WR-14/1/1,0/5, WR-14/2/1,0/5 – luminaire CUDDLE LED, URSA LED, COSMO LED, MAGNOLI LED, LUNOIDA LED, MAGNOLIA, LUNOIDA; WR-19/1/1,0/0 – luminaire CUDDLE LED			-
Concrete footing / reinforcement basket type	B-71 / Z-71	B-70, B-71 / Z-70, Z-71		
Threaded anchor ending	4 x M24	4 x M24		
Concrete footing / reinforcement basket code	311171 / 311271	311170, 311171 / 311270, 311271		
Fasteners	4012	4012		
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 10	400 / 300 / 10		

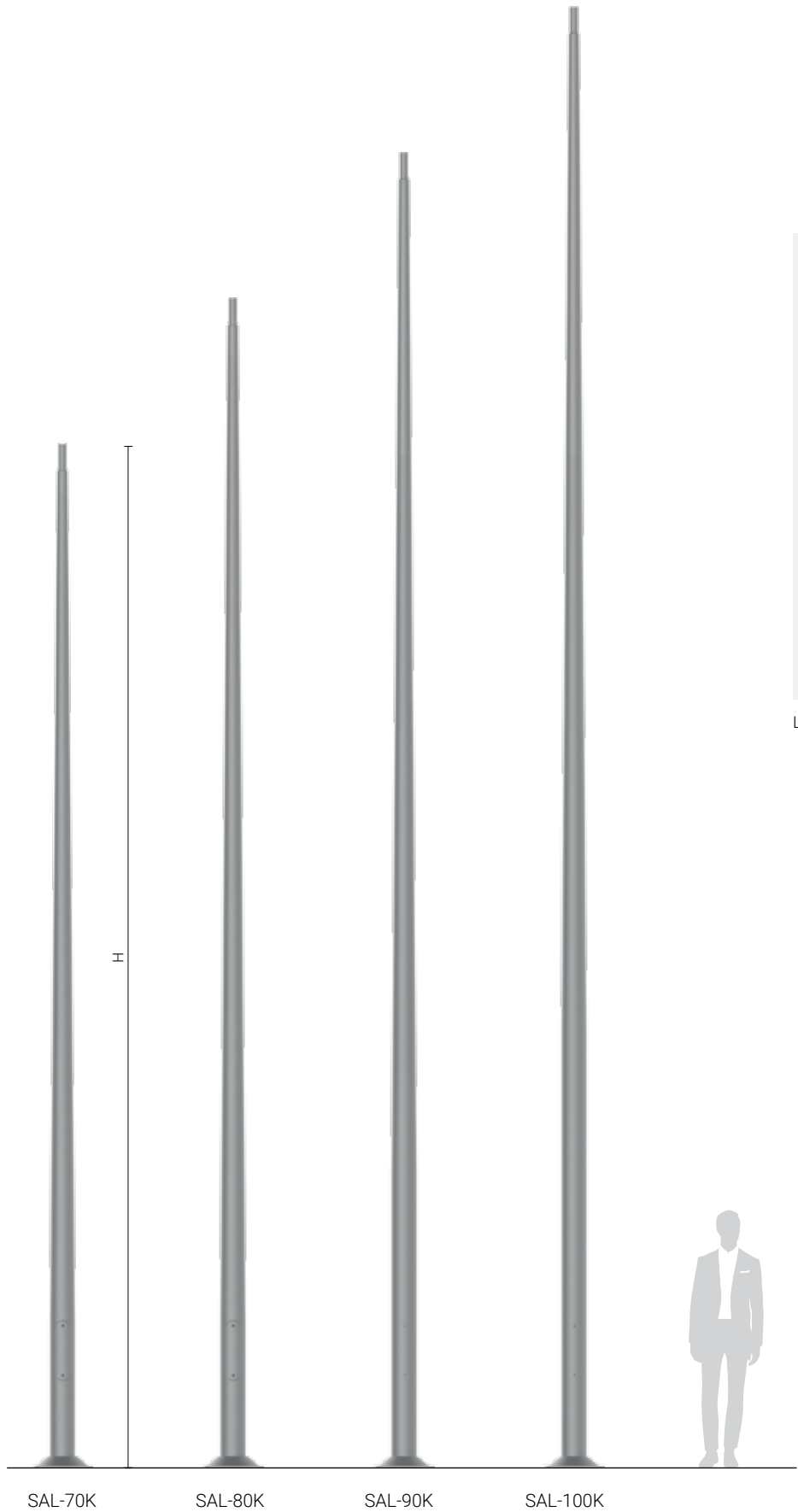
* For order of more than 10 pcs stated volume may change according to packing /C... – choice of anodising colour



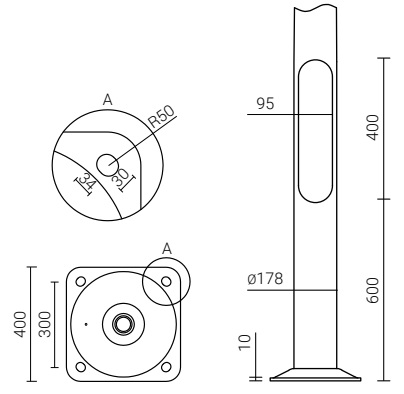
Jędrzejów, Poland

Luminaire: CUDDLE LED
Extension arm: WR-19/1/1,0/0
Column: SAL-80K





Laser cut wiring chamber of aluminium column



Straight aluminium columns

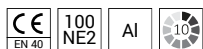
ø180 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Diameter of the column ending: ø60 mm

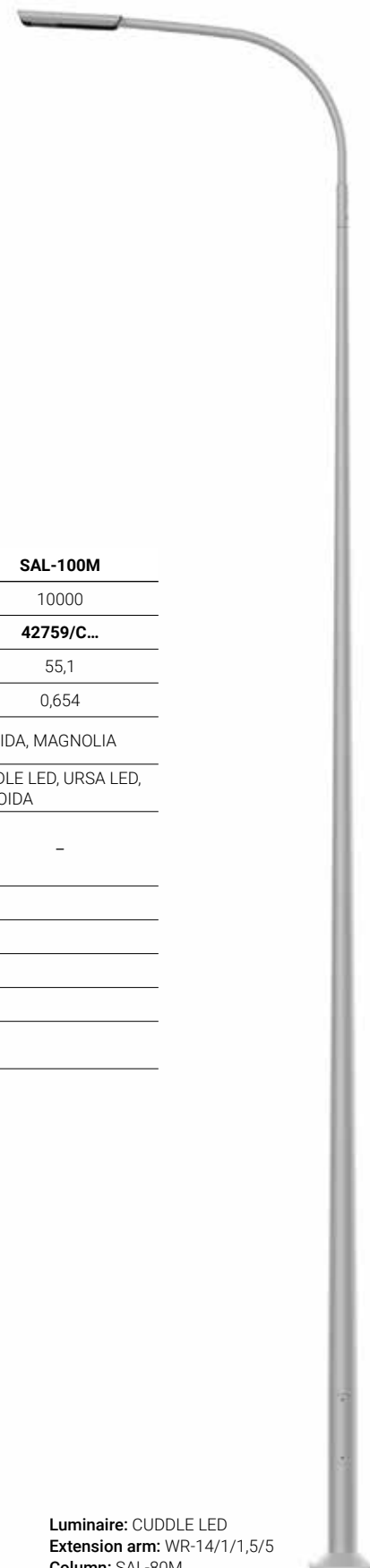
Luminaire mounting: directly on the column, luminaires with mounting ø60 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



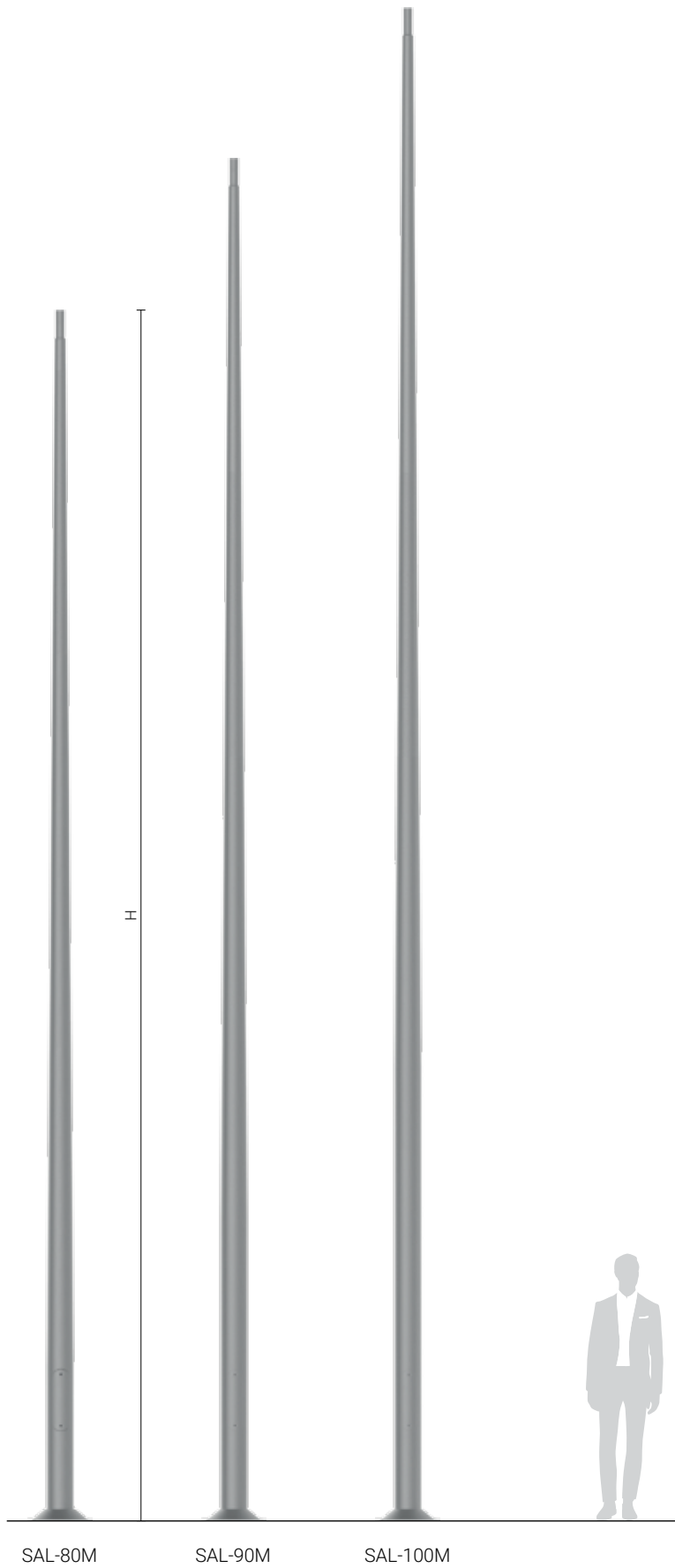
Column type	SAL-80M	SAL-90M	SAL-100M
Height of the column H [mm]	8000	9000	10000
Code	42755/C...	42757/C...	42759/C...
Net weight [kg]	42,7	49,3	55,1
Approximate unit volume [m³]*	0,523	0,589	0,654
Recommended luminaires for column top mounting	URSA LED ALFA, COSMO LED ALFA, MAGNOLIA LED, LUNOIDA LED, LUNOIDA, MAGNOLIA		
Recommended extension arms and luminaires	WR-T1/1,5/5, WR-14/2/1,0/5, WR-21/1/1,5/0, WRP/1/L/Z/5 – luminaire CUDDLE LED, URSA LED, COSMO LED, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA		-
	WR-14/1/1,5/5, WR-18A/1/1,5/5, WR-19/1/1,0/0, WR-19/2/1,0/0, WR-21/2/1,5/0 – luminaire CUDDLE LED, URSA LED, COSMO LED, MAGNOLIA LED, LUNOIDA LED, ARTERMIS LED, MAGNOLIA, LUNOIDA		
Concrete footing / reinforcement basket type	B-70, B-71 / Z-70, Z-71		
Threaded anchor ending	4 x M24		
Concrete footing / reinforcement basket code	311170, 311171 / 311270, 311271		
Fasteners	4012		
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 12		

* For order of more than 10 pcs stated volume may change according to packing /C... – choice of anodising colour

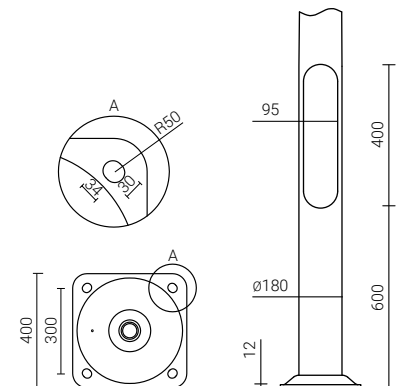
Tychy, Poland



Luminaire: CUDDLE LED
Extension arm: WR-14/1/1,5/5
Column: SAL-80M



Assembly of aluminium column's door



Straight aluminium columns

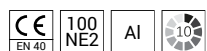
ø178 and ø180 mm at ground level

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Diameter of the column ending: ø60 mm

Luminaire mounting: directly on the column, luminaires with mounting ø60 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



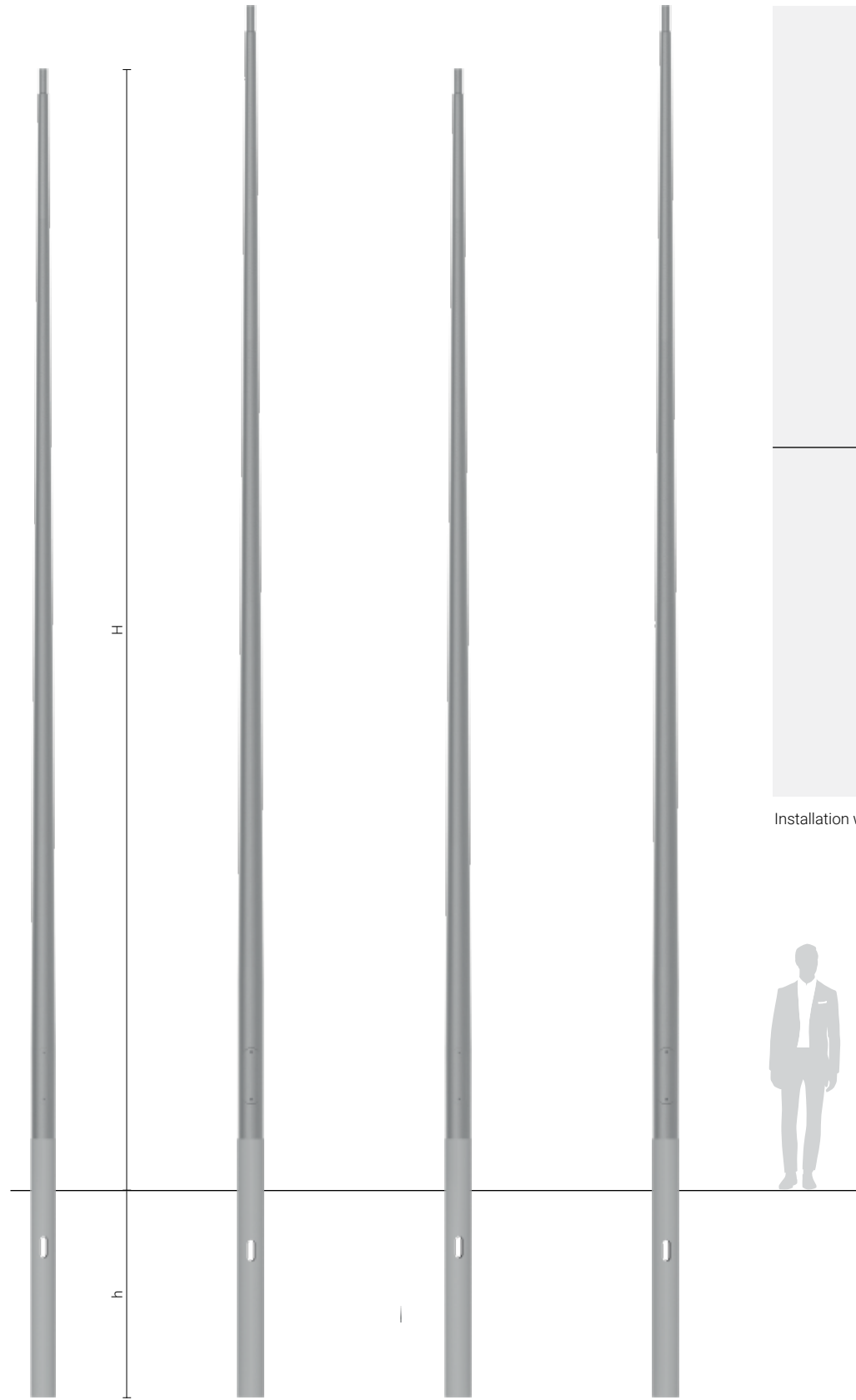
Column type	SAL-80K dz	SAL-85K dz	SAL-80M dz	SAL-85M dz
Height of the column H [mm]	8000	8500	8000	8500
Code	42606/C...	42607/C...	42706/C...	42707/C...
Net weight [kg]	41,4	43,6	47,7	50,3
Approximate unit volume [m ³]*	0,127	0,133	0,128	0,135
Recommended luminaires for column top mounting	URSA LED ALFA, MAGNOLIA LED, LUNOIDA LED, COSMO LED ALFA, MAGNOLIA, LUNOIDA			
Recommended extension arms and luminaires	WR-2/2/0,95/5, WR-5A/2/0,6/5, WR-8A/1/1,0/5, WR-13/2/0,8/5, WR-14/1/1,0/5, WR-14/2/1,0/5, WR-15/1/1,0/5, WR-15/2/1,0/5, WR-19/1/1,0/0, WR-19/2/1,0/0, WRP-1/1,0/0,7/5, WN-3- luminaire CUDDLE LED, URSA LED, ANDROMEDA LED, COSMO LED, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA;			
Rooted section h [mm]	1500			

* For order of more than 10 pcs stated volume may change according to packing
/C... – choice of anodising colour

Rzeszów, Poland



Luminaire: URSA LED
Extension arm: WR-15/1/1,0/5
Column: SAL-80K dz

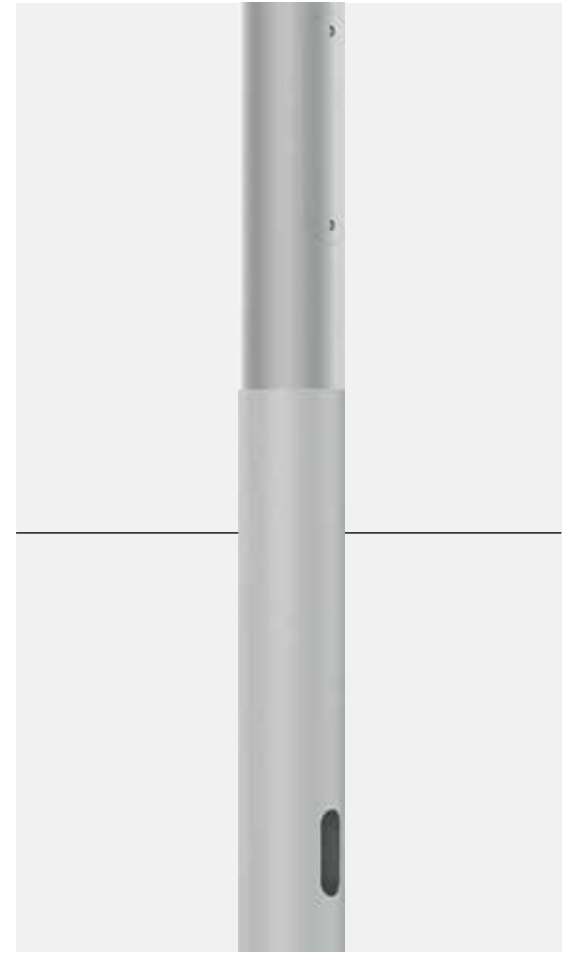


SAL-80K dz

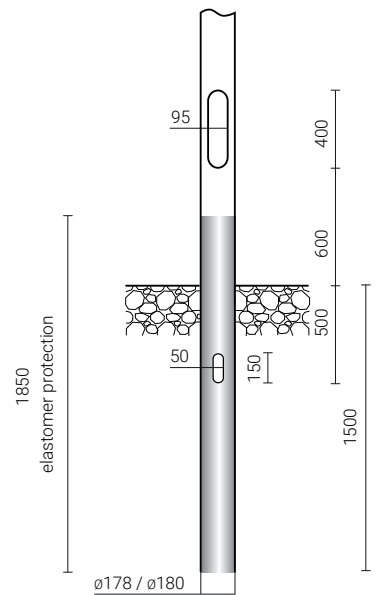
SAL-85K dz

SAL-80M dz

SAL-85M dz



Installation wires' hole for rooted aluminum columns dz



Straight aluminium columns

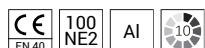
Two-piece / reinforced / $\varnothing 176$ mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Diameter of the column ending: $\varnothing 60$ mm

Luminaire mounting: directly on the column, luminaires with mounting $\varnothing 60$ mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



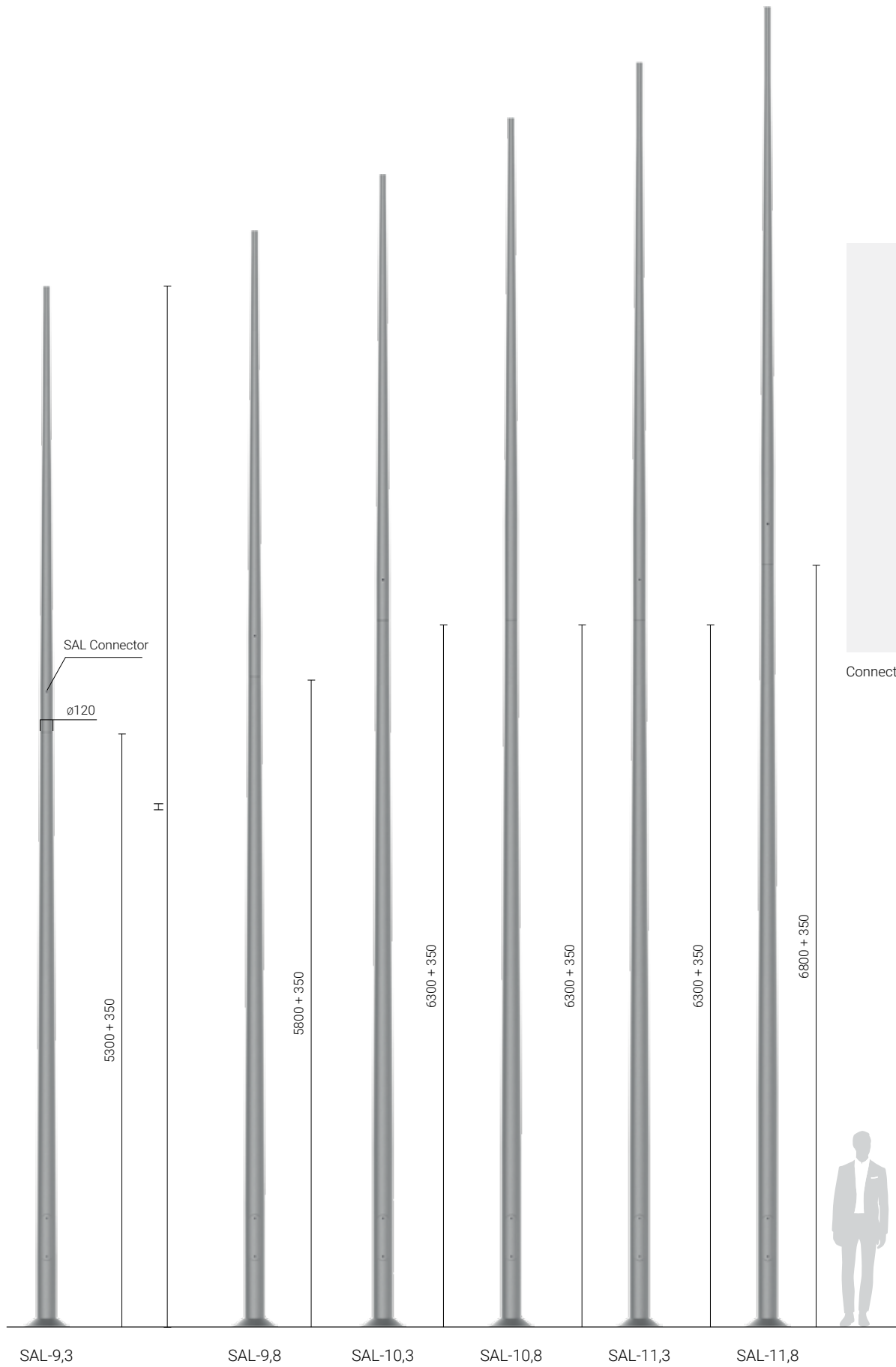
Column type	SAL-9,3	SAL-9,8	SAL-10,3	SAL-10,8	SAL-11,3	SAL-11,8
Height of the column H [mm]	9300	9800	10300	10800	11300	11800
Code	42456/C...	42457/C...	42458/C...	42459/C...	42460/C...	42461/C...
Net weight [kg]	47,6	50,8	53,9	56,0	57,0	60,2
Approximate unit volume [m ³]*	0,437	0,473	0,509	0,513	0,516	0,55
Recommended luminaires for column top mounting	URSA LED ALFA, MAGNOLIA LED, LUNOIDA LED, COSMO LED ALFA, LUNOIDA, MAGNOLIA					
Recommended extension arms and luminaires	WR-4/1/1,0/5 ZP, WR-8B/1/0,35/0 – luminaire: CUDDLE LED, LUNOIDA LED, MAGNOLIA LED, URSA LED, COSMO LED ALFA, MAGNOLIA, LUNOIDA; WN-1 – luminaire ARTEMIS LED					
Concrete footing / reinforcement basket type	B-70, B-71 / Z-70, Z-71					
Threaded anchor ending	4 x M24					
Concrete footing / reinforcement basket code	311170, 311171 / 311270, 311271					
Fasteners	4012					
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 12					

Column type	SAL-9,3 wzm	SAL-9,8 wzm	SAL-10,3 wzm	SAL-10,8 wzm	SAL-11,3 wzm	SAL-11,8 wzm
Height of the column H [mm]	9300	9800	10300	10800	11300	11800
Code	42476/C...	42477/C...	42478/C...	42479/C...	42470/C...	42471/C...
Net weight [kg]	53,3	57,2	61,1	63,2	64,2	67,8
Approximate unit volume [m ³]*	0,437	0,473	0,509	0,513	0,516	0,55
Recommended luminaires for column top mounting	URSA LED ALFA, MAGNOLIA LED, LUNOIDA LED, COSMO LED ALFA, LUNOIDA, MAGNOLIA					
Recommended extension arms and luminaires	WR-2/1/0,95/5, WR-2/2/0,95/5, WR-4/1/1,0/5 ZP, WR-4/2/1,0/5 ZP, WR-8B/1/0,35/5, WR-15/2/1,0/5 – luminaire CUDDLE LED, LUNOIDA LED, MAGNOLIA LED, URSA LED, COSMO LED ALFA, MAGNOLIA, LUNOIDA					
Concrete footing / reinforcement basket type	B-70 / Z-70					
Threaded anchor ending	4 x M24					
Concrete footing / reinforcement basket code	311170 / 311270					
Fasteners	4012					
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 12					

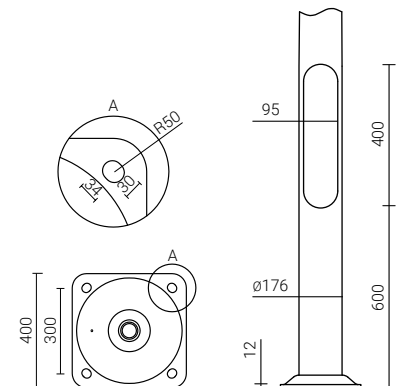
* For order of more than 10 pcs stated volume may change according to packing /C... – choice of anodising colour

Luminaire: ARTEMIS LED
Extension arm: WN-1
Column: SAL-11,3





Connection of two-piece aluminium column type SAL



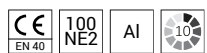
Aluminium columns with welded extension arms

ø120 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

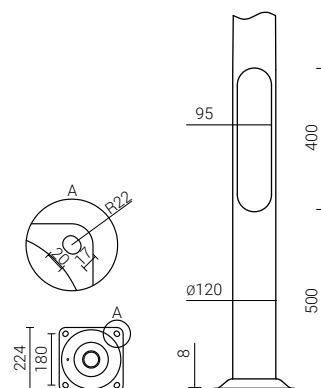
Luminaire mounting: directly on the extension arm, luminaires with mounting ø60 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



Column type	SAL-A1	SAL-A2	SAL-D1	SAL-D2
Height of the column H [mm]	4000	4000	4000	4000
Code	42209/C...	42210/C...	42215/C...	42216/C...
Net weight [kg]	15,1	16,4	15,6	16,8
Approximate unit volume [m ³]*	0,263	0,397	0,282	0,431
Recommended luminaires for column top mounting	ISKRA LED ALFA, ELBA LED, ATLANTIS LED, VEGA LED ALFA, VEGA LED BETA, MIRA LED, MIZAR LED, OS-1 LED, OS-11 LED, OPA-1			
Concrete footing / reinforcement basket type	B-50 / Z-50			
Threaded anchor ending	4 x M14			
Concrete footing / reinforcement basket code	311150 / 311205			
Fasteners	4006			
Dimension of the base plate (side / bolt spacing / thickness) [mm]	224 / 180 / 8			

* For order of more than 10 pcs stated volume may change according to packing /C... - choice of anodising colour

Nowe Miasteczko, Poland



Luminaire: ATLANTIS LED
Column: SAL-A1





SAL-A1

SAL-A2

SAL-D1

SAL-D2

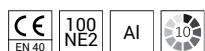
Aluminium columns with welded extension arms

ø146 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

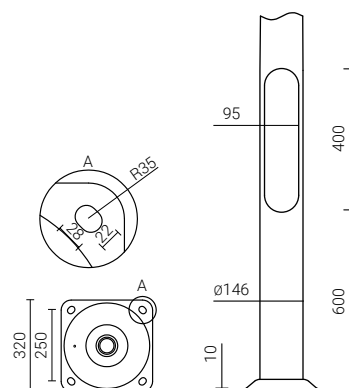
Luminaire mounting: directly on the extension arm, luminaires with mounting ø42 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



Column type	SAL-K1 ZP	SAL-K2 ZP	SAL-M1 ZP	SAL-M2 ZP
Height of the column H [mm]	6000	6000	6000	6000
Code	423309/C...	423069/C...	423089/C...	423099/C...
Net weight [kg]	26,5	27,6	26,9	28,3
Approximate unit volume [m³]*	0,67	0,972	0,661	0,951
Recommended luminaires for column top mounting	OW LED, DROP LED			
Concrete footing / reinforcement basket type	B-60 / Z-60			
Threaded anchor ending	4 x M18			
Concrete footing / reinforcement basket code	311160 / 311206			
Fasteners	4008			
Dimension of the base plate (side / bolt spacing / thickness) [mm]	320 / 250 / 10			

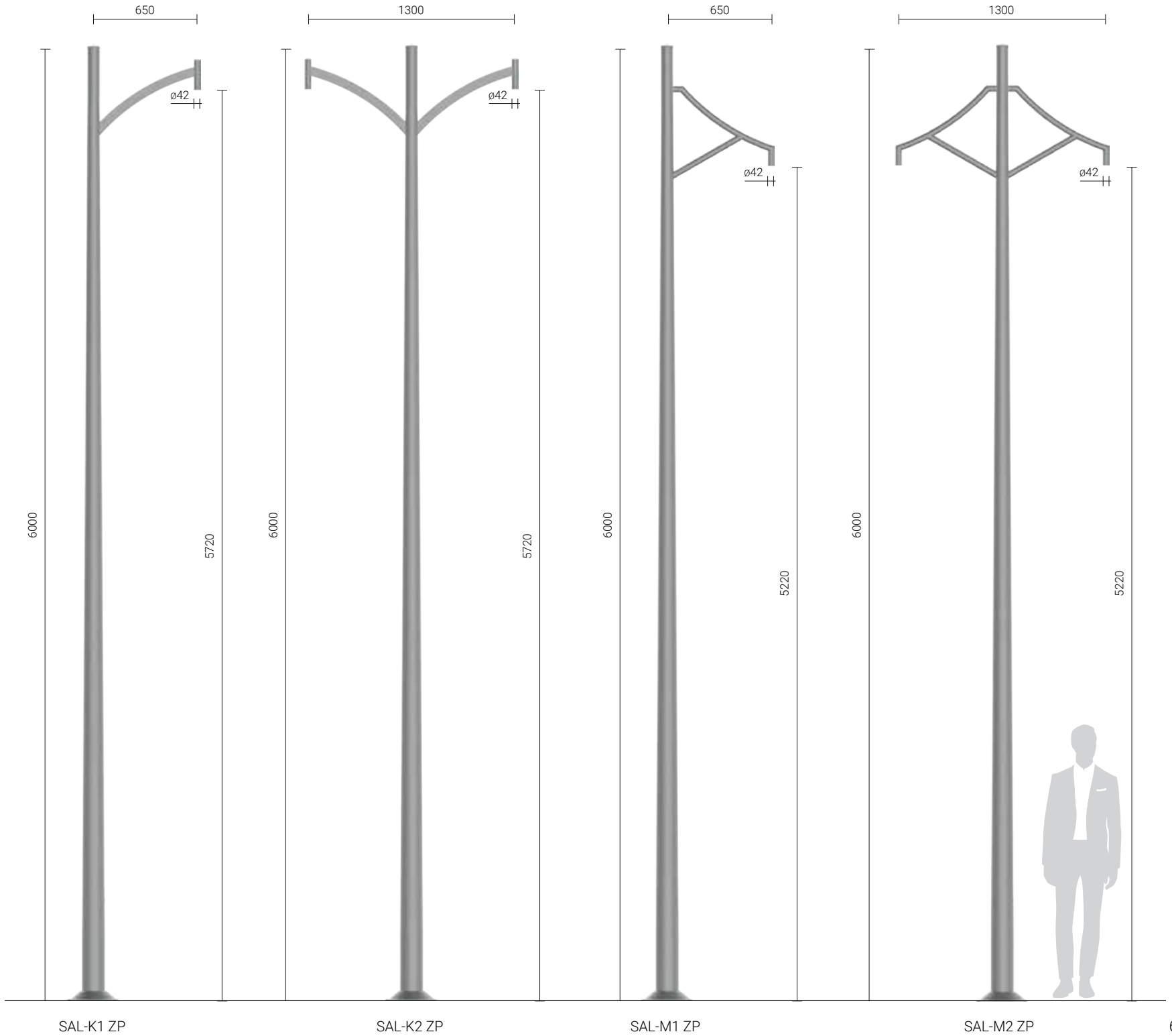
* For order of more than 10 pcs stated volume may change according to packing /C... – choice of anodising colour

Gdańsk, Poland



Luminaire: DROP LED
Column: SAL-K1 ZP





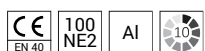
Aluminium columns with welded extension arms

ø146 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

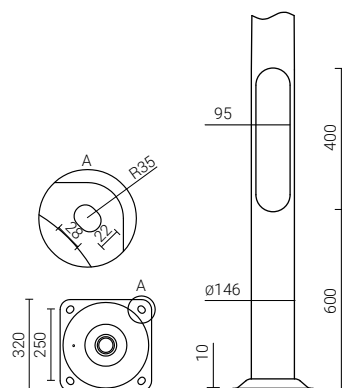
Luminaire mounting: directly on the extension arm, luminaires with mounting ø60 mm or ø42 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



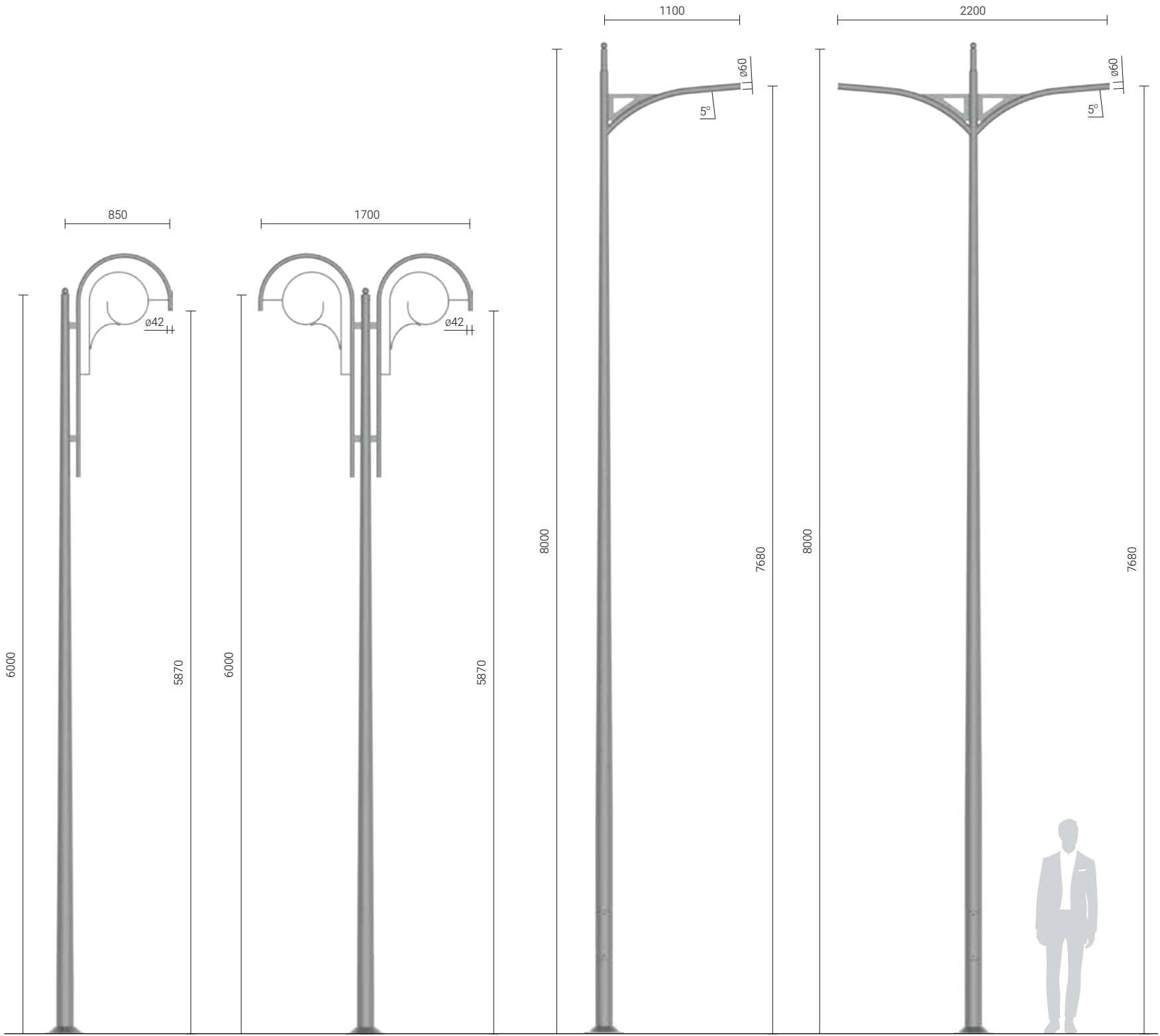
Column type	SAL-R1	SAL-R2	SAL-N12/5	SAL-N22/5
Height of the column H [mm]	6000	6000	8000	8000
Code	42334/C...	42311/C...	4234711/C...	4234811/C...
Net weight [kg]	29,0	32,6	37,7	40,2
Approximate unit volume [m ³]*	0,831	1,306	1,21	1,94
Recommended luminaires for column top mounting	OW LED, DROP LED, OW		CUDDLE LED, URSA LED, ANDROMEDA LED, MAGNOLIA LED, LUNOIDA LED, COSMO LED, VEGA LED	
Concrete footing / reinforcement basket type	B-60 / Z-60			
Threaded anchor ending	4 x M18			
Concrete footing / reinforcement basket code	311160 / 311206			
Fasteners	4008			
Dimension of the base plate (side / bolt spacing / thickness) [mm]	320 / 250 / 10			

* For order of more than 10 pcs stated volume may change according to packing
/C... – choice of anodising colour

Suwalki, Poland



Luminaire: OW LED
+ transparent diffuser
Column: SAL-R1



SAL-R1

SAL-R2

SAL-N12/5

SAL-N22/5

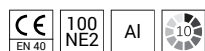
Aluminium columns with welded extension arms

ø176 and ø180 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

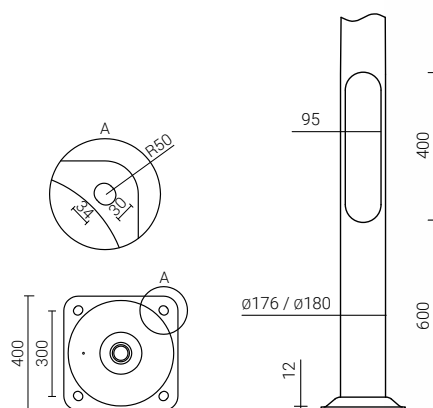
Luminaire mounting: directly on the extension arm, luminaires with mounting ø60 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



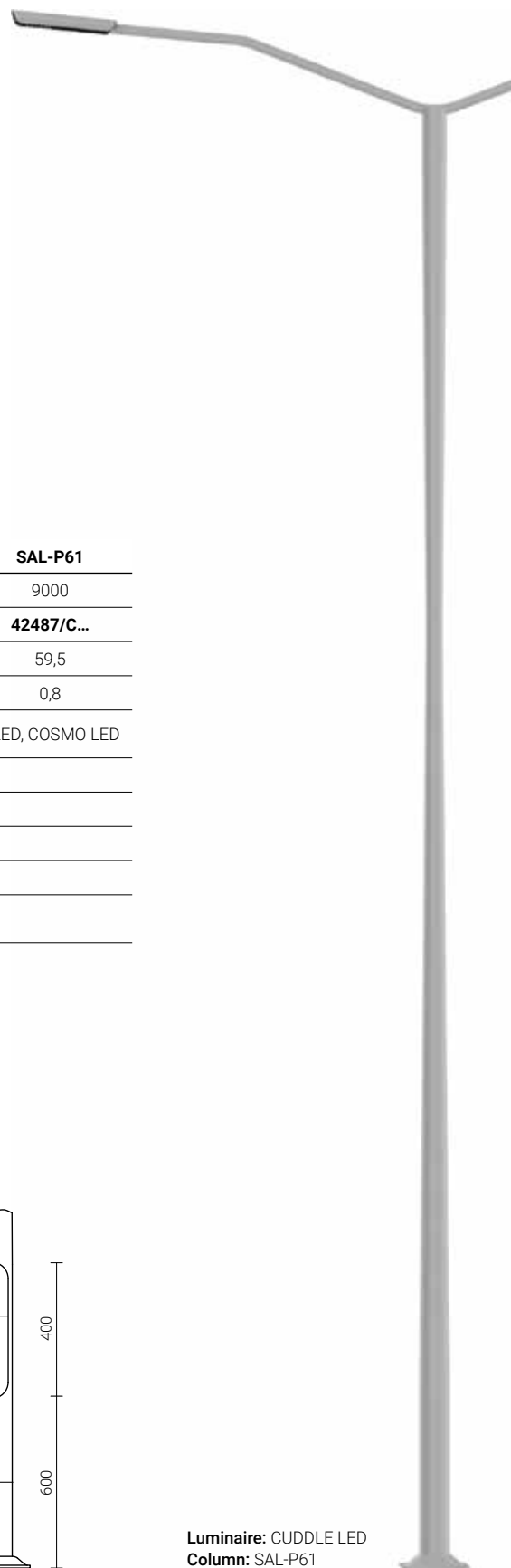
Column type	SAL-U1/5	SAL-Z1/5	SAL-W1/5	SAL-P61
Height of the column H [mm]	9300	9300	10000	9000
Code	4246515/C...	4247415/C...	4246915/C...	42487/C...
Net weight [kg]	51,0	53,0	56,5	59,5
Approximate unit volume [m ³]*	1,79	0,98	0,916	0,8
Recommended luminaires for column top mounting	CUDDLE LED, URSA LED, ANDROMEDA LED, MAGNOLIA LED, LUNOIDA LED, COSMO LED			
Concrete footing / reinforcement basket type	B-70 / Z-70			
Threaded anchor ending	4 x M24			
Concrete footing / reinforcement basket code	311170 / 311207			
Fasteners	4012			
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 12			

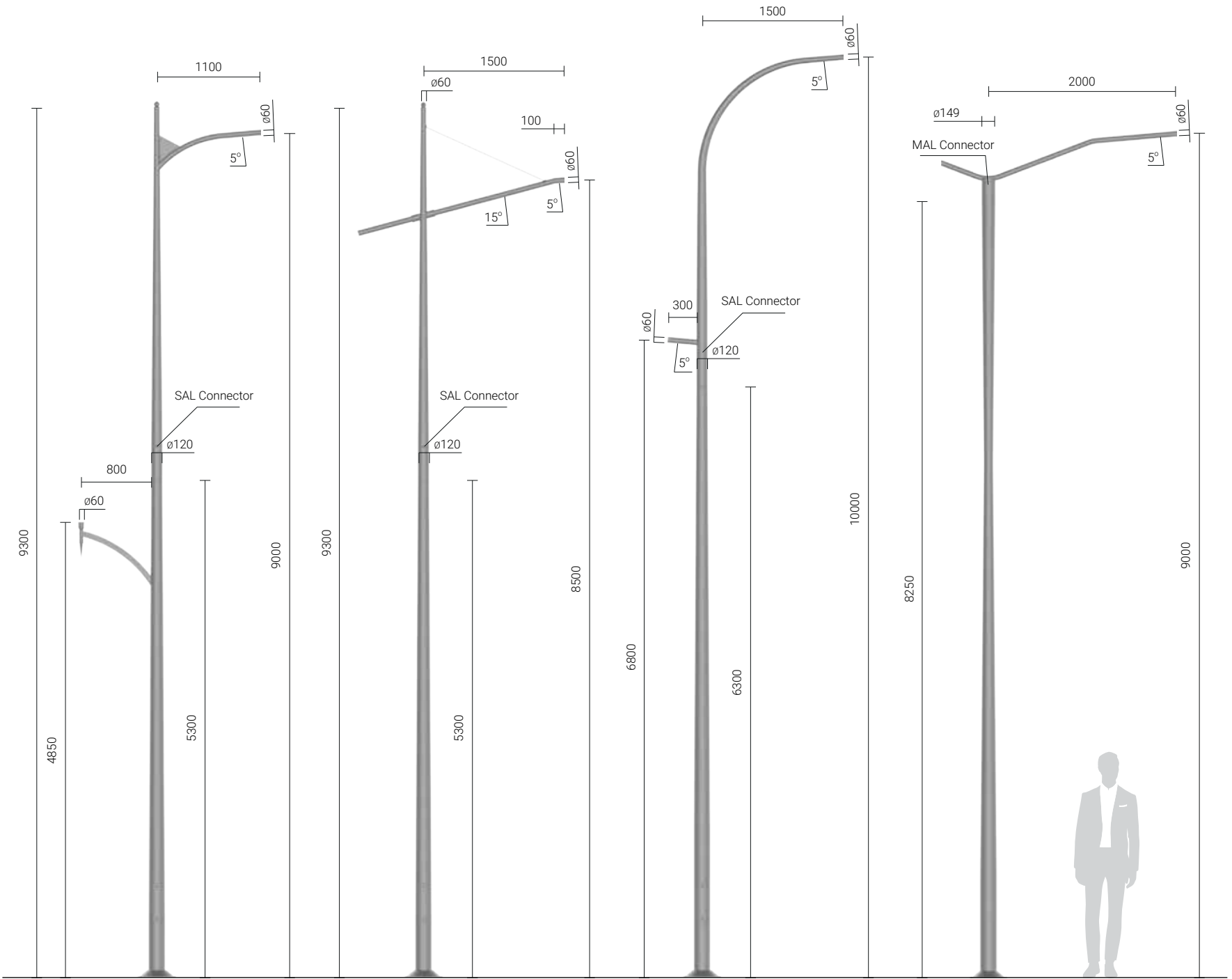
* For order of more than 10 pcs stated volume may change according to packing /C... – choice of anodising colour

Warsaw, Poland



Luminaire: CUDDLE LED
Column: SAL-P61





SAL-U1/5

SAL-Z1/5

SAL-W1/5

SAL-P61

Aluminium columns with welded extension arms

ø176 and ø180 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

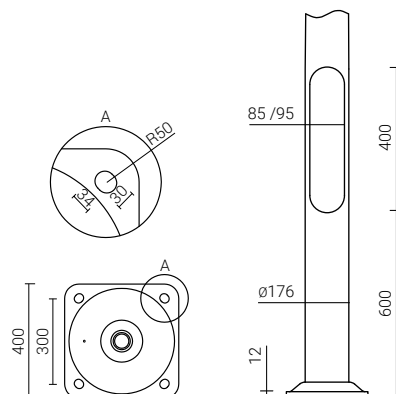
Luminaire mounting: directly on the extension arm, luminaires with mounting ø60 mm or ø42 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



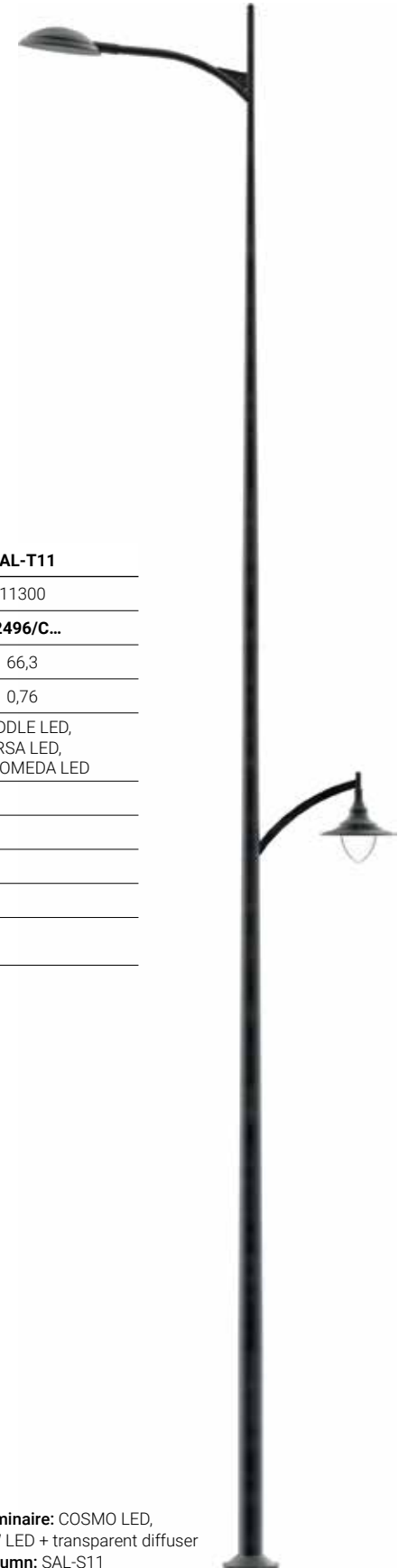
Column type	SAL-P71	SAL-P81	SAL-S11	SAL-T11
Height of the column H [mm]	9000	10300	11300	11300
Code	42488/C...	42489/C...	42495/C...	42496/C...
Net weight [kg]	60,3	58,8	67,3	66,3
Approximate unit volume [m³]*	0,873	0,803	1,35	0,76
Recommended luminaires for column top mounting	CUDDLE LED, URSA LED, ANDROMEDA LED, MAGNOLIA LED, LUNOIDA LED		CUDDLE LED, URSA LED, ANDROMEDA LED (OW LED, DROP LED)	CUDDLE LED, URSA LED, ANDROMEDA LED
Concrete footing / reinforcement basket type	B-71 / Z-71		B-70 / Z-70	
Threaded anchor ending	4 x M24		4 x M24	
Concrete footing / reinforcement basket code	311171 / 311271		311170 / 311207	
Fasteners	4012			
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 12			

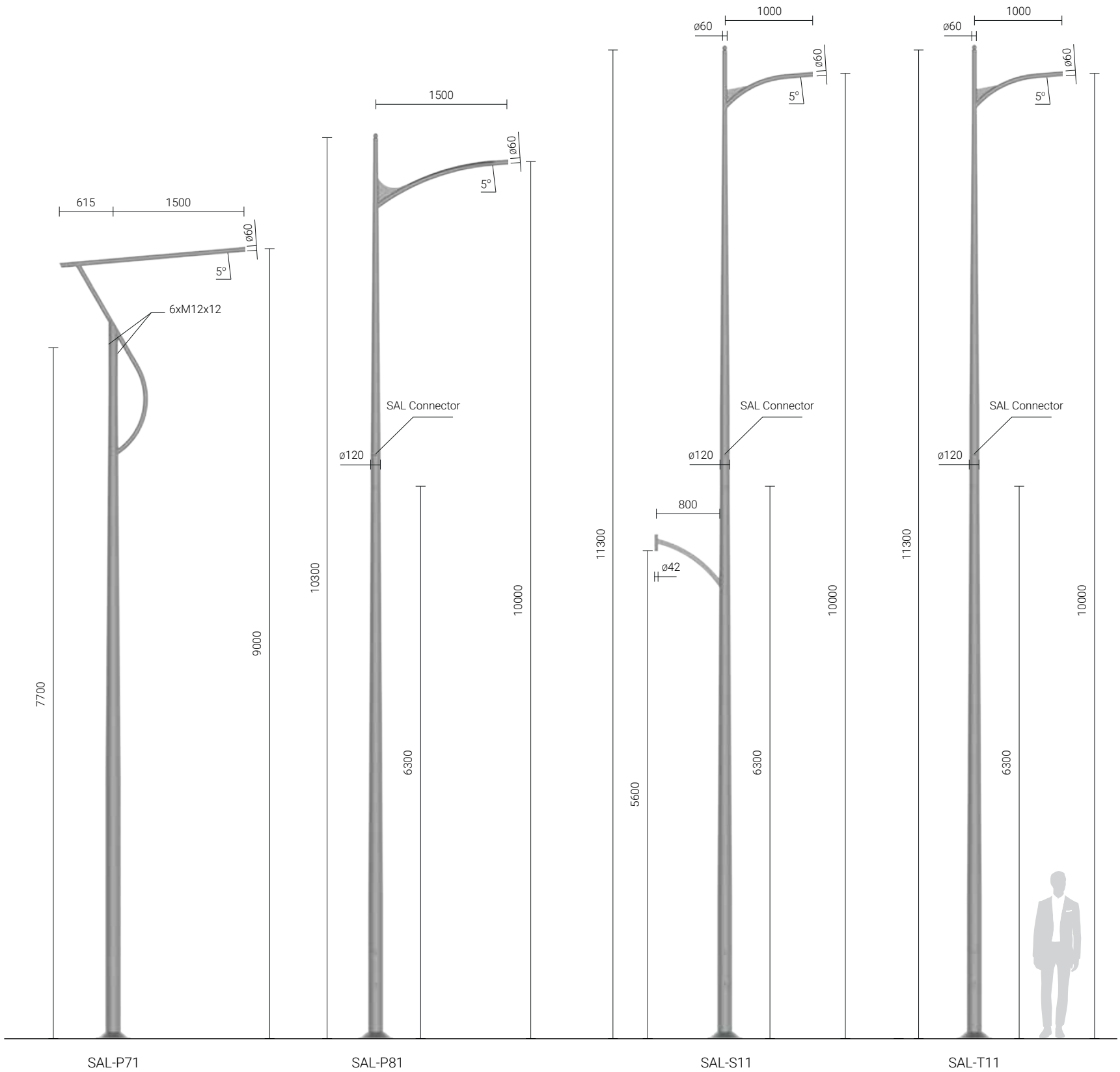
* For order of more than 10 pcs stated volume may change according to packing
/C... - choice of anodising colour

Płock, Poland



Luminaire: COSMO LED,
OW LED + transparent diffuser
Column: SAL-S11





SAL-P71

SAL-P81

SAL-S11

SAL-T11

Aluminium columns with welded extension arms

ø176 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection

in the colour of the column up to the height of 350 mm

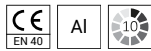
(other height on customer's request)

Diameter of the column ending: ø60 mm

Luminaire mounting: directly on the extension arm, luminaires with mounting ø60 mm

with weight and surface parameters not exceeding the data from the strength table

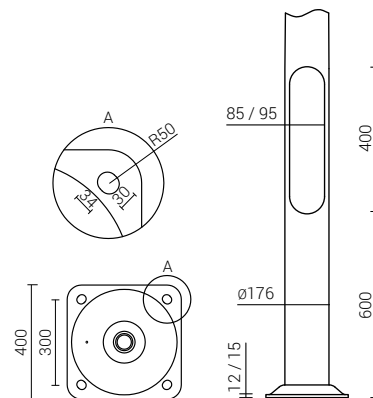
included in the technical data sheet



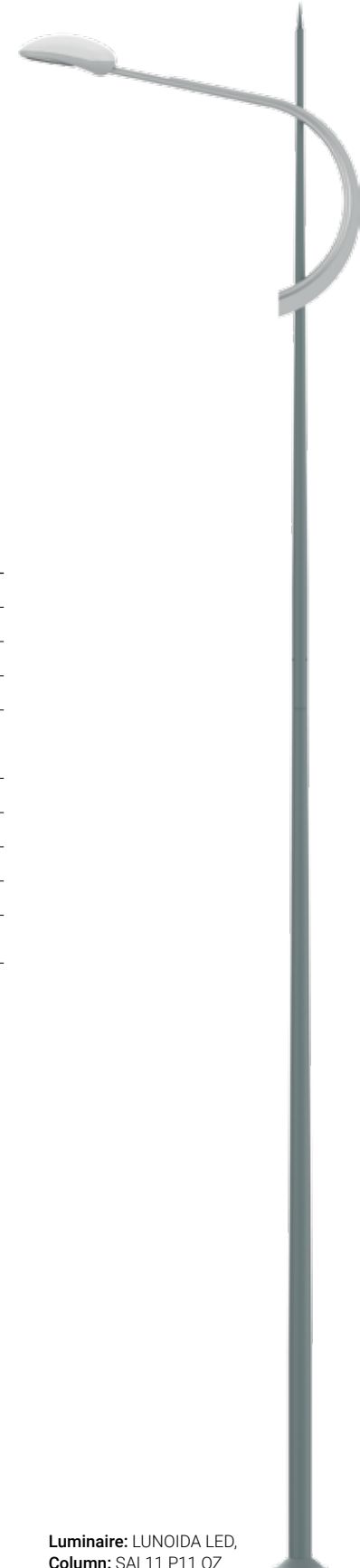
Column type	SAL-P11	SAL-P12	SAL-11 P11 OZ	SAL-11 P12 OZ
Height of the column H [mm]	10300	10300	11300	11300
Code	42481/C...	42482/C...	42493/CI65/C45	42494/CI65/C45
Net weight [kg]	59,4	64,3	73,3	84,6
Approximate unit volume [m ³]*	1,03	1,42	0,705	0,858
Recommended luminaires for column top mounting	CUDDLE LED, URSA LED, ANDROMEDA LED, MAGNOLIA LED, LUNOIDA LED		CUDDLE LED, URSA LED, ANDROMEDA LED,	
Concrete footing / reinforcement basket type	B-70 / Z-70			
Threaded anchor ending	4 x M24			
Concrete footing / reinforcement basket code	311170 / 311207			
Fasteners	4012			
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 12	400 / 300 / 12	400 / 300 / 12	400 / 300 / 15

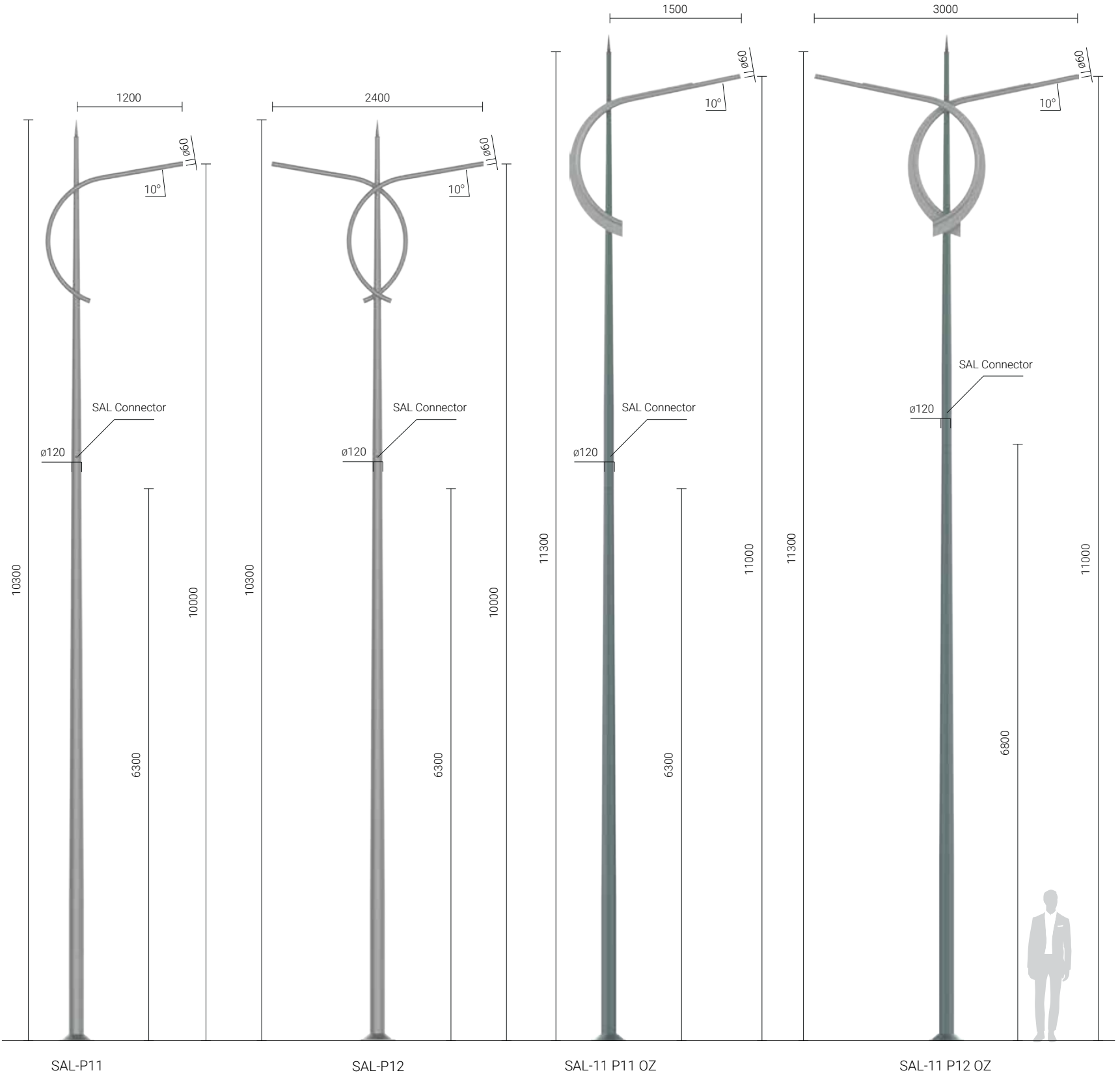
* For order of more than 10 pcs stated volume may change according to packing
/C... – choice of anodising colour

Tychy, Poland



Luminaire: LUNOIDA LED,
Column: SAL11 P11 OZ





SAL-P11

SAL-P12

SAL-11 P11 OZ

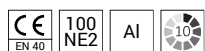
SAL-11 P12 OZ

Decorative aluminium columns

Anodising: 10 colours, each with possibility of chemical brightening

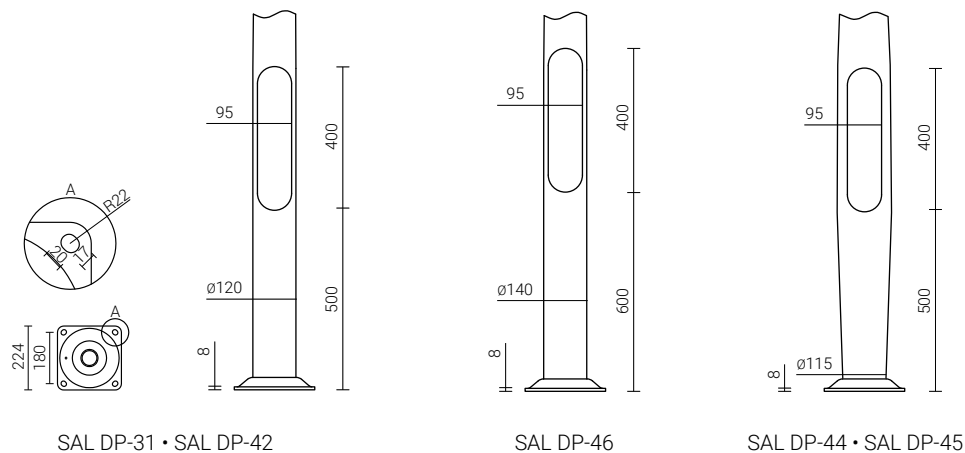
Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Luminaire mounting: directly on the column, luminaires with mounting $\varnothing 60$ mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



Column type	SAL DP-31	SAL DP-42	SAL DP-44	SAL DP-46	SAL DP-45
Height of the column H [mm]	3000	4000	4000	4000	4000
Code	42910/C...	42911/C...	42913/C...	42943/C...	42914/C...
Net weight [kg]	12,6	16,2	16,8	16,8	17,3
Approximate unit volume [m ³]*	0,067	0,09	0,09	0,09	0,14
Recommended luminaires for column top mounting	ISKRA LED ALFA, ELBA LED, ATLANTIS LED, VEGA LED BETA, MIRA LED, MIZAR LED, OS-1 LED, OS-11 LED				OPA-1
Concrete footing / reinforcement basket type	B-50 / Z-50				
Threaded anchor ending	4 x M14				
Concrete footing / reinforcement basket code	311150 / 311205				
Fasteners	4006				
Dimension of the base plate (side / bolt spacing / thickness) [mm]	224 / 180 / 8				

* For order of more than 10 pcs stated volume may change according to packing
/C... – choice of anodising colour



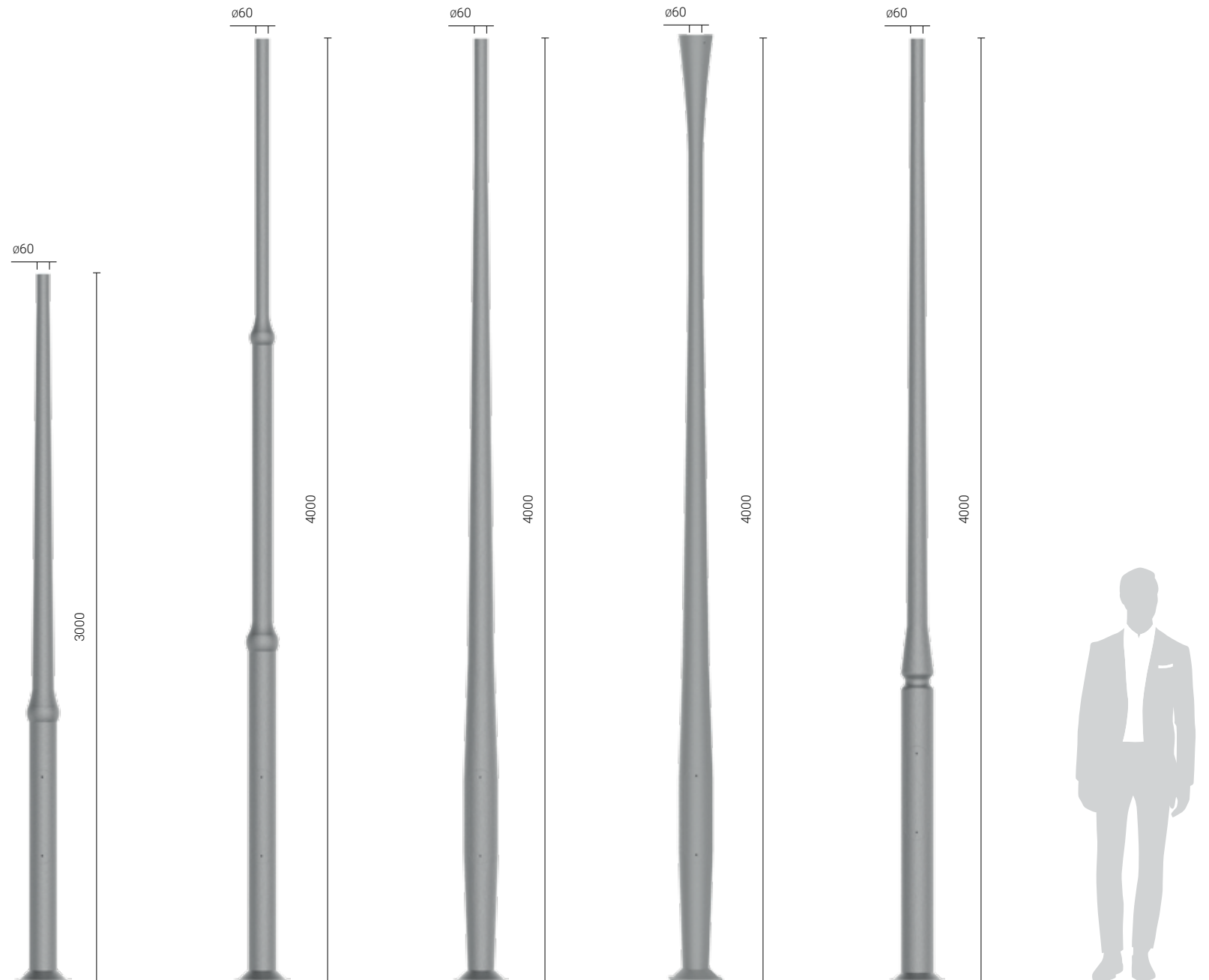
SAL DP-31 • SAL DP-42

SAL DP-46

SAL DP-44 • SAL DP-45

Luminaire: ATLANTIS LED
Column: SAL DP-44





SAL DP-31

SAL DP-42

SAL DP-44

SAL DP-45

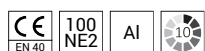
SAL DP-46

Decorative aluminium columns

Anodising: 10 colours, each with possibility of chemical brightening

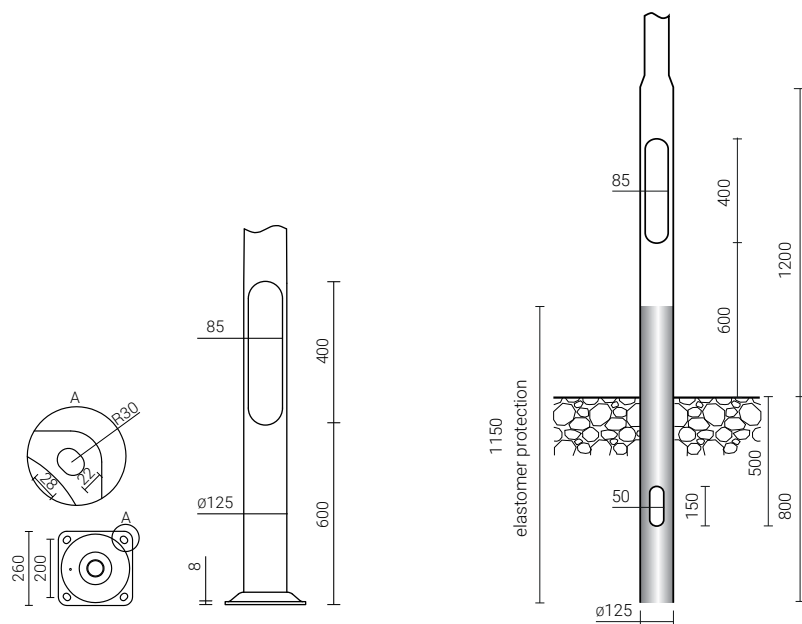
Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Luminaire mounting: directly on the column, luminaires with mounting $\varnothing 60$ mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



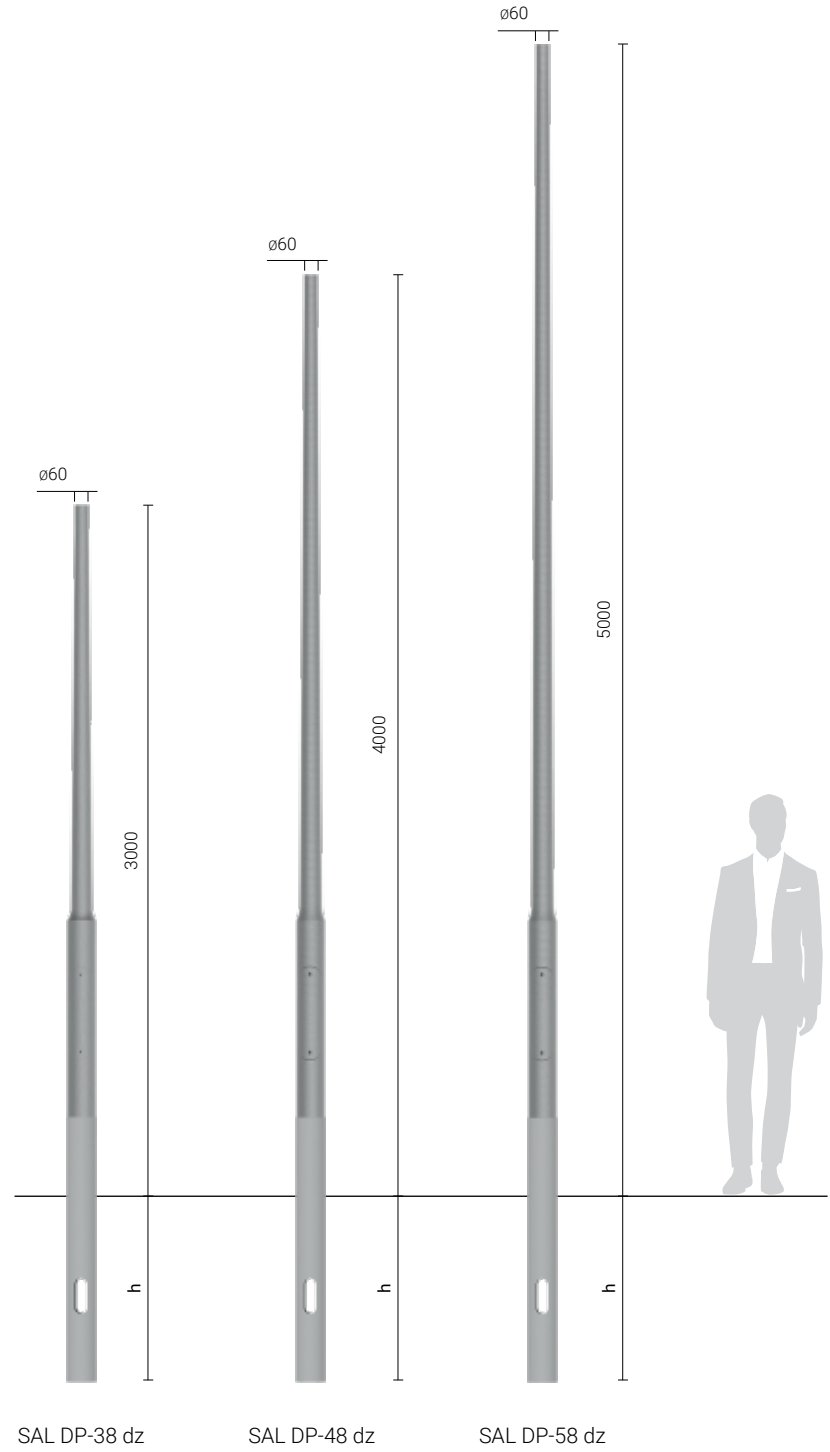
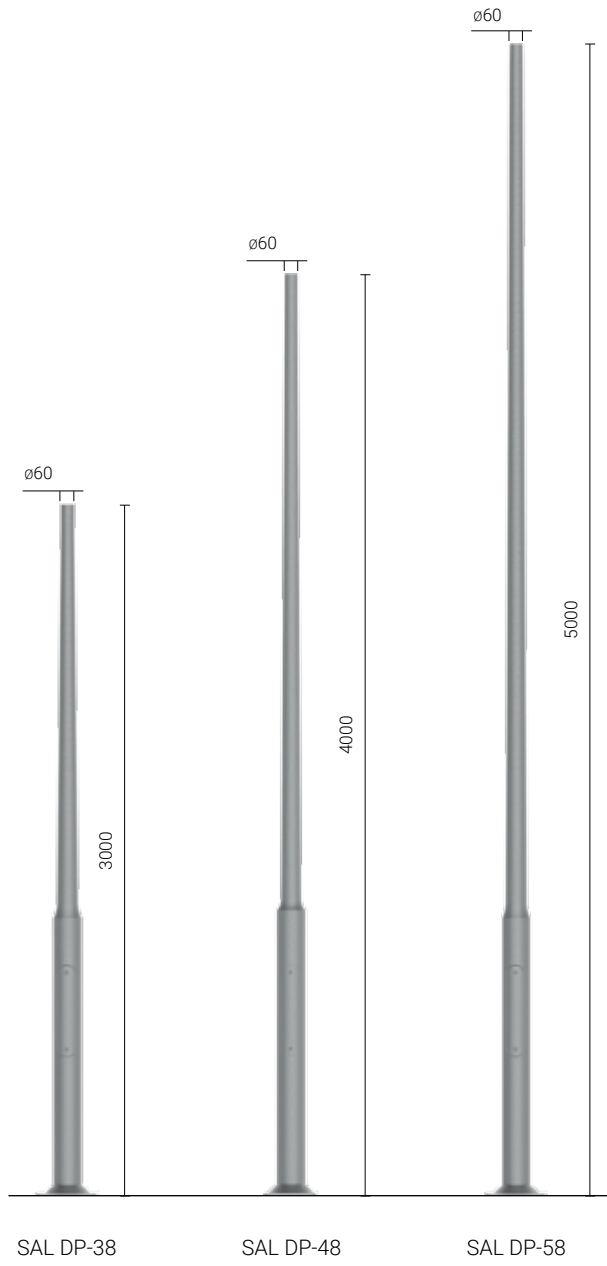
Column type	SAL DP-38	SAL DP-48	SAL DP-58	SAL DP-38 dz	SAL DP-48 dz	SAL DP-58 dz
Height of the column H [mm]	3000	4000	5000	3000	4000	5000
Code	42945/C...	42946/C...	42947/C...	42965/C...	42966/C...	42967/C...
Net weight [kg]	9,5	11,7	13,4	10,8	13,0	14,7
Approximate unit volume [m ³]*	0,087	0,116	0,145	0,027	0,034	0,041
Recommended luminaires for column top mounting	ISKRA LED ALFA, ELBA LED, ATLANTIS LED, VEGA LED BETA, MIRA LED, MIZAR LED, OS-1 LED, OS-11 LED					
Concrete footing / reinforcement basket type	B-51 / Z-51			-		
Threaded anchor ending	4 x M18			-		
Concrete footing / reinforcement basket code	311151 / 311251			-		
Fasteners	4008			-		
Dimension of the base plate (side / bolt spacing / thickness) [mm]	260 / 200 / 8			-		
Rooted section h [mm]	-			800		

* For order of more than 10 pcs stated volume may change according to packing
/C... - choice of anodising colour



Luminaire: ELBA LED
Column: SAL DP-48



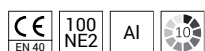


Decorative aluminium columns

Anodising: 10 colours, each with possibility of chemical brightening

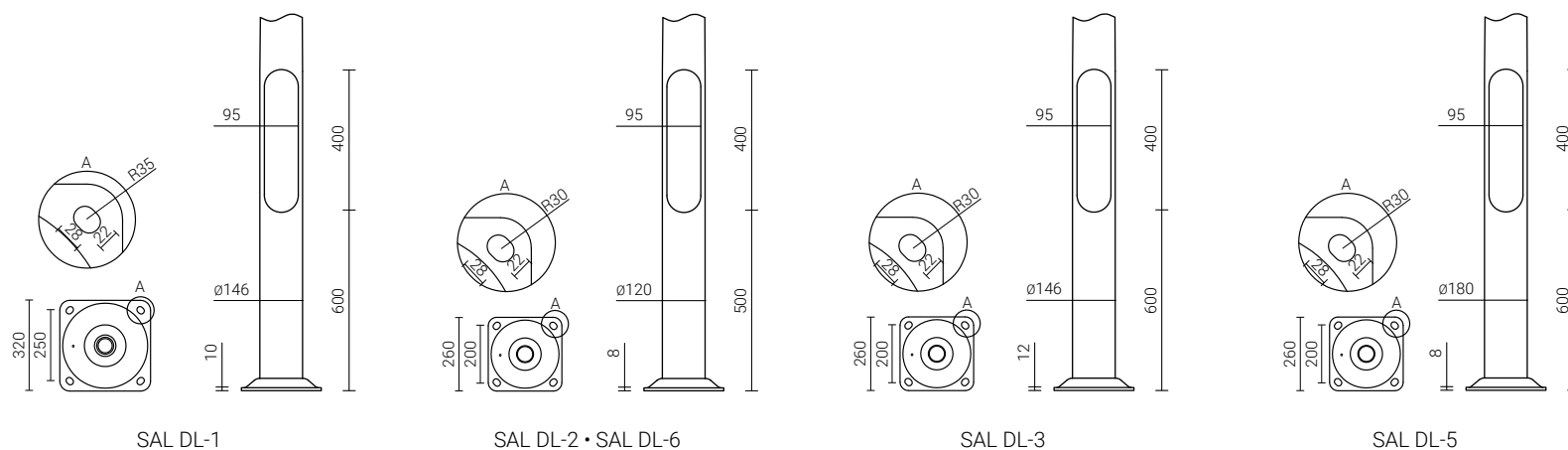
Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

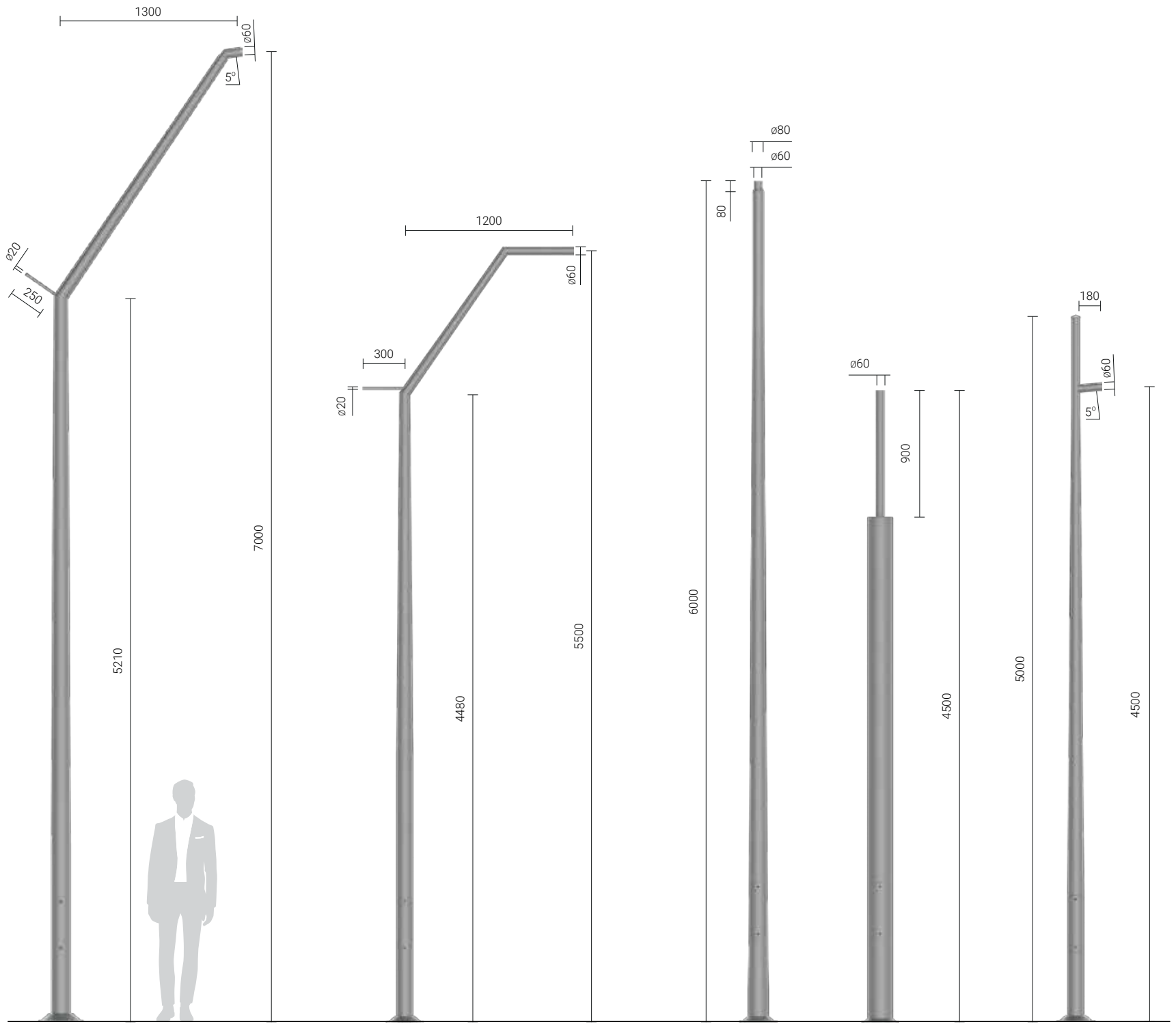
Luminaire mounting: directly on the extension arm of the column, or on the column, luminaires with mounting $\varnothing 60$ mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



Column type	SAL DL-1	SAL DL-2	SAL DL-3	SAL DL -5	SAL DL-6
Height of the column H [mm]	7000	5500	6000	4500	5000
Code	42993/C...	42994/C...	42995/C...	42997/C...	42998/C...
Net weight [kg]	32,7	21,5	24,8	24,9	17,7
Approximate unit volume [m ³]*	1,09	0,714	0,186	0,159	0,186
Recommended luminaires for column top mounting	ISKRA LED, GEMINI LED, CUDDLE LED, COSMO LED, URSA LED, MAGNOLIA LED, LUNOIDA LED	ISKRA LED, GEMINI LED, VEGA LED	CORONA LED, COSMO DELTA LED	VEGA LED BETA	ISKRA LED, GEMINI LED, VEGA LED
Concrete footing / reinforcement basket type	B-60 / Z-60	B-51 / Z-51			
Threaded anchor ending	4 x M18				
Concrete footing / reinforcement basket code	311160 / 311206	311151 / 311251			
Fasteners	4008	4008			
Dimension of the base plate (side / bolt spacing / thickness) [mm]	320 / 250 / 10	260 / 200 / 8	260 / 200 / 12	260 / 200 / 8	

* For order of more than 10 pcs stated volume may change according to packing /C... – choice of anodising colour





SAL DL-1

SAL DL-2

SAL DL-3

SAL DL-5

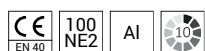
SAL DL-6

Decorative aluminium columns

Anodising: 10 colours, each with possibility of chemical brightening

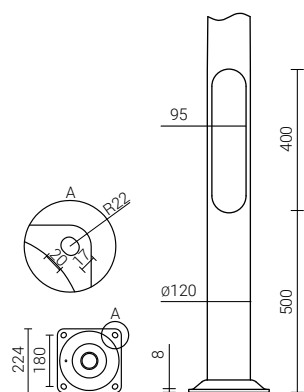
Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Luminaire mounting: directly on the extension arm of the column, or on the column, luminaires with mounting $\varnothing 60$ mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet

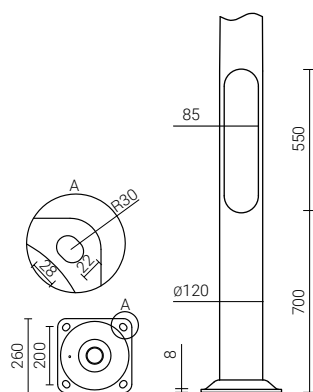


Column type	SAL DL-10	SAL DS-51	SAL DS-52
Height of the column H [mm]	5000	6000	5500
Code	42999/C...	42224/C...	42225/C...
Net weight [kg]	23,0	24,2	23,4
Approximate unit volume [m ³]*	0,3	0,804	0,735
Recommended luminaires for column top mounting	ISKRA LED, ISKRA LED P	OW LED, DROP LED	ISKRA LED, GEMINI LED, VEGA LED,
Concrete footing / reinforcement basket type	B-50 / Z-50	B-51 / Z-51	
Threaded anchor ending	4 x M14	4 x M18	
Concrete footing / reinforcement basket code	311150 / 311205	311151 / 311251	
Fasteners	4006	4008	
Dimension of the base plate (side / bolt spacing / thickness) [mm]	224 / 180 / 8	260 / 200 / 8	

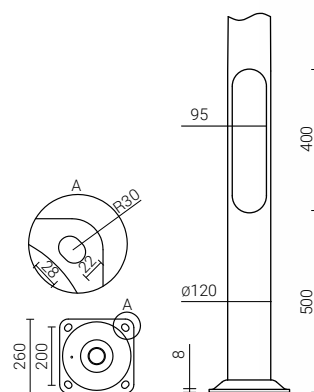
* For order of more than 10 pcs stated volume may change according to packing /C... – choice of anodising colour



SAL DL-10



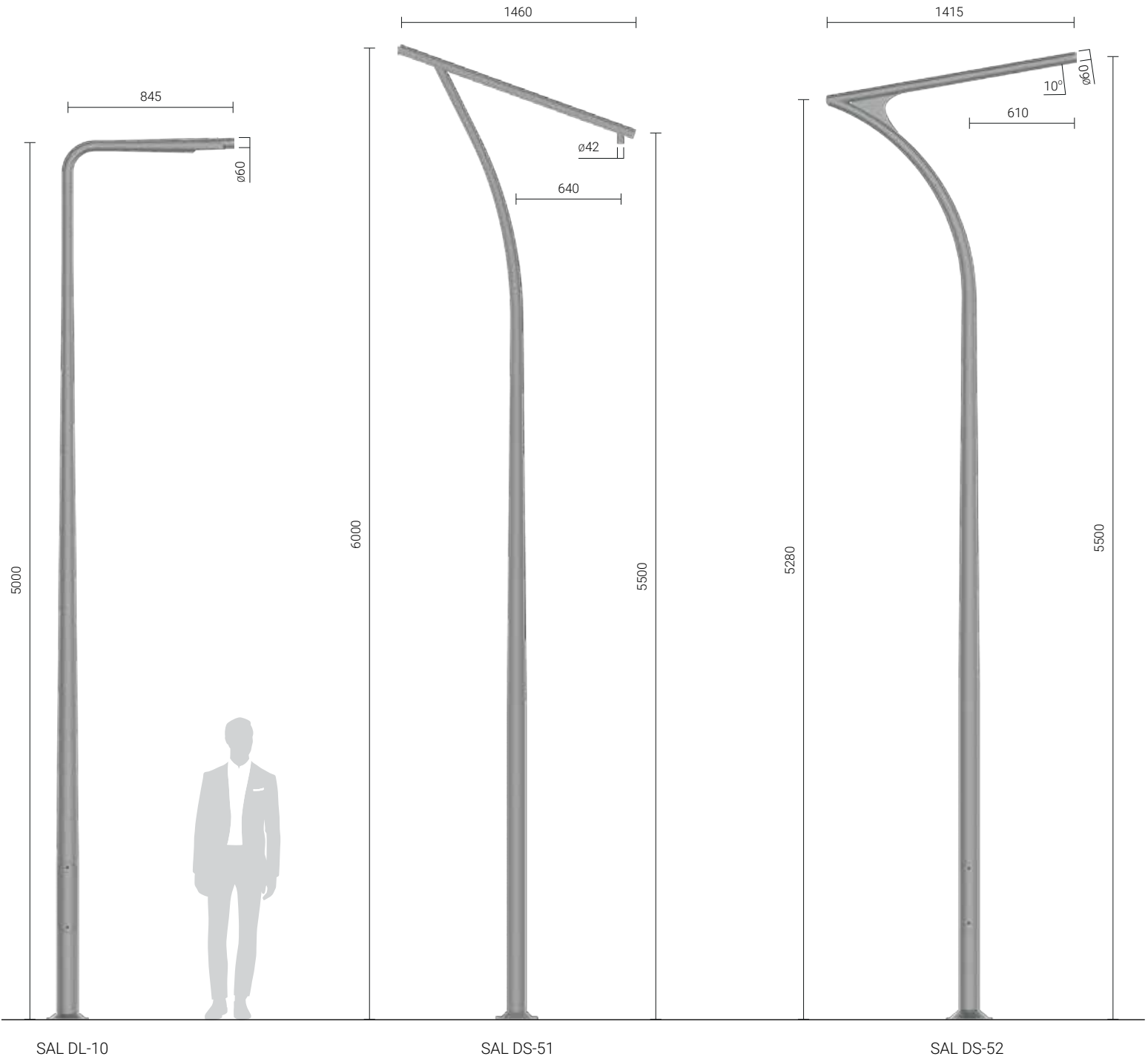
SAL DS-51



SAL DS-52



Luminaire: OW LED + transparent diffuser
Column: SAL DS-51



SAL DL-10

SAL DS-51

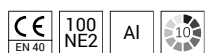
SAL DS-52

Decorative aluminium columns

Anodising: 10 colours, each with possibility of chemical brightening

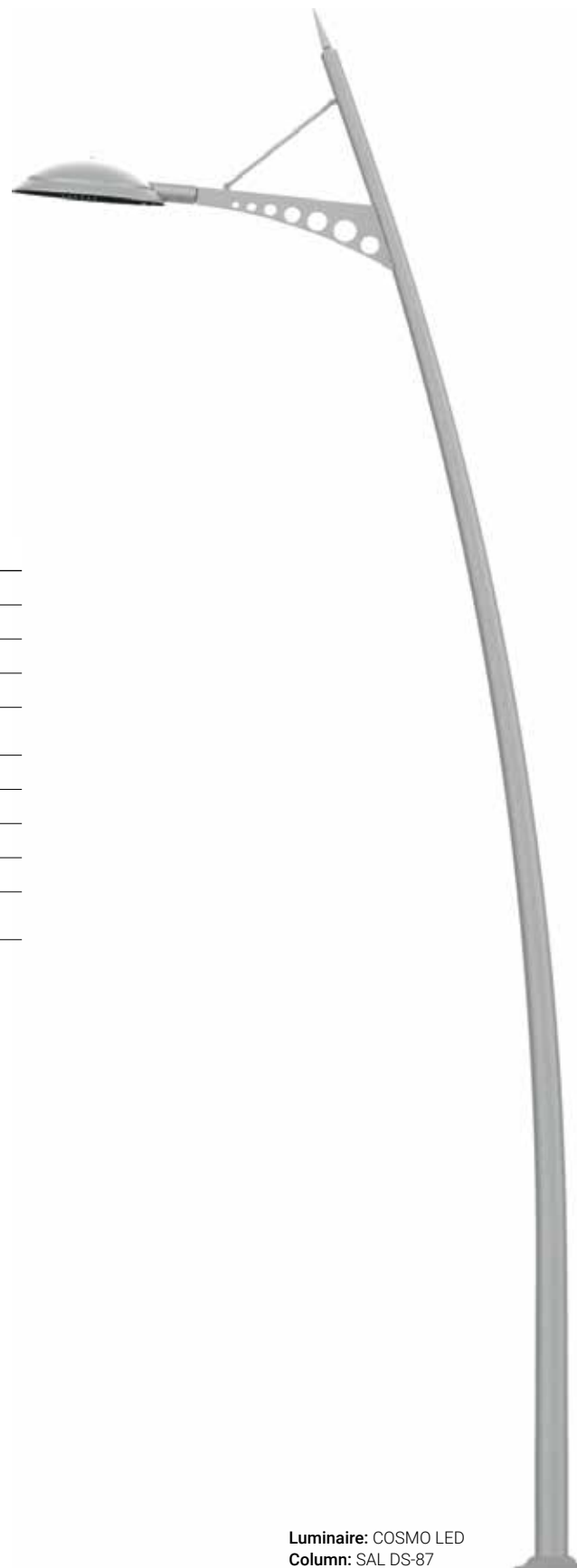
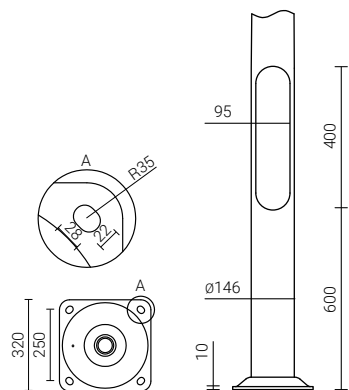
Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Luminaire mounting: directly on the extension arm of the column, luminaires with mounting $\varnothing 60$ mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet

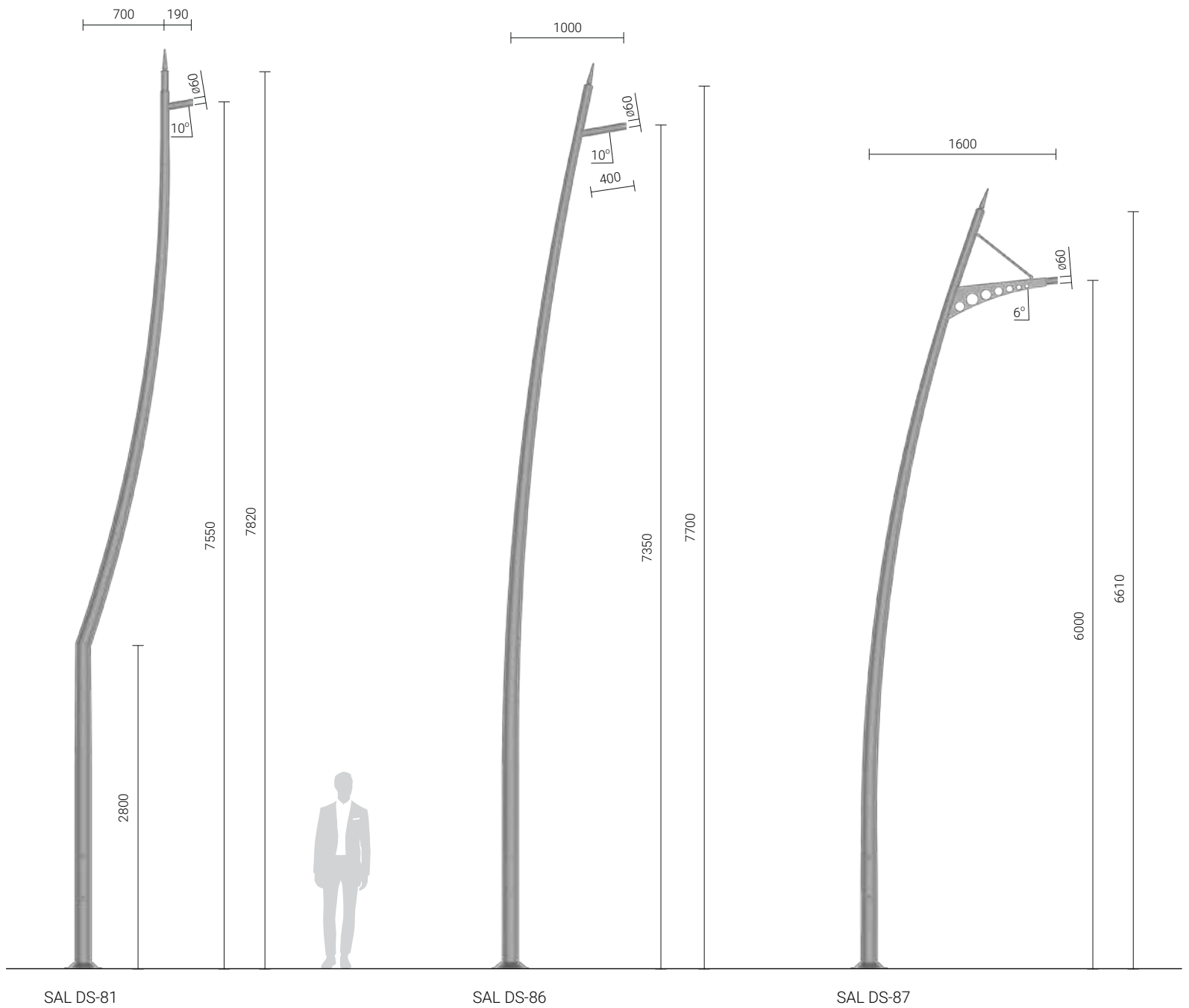


Column type	SAL DS-81	SAL DS-86	SAL DS-87
Height of the column H [mm]	7820	7700	6600
Code	42937/C...	42942/C...	42976/C...
Net weight [kg]	36,0	36,2	34,1
Approximate unit volume [m ³]*	0,607	0,79	0,661
Recommended luminaires	CUDDLE LED, COSMO LED, URSA LED, ANDROMEDA LED, MAGNOLIA LED, LUNOIDA LED, VEGA LED		
Concrete footing / reinforcement basket type	B-60 / Z-60		
Threaded anchor ending	4 x M18		
Concrete footing / reinforcement basket code	311160 / 311206		
Fasteners	4008		
Dimension of the base plate (side / bolt spacing / thickness) [mm]	320 / 250 / 10		

* For order of more than 10 pcs stated volume may change according to packing
/C... – choice of anodising colour



Luminaire: COSMO LED
Column: SAL DS-87



SAL DS-81

SAL DS-86

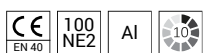
SAL DS-87

Decorative aluminium columns

Anodising: 10 colours, each with possibility of chemical brightening

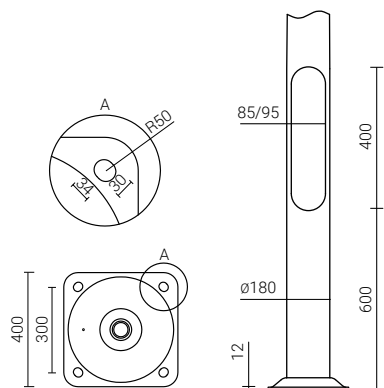
Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Luminaire mounting: directly on the extension arm of the column, luminaires with mounting $\varnothing 60$ mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet

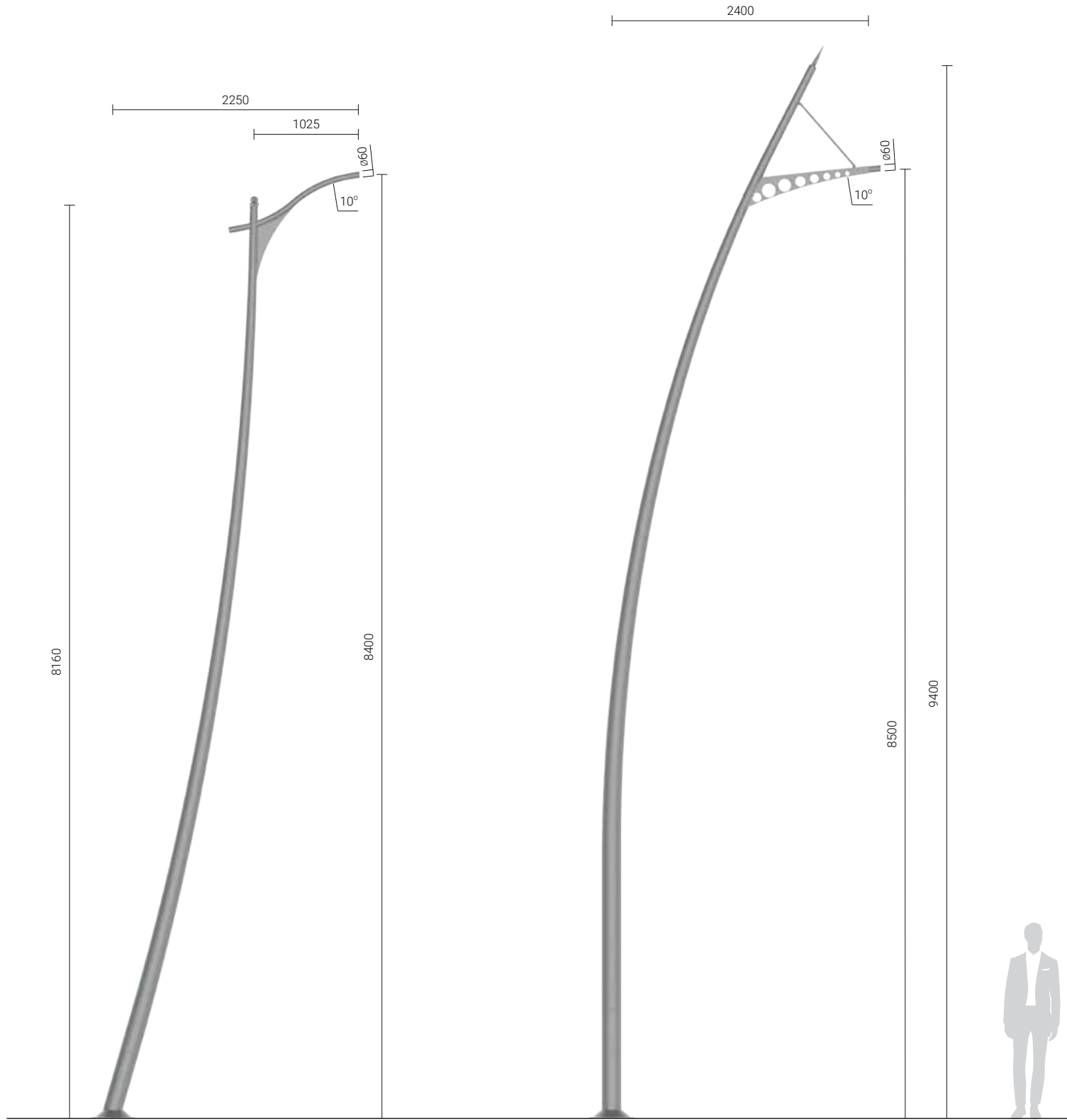


Column type	SAL DS-84	SAL DS-88
Height of the column H [mm]	8400	9400
Code	42940/C...	42988/C...
Net weight [kg]	48,2	60,6
Approximate unit volume [m ³]*	1,57	1,895
Recommended luminaires	CUDDLE LED, COSMO LED, URSAL LED, ANDROMEDA LED, MAGNOLIA LED, LUNOIDA LED	
Concrete footing / reinforcement basket type	B-70 / Z-70	
Threaded anchor ending	4 x M24	
Concrete footing / reinforcement basket code	311170 / 311207	
Fasteners	4012	
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 12	

* For order of more than 10 pcs stated volume may change according to packing /C... – choice of anodising colour



Luminaire: MAGNOLIA LED
Column: SAL-84



SAL DS-84

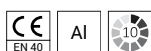
SAL DS-88

Decorative aluminium columns

Anodising: 10 colours, each with possibility of chemical brightening

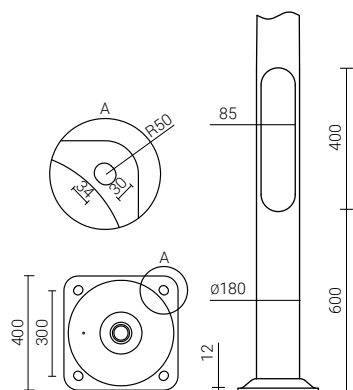
Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Luminaire mounting: directly on the extension arm of the column, luminaires with mounting $\varnothing 60$ mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet

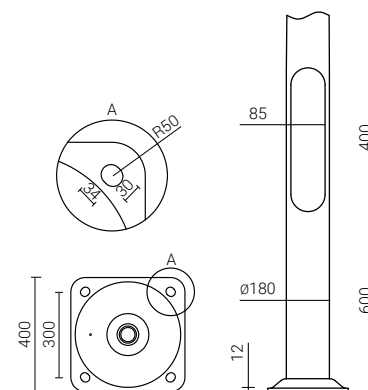
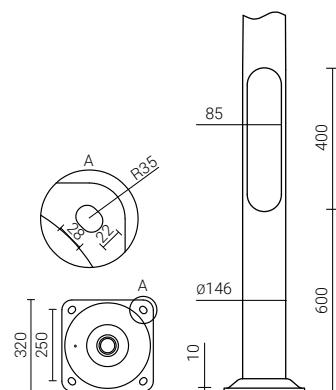


Column type	SAL DB-1	SAL DB
Height of the column H [mm]	9400 / 6600	9400
Code	42990/C...	42992/C...
Net weight [kg]	116,1	142,6
Approximate unit volume [m ³]*	2,62	3,86
Recommended luminaires	CUDDLE LED, COSMO LED, URSA LED, ANDROMEDA LED, MAGNOLIA LED, LUNOIDA LED	
Concrete footing / reinforcement basket type	B-70 / Z-70 B-60/Z-60	B-70 / Z-70
Threaded anchor ending	4 x M24 4xM18	4 x M24
Concrete footing / reinforcement basket code	311170 / 311207 311160/311206	311170 / 311207
Fasteners	4012 / 4008	4012
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300/ 12 320 / 250 / 10	400 / 300 / 12

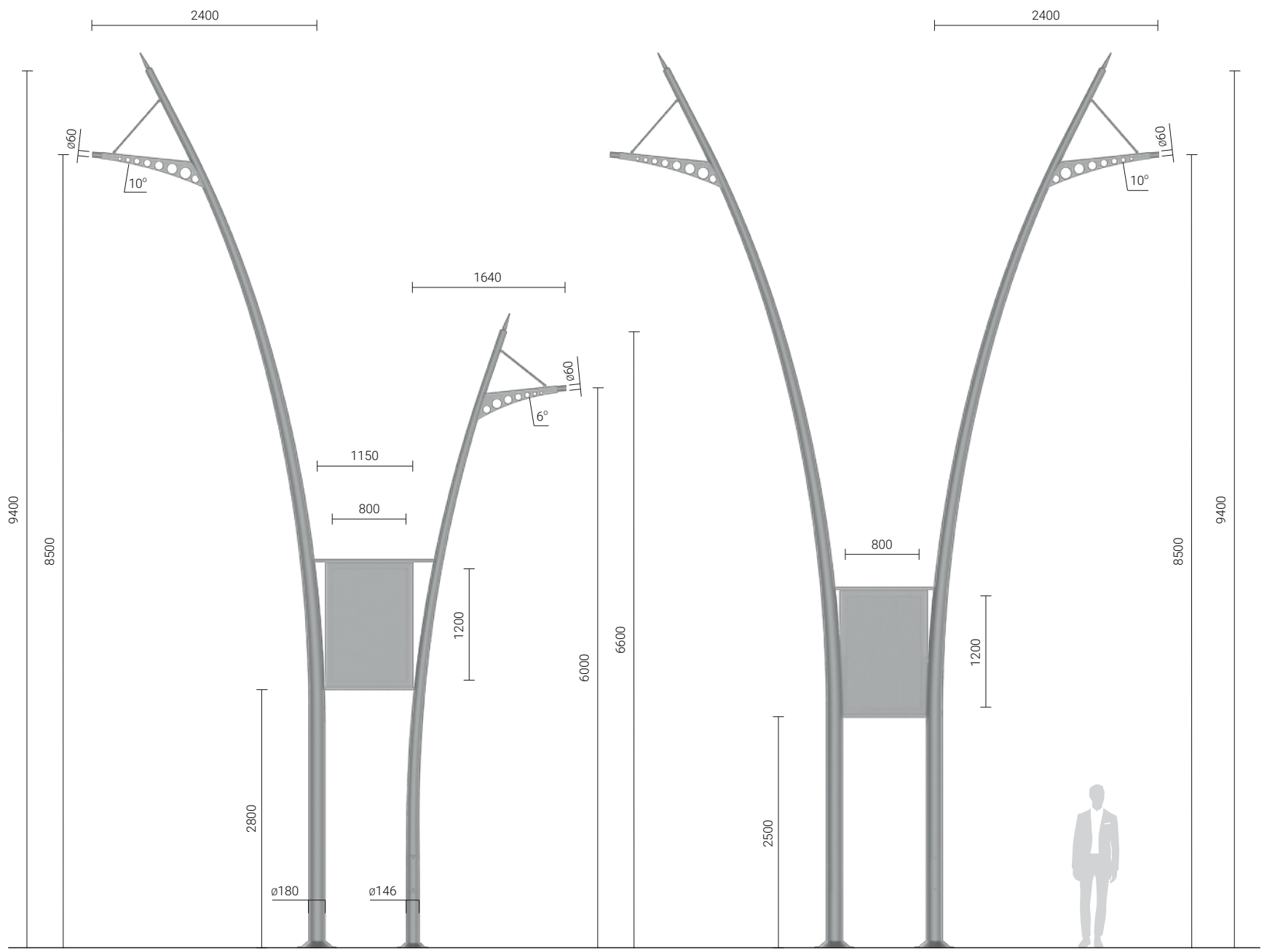
* For order of more than 10 pcs stated volume may change according to packing
/C... – choice of anodising colour



SAL DB-1



SAL DB



SAL DB-1

SAL DB

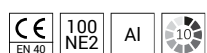
Two-piece aluminium columns with curved extension arms

ø180 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Luminaire mounting: directly on the extension arm of the column, luminaires with mounting ø60 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



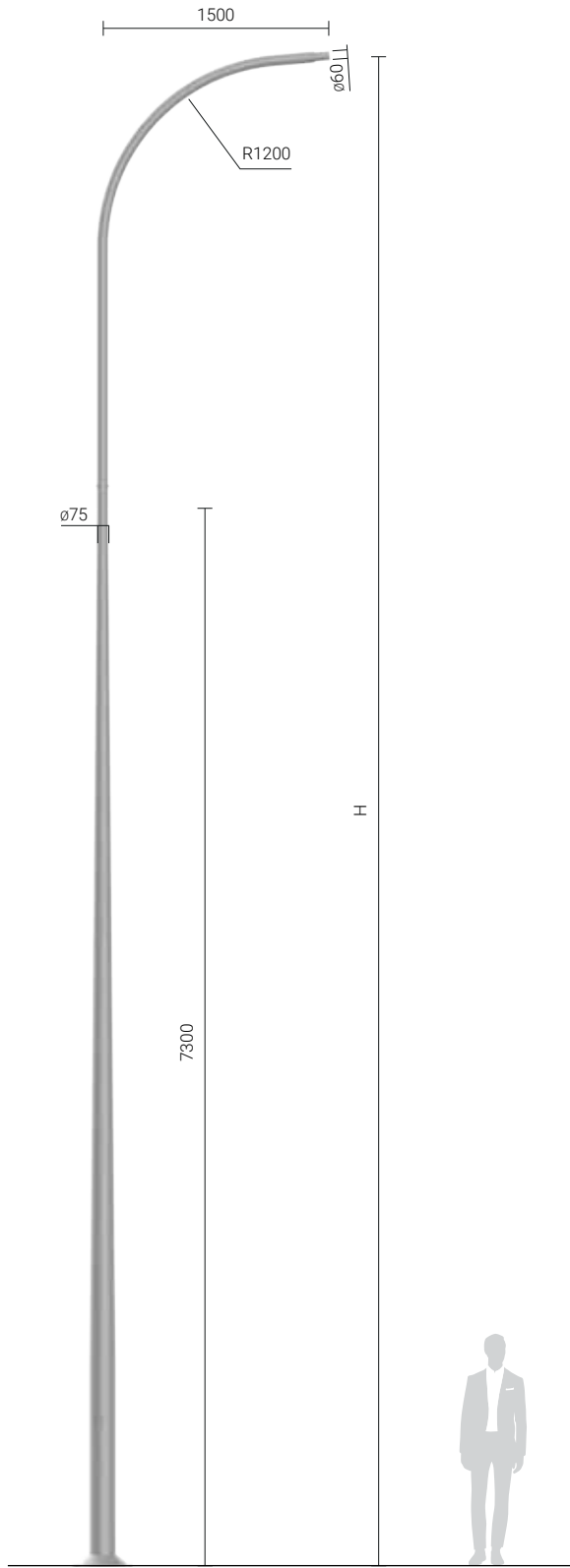
Column type	SAL-9 WŁN 1/1,5/1,7/5	SAL-10 WŁN 1/1,5/2,7/5	SAL-11 WŁN 1/1,5/3,7/5
Height of the column H [mm]	9000	10000	11000
Arm length [mm]	1500	1500	1500
Code	42720/C...	42721/C...	42722/C...
Net weight [kg]	45,3	47,4	49,5
Approximate unit volume [m ³]*	0,67	0,74	0,82
Recommended luminaires	CUDDLE LED, URSA LED, ANDROMEDA LED, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA		
Concrete footing / reinforcement basket type	B-71 / Z-71		
Threaded anchor ending	4 x M24		
Concrete footing / reinforcement basket code	311171 / 311271		
Fasteners	4012		
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 10		

* For order of more than 10 pcs stated volume may change according to packing
/C... - choice of anodising colour

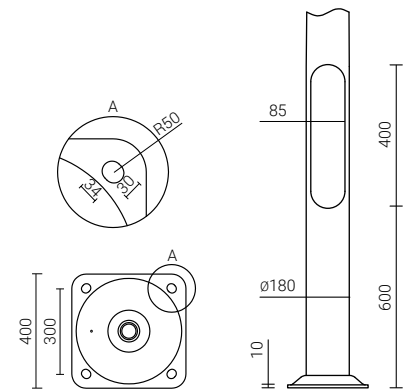
Wrocław, Poland



Luminaire: CUDDLE LED
Column: SAL-9 WŁN 1/1,5/1,7/5



Two – piece aluminium column joint with curved extension arm W&N



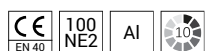
Two-piece aluminium columns with curved extension arms

ø176 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Luminaire mounting: directly on the extension arm of the column, luminaires with mounting ø60 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet

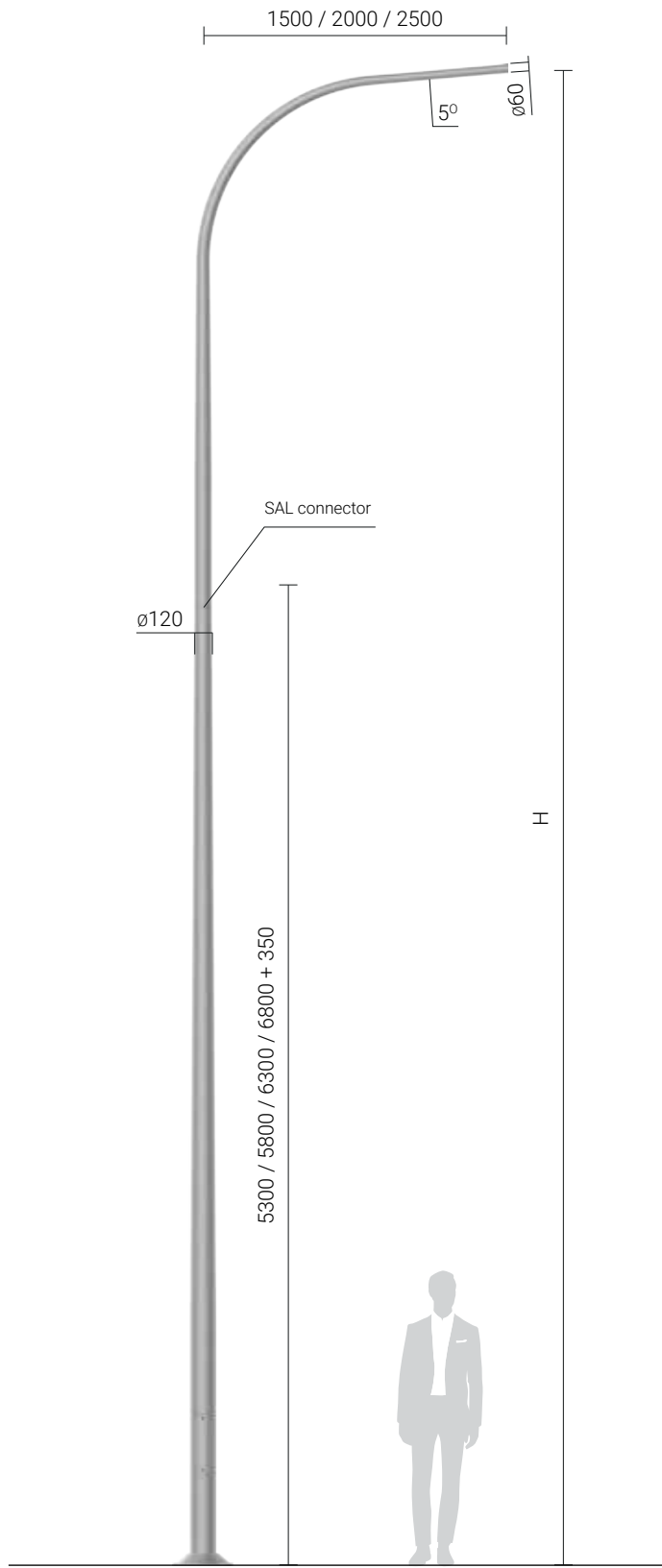


Column type	SAL 9 WŁ1/1,5/3,2/5	SAL 9 WŁ1/2,0/3,2/5	SAL 9 WŁ1/2,5/3,2/5	SAL 10 WŁ1/1,5/3,7/5	SAL 10 WŁ1/2,0/3,7/5
Height of the column H [mm]	9000	9000	9000	10000	10000
Arm length [mm]	1500	2000	2500	1500	2000
Code	42419/C...	42422/C...	42425/C...	42437/C...	42440/C...
Net weight [kg]	50,8	52,8	53,9	56	57
Approximate unit volume [m ³]*	0,67	0,73	0,8	0,74	0,82
Recommended luminaires	CUDDLE LED, URSA LED, ANDROMEDA LED, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA				
Concrete footing / reinforcement basket type	B-71 / Z-71	B-70 / Z-70	B-70 / Z-70	B-71 / Z-71	B-70 / Z-70
Threaded anchor ending	4 x M24	4 x M24	4 x M24	4 x M24	4 x M24
Concrete footing / reinforcement basket code	311171 / 311271	311170 / 311270	311170 / 311270	311171 / 311271	311170 / 311270
Fasteners	4012				
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 12				

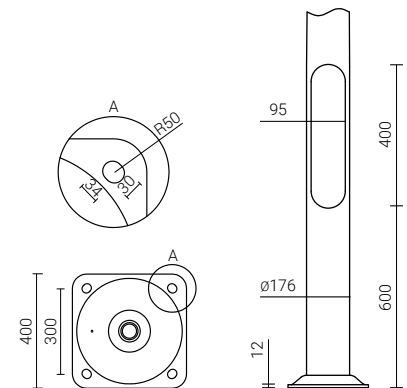
Column type	SAL 10 WŁ1/2,5/3,7/5	SAL 11 WŁ1/1,5/4,7/5	SAL 11 WŁ1/2,0/4,7/5	SAL 12 WŁ1/1,5/5,2/5
Height of the column H [mm]	10000	11000	11000	12000
Arm length [mm]	2500	1500	2000	1500
Code	42443/C...	42451/C...	42453/C...	42455/C...
Net weight [kg]	59,1	59,1	61,2	64,3
Approximate unit volume [m ³]*	0,89	0,82	0,92	0,89
Recommended luminaires	CUDDLE LED, URSA LED, ANDROMEDA LED, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA			
Concrete footing / reinforcement basket type	B-70 / Z-70	B-71 / Z-71	B-70 / Z-70	B-71 / Z-71
Threaded anchor ending	4 x M24	4 x M24	4 x M24	4 x M24
Concrete footing / reinforcement basket code	311170 / 311270	311171 / 311271	311170 / 311270	311171 / 311271
Fasteners	4012			
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 12			

* For order of more than 10 pcs stated volume may change according to packing
/C... - choice of anodising colour

Luminaire: CUDDLE LED
Column: SAL 9 WŁ1/1,5/3,2/5



Curved extension arm of two-piece aluminium column



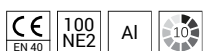
Two-piece aluminium columns with curved extension arms

ø176 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Luminaire mounting: directly on the extension arm of the column, luminaires with mounting ø60 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet

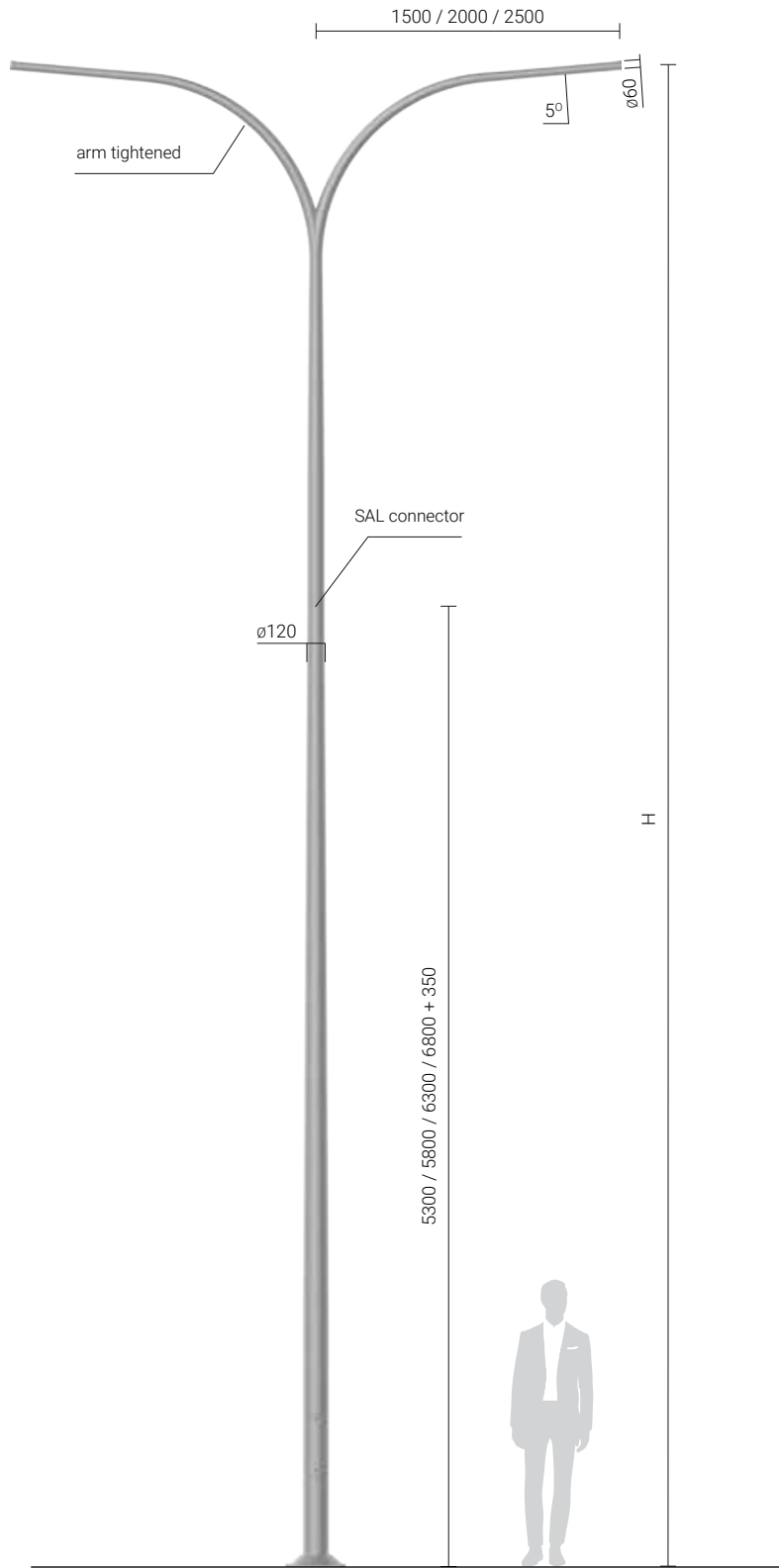


Column type	SAL 9 WŁ2/1,5/3,2/5	SAL 9 WŁ2/2,0/3,2/5	SAL 9 WŁ/2/2,5/3,2/5	SAL 10 WŁ2/1,5/3,7/5	SAL 10 WŁ2/2,0/3,7/5	SAL 10 WŁ2/2,5/3,7/5	SAL 11 WŁ2/1,5/4,7/5
Height of the column H [mm]	9000	9000	9000	10000	10000	10000	11000
Arm length [mm]	1500	2000	2500	1500	2000	2500	1500
Code	42420/C...	42423/C...	42426/C...	42438/C...	42441/C...	42444/C...	42452/C...
Net weight [kg]	56,4	60,1	62,2	61,6	63,7	67,4	64,2
Approximate unit volume [m ³]*	0,73	0,81	0,89	0,8	0,89	0,99	0,88
Recommended luminaires	CUDDLE LED, URSA LED, ANDROMEDA LED, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA						
Concrete footing / reinforcement basket type	B-71 / Z-71	B-70 / Z-70	B-70 / Z-70	B-71 / Z-71	B-70 / Z-70	B-70 / Z-70	B-71 / Z-71
Threaded anchor ending	4 x M24	4 x M24	4 x M24	4 x M24	4 x M24	4 x M24	4 x M24
Concrete footing / reinforcement basket code	311171 / 311271	311170 / 311270	311170 / 311270	311171 / 311271	311170 / 311270	311170 / 311270	311171 / 311271
Fasteners	4012						
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 12						

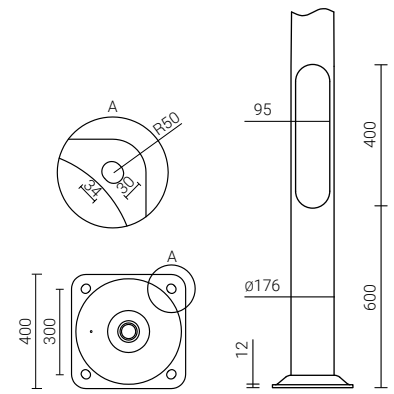
* For order of more than 10 pcs stated volume may change according to packing
/C... - choice of anodising colour

Wrocław, Poland





Curved extension arms of two-piece aluminium column



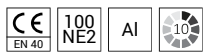
Two-piece aluminium columns with curved extension arms

ø176 mm at the base

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Luminaire mounting: directly on the extension arm of the column, luminaires with mounting ø60 mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet

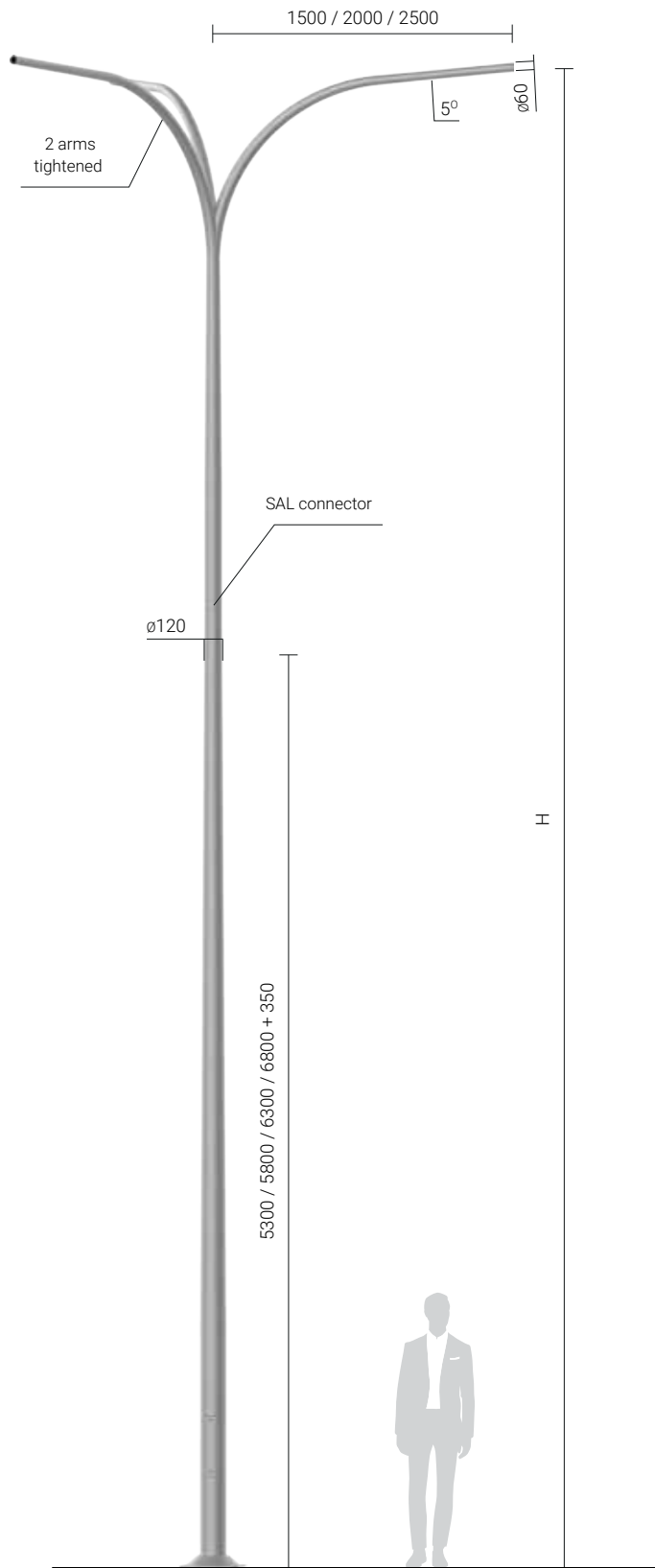


Column type	SAL 9 WL3/1,5/3,2/5	SAL 9 WL3/2,0/3,2/5	SAL 9 WL3/2,5/3,2/5	SAL 10 WL3/1,5/3,7/5	SAL 10 WL3/2,0/3,7/5	SAL 10 WL3/2,5/3,7/5	SAL 11 WL2/1,5/4,7/5
Height of the column H [mm]	9000	9000	9000	10000	10000	10000	11000
Arm length [mm]	1500	2000	2500	1500	2000	2500	1500
Code	42421/C...	42424/C...	42427/C...	42439/C...	42442/C...	42445/C...	42452/C...
Net weight [kg]	60,4	65,9	68,9	65,6	68,9	74,2	64,2
Approximate unit volume [m ³]*	1,06	1,25	1,43	1,19	1,38	1,61	0,88
Recommended luminaires	CUDDLE LED, URSA LED, ANDROMEDA LED, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA						
Concrete footing / reinforcement basket type	B-70 / Z-70						
Threaded anchor ending	4 x M24						
Concrete footing / reinforcement basket code	311170 / 311270						
Fasteners	4012						
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 12						

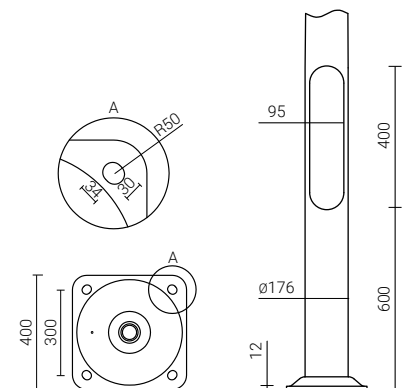
* For order of more than 10 pcs stated volume may change according to packing
/C... - choice of anodising colour

Warsaw, Poland





Curved extension arm of two-piece aluminium column



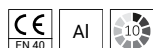
Lowering-and-raising columns

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Diameter of the column ending: $\varnothing 60$ mm

Luminaire mounting: directly on the column, luminaires with mounting $\varnothing 60$ mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



Column type	SAL-45/P	SAL-50/P	SAL-60/P	SAL-70P
Height of the column H [mm]	4500	5000	6000	7000
Code	42915/C...	42916/C...	42925/C...	42927/C...
Net weight [kg]	21,6	23,8	29,7	33
Approximate unit volume [m3]*	0,13	0,145	0,174	0,203
Recommended luminaires for column top mounting	ISKRA LED ALFA, ELBA LED, ATLANTIS LED, VEGA LED BETA, MIRA LED, MIZAR LED, OS-1 LED, OS-11 LED		ISKRA LED ALFA, URSA LED ALFA, MAGNOLIA LED, LUNOIDA LED, VEGA LED ALFA, CORONA LED, COSMO DELTA LED, COSMO ALFA LED	
Recommended extension arms and luminaires	WN-1 – luminaire ISKRA LED LB; WR-4/1/0,5/5 – luminaire: ISKRA LED, VEGA LED			
Concrete footing / reinforcement basket type	B-51 / Z-51			
Threaded anchor ending	4 x M18			
Concrete footing / reinforcement basket code	311151 / 311251			
Fasteners	4008			
Dimension of the base plate (side / bolt spacing / thickness) [mm]	260 / 200 / 8		260 / 200 / 12	

* For order of more than 10 pcs stated volume may change according to packing /C... – choice of anodising colour

France



1. Removing the door



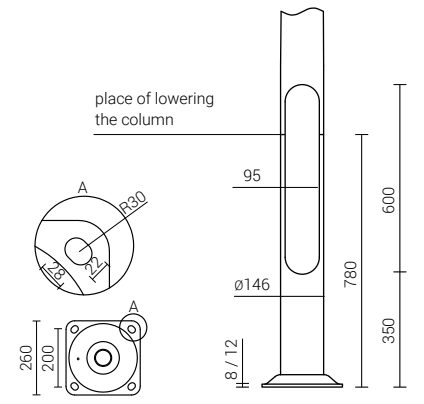
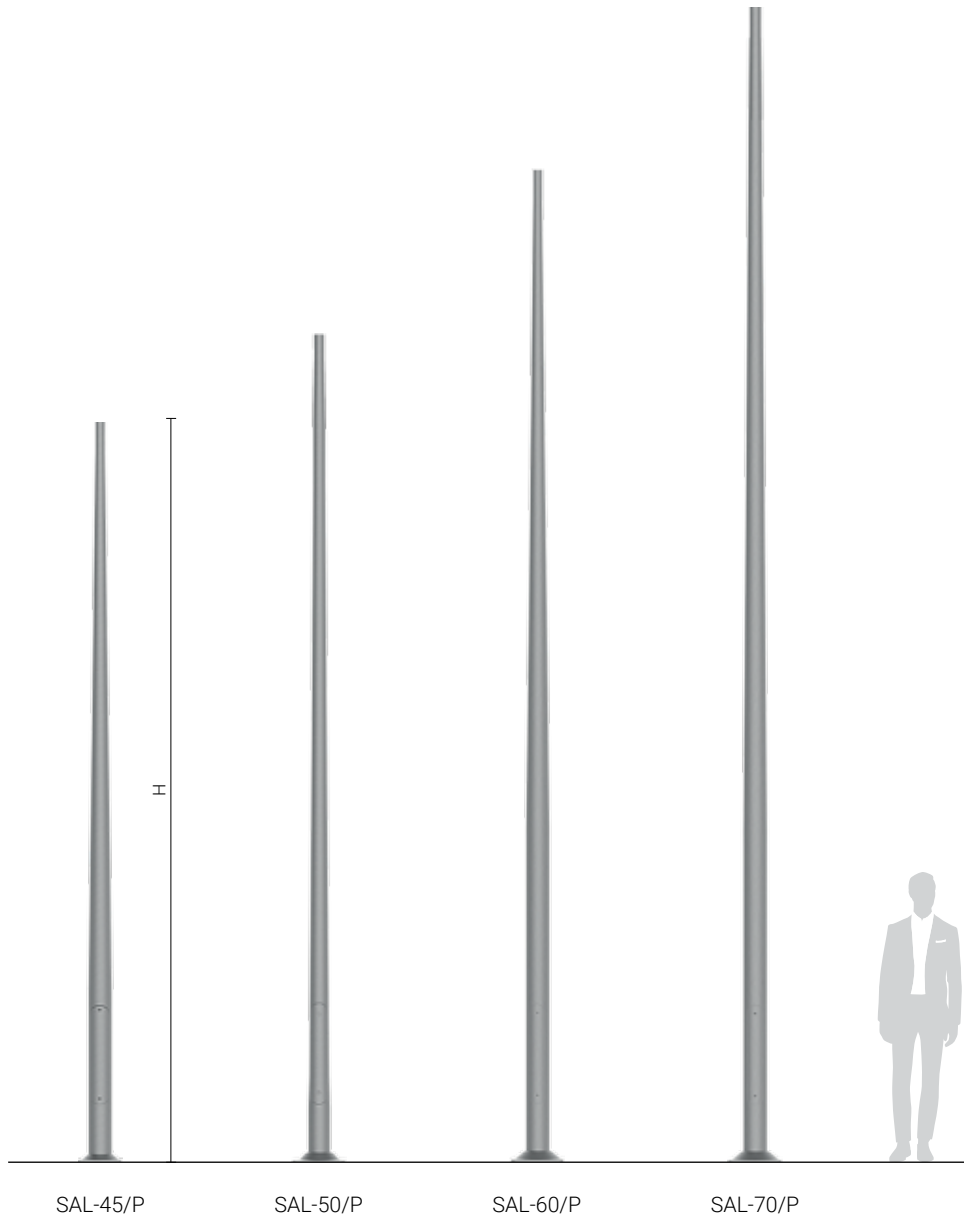
2. Unscrewing the hinge's bolt



3. Manually lowering the column



Easy and safe way of lowering the column



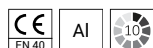
Lowering-and-raising columns

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Diameter of the column ending: $\varnothing 60$ mm

Luminaire mounting: directly on the column, luminaires with mounting $\varnothing 60$ mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



Column type	SAL-85M/P	SAL-90M/P	SAL-95M/P	SAL-100M/P	SAL-115M/P
Height of the column H [mm]	8500	9000	9500	10000	11500
Code	42930/C...	42931/C...	42932/C...	42933/C...	42949/C...
Net weight [kg]	51,1	54,4	57,6	60,2	71,6
Approximate unit volume [m ³]*	0,556	0,589	0,621	0,654	0,275
Recommended luminaires for column top mounting	URSA LED ALFA, COSMO LED ALFA, MAGNOLIA LED, LUNOIDA LED, MAGNOLIA, LUNOIDA				
Recommended extension arms and luminaires	WR-4/1/1,0/5 ZP, WR-8B/1/0,35/0, WR-13/1/0,8/5 ZP, WR-13/2/0,8/5 ZP, WR-15/1/1,0/5, WR-15/2/1,0/5 – luminaire URSA LED, WN-21, WN-21 REG, WN-4 – luminaire ANDROMEDA LED				
Concrete footing / reinforcement basket type	B-70 / Z-70				
Threaded anchor ending	4 x M24				
Concrete footing / reinforcement basket code	311170 / 311207				
Fasteners	4012				
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 12				

* For order of more than 10 pcs stated volume may change according to packing /C... – choice of anodising colour



1. Assembly of (manual or articulated) mechanism on the column



2. Removing the door of wiring chamber



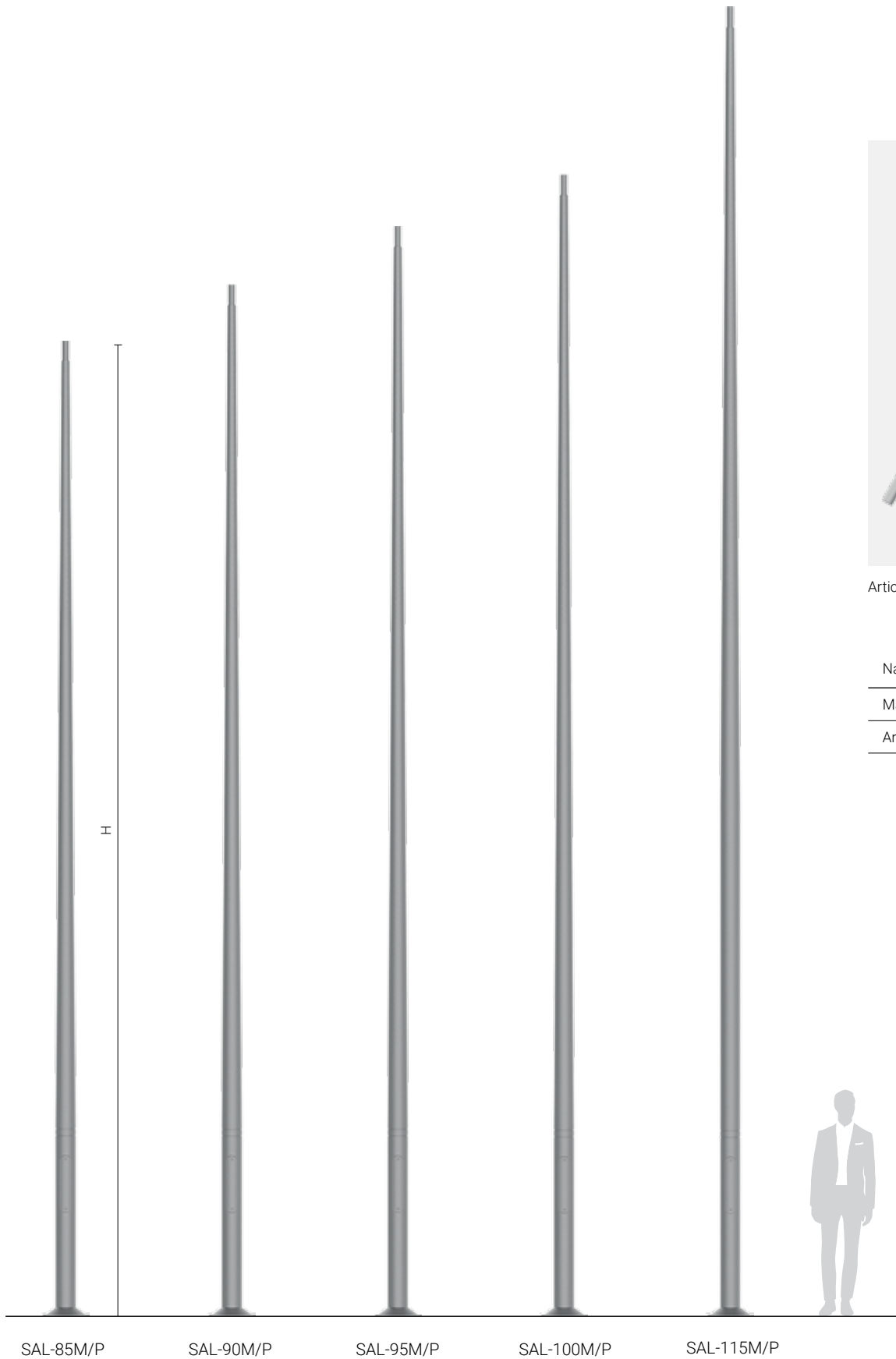
3. Unscrewing 3 column's securing bolts at the break point



4. Mounting the drill in the mechanism

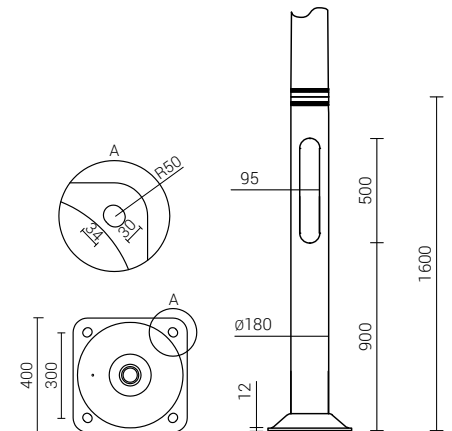


5. Lowering the column



Articulated mechanism for SAL-...M/P column

Name	Code
Manual mechanism	4005
Articulated mechanism	4010



Aluminium light masts

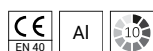
Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection

in the colour of the mast up to the height of 350 mm

(other height on customer's request)

Diameter of the mast ending: \varnothing 100 mm

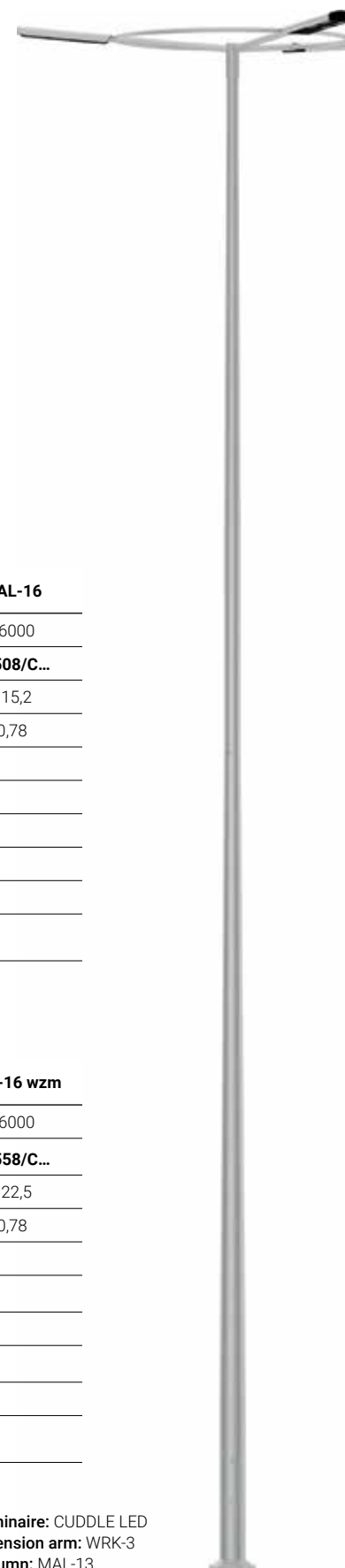


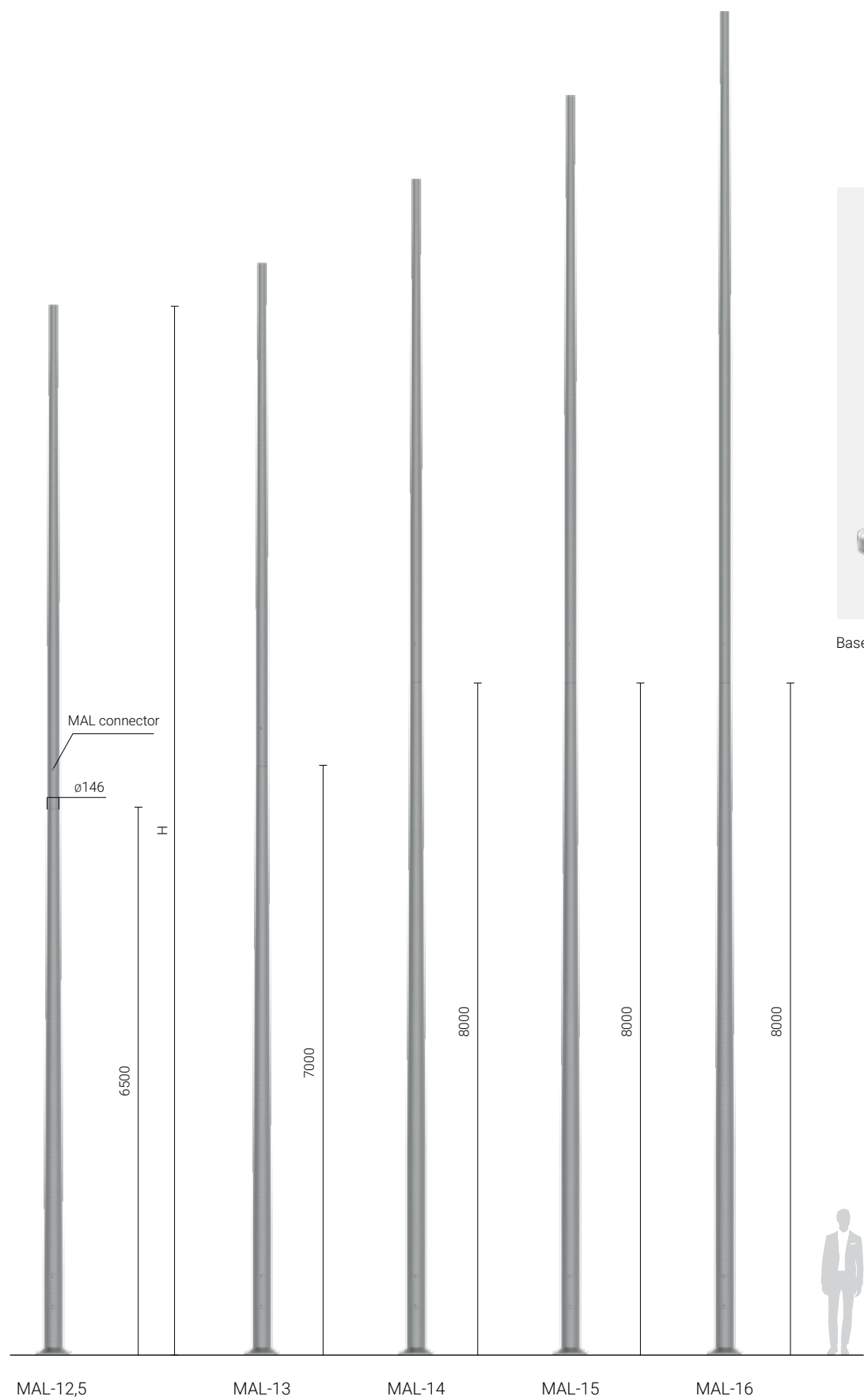
Column type	MAL-12,5	MAL-13	MAL-14	MAL-15	MAL-16
Height of the column H [mm]	12500	13000	14000	15000	16000
Code	42501/C...	42502/C...	42504/C...	42506/C...	42508/C...
Net weight [kg]	93,8	98,7	107,6	111,1	115,2
Approximate unit volume [m ³]*	0,64	0,68	0,76	0,77	0,78
Recommended luminaires	WM, WRK				
Concrete footing / reinforcement basket type	B-80 / Z-80				
Threaded anchor ending	4 x M24				
Concrete footing / reinforcement basket code	311180 / 311208				
Fasteners	4012				
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 20				

Column type	MAL-12,5 wzm	MAL-13 wzm	MAL-14 wzm	MAL-15 wzm	MAL-16 wzm
Height of the column H [mm]	12500	13000	14000	15000	16000
Code	42551/C...	42552/C...	42554/C...	42556/C...	42558/C...
Net weight [kg]	101,2	106,2	114,9	118,4	122,5
Approximate unit volume [m ³]*	0,64	0,68	0,76	0,77	0,78
Recommended luminaires	WM, WRK				
Concrete footing / reinforcement basket type	B-80 / Z-80				
Threaded anchor ending	4 x M24				
Concrete footing / reinforcement basket code	311180 / 311208				
Fasteners	4012				
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 20				

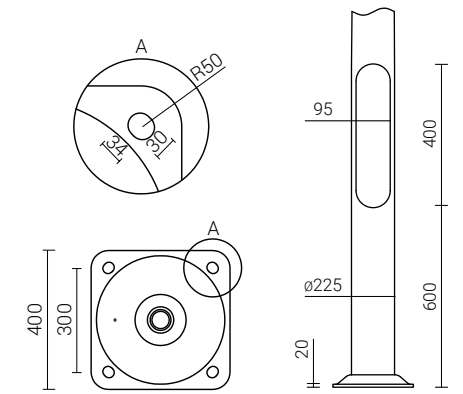
* For order of more than 10 pcs stated volume may change according to packing
/C... – choice of anodising colour

Luminaire: CUDDLE LED
Extension arm: WRK-3
Column: MAL-13





Base-plate of aluminium column 400 x 300 x 20



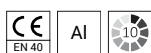
MAL-12,5 MAL-13 MAL-14 MAL-15 MAL-16

Aluminium light masts

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Luminaire mounting: directly on the mast, luminaires with mounting $\varnothing 60$ mm with weight and surface parameters not exceeding the data from the strength table included in the technical data sheet



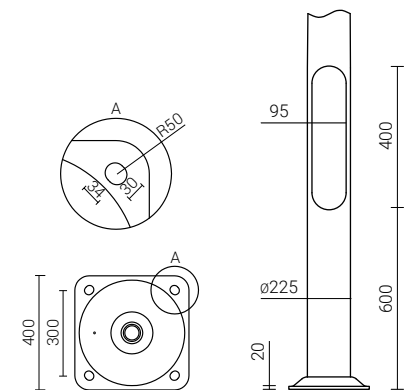
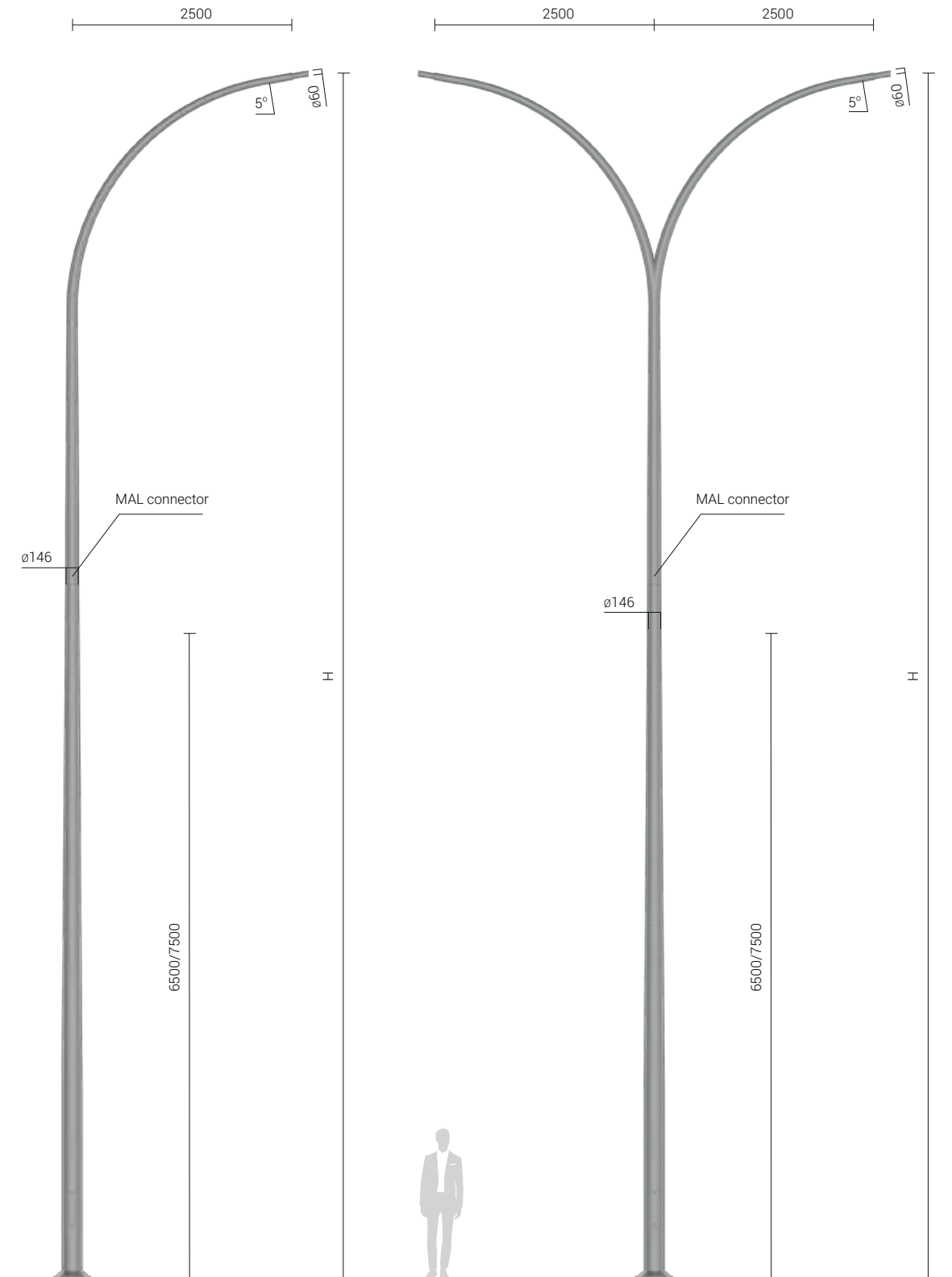
Column type	MAL-12 WŁ 1/2,5/5,5/5	MAL-12 WŁ 2/2,5/5,5/5	MAL-13 WŁ 1/2,5/5,5/5	MAL-13 WŁ 2/2,5/5,5/5	MAL-14 WŁ 1/2,5/6,5/5	MAL-14 WŁ 2/2,5/6,5/5
Height of the column H [mm]	12000	12000	13000	13000	14000	14000
Długość ramienia [mm]	2500	2500	2500	2500	2500	2500
Code	42509/C...	42510/C...	42511/C...	42512/C...	42513/C...	42514/C...
Net weight [kg]	93,4	106,8	103,2	116,6	108,4	121,8
Approximate unit volume [m ³]*	0,84	1,15	0,93	1,21	1,1	1,27
Recommended luminaires	CUDDLE LED, URSA LED, ANDROMEDA LED					
Concrete footing / reinforcement basket type	B-80 / Z-80					
Threaded anchor ending	4 x M24					
Concrete footing / reinforcement basket code	311180 / 311208					
Fasteners	4012					
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 20					

* For order of more than 10 pcs stated volume may change according to packing
/C... - choice of anodising colour

Astana, Kazakhstan



Luminaire: CUDDLE LED
Column: MAL-12 WŁ 1/2,5/5,5/5

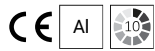


Columns for traffic signal lights

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

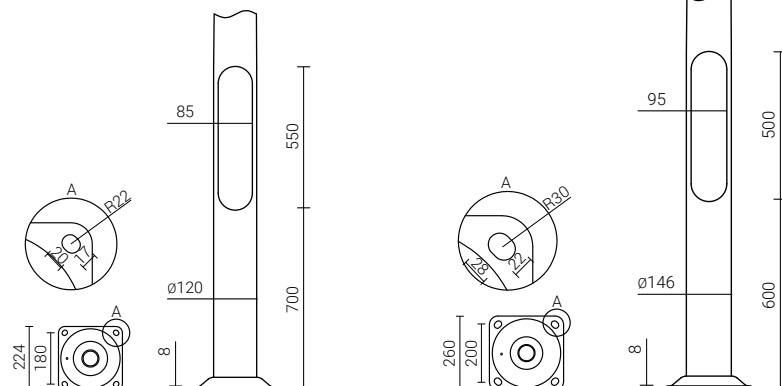
Purpose: designed for hanging signal devices at road intersections, pedestrian crossings etc.

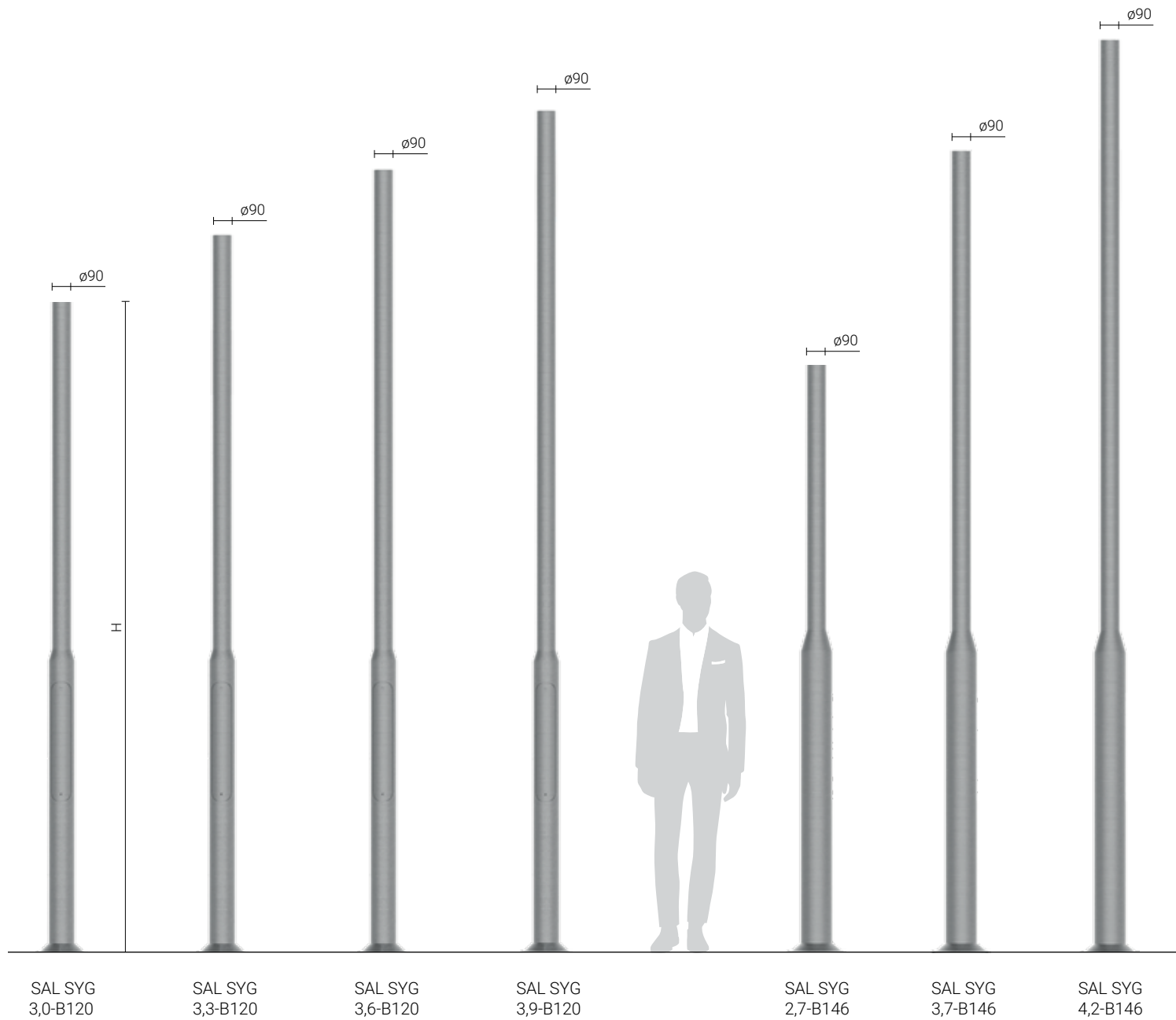


Column type	SAL SYG 3,0-B120	SAL SYG 3,3-B120	SAL SYG 3,6-B120	SAL SYG 3,9-B120	SAL SYG 2,7-B146	SAL SYG 3,7-B146	SAL SYG 4,2-B146
Height of the column H [mm]	3000	3300	3600	3900	2700	3700	4200
Code	42824/C...	42825/C...	42826/C...	42827/C...	42820/C...	42822/C...	42823/C...
Net weight [kg]	12,1	13,1	14	15	13,2	16,5	18,1
Approximate unit volume [m³]*	0,078	0,086	0,094	0,102	0,089	0,122	0,139
Traffic signal lights and signs top column mounting	with Ø90 spigot entry with weight and windage not exceeding data in resistance calculations						
Concrete footing / reinforcement basket type	B-50 / Z-50			B-51 / Z-51			
Threaded anchor ending	4 x M14			4 x M18			
Concrete footing / reinforcement basket code	311150 / 311205			311151 / 311251			
Fasteners	4006			4008			
Dimension of the base plate (side / bolt spacing / thickness) [mm]	224 / 180 / 8			260 / 200 / 8			

* For order of more than 10 pcs stated volume may change according to packing /C... - choice of anodising colour

Fontenay-sous-Bois, France



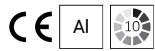


Columns for traffic signal lights

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

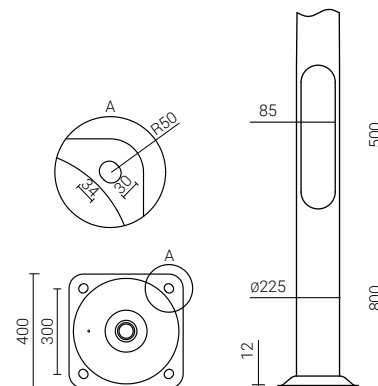
Purpose: designed for hanging signal devices at road intersections, pedestrian crossings etc.

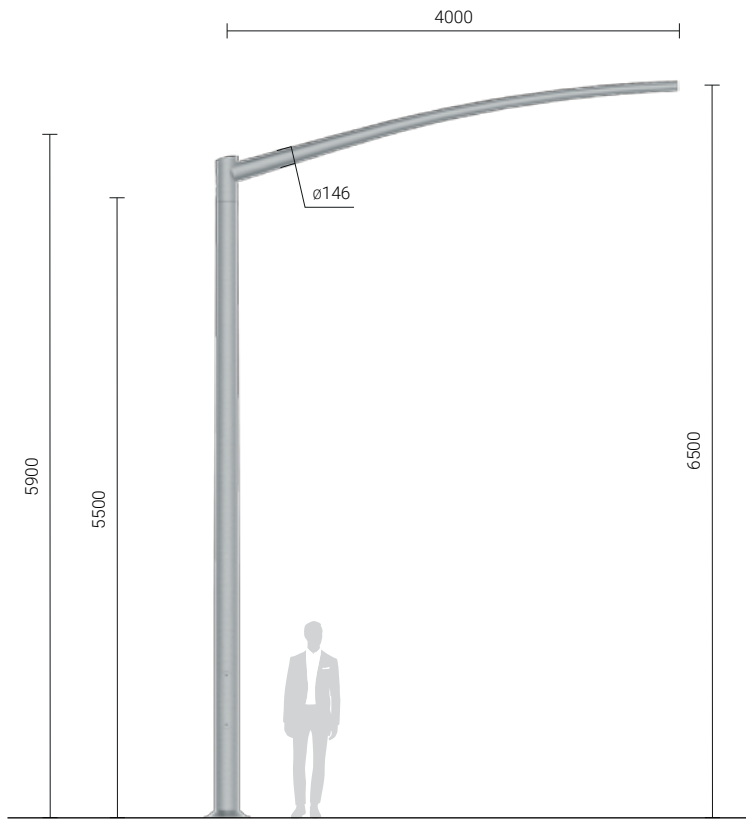


Column type	SAL SYG 65-4	SAL SYG 65-7
Height of the column H [mm]	6500	6500
Code	42810/C...	82811/C...
Net weight [kg]	90,2	119,4
Approximate unit volume [m ³]*	0,84	1,04
Traffic signal lights and signs top column mounting	with Ø90 spigot entry with weight and windage not exceeding data in resistance calculations	
Concrete footing / reinforcement basket type	B-80 / Z-80	
Threaded anchor ending	4 x M24	
Concrete footing / reinforcement basket code	311180 / 311 208	
Fasteners	4012	
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 12	400 / 300 / 20

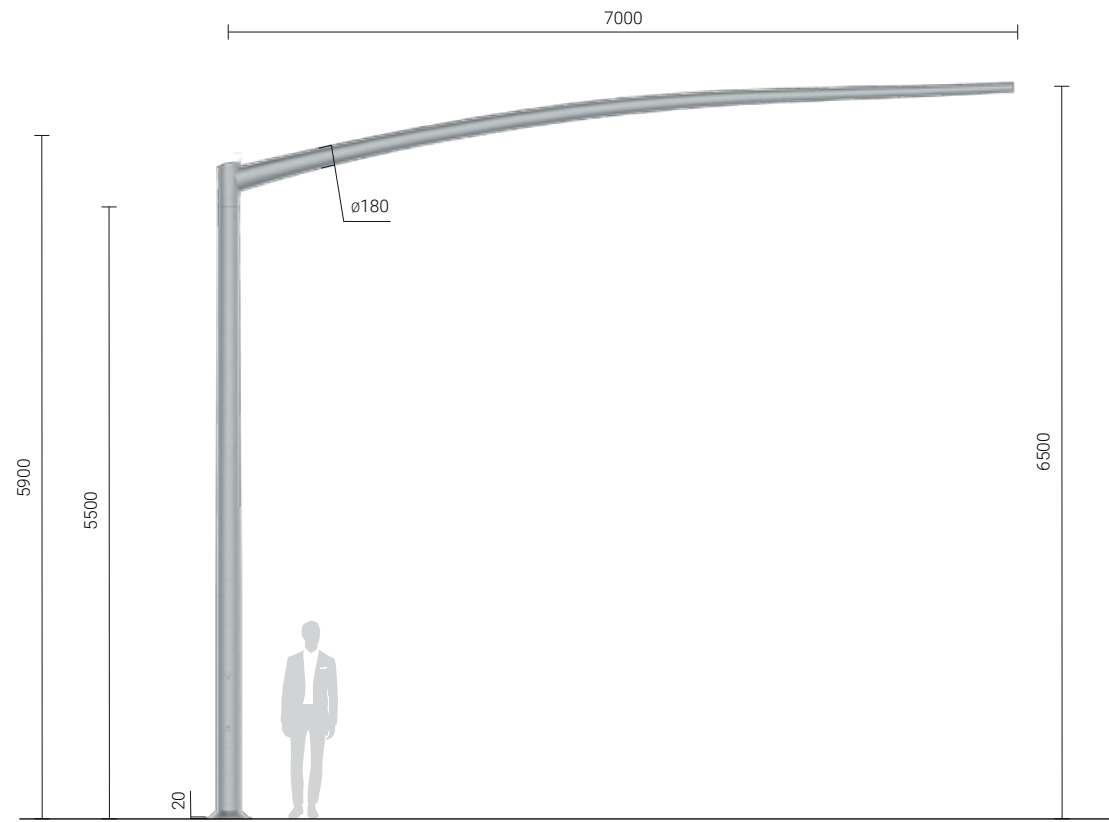
* For order of more than 10 pcs stated volume may change according to packing
/C... – choice of anodising colour

Warsaw, Poland





SAL SYG 65-4



SAL 65-7

Flag poles

Anodising: 10 colours, each with possibility of chemical brightening

Finish: grinded, anodised aluminium, option of elastomer protection in the colour of the column up to the height of 350 mm (other height on customer's request)

Purpose: masts are designed for hanging flags of surface area up to 6 m² according to the technical data sheet

Cord: braided spiral, durable, diameter ø4 mm, white colour

Weight: made of metal, covered with plastic layer in grey colour

Plastic mounting band: 8 pcs as standard (6 pcs + 1 pc on weight + 1 pc on cross-bar)

Wiring chamber: equipped in cord's lock

Additional accessories:

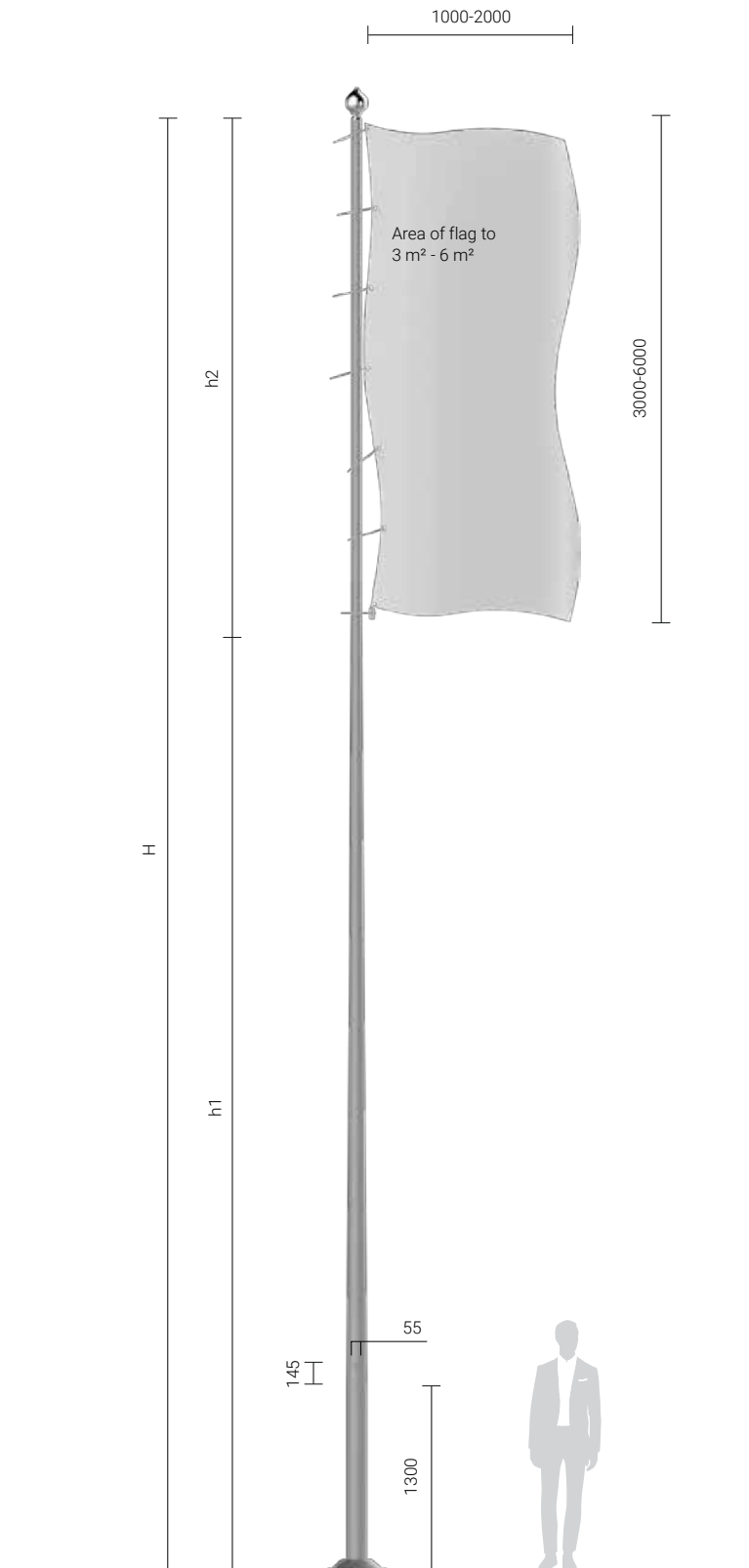
- cross-bar for flag lengths: 1 m, 1,5 m, 2 m;
- ending: gold or silver ball end



Column type	SAL MF 6-114	SAL MF 7-114-2	SAL MF 8-114	SAL MF 8-120	SAL MF 9-114	SAL MF 9-120	SAL MF 10-120
Height of the column H [mm]	6000	7000	8000	8000	9000	9000	10000
Code	42950/C...	42952/C...	42953/C...	42955/C...	42954/C...	42956/C...	42957/C...
Net weight [kg]	18,1	20,7	22,5	27,8	24,2	29,5	31,2
Approximate unit volume [m ³]*	0,108	0,142	0,144	0,184	0,147	0,186	0,189
Height of lower section h1 + tube [mm]	4500 + 200	4500 + 200	4500 + 200	6000 + 200	4500 + 200	6000 + 200	6000 + 200
Height of upper section h2 [mm]	1500	2500	3500	2000	4500	3000	4000
Concrete footing / reinforcement basket type	B-50 / Z-50			B-51 / Z-51			
Threaded anchor ending	4 x M14			4 x M18			
Concrete footing / reinforcement basket code	311150 / 311205			311151 / 311251			
Fasteners	4006			4008			
Dimension of the base plate (side / bolt spacing / thickness) [mm]	224 / 180 / 8			260 / 200 / 12			

Column type	SAL MF 10-146	SAL MF 11-146	SAL MF 12-146
Height of the column H [mm]	10000	11000	12000
Code	42958/C...	42959/C...	42960/C...
Net weight [kg]	45,1	48,1	51
Approximate unit volume [m ³]*	0,472	0,476	0,481
Height of lower section h1 + tube [mm]	6800 + 200	6800 + 200	6800 + 200
Height of upper section h2 [mm]	3200	3200	5200
Concrete footing / reinforcement basket type	B-71 / Z-71		
Threaded anchor ending	4 x M24		
Concrete footing / reinforcement basket code	311171 / 311271		
Fasteners	4012		
Dimension of the base plate (side / bolt spacing / thickness) [mm]	400 / 300 / 10		

* For order of more than 10 pcs stated volume may change according to packing
/C... - choice of anodising colour



Tychy, Poland



Extension arms for aluminium columns

Rzeszów, Poland
Investor: The Road Administration in Rzeszów



Municipal Stadium, Tychy, Poland
Architectural design studio: Perbo-Projekt Sp. z o.o

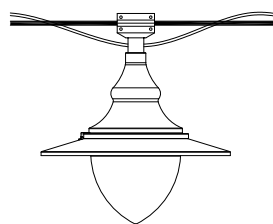


Extension arms WA

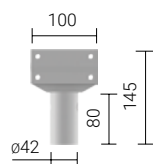
Application: aluminium columns SAL with spigot $\varnothing 60 \times 130 / 180$ mm

Material: anodised aluminium alloy

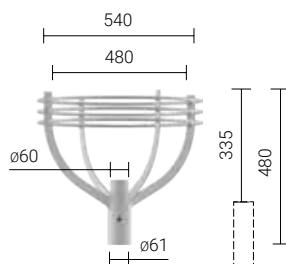
Anodising: 10 colours, with possibility of chemical brightening



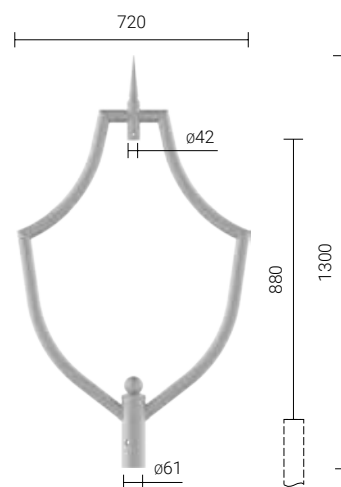
Mounting example of WA-0 with OW LED luminaire, cone lamp diffuser



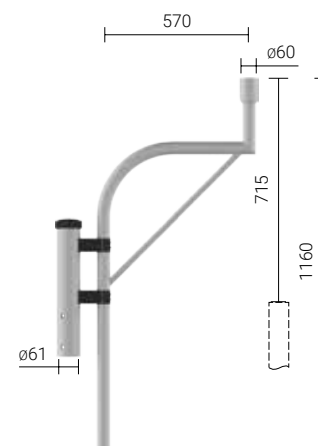
WA-0



WA-1



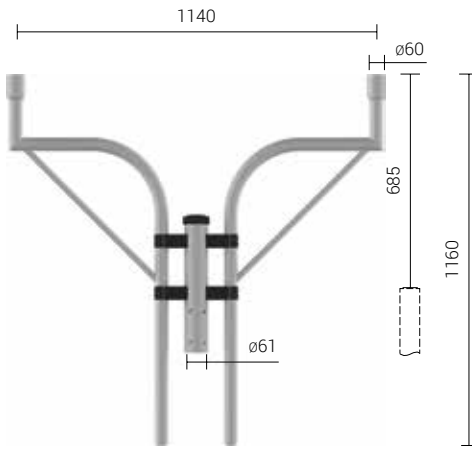
WA-4



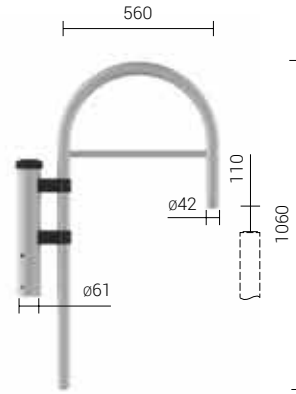
WA-5/1

Extension arm type	WA-1	WA-4	WA-5/1	WA-5/2	WA-14/1	WA-14/2	WA-20/1	WA-20/2
Number of arms	1	1	1	2	1	2	1	2
Code	471011/C...	471040/C...	471051/C...	471052/C...	471141/C...	471142/C...	471201/C...	471202/C...
Net weight [kg]	2,7	3,9	3,6	5,8	3,9	5,7	5,5	9,1
Extension arm effective projected area [m ²]	0,064	0,13	0,116	0,197	0,12	0,206	0,19	0,346
Approximate unit volume [m ³]	0,102	0,045	0,021	0,04	0,018	0,035	0,042	0,081
Luminaire mounting diameter [mm]	$\varnothing 60$	$\varnothing 42$	$\varnothing 60$	$\varnothing 60$	$\varnothing 42$	$\varnothing 42$	$\varnothing 42$	$\varnothing 42$

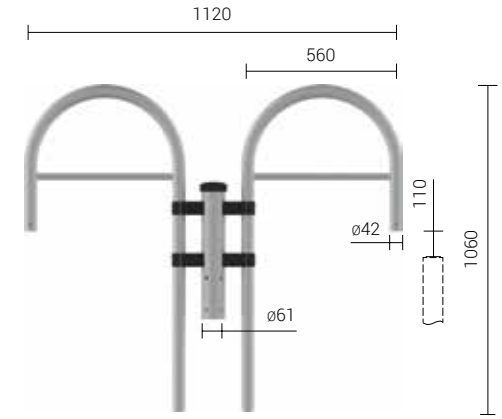
The use of extension arm should always be verified with a permissible loading for specified wind zone (technical cards available at www.rosa.pl)
/C... - choice of anodising colour



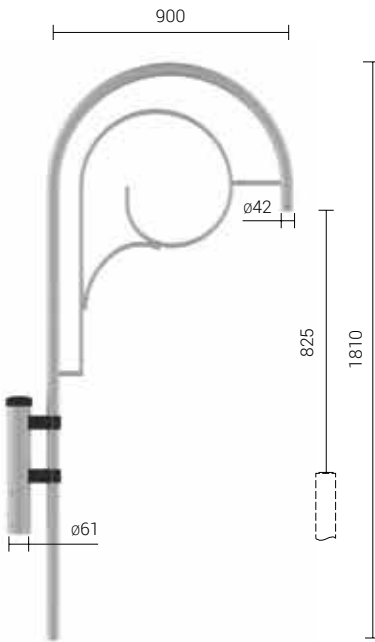
WA-5/2



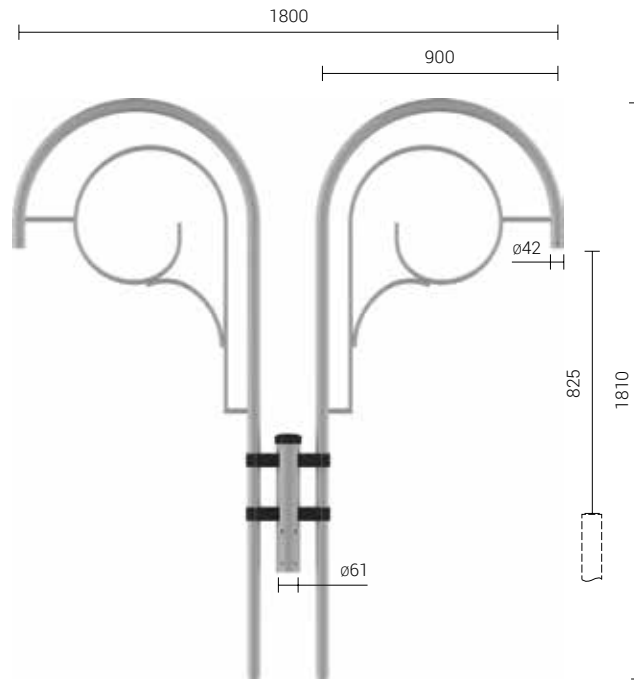
WA-14/1



WA-14/2



WA-20/1



WA-20/2

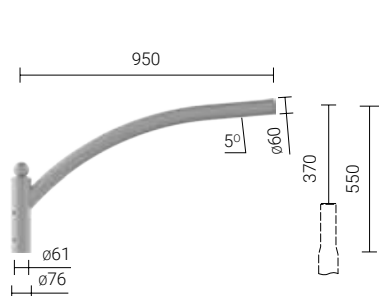


Extension arms WR

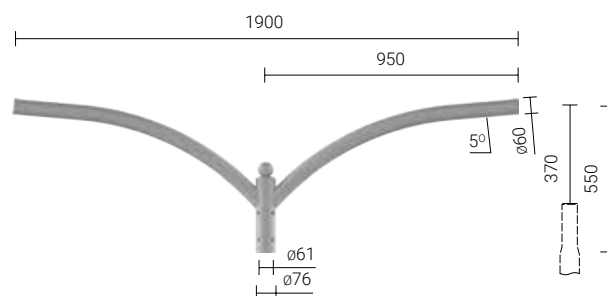
Application: aluminium columns SAL with spigot $\varnothing 60 \times 180$ mm

Material: anodised aluminium alloy

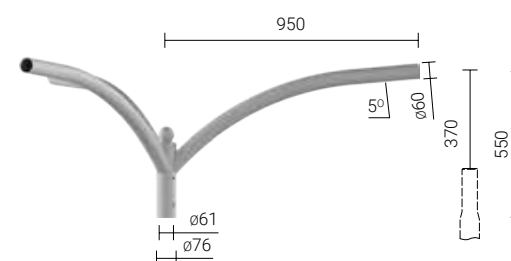
Anodising: 10 colours, with possibility of chemical brightening



WR-2/1/0,95/5



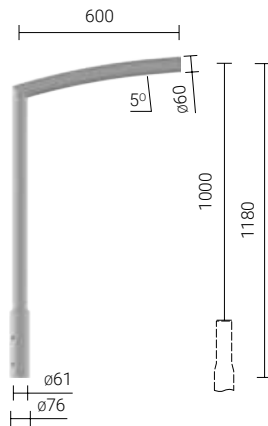
WR-2/2/0,95/5



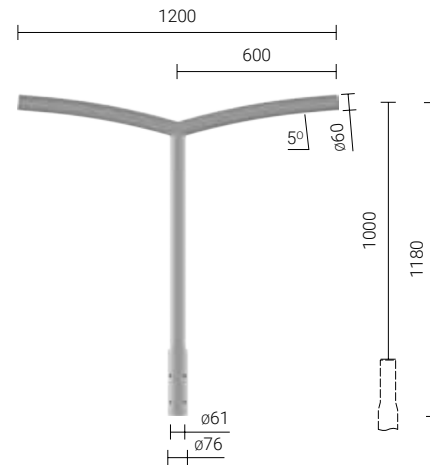
WR-2/3/0,95/5

Extension arm type	WR-2/1/0,95/5	WR-2/2/0,95/5	WR-2/3/0,95/5
Number of arms	1	2	3
Code	472021/C...	472022/C...	472023/C...
Net weight [kg]	2,8	4,4	6,3
Extension arm effective projected area [m ²]	0,085	0,145	0,145
Approximate unit volume [m ³]	0,023	0,05	0,26
Luminaire mounting diameter [mm]	$\varnothing 60$	$\varnothing 60$	$\varnothing 60$

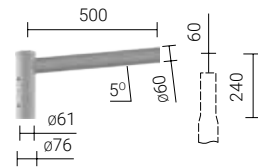
The use of extension arm should always be verified with a permissible loading for specified wind zone (technical cards available at www.rosa.pl)
/C... - choice of anodising colour



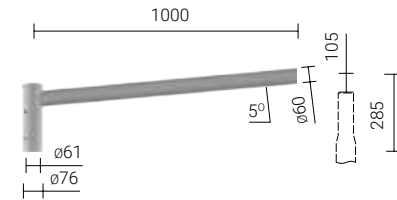
WR-5A/1/0,6/5



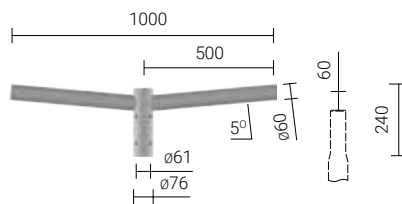
WR-5A/2/0,6/5



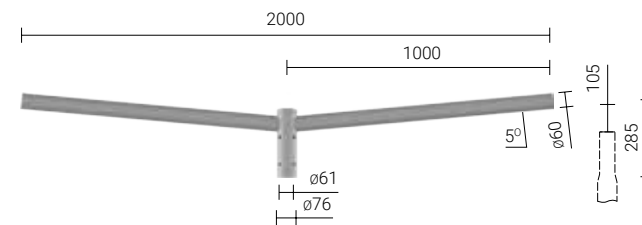
WR-4/1/0,5/5 ZP



WR-4/1/1,0/5 ZP



WR-4/2/0,5/5 ZP



WR-4/2/1,0/5 ZP

Extension arm type	WR-5A/1/0,6/5	WR-5A/2/0,6/5	WR-4/1/0,5/5 ZP	WR-4/1/1,0/5 ZP	WR-4/2/0,5/5 ZP	WR-4/2/1,0/5 ZP
Number of arms	1	2	1	1	2	2
Code	47250106/C...	47250206/C...	472041059/C...	472041109/C...	472042059/C...	472042109/C...
Net weight [kg]	3,4	4,5	1,7	2,5	2,5	4,2
Extension arm effective projected area [m ²]	0,11	0,14	0,05	0,08	0,08	0,14
Approximate unit volume [m ³]	0,03	0,06	0,01	0,02	0,03	0,03
Luminaire mounting diameter [mm]	ø60	ø60	ø60	ø60	ø60	ø60

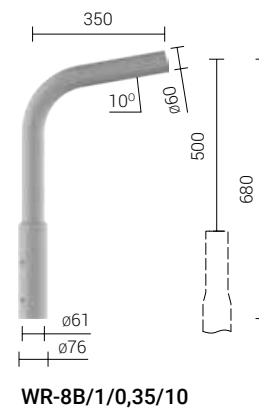
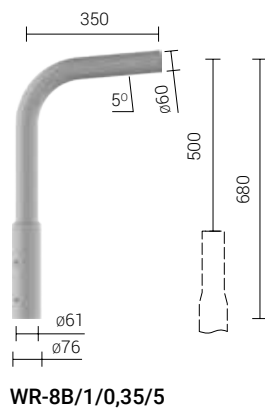
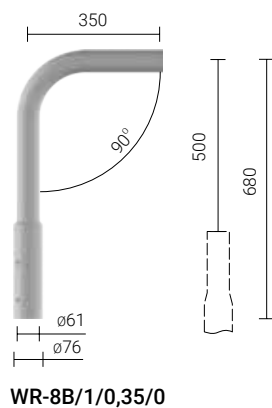
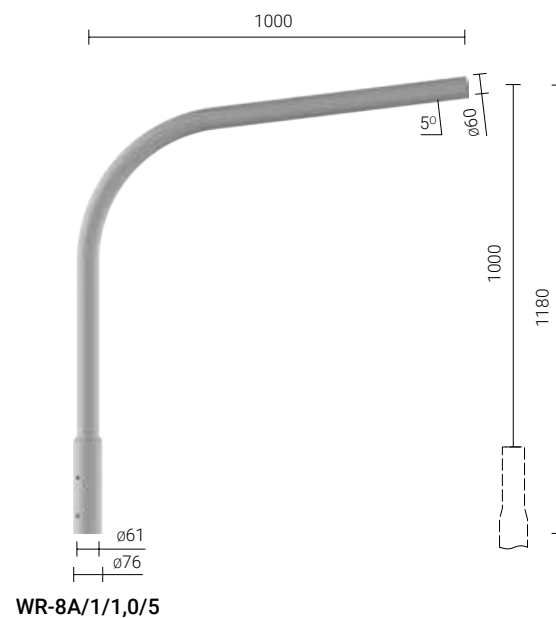
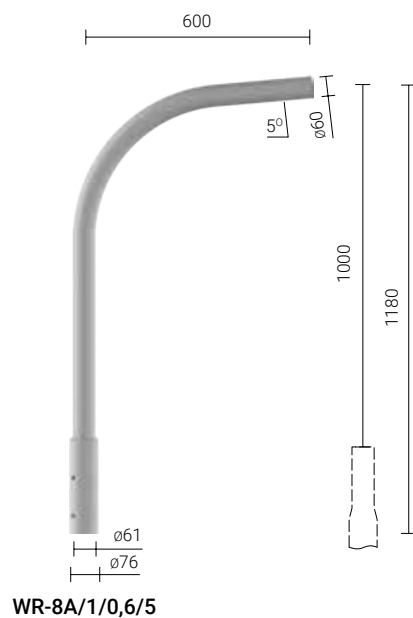
The use of extension arm should always be verified with a permissible loading for specified wind zone (technical cards available at www.rosa.pl)
/C... – choice of anodising colour

Extension arms WR

Application: aluminium columns SAL with spigot $\varnothing 60 \times 180$ mm

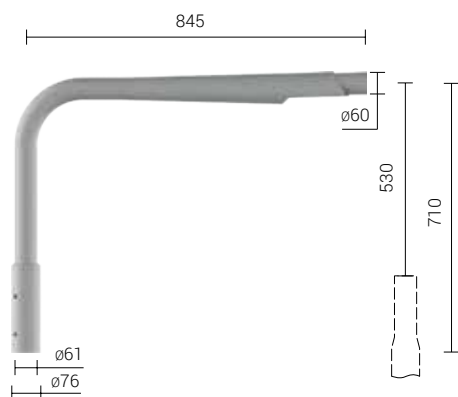
Material: anodised aluminium alloy

Anodising: 10 colours, with possibility of chemical brightening

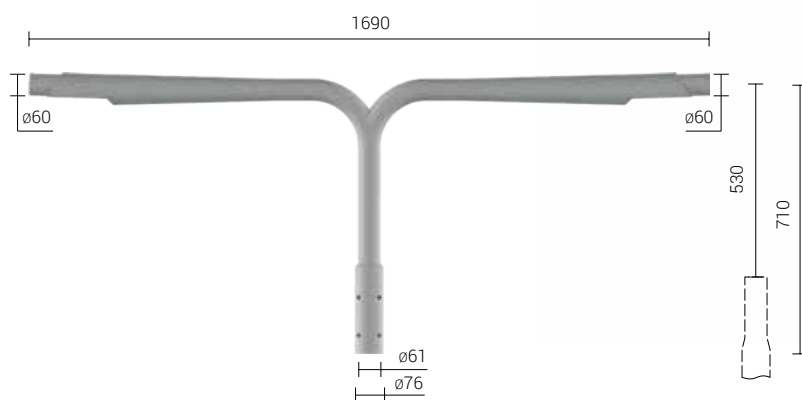


Extension arm type	WR-8A/1/0,6/5	WR-8A/1/1,0/5	WR-8B/1/0,35/0	WR-8B/1/0,35/5	WR-8B/1/0,35/10
Number of arms	1	1	1	1	1
Code	47280106/C...	47280110/C...	472831/C...	472841/C...	472851/C...
Net weight [kg]	3,2	3,8	2,1	2,1	2,1
Extension arm effective projected area [m ²]	0,1	0,12	0,05	0,05	0,05
Approximate unit volume [m ³]	0,03	0,05	0,015	0,015	0,015
Luminaire mounting diameter [mm]	$\varnothing 60$	$\varnothing 60$	$\varnothing 60$	$\varnothing 60$	$\varnothing 60$

The use of extension arm should always be verified with a permissible loading for specified wind zone (technical cards available at www.rosa.pl)
/C... - choice of anodising colour



WR-10/1/0,85/0



WR-10/2/0,85/0



Extension arm type	WR-10/1/0,85/0	WR-10/2/0,85/0
Number of arms	1	2
Code	472221/C45/C35	472222/C45/C35
Net weight [kg]	4	6,7
Extension arm effective projected area [m ²]	0,11	0,19
Approximate unit volume [m ³]	0,05	0,1
Luminaire mounting diameter [mm]	ISKRA LED	ISKRA LED

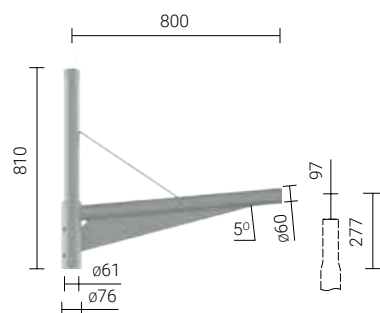
The use of extension arm should always be verified with a permissible loading for specified wind zone (technical cards available at www.rosa.pl)
/C... - choice of anodising colour

Extension arms WR

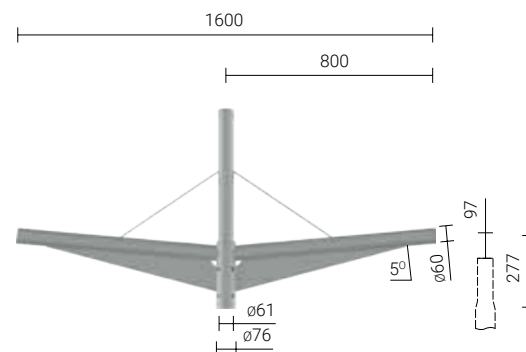
Application: aluminium columns SAL with spigot $\varnothing 60 \times 180$ mm

Material: anodised aluminium alloy

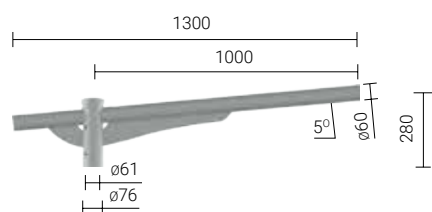
Anodising: 10 colours, with possibility of chemical brightening



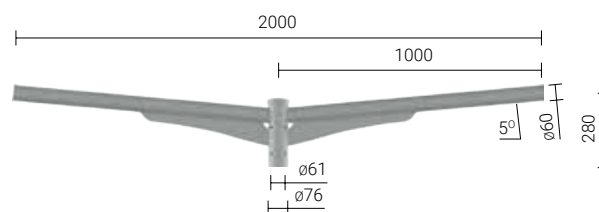
WR-13/1/0,8/5 ZP



WR-13/2/0,8/5 ZP



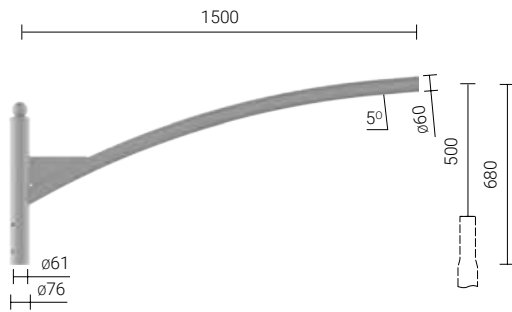
WR-15/1/1,0/5



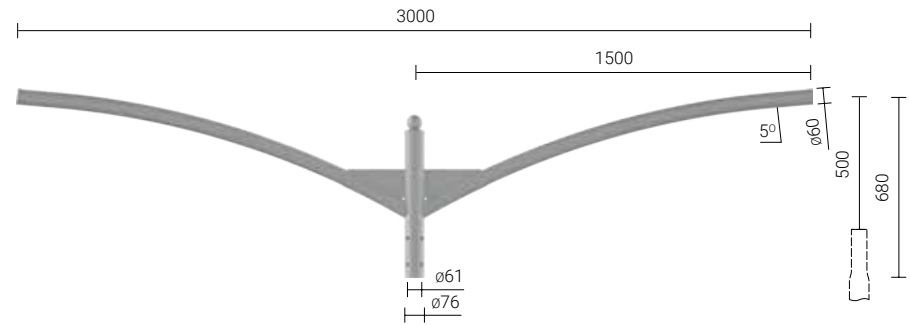
WR-15/2/1,0/5

Extension arm type	WR-13/1/0,8/5 ZP	WR-13/2/0,8/5 ZP	WR-15/1/1,0/5	WR-15/2/1,0/5
Number of arms	1	2	1	2
Code	472131089/C...	472132089/C...	472151/C...	472152/C...
Net weight [kg]	3,5	5,2	3,4	5
Extension arm effective projected area [m ²]	0,136	0,22	0,123	0,183
Approximate unit volume [m ³]	0,04	0,07	0,03	0,05
Luminaire mounting diameter [mm]	$\varnothing 60 \times 100$	$\varnothing 60 \times 100$	$\varnothing 60$	$\varnothing 60$

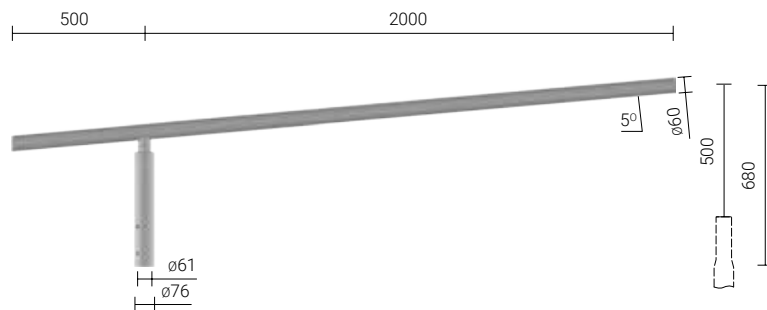
The use of extension arm should always be verified with a permissible loading for specified wind zone (technical cards available at www.rosa.pl)
/C... - choice of anodising colour



WR-T1/1,5/5



WR-T2/1,5/5



WR-61/1/2,0/5

Tychy, Poland



Extension arm type	WR-T1/1,5/5	WR-T2/1,5/5	WR-61/1/2,0/5
Number of arms	1	2	1
Code	472101/C...	472102/C...	472611/C...
Net weight [kg]	4,7	8,8	5,9
Extension arm effective projected area [m ²]	0,147	0,249	0,185
Approximate unit volume [m ³]	0,041	0,096	0,09
Luminaire mounting diameter [mm]	ø60	ø60	ø60

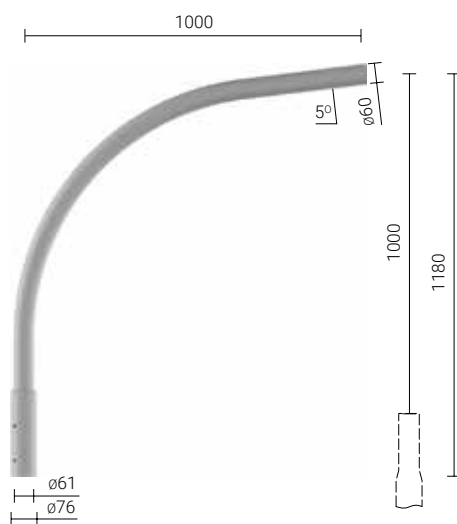
The use of extension arm should always be verified with a permissible loading for specified wind zone (technical cards available at www.rosa.pl)
/C... – choice of anodising colour

Extension arms WR

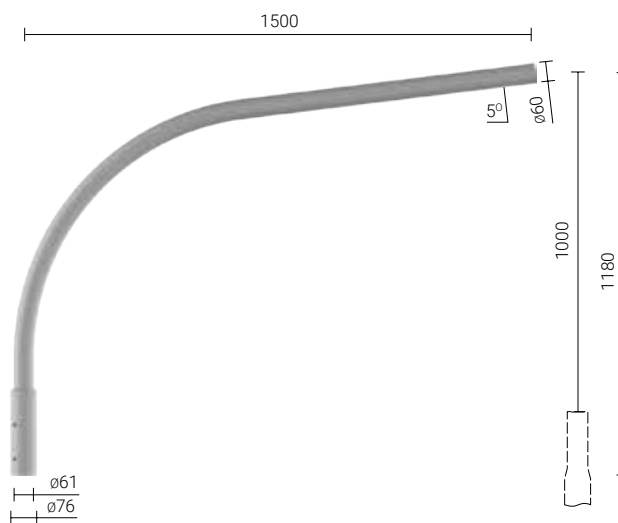
Application: aluminium columns SAL with spigot $\varnothing 60 \times 180$ mm

Material: anodised aluminium alloy

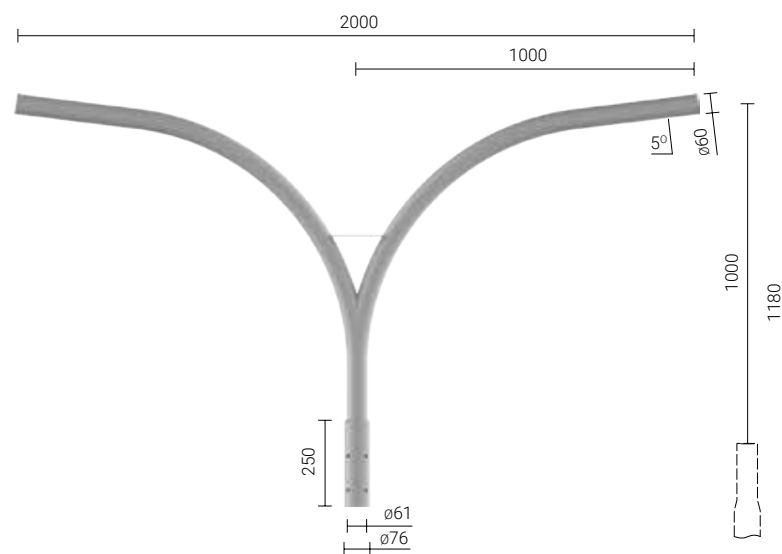
Anodising: 10 colours, with possibility of chemical brightening



WR-14/1/1,0/5



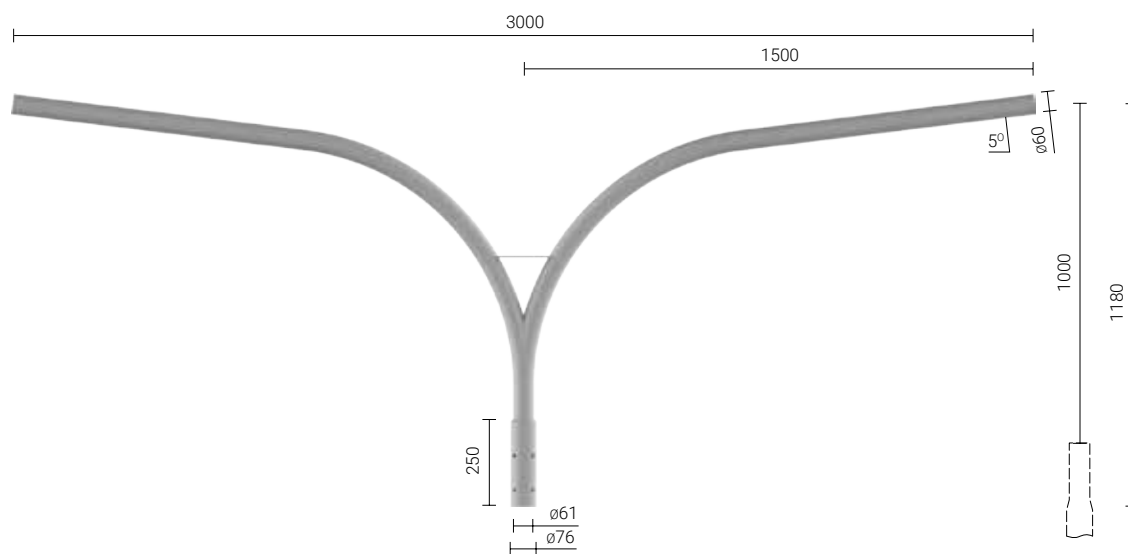
WR-14/1/1,5/5



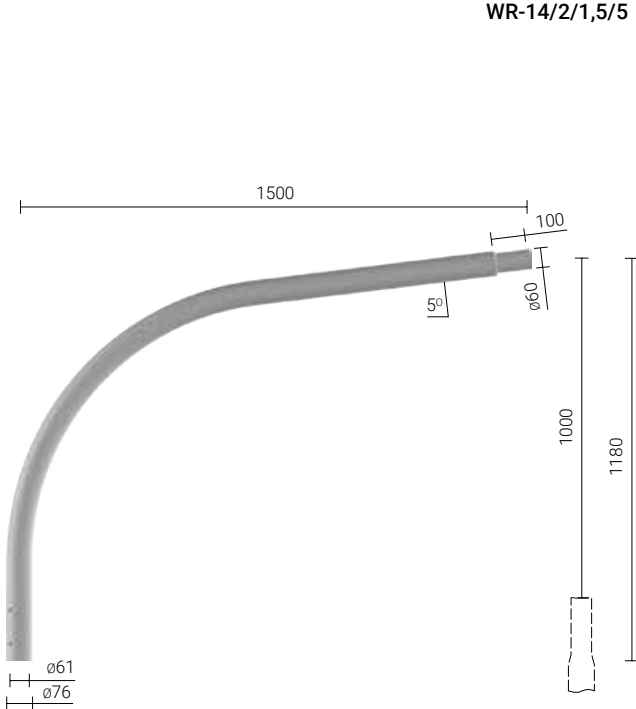
WR-14/2/1,0/5

Extension arm type	WR-14/1/1,0/5	WR-14/1/1,5/5	WR-14/2/1,0/5
Number of arms	1	1	2
Code	472141/C...	47214115/C...	472142/C...
Net weight [kg]	3,7	4,4	5,7
Extension arm effective projected area [m ²]	0,114	0,14	0,191
Approximate unit volume [m ³]	0,06	0,066	0,1
Luminaire mounting diameter [mm]	$\varnothing 60$	$\varnothing 60$	$\varnothing 60$

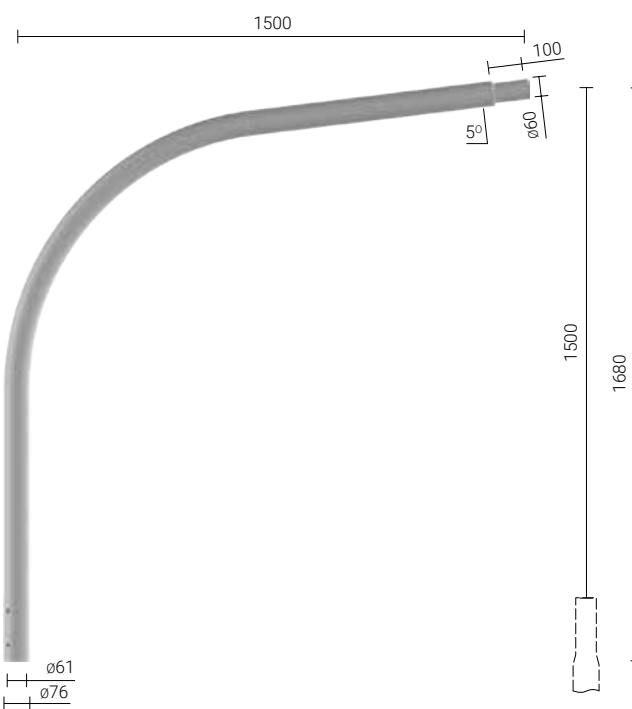
The use of extension arm should always be verified with a permissible loading for specified wind zone (technical cards available at www.rosa.pl)
/C... - choice of anodising colour



WR-14/2/1,5/5



WR-18/1/1,5/5



WR-18A/1/1,5/5

Extension arm type	WR-14/2/1,5/5	WR-18/1/1,5/5	WR-18A/1/1,5/5
Number of arms	2	1	1
Code	47214215/C...	47218115/C...	47281115/C...
Net weight [kg]	7,3	5,2	6,3
Extension arm effective projected area [m ²]	0,247	0,17	0,21
Approximate unit volume [m ³]	0,148	0,06	0,09
Luminaire mounting diameter [mm]	ø60	ø60 x 100	ø60 x 100

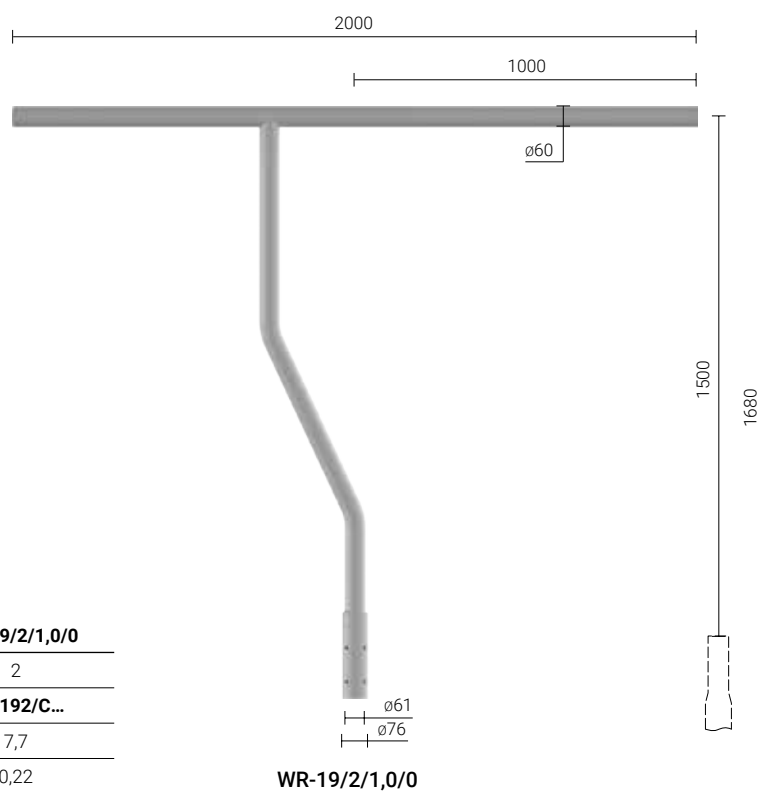
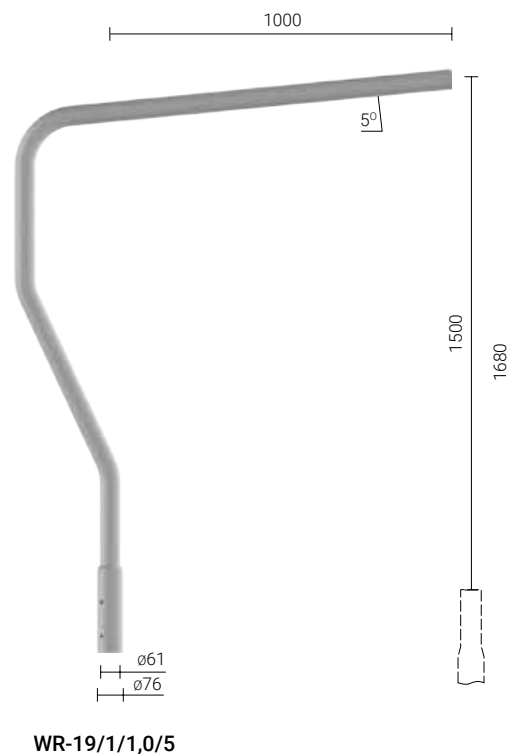
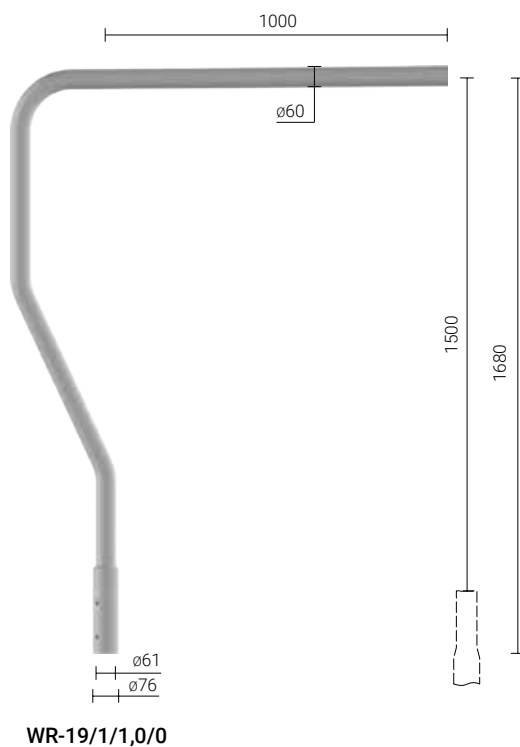
The use of extension arm should always be verified with a permissible loading for specified wind zone (technical cards available at www.rosa.pl)
/C... - choice of anodising colour

Extension arms WR

Application: aluminium columns SAL with spigot $\varnothing 60 \times 180$ mm

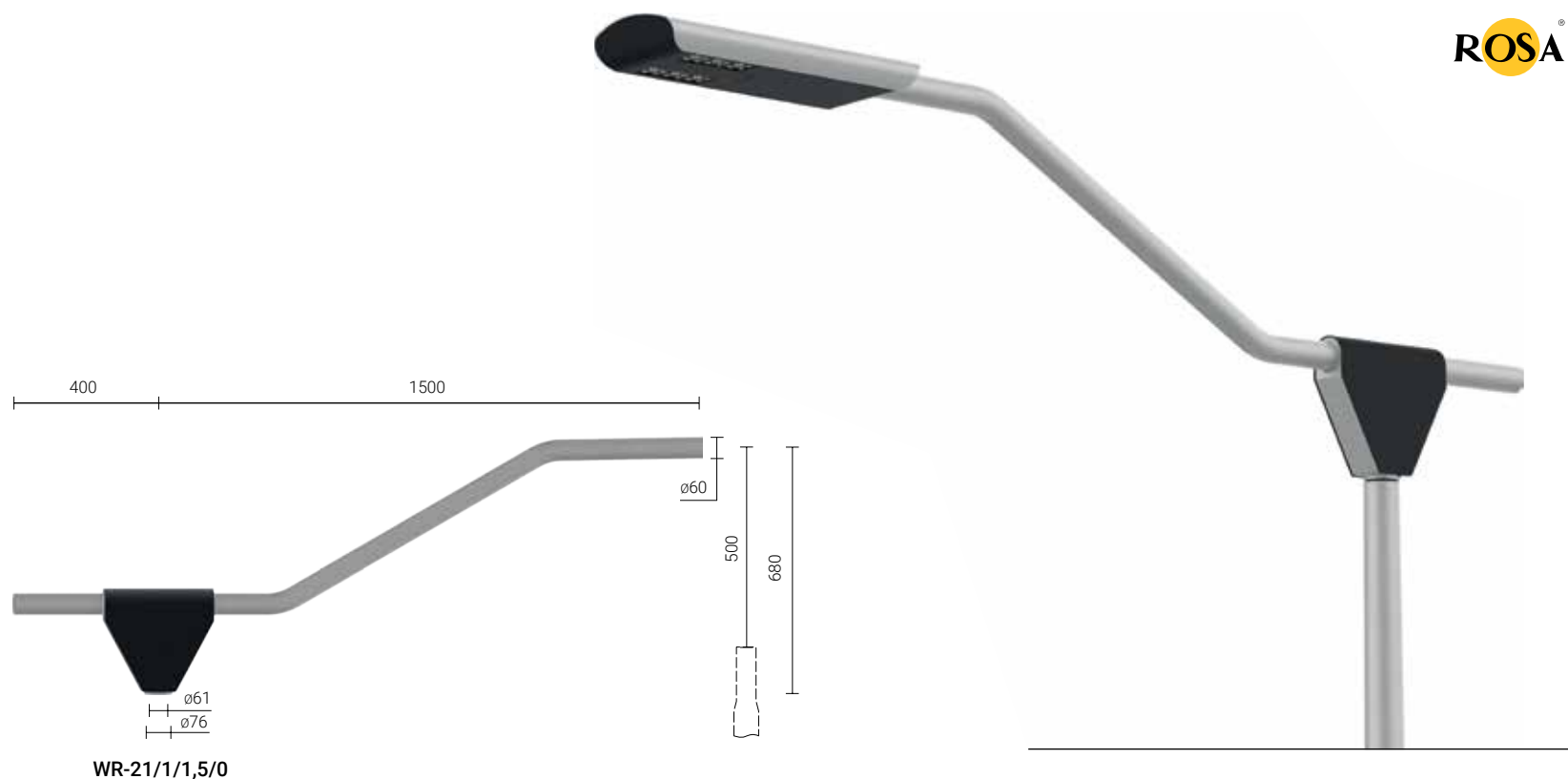
Material: anodised aluminium alloy

Anodising: 10 colours, with possibility of chemical brightening



Extension arm type	WR-19/1/1,0/0	WR-19/1/1,0/5	WR-19/2/1,0/0
Number of arms	1	1	2
Code	472191/C...	47219110/C...	472192/C...
Net weight [kg]	7,2	7,2	7,7
Extension arm effective projected area [m ²]	0,17	0,17	0,22
Approximate unit volume [m ³]	0,08	0,08	0,1
Luminaire mounting diameter [mm]	$\varnothing 60$	$\varnothing 60$	$\varnothing 60$

The use of extension arm should always be verified with a permissible loading for specified wind zone (technical cards available at www.rosa.pl)
/C... - choice of anodising colour



Extension arm type	WR-21/1/1,5/0	WR-21/2/1,5/0
Number of arms	1	2
Code	472211/C...	472212/C...
Net weight [kg]	7,2	9,9
Extension arm effective projected area [m ²]	0,18	0,24
Approximate unit volume [m ³]	0,075	0,1
Luminaire mounting diameter [mm]	ø60	ø60

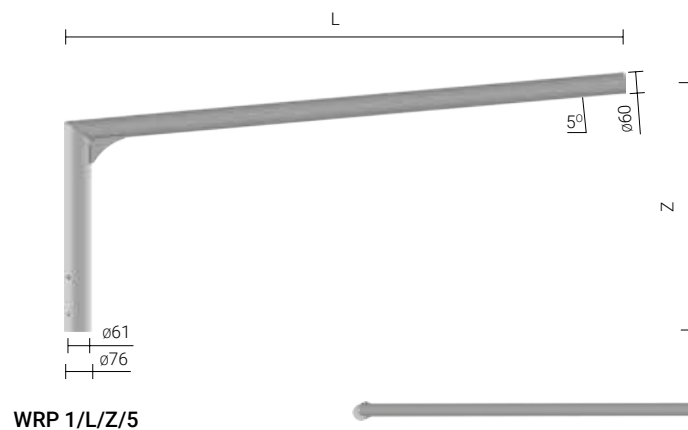
The use of extension arm should always be verified with a permissible loading for specified wind zone (technical cards available at www.rosa.pl)
/C... – choice of anodising colour

Extension arms WRP

Application: aluminium columns SAL
with spigot $\varnothing 60 \times 180$ mm

Material: anodised aluminium alloy

Anodising: 10 colours, with possibility of chemical brightening



L – outreach length

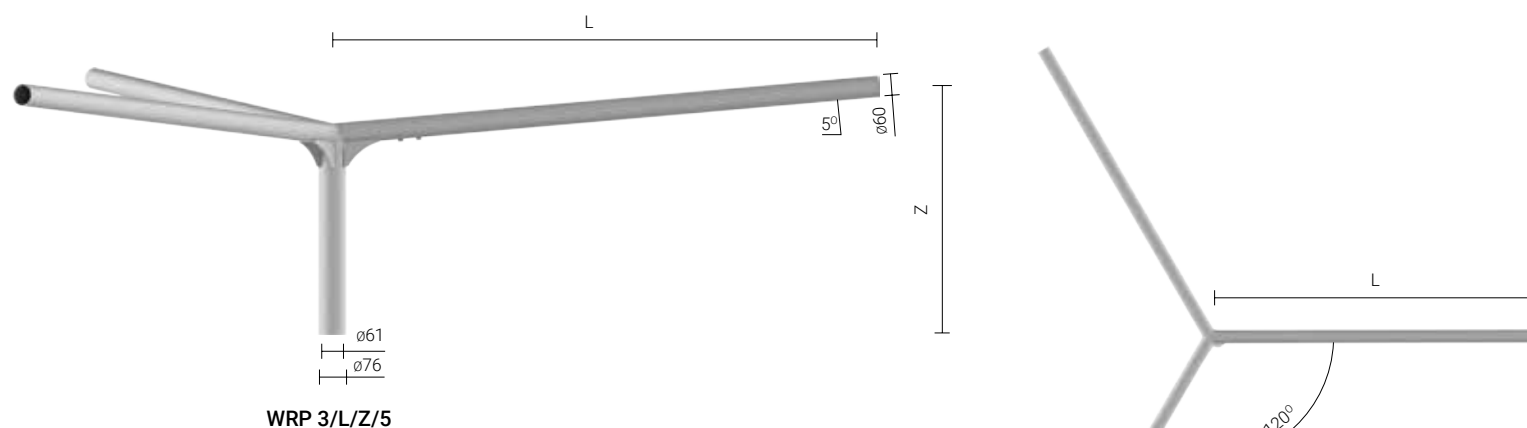
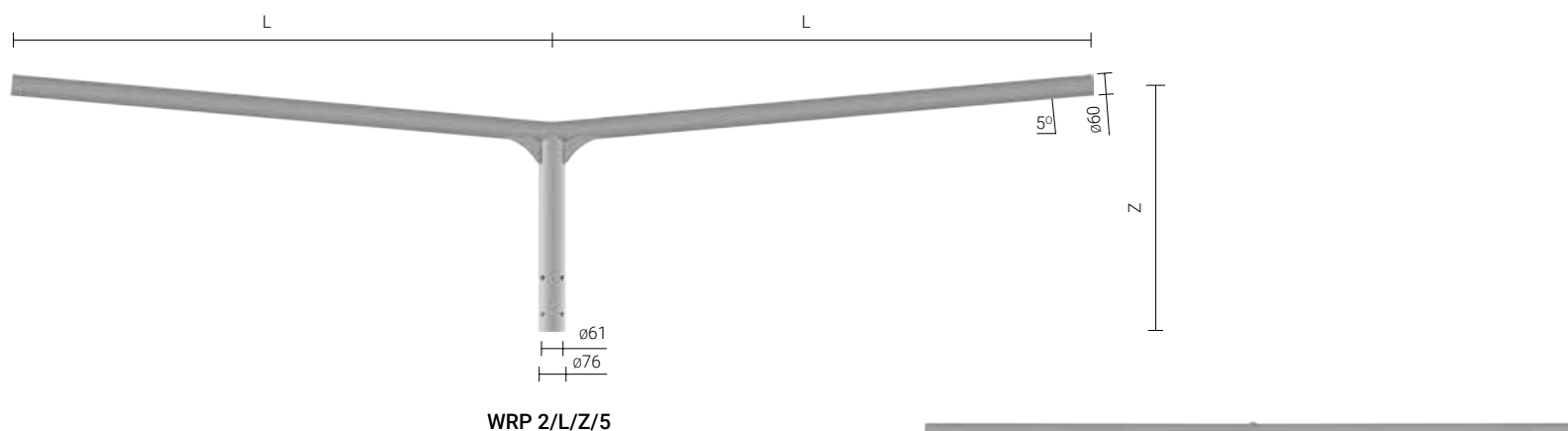
Z – height of extension arm

5° – the angle of the arm

1 / 2 / 3 – number of arms

Extension arm type	WRP-1/1,0/0,7/5	WRP-1/1,0/1,2/5	WRP-1/1,5/0,7/5	WRP-1/1,5/1,2/5	WRP-2/1,0/0,7/5	WRP-2/1,0/1,2/5
Number of arms	1	1	1	1	2	2
Code	47219111/C...	47219112/C...	47219121/C...	47219122/C...	47219211/C...	47219212/C...
Net weight [kg]	3,7	5,3	4,4	6	5,4	7
Extension arm effective projected area [m ²]	0,106	0,144	0,133	0,17	0,163	0,196
Approximate unit volume [m ³]	0,05	0,09	0,07	0,12	0,09	0,11
Luminaire mounting diameter [mm]	$\varnothing 60$	$\varnothing 60$	$\varnothing 60$	$\varnothing 60$	$\varnothing 60$	$\varnothing 60$

The use of extension arm should always be verified with a permissible loading for specified wind zone (technical cards available at www.rosa.pl)
/C... – choice of anodising colour



L – outreach length
 Z – height of extension arm
 5° – the angle of the arm
 1 / 2 / 3 – number of arms

Extension arm type	WRP-2/1,5/0,7/5	WRP-2/1,5/1,2/5	WRP-3/1,0/0,7/5	WRP-3/1,0/1,2/5	WRP-3/1,5/0,7/5	WRP-3/1,5/1,2/5
Number of arms	2	2	3	3	3	3
Code	47219221/C...	47219222/C...	47219311/C...	47219312/C...	47219321/C...	47219322/C...
Net weight [kg]	6,9	8,5	8	9,6	10,4	12
Extension arm effective projected area [m ²]	0,221	0,259	0,132	0,17	0,176	0,214
Approximate unit volume [m ³]	0,11	0,17	0,09	0,16	0,13	0,21
Luminaire mounting diameter [mm]	ø60	ø60	ø60	ø60	ø60	ø60

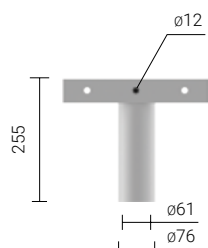
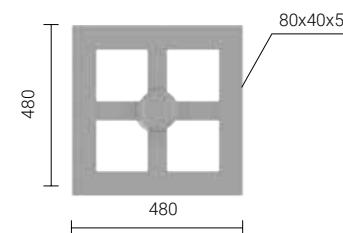
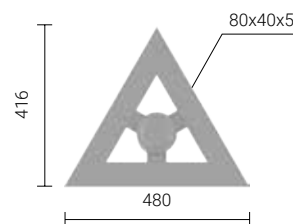
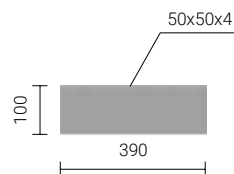
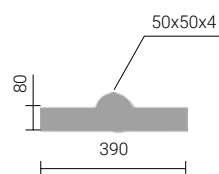
The use of extension arm should always be verified with a permissible loading for specified wind zone (technical cards available at www.rosa.pl)
 /C... – choice of anodising colour

Extension arms WN

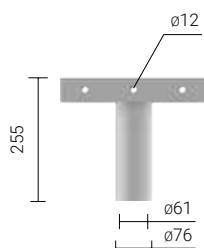
Application: aluminium columns SAL with spigot $\varnothing 60 \times 180$ mm

Material: anodised aluminium alloy

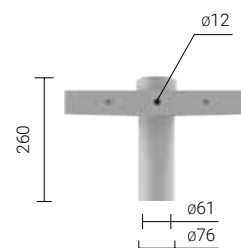
Anodising: 10 colours, with possibility of chemical brightening



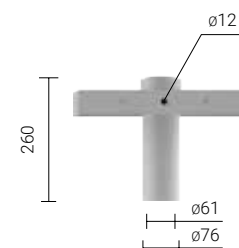
WN-1



WN-2



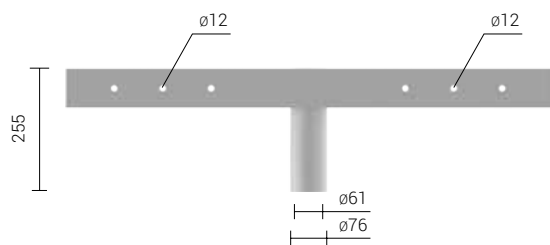
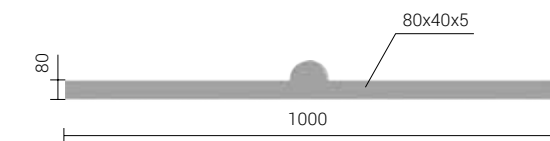
WN-3



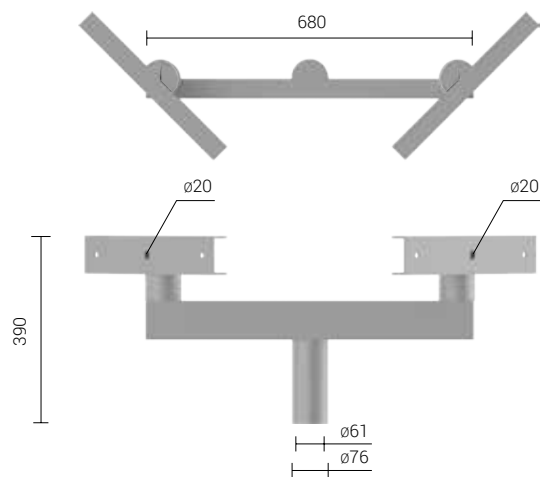
WN-4

Extension arm type	WN-1	WN-2	WN-3	WN-4
Number of arms	1	2	3	4
Code	473010/C...	473020/C...	473030/C...	473040/C...
Net weight [kg]	1,2	1,6	2,7	3,8
Extension arm effective projected area [m ²]	0,03	0,03	0,04	0,04
Approximate unit volume [m ³]	0,01	0,01	0,02	0,03
Luminaire mounting diameter [mm]	floodlights	floodlights	floodlights	floodlights

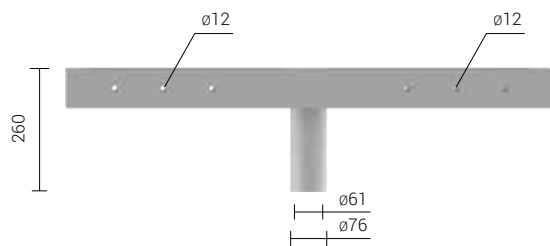
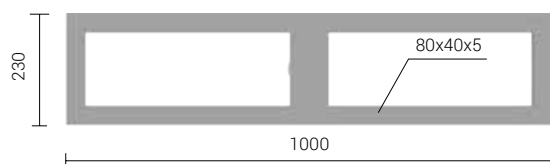
The use of extension arm should always be verified with a permissible loading for specified wind zone (technical cards available at www.rosa.pl)
/C... - choice of anodising colour



WN-21



WN-21REG



WN-42

Katowice Airport, Poland



Extension arm type	WN-21	WN-21 REG	WN-42
Number of arms	2	2	4
Code	473210/C...	473211/C...	473420/C...
Net weight [kg]	3	5,5	6,3
Extension arm effective projected area [m ²]	0,09	0,14	0,09
Approximate unit volume [m ³]	0,02	0,05	0,03
Luminaire mounting diameter [mm]	floodlights	floodlights	floodlights

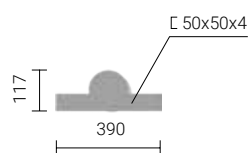
The use of extension arm should always be verified with a permissible loading for specified wind zone (technical cards available at www.rosa.pl)
/C... – choice of anodising colour

Extension arms WM

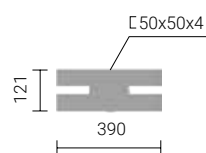
Application: aluminium masts MAL with spigot $\varnothing 100 \times 180$ mm

Material: anodised aluminium alloy

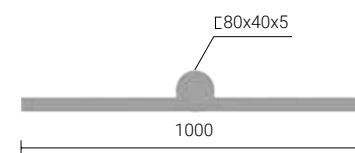
Anodising: 10 colours, with possibility of chemical brightening



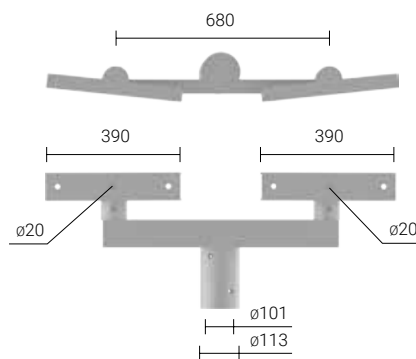
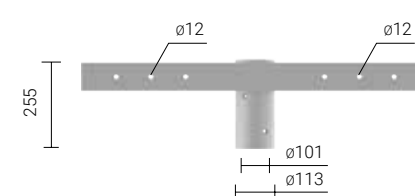
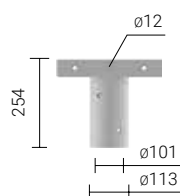
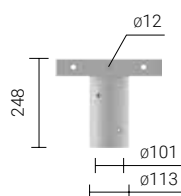
WM-1



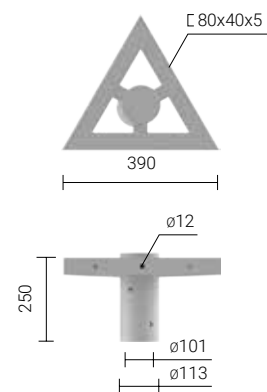
WM-2



WM-21



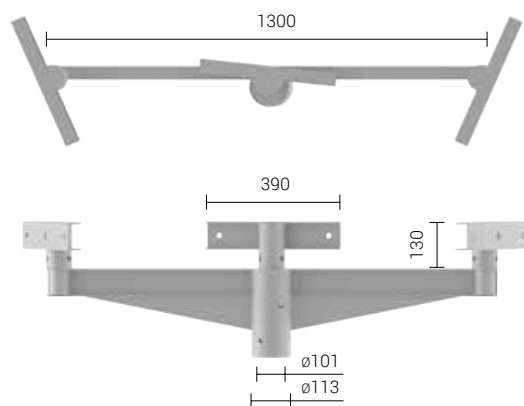
WM-21 REG



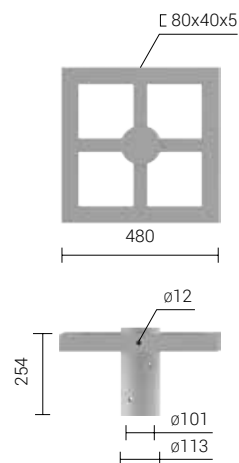
WM-3

Extension arm type	WM-1	WM-2	WM-21	WM-21 REG	WM-3
Number of arms	1	2	2	2	3
Code	474010/C...	474020/C...	474210/C...	474211/C...	474030/C...
Net weight [kg]	2	2,3	3,7	6,2	3,4
Extension arm effective projected area [m ²]	0,04	0,04	0,1	0,145	0,05
Approximate unit volume [m ³]	0,01	0,01	0,02	0,05	0,02
Luminaire mounting diameter [mm]	floodlights	floodlights	floodlights	floodlights	floodlights

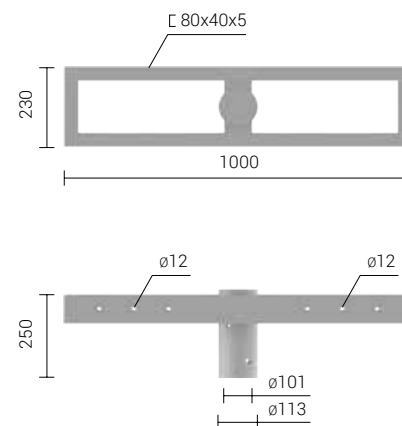
The use of extension arm should always be verified with a permissible loading for specified wind zone (technical cards available at www.rosa.pl)
/C... - choice of anodising colour



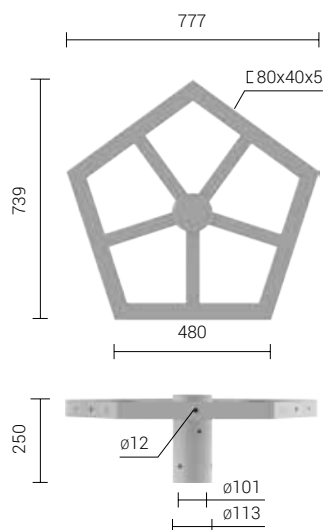
WM-31 REG



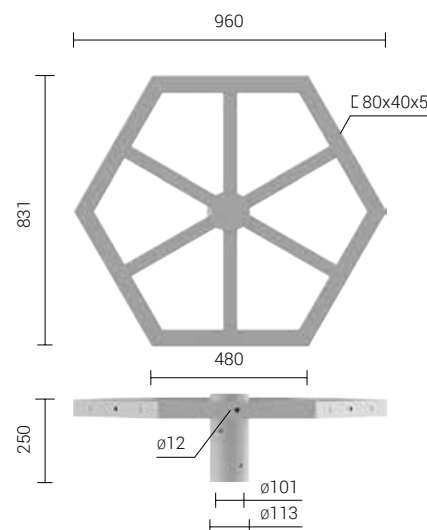
WM-4



WM-42



WM-5



WM-6

Extension arm type	WM-31 REG	WM-4	WM-42	WM-5	WM-6
Number of arms	3	4	4	5	6
Code	474311/C...	474040/C...	474420/C...	474050/C...	474060/C...
Net weight [kg]	10	4,5	7,1	5,9	7,4
Extension arm effective projected area [m ²]	0,281	0,05	0,1	0,06	0,07
Approximate unit volume [m ³]	0,087	0,03	0,03	0,05	0,07
Luminaire mounting diameter [mm]	floodlights	floodlights	floodlights	floodlights	floodlights

The use of extension arm should always be verified with a permissible loading for specified wind zone (technical cards available at www.rosa.pl)
/C... – choice of anodising colour

Extension arms WRK

Application: aluminium masts MAL with spigot $\varnothing 100 \times 180$ mm

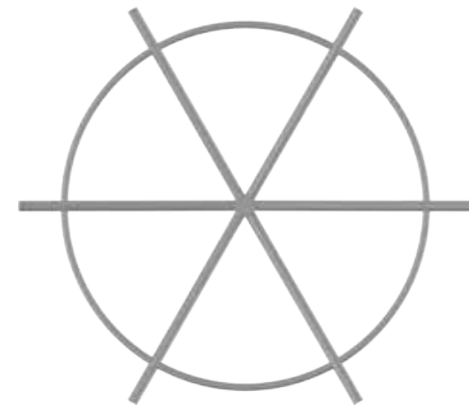
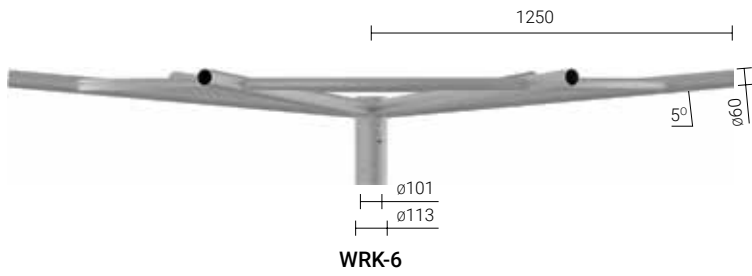
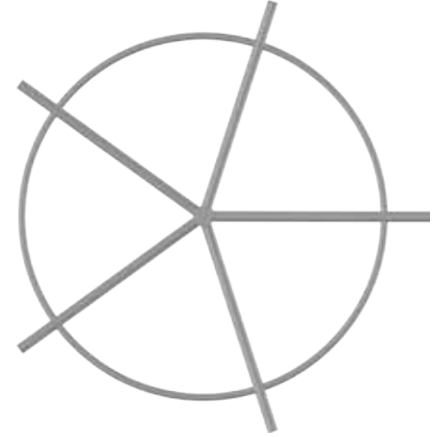
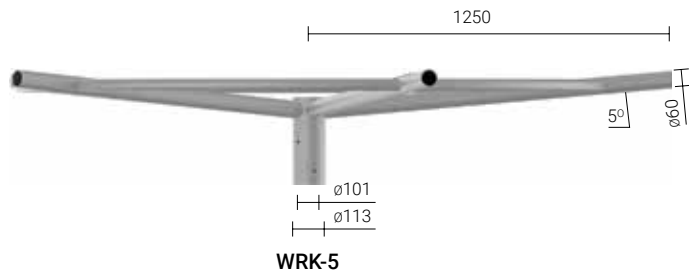
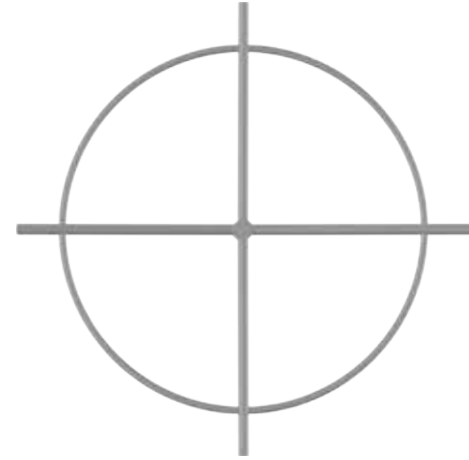
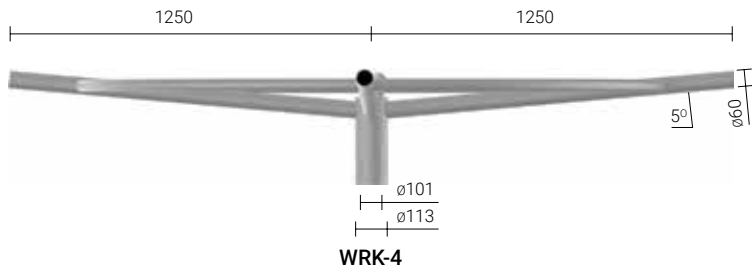
Material: anodised aluminium alloy

Anodising: 10 colours, with possibility of chemical brightening



Extension arm type	WRK-3	WRK-4	WRK-5	WRK-6
Number of arms	3	4	5	6
Code	475030/C...	475040/C...	475050/C...	475060/C...
Net weight [kg]	16	18	20	22,1
Extension arm effective projected area [m ²]	0,23	0,26	0,25	0,26
Approximate unit volume [m ³]	0,81	0,81	0,81	0,81
Luminaire mounting diameter [mm]	$\varnothing 60$	$\varnothing 60$	$\varnothing 60$	$\varnothing 60$

The use of extension arm should always be verified with a permissible loading for specified wind zone (technical cards available at www.rosa.pl)
/C... - choice of anodising colour

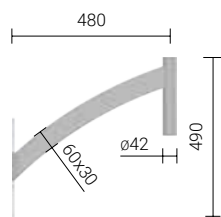


Wall brackets KA

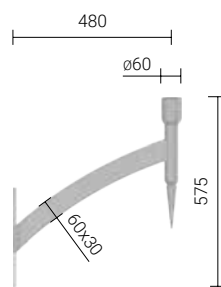
Application: aluminium wall brackets for wall mounting

Material: anodised aluminium alloy

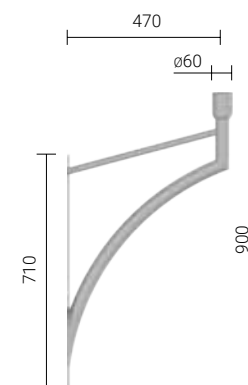
Anodising: 10 colours, with possibility of chemical brightening



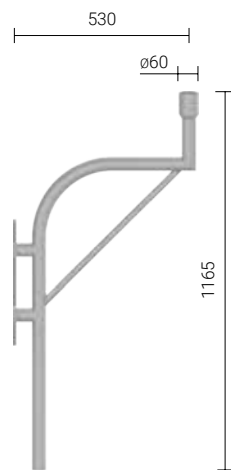
KA-C1



KA-D1



KA-A1



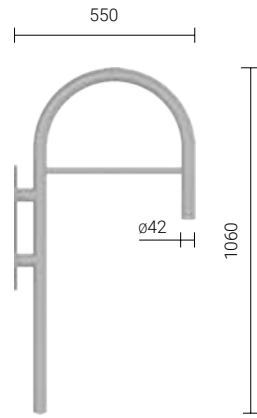
KA-5



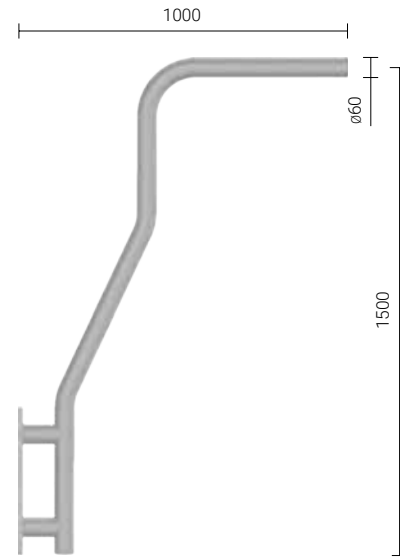
KA-10

Wall bracket type	KA-A1	KA-C1	KA-D1	KA-5	KA-10
Number of arms	1	1	1	1	1
Code	478100/C...	478102/C...	478103/C...	478050/C...	478220/C45/C35
Net weight [kg]	2,1	1,1	1,6	2,5	2,6
Approximate unit volume [m ³]	0,17	0,009	0,008	0,02	0,021
Luminaire mounting diameter [mm]	ø60	ø42	ø60	ø60	ISKRA LED

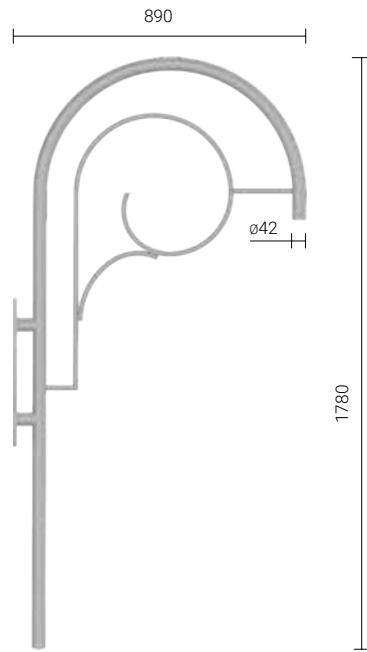
/C... – choice of anodising colour



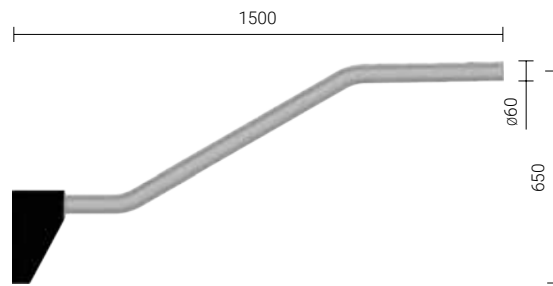
KA-14



KA-19



KA-20



KA-21

Poznań, Poland



Wall bracket type	KA-14	KA-19	KA-20	KA-21
Number of arms	1	1	1	1
Code	478140/C...	478190/C...	478200/C...	478210/C45/C35
Net weight [kg]	2,6	6	4,3	5,3
Approximate unit volume [m ³]	0,04	0,021	0,09	0,03
Luminaire mounting diameter [mm]	ø42	ø60	ø42	ø60

/C... - choice of anodising colour

Plastic coated poles



Wałbrzych, Poland



Traditional poles type S

Outdoor lighting as part of the landscaping gives a unique character of urban space. What matters is aesthetics, quality, durability and economy of operating. A wide range of decorative plastic coated poles and extension-arms allows to choose perfect lighting of urban green spaces, squares and neighborhoods.

Ostróda, Poland





Example of the pole construction S-40W



Traditional poles type S



Pole **S-13/B**
luminaire OP,
lamp diffuser
Klio white

Pole **S-21W/B**
luminaire
OS-11 LED

Pole **S-22/B**
luminaire OP,
lamp diffuser
Klio smoke
with cap

Pole **S-23/B**
luminaire
OS-11 LED

Pole **S-30/A**
arm system 2+1 down-
wards luminaires OP,
lamp diffusers Sphere
transparent Ø400, stainless
steel louvre reflectors

Pole **S-31W/A**
arm system 2
upwards,
luminaires
OS-1 LED

Pole **S-32/A**
arm system
2 downwards,
luminaires
OS-11 LED

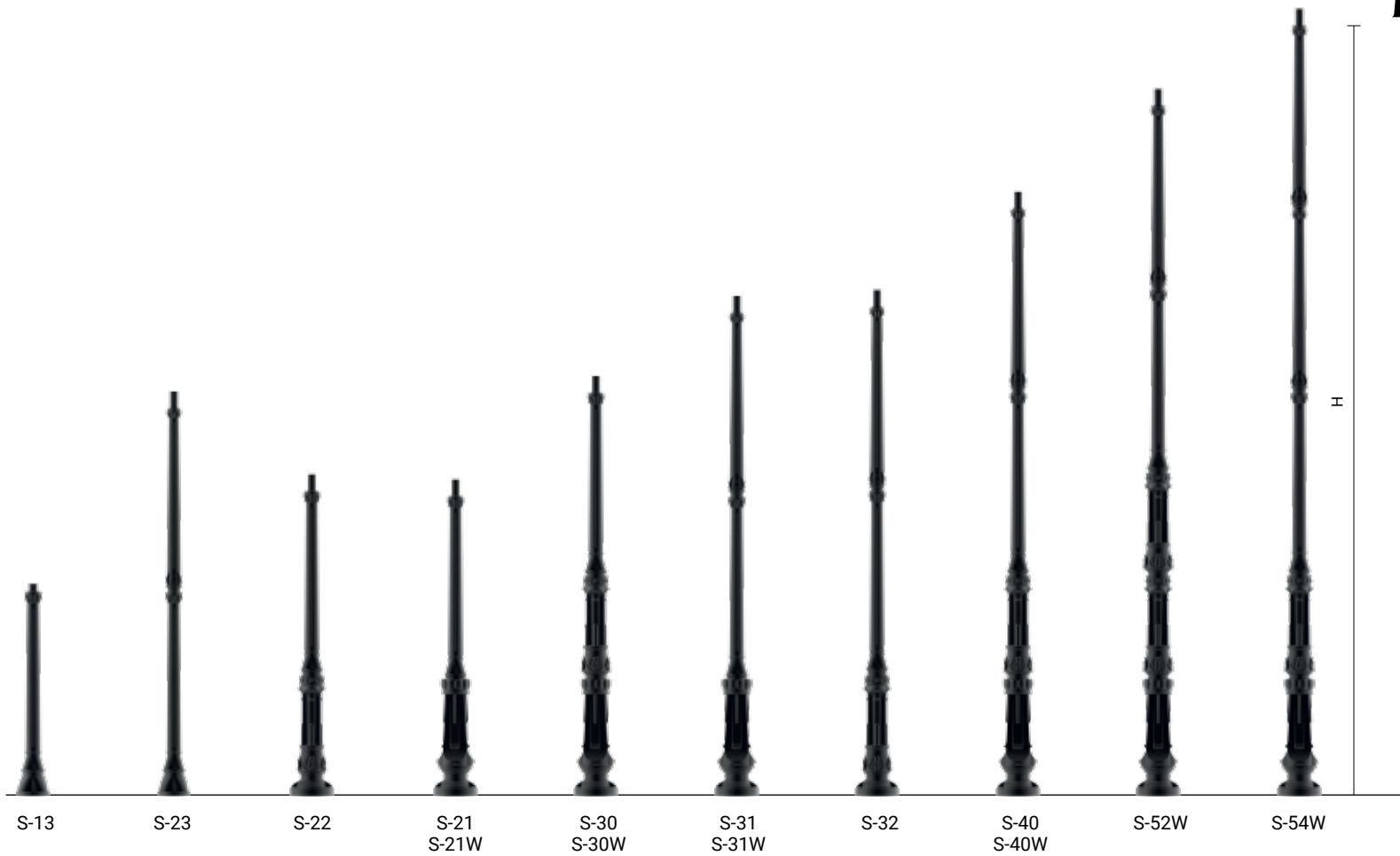
Pole **S-40W/B**
luminaire
ATLANTIS LED

Pole **S-52W/B**
luminaire
ELBA LED

Pole **S-54 W/A**
arm system 2 down-
wards, luminaires OP,
lamp diffusers Sphere
transparent Ø450,
Stainless steel louvre
reflectors

Pole type	S-13	S-23	S-22	S-21	S-21W	S-30	S-30W	
Height of the pole H [mm]	1400	2655	2090	2055	2055	2765	2765	
Code	Spigot type A	–	12310	12210	12110	12111	13010	13011
	Spigot type B	11320	12320	12220	12120	12121	13020	13021
Net weight [kg]	Spigot type A	–	17	17	17	22	24	26
	Spigot type B	9	15	17	17	22	24	25
Approximate unit volume [m ³]*	Spigot type A	–	0,06	0,08	0,07	0,07	0,1	0,1
	Spigot type B	0,03	0,06	0,08	0,07	0,07	0,1	0,1
Proposed types of luminaires mounted directly on the pole / pole top mounted	Spigot type "B" : ELBA LED, OS-1 LED, OS-11 LED, ATLANTIS LED, ELBA, OS-1, OP, OPA-1							
Bracket configuration	Spigot type "A": "1" "2", "2+1", "3", "3+1" for poles type S-13, S-23, S-54W use maximum bracket configuration "2"							
Concrete footing / reinforcement basket type	B-20/Z-20	B-20/Z-20	B-30/Z-30	B-30/Z-30	B-30/Z-30	B-30/Z-30	B-30/Z-30	
Threaded anchor ending	3 x M12	3 x M12	3 x M14	3 x M14	3 x M14	3 x M14	3 x M14	
Concrete footing / reinforcement basket code	311120 / 311202	311120 / 311202	311130 / 311203	311130 / 311203	311130 / 311203	311130 / 311203	311130 / 311203	
Fasteners	311002	311002	311003	311003	311003	311003	311003	
Dimension of the base plate	ø 225	ø 225	ø 300	ø 300	ø 300	ø 300	ø 300	

* For order of more than 10 pcs stated volume may change according to packing.
W – pole with wiring chamber



Pole type		S-31	S-31W	S-32	S-40	S-40W	S-52W	S-54W
Height of the pole H [mm]		3320	3320	3355	4030	4030	4735	5285
Code	Spigot type A	13110	13111	13210	14010	14011	15211	15411
	Spigot type B	13120	13121	13220	–	14021	15221	15421
Net weight [kg]	Spigot type A	29	30	28	39	42	49	47
	Spigot type B	29	27	28	–	33	39	41
Approximate unit volume [m ³]*	Spigot type A	0,12	0,12	0,12	0,14	0,14	0,17	0,18
	Spigot type B	0,12	0,12	0,14	–	0,14	0,17	0,18
Proposed types of luminaires mounted directly on the pole / pole top mounted	Spigot type "B" : ELBA LED, OS-1 LED, OS-11 LED, ATLANTIS LED, ELBA, OS-1, OP, OPA-1							
Bracket configuration	Spigot type "A": "1" "2", "2+1", "3", "3+1" for poles type S-13, S-23, S-54W use maximum bracket configuration "2"							
Concrete footing / reinforcement basket type		B-30/Z-30	B-30/Z-30	B-30/Z-30	B-40B/Z-40B	B-40B/Z-40B	B-40/Z-40	B-40/Z-40
Threaded anchor ending		3 x M14	3 x M14	3 x M14	3 x M14	3 x M14	3 x M14	3 x M14
Concrete footing / reinforcement basket code		311130 / 311203	311130 / 311203	311130 / 311203	311140B / 311204B	311140B / 311204B	311140 / 311204	311140 / 311204
Fasteners		311003	311003	311003	311003	311003	311003	311003
Dimension of the base plate		ø 300	ø 300	ø 300	ø 300	ø 300	ø 300	ø 300

* For order of more than 10 pcs stated volume may change according to packing.
W – pole with wiring chamber

Traditional poles type SP



Pole **SP-3W/A**
Extension arm
WT-5/2
Luminaires
ELBA LED

Pole **SP-4W/E**
Extension arm
WTM-11/2
luminaires OP
lamp diffusers Sphere
transparent Ø400
stainless steel louvre
reflectors

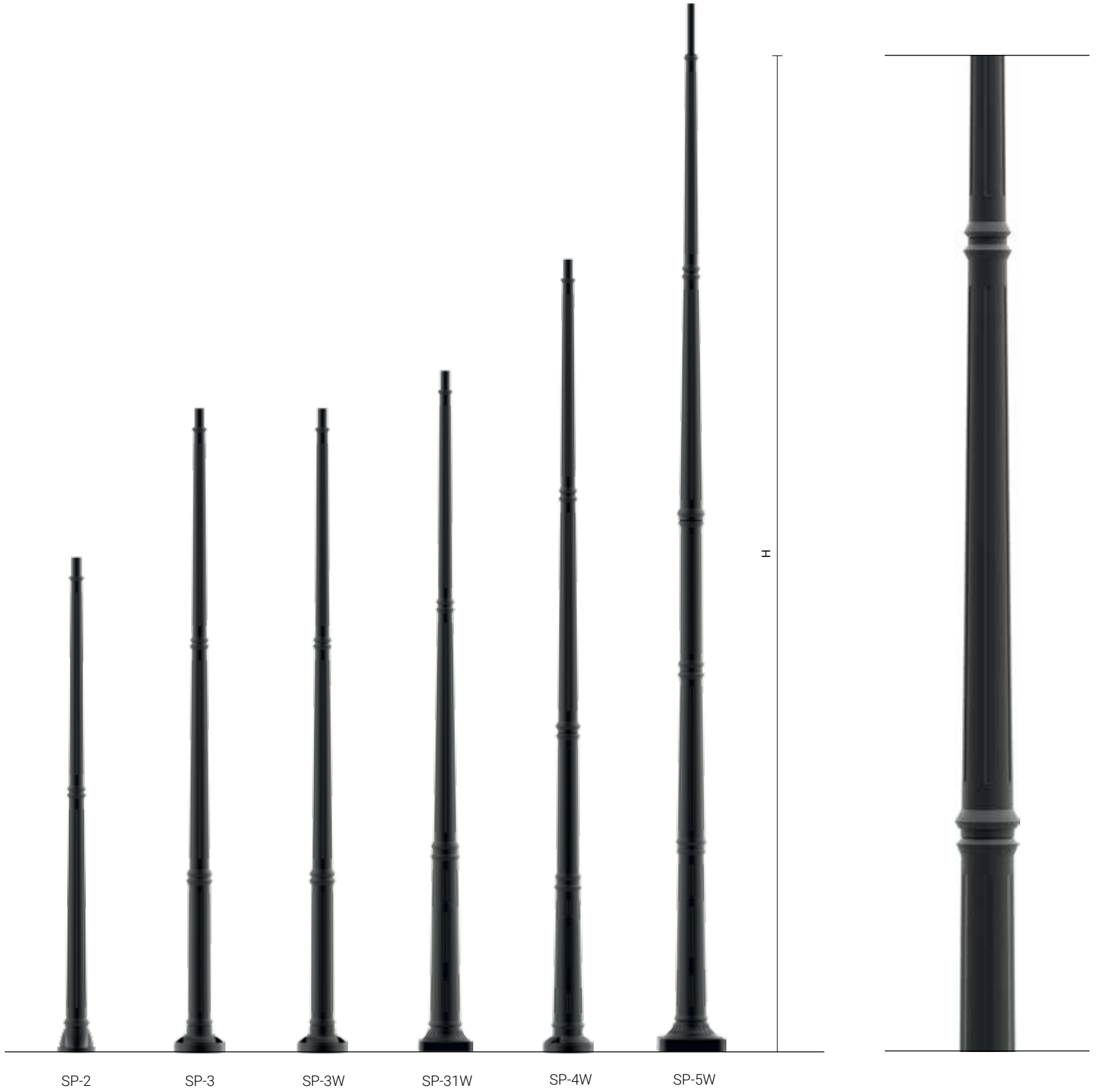
Pole **SP-5W/E**
Extension arm
WTM-20/2
luminaires OW LED
transparent lamp
diffuser



Example of the pole construction SP-4W

Pole type		SP-2	SP-3	SP-3W	SP-31W	SP-4W	SP-5W
Height of the pole H [mm]		2818	3735	3735	4000	4645	6000
Code	Spigot type A	17210	17310	17311	173111	17411	-
	Spigot type B	17220	-	17321	173211	17421	-
	Spigot type E	-	-	17351	173511	17451	17551
Net weight [kg]	Spigot type A	19	34	37	41	44	-
	Spigot type B	17	-	31	35	37	-
	Spigot type E	-	-	40	42	50	73
Approximate unit volume [m³]*	Spigot type A	0,06	0,13	0,13	0,19	0,16	-
	Spigot type B	0,06	-	0,13	0,19	0,16	-
	Spigot type E	-	-	0,14	0,2	0,17	0,35
Proposed types of luminaires mounted directly on the pole / pole top mounted		Spigot type "B": ELBA LED, OS-1 LED, OS-11 LED, ATLANTIS LED, ELBA, OS-1, OP, OPA-1					
Proposed extension arms and bracket configurations type		Spigot type "A": bracket configuration type "P", extension arms WT, WA-1, WA-01, WA-4 Spigot type "E": extension arms WTM					
Concrete footing / reinforcement basket type		B-20 / Z-20	B-40B / Z-40B	B-40B / Z-40B	B-60T / Z-60T	B-40 / Z-40	B-71T / Z-71T
Threaded anchor ending		3 x M12	3 x M14	3 x M14	4 x M18	3 x M14	4 x M18
Concrete footing / reinforcement basket code		311120 / 311202	311140B / 311204B	311160T / 311206T	311160T / 311206T	311140 / 311204	311171T / 311271T
Fasteners		311002	311003	311003	4008	311003	4008
Dimension of the base plate		ø 225	ø 300	ø 300	320 x 250	ø 300	400 x 300

* For order of more than 10 pcs stated volume may change according to packing.
W – pole with wiring chamber



Composite poles type SM



Example of the pole construction SM-1W/E

Tychy, Poland



Pole type	SM-1W	SM-2W	SM-3W
Height of the pole H [mm]	4440	5150	5855
Code (Spigot type E)	15551	15651	15751
Net weight [kg]	48	55	61
Approximate unit volume [m ³]*	0,16	0,19	0,21
Proposed extension arm types		WTM	
Concrete footing / reinforcement basket type		B-40 / Z-40	
Threaded anchor ending		3 x M14	
Concrete footing / reinforcement basket code		311140 / 311240	
Fasteners		311003	
Dimension of the base plate		ø 300	

* For order of more than 10 pcs stated volume may change according to packing.
W – pole with wiring chamber



Gulbene, Latvia

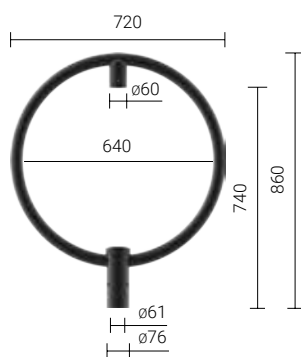


Extension arms for plastic coated poles

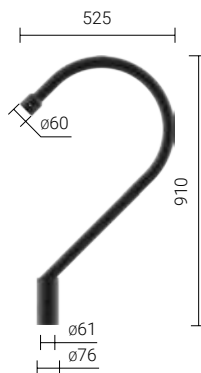
Extension arms WT

Application: mounting on poles type S and SP with spigot type „A“

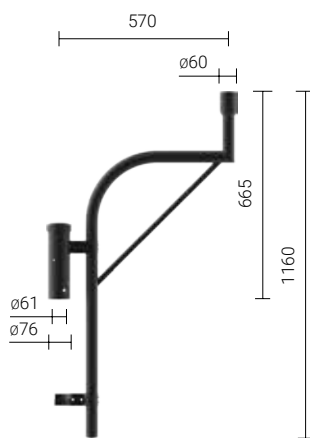
Material: aluminium alloy anodised in black, there is also the possibility of anodising in other colours



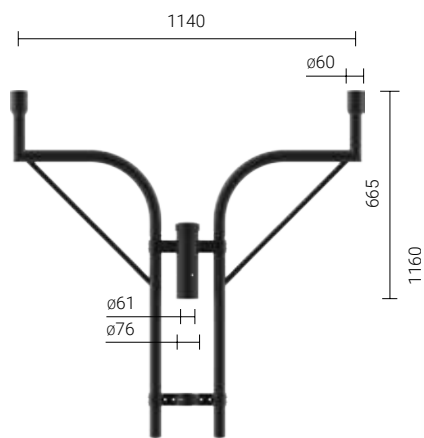
WT-2



WT-3



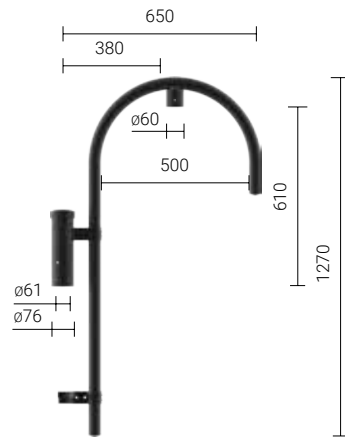
WT-5/1



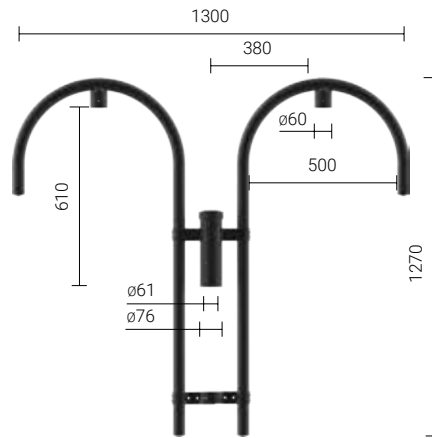
WT-5/2



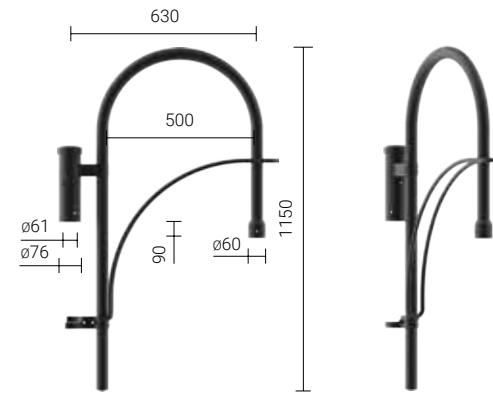
Extension arm type	WT-2	WT-3	WT-5/1	WT-5/2
Number of arms	1	1	1	2
Code	477020/C35	477030/C35	477051/C35	477052/C35
Net weight [kg]	3,5	2,1	2,9	4,9
Approximate unit volume [m ³]	0,034	0,025	0,02	0,04
Compatible luminaires	OP 400	OP 400, OP 450	OPA-1	OPA-1



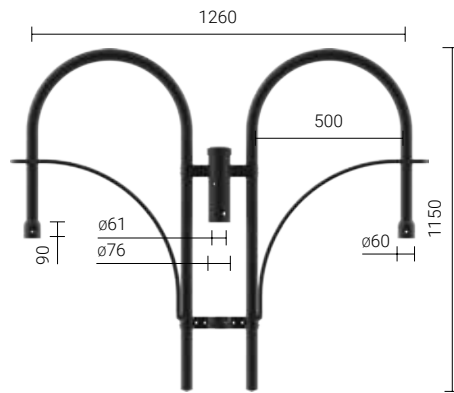
WT-8/1



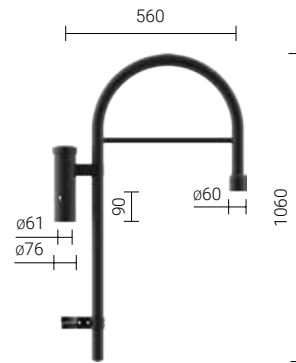
WT-8/2



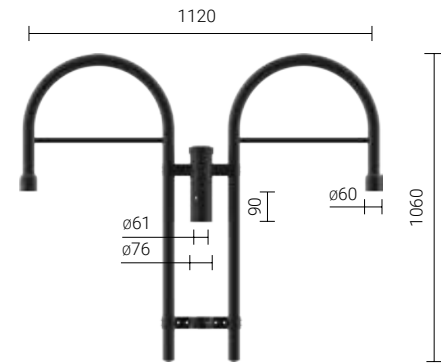
WT-11/1



WT-11/2



WT-14/1



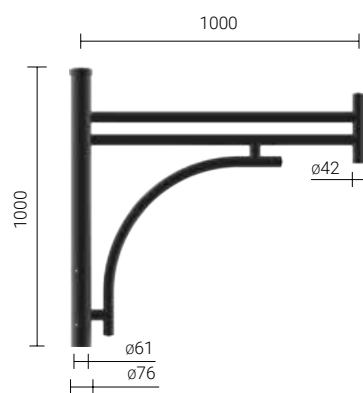
WT-14/2

Extension arm type	WT-8/1	WT-8/2	WT-11/1	WT-11/2	WT-14/1	WT-14/2
Number of arms	1	2	1	2	1	2
Code	477081/C35	477082/C35	477111/C35	477112/C35	477141/C35	477142/C35
Net weight [kg]	3,2	5,4	3,7	6,3	3,2	5,2
Approximate unit volume [m ³]	0,03	0,06	0,04	0,075	0,024	0,047
Compatible luminaires	OP 400	OP 400	OP 400, OP 450	OP 400, OP 450	OP 400, OP 450	OP 400, OP 450

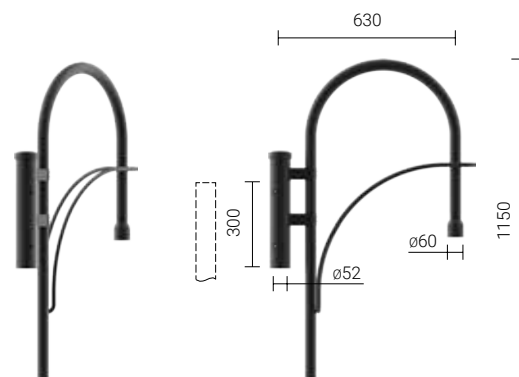
Extension arms WTM

Application: mounting on poles type SM and SP with spigot type „E”

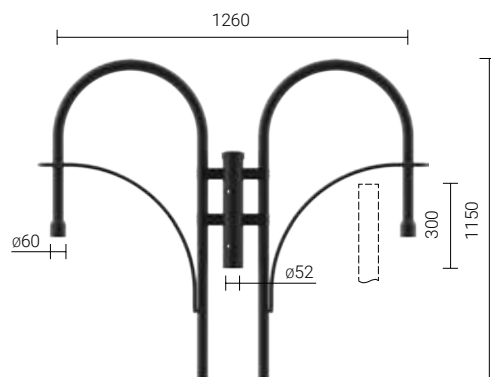
Material: aluminium alloy anodised in black, there is also the possibility of anodising in other colours



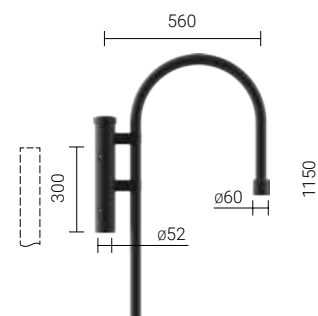
WTM-31



WTM-11/1

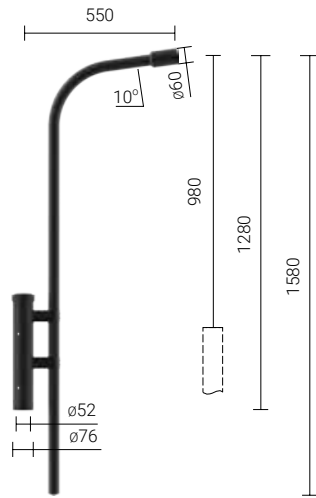


WTM-11/2

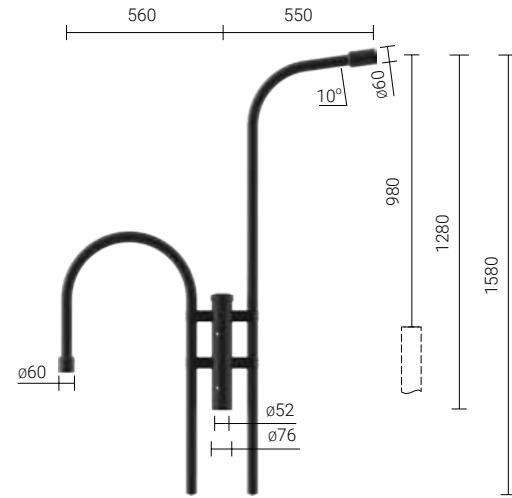


WTM-15/1P

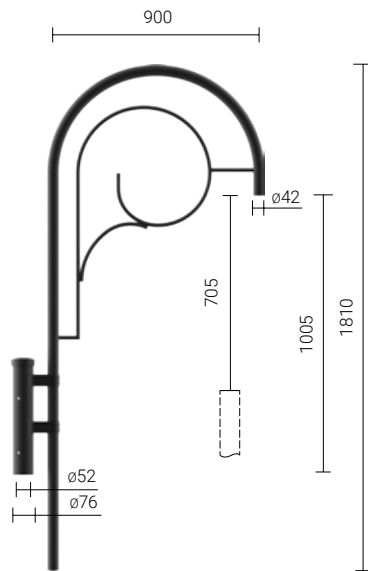
Extension arm type	WTM-11/1	WTM-11/2	WTM-15/1P	WTM-31
Number of arms	1	2	1	1
Code	476111/C35	476112/C35	476151/C35	476301/C35
Net weight [kg]	4,8	7,5	4,4	9,7
Approximate unit volume [m ³]	0,04	0,075	0,025	0,054
Compatible luminaires	OP 400, OP 450	OP 400, OP 450	OP 400, OP 450	OW LED, DROP LED, OW



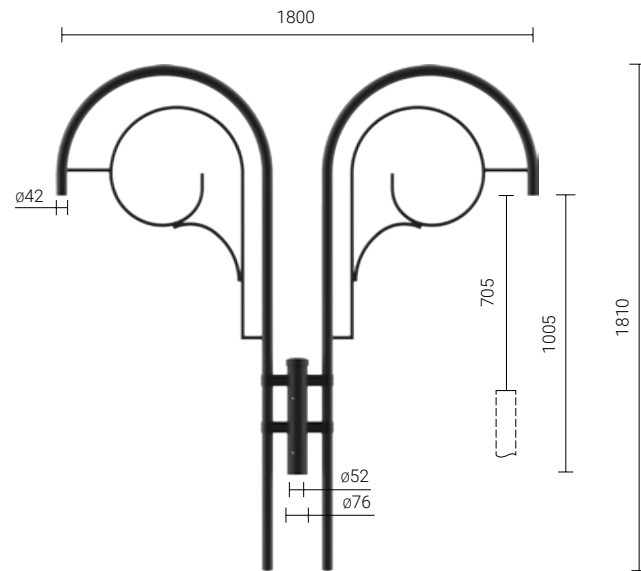
WTM-15/1U



WTM-15/2



WTM-20/1



WTM-20/2

Extension arm type	WTM-15/1U	WTM-15/2	WTM-20/1	WTM-20/2
Number of arms	1	2	1	2
Code	476150/C35	476152/C35	476201/C35	476202/C35
Net weight [kg]	4,4	7	5,7	9,6
Approximate unit volume [m³]	0,027	0,05	0,042	0,081
Compatible luminaires	street luminaires	OP 400, OP 450, street luminaires	OW LED, DROP LED, OW	OW LED, DROP LED, OW

Bracket configuration

Application: mounting on traditional plastic coated poles type S with spigot type „A“

Material: arm – polypropylene reinforced with steel tube, head and extension of the head – polyamide

Construction: arm connected to head by a connecting socket

Optional arm configuration: upwards or downwards

Colour: black



Bracket configuration 1 – upwards



Bracket configuration 1 – downwards



Bracket configuration 2 – upwards



Bracket configuration 2 – downwards



Bracket configuration 2 – upwards and downwards

Bracket configuration type	Bracket conf. 1	Bracket conf. 2	Bracket conf. 2+1	Bracket conf. 3	Bracket conf. 3+1
Number of arms	1	2	2	3	3
Code	331000	332000	332100	333000	333100
Net weight [kg]	3,1	5,3	5,9	7,9	8,3
Approximate unit volume [m ³]	0,024	0,024	0,024	0,032	0,032
Compatible luminaires	OS-1 LED, OS-11 LED, OP, OS-1				



Bracket configuration 2+1 – upwards



Bracket configuration 2+1 – downwards



Bracket configuration 2+1 – upwards and downwards



Bracket configuration 3 – upwards



Bracket configuration 3 – downwards



Bracket configuration 3+1 – upwards



Bracket configuration 3+1 – downwards



The way of assembling an arm system in head

Bracket configuration P

Application: mounting on traditional plastic coated poles type SP with spigot type „A“

Material: arm – polypropylene reinforced with steel tube, head – polyamide

Construction: arm connected to head by a connecting socket

Optional arm configuration: upwards or downwards

Colour: black



Bracket configuration P1 – upwards



Bracket configuration P1 – downwards



Bracket configuration P2 – upwards



Bracket configuration P2 – downwards



Bracket configuration P2 – upwards and downwards

Bracket configuration type	Bracket conf. P 1	Bracket conf. P 2
Number of arms	1	2
Code	341000	342000
Net weight [kg]	3,3	5,6
Approximate unit volume [m³]	0,024	0,024
Compatible luminaires	ATLANTIS LED, ELBA LED, OS-1 LED, OS-11 LED, ELBA, OP, OPA-1, OS-1	

Wall brackets KR, KP

Application: aluminium wall brackets for wall mounting

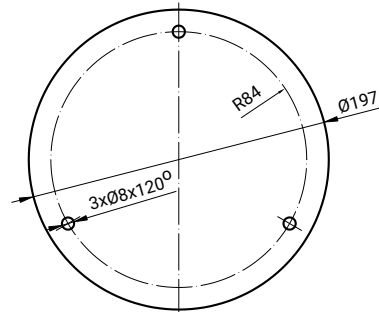
Material: arm – polypropylene reinforced with steel tube, holder – polyamide

Optional arm configuration: upwards or downwards

Colour: Black



Wall bracket KR



Wall bracket KP



Wall bracket type	KR	KP
Number of arms	1	1
Code	330100	340200
Net weight [kg]	2,6	2,7
Approximate unit volume [m³]	0,032	0,032
Compatible luminaires	OS-1 LED, OS-11 LED, OS-1, OP	ATLANTIS LED (only upwards), OS-1 LED, OS-11 LED, OS-1, OP, OPA-1 (only upwards)

Luminaires LED





Lubomirskiego Street, Cracow, Poland
 Architectural design studio: Agencja Architektoniczna Centrum Sp. z o.o.

Bonarka City Center, Cracow, Poland
 Architectural design studio: Architectural concept design – BOSE International Planning and Architecture
 Preparation of the architectural project IBM Asymetria, Development office of Cracow, NIRAS, ARCADE



Park at Blessed Carolina Street, Rzeszów, Poland
Investor: The Road Administration in Rzeszów

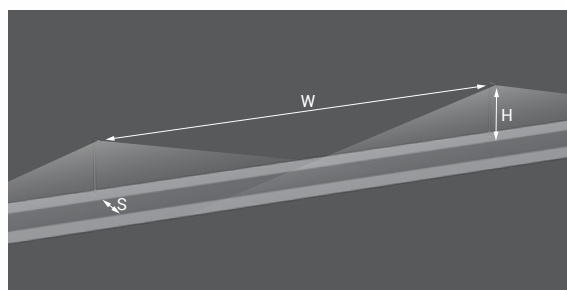




ISKRA LED



Lighting example



Bicycle and pedestrian path

ISKRA LED 24 W, SP optics

Parameters:

H – luminaire mounting height: 5 m

W – pole spacing: 40 m

S – road width: 5 m

Lighting class P4

Application: urban roads, residential streets, parks, pedestrian walkways, bike paths

Installation: on extension arms with $\varnothing 60 \times 90$ mm ending

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy

Colour: inox / black

Optical system: PMMA optics

Number of LEDs: 12

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

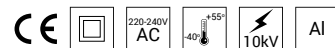
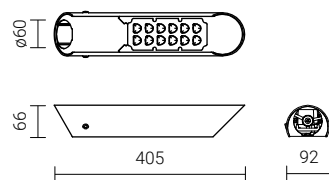
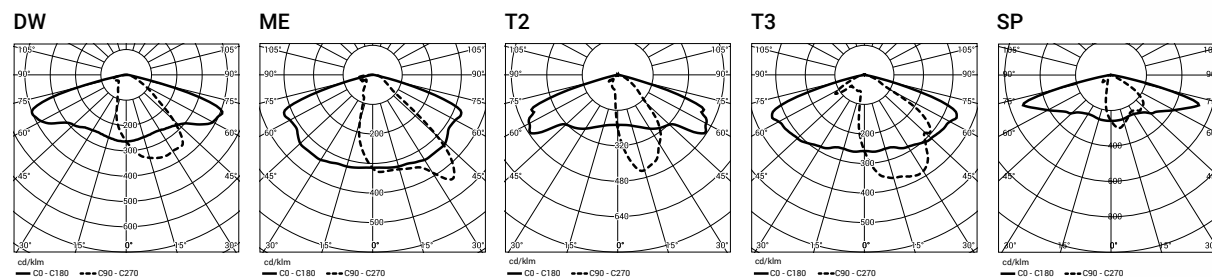
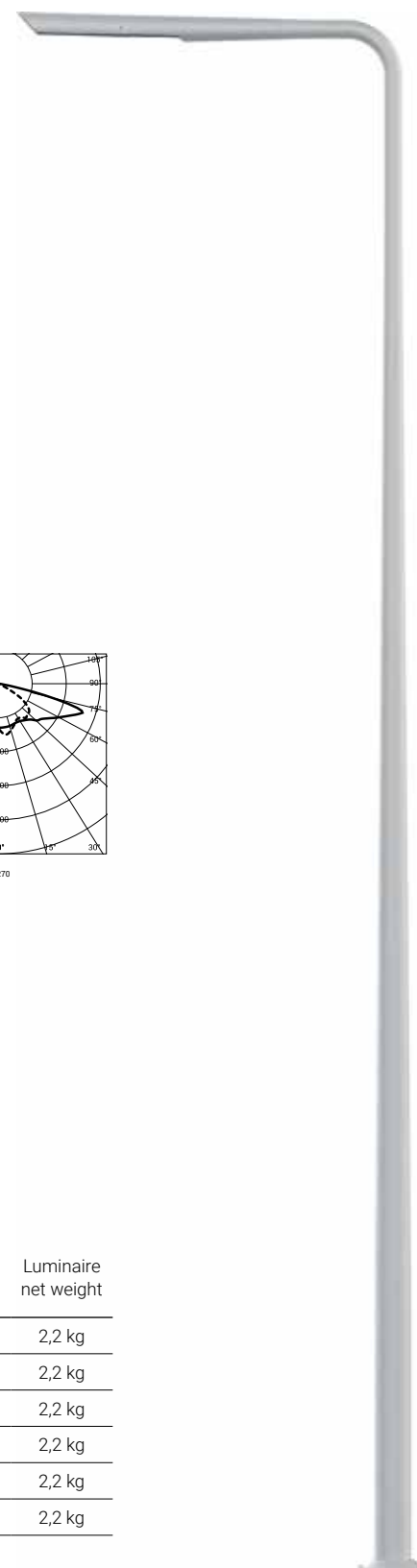
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,005 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire ISKRA LED optionally has the possibility, to connect to an external control system via analog signal 1-10 V.



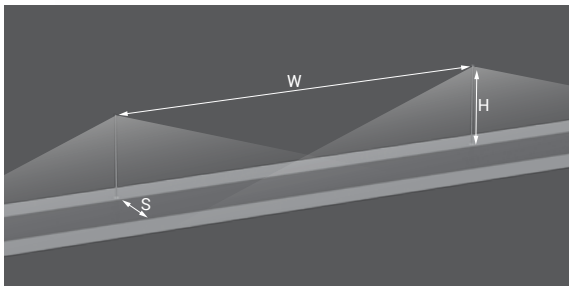
Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
213230/3/...	ISKRA LED 24	24 W	31 W	760 mA	3500 K	3450 lm	3200 lm	103 lm/W	2,2 kg
213230/4/...	ISKRA LED 24	24 W	31 W	760 mA	4000 K	3850 lm	3700 lm	119 lm/W	2,2 kg
213230/6/...	ISKRA LED 24	24 W	31 W	760 mA	5000 K	4050 lm	3900 lm	126 lm/W	2,2 kg
231232/3/...	ISKRA LED 36	36 W	39 W	960 mA	3500 K	4550 lm	4300 lm	110 lm/W	2,2 kg
213232/4/...	ISKRA LED 36	36 W	39 W	960 mA	4000 K	5050 lm	4600 lm	118 lm/W	2,2 kg
213232/6/...	ISKRA LED 36	36 W	39 W	960 mA	5000 K	5250 lm	4800 lm	123 lm/W	2,2 kg

/... Symbol of selected optical system

ISKRA LED ALFA



Lighting example



Local road

ISKRA LED ALFA 36W, T3 optics

Parameters:

H – luminaire mounting height: 6 m

W – pole spacing: 30 m

S – road width: 5,5 m

Lighting class M5

Application: urban roads, residential streets, parks,
pedestrian walkways, bike paths

Installation: pole top mounted $\varnothing 60 \times 80$ mm

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy

Colour: inox / black

Optical system: PMMA optics

Number of LEDs: 12

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

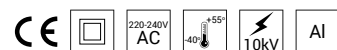
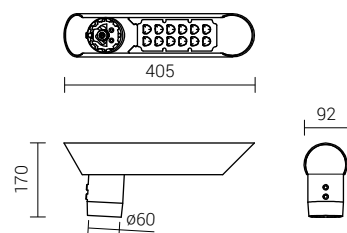
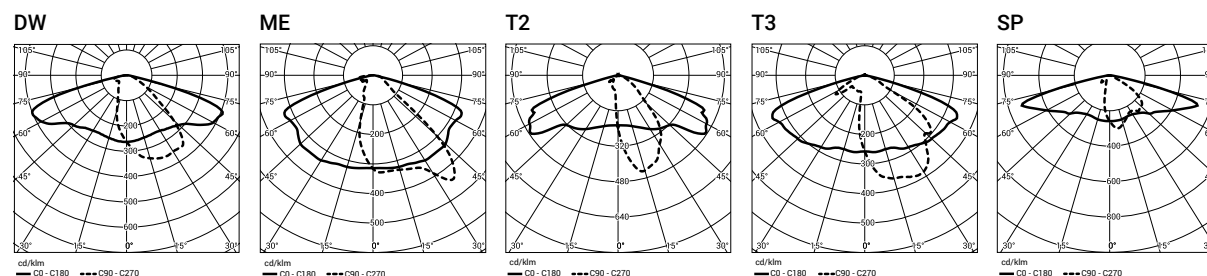
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,0 1 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

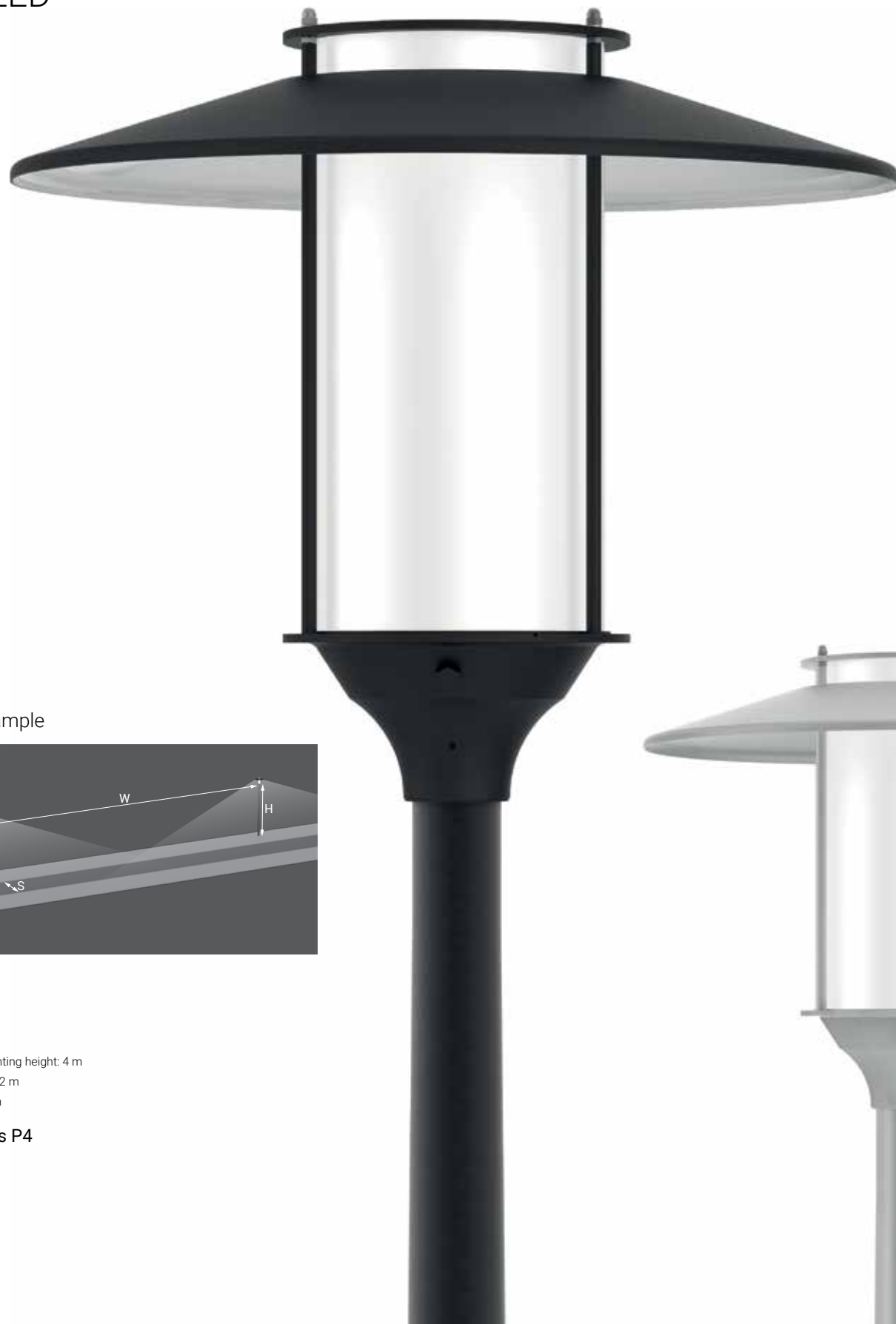
Luminaire ISKRA LED ALFA optionally has the possibility, to connect to an external control system via analog signal 1-10 V.



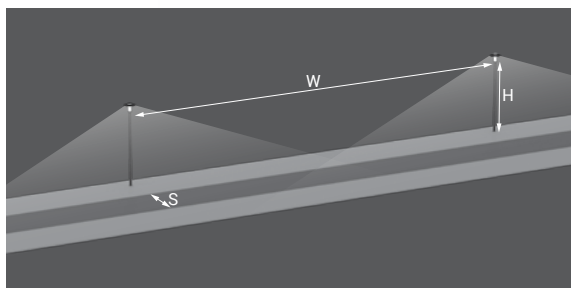
Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
213330/3/...	ISKRA LED ALFA 24	24 W	31 W	760 mA	3500 K	3450 lm	3200 lm	103 lm/W	2,6 kg
213330/4/...	ISKRA LED ALFA 24	24 W	31 W	760 mA	4000 K	3850 lm	3700 lm	119 lm/W	2,6 kg
213330/6/...	ISKRA LED ALFA 24	24 W	31 W	760 mA	5000 K	4050 lm	3900 lm	126 lm/W	2,6 kg
213332/3/...	ISKRA LED ALFA 36	36 W	39 W	960 mA	3500 K	4550 lm	4300 lm	110 lm/W	2,6 kg
213332/4/...	ISKRA LED ALFA 36	36 W	39 W	960 mA	4000 K	5050 lm	4600 lm	118 lm/W	2,6 kg
213332/6/...	ISKRA LED ALFA 36	36 W	39 W	960 mA	5000 K	5250 lm	4800 lm	123 lm/W	2,6 kg

/... Symbol of selected optical system

ELBA LED



Lighting example



Sidewalk

ELBA LED

Parameters:

H – luminaire mounting height: 4 m

W – pole spacing: 22 m

S – road width: 3 m

Lighting class P4

Application: parks, pedestrian walkways, bike paths

Installation: pole top mounted or on extension arms with $\varnothing 60 \times 50$ mm ending

Ingress protection: IP 65

Material: base – high-pressure die-casted aluminium alloy

cap – formed aluminium sheet

diffuser – frosted cylindrical $\varnothing 200$ mm (PMMA)

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

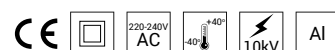
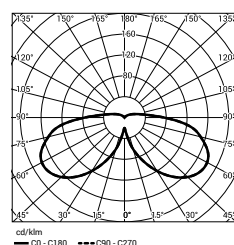
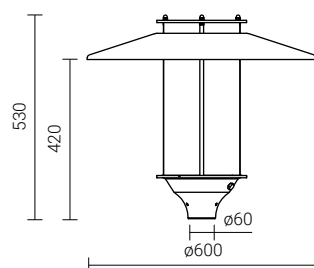
CRI: > 80

Unit volume: 0,006 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire ELBA LED has the possibility to connect to an external control system via analog signal 1-10 V.

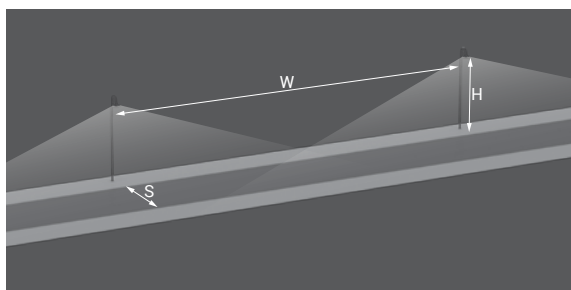


Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
213050/3/C35	ELBA LED black	33 W	38 W	940 mA	3500 K	4600 lm	3800 lm	100 lm/W	5 kg
2131050/3/C45	ELBA LED inox	33 W	38 W	940 mA	3500 K	4600 lm	3800 lm	100 lm/W	5 kg

OW LED



Lighting example



Park avenue / promenade

OW LED 48W, T2 optics

Parameters:

H – luminaire mounting height: 5,2 m

W – pole spacing: 34 m

S – road width: 4 m

Lighting class P2

Application: urban roads, residential streets, parks, pedestrian walkways, parking lots

Installation: on extension arms, wall brackets, columns with extension arms with $\varnothing 42 \times 40$ mm ending

Ingress protection: IP 66 for the optical part and the driver

Material: body and cap – anodised aluminium formed sheet metal

Colour: black

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 24

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

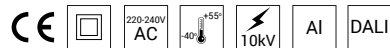
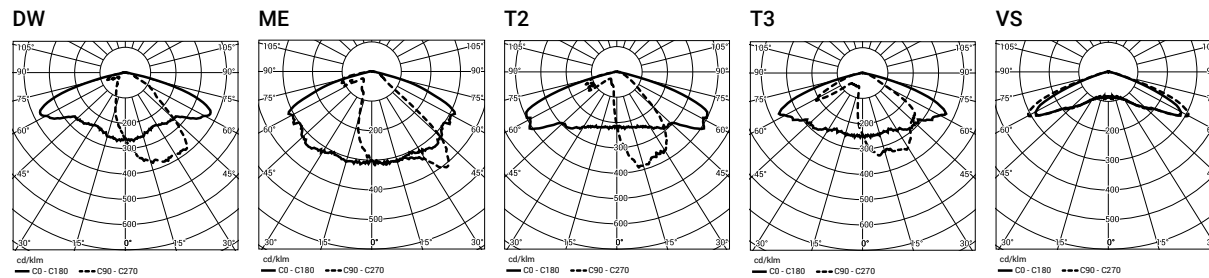
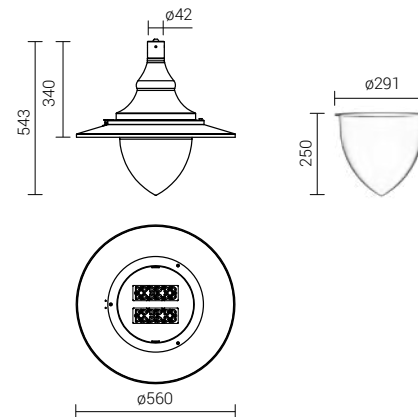
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,16 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire OW LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).



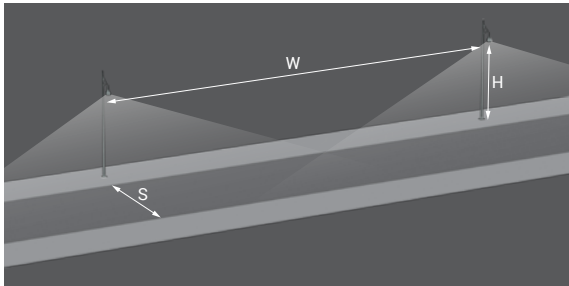
Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
2109033/3/...	OW LED 48	48 W	55 W	700 mA	3500 K	7000 lm	6550 lm	119 lm/W	6,3 kg
2109033/4/...	OW LED 48	48 W	55 W	700 mA	4000 K	7300 lm	6800 lm	124 lm/W	6,3 kg
2109033/6/...	OW LED 48	48 W	55 W	700 mA	5000 K	8150 lm	7100 lm	129 lm/W	6,3 kg
2109034/3/...	OW LED 60	60 W	67 W	830 mA	3500 K	8050 lm	7700 lm	115 lm/W	6,3 kg
2109034/4/...	OW LED 60	60 W	67 W	830 mA	4000 K	8950 lm	8000 lm	119 lm/W	6,3 kg
2109034/6/...	OW LED 60	60 W	67 W	830 mA	5000 K	9350 lm	8400 lm	125 lm/W	6,3 kg
2109035/3/...	OW LED 72	72 W	80 W	1000 mA	3500 K	9400 lm	8950 lm	112 lm/W	6,3 kg
2109035/4/...	OW LED 72	72 W	80 W	1000 mA	4000 K	10450 lm	9300 lm	116 lm/W	6,3 kg
2109035/6/...	OW LED 72	72 W	80 W	1000 mA	5000 K	10950 lm	9750 lm	122 lm/W	6,3 kg

/... Symbol of selected optical system

Code	Name	Diffuser weight
690893	Transparent PMMA diffuser for OW LED	0,57 kg

DROP LED

Lighting example



Local road

DROP LED 48W Asymmetric

Parameters:

H – luminaire mounting height: 5,2 m

W – pole spacing: 25 m

S – road width: 5,5 m

Lighting class C3



Application: residential streets, office buildings surrounding, parks, pedestrian walkways

Installation: on extension arms with $\varnothing 42 \times 30$ mm ending

Ingress protection: IP 66

Material: anodised aluminium alloy

Colour: inox / graphite

Optical system: PMMA optics

Number of LEDs: 16,

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

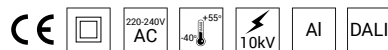
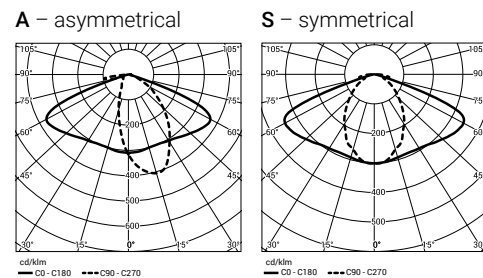
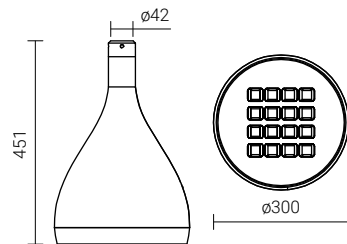
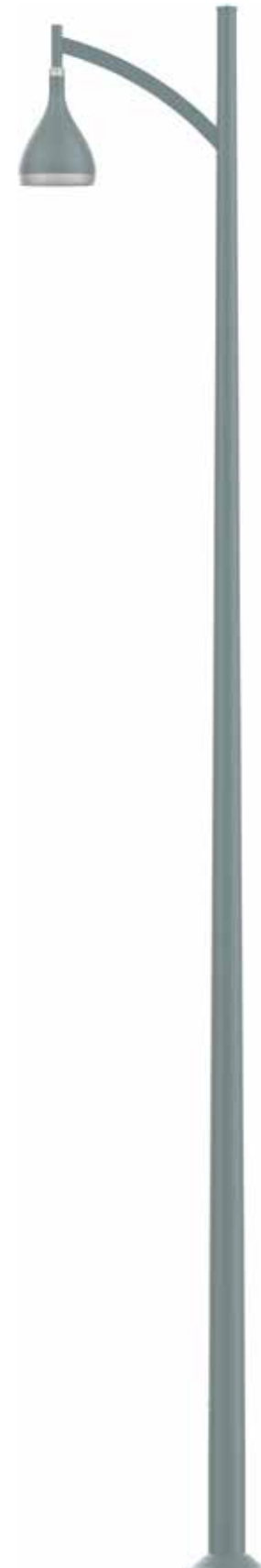
CRI: for 4000 K, 5000 K > 70, for 3500K > 80

Unit volume: 0,041 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire DROP LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).



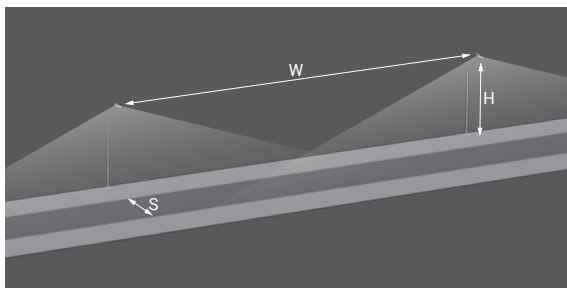
Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
214930/3/...	DROP LED 24	24 W	32 W	500 mA	3500 K	3500 lm	3350 lm	105 lm/W	6,5 kg
214930/4/...	DROP LED 24	24 W	32 W	500 mA	4000 K	3900 lm	3450 lm	108 lm/W	6,5 kg
214930/6/...	DROP LED 24	24 W	32 W	500 mA	5000 K	4100 lm	3650 lm	114 lm/W	6,5 kg
214932/3/...	DROP LED 36	36 W	42 W	750 mA	3500 K	4950 lm	4600 lm	110 lm/W	6,5 kg
214932/4/...	DROP LED 36	36 W	42 W	750 mA	4000 K	5500 lm	4700 lm	112 lm/W	6,5 kg
214932/6/...	DROP LED 36	36 W	42 W	750 mA	5000 K	5750 lm	4950 lm	118 lm/W	6,5 kg
214933/3/...	DROP LED 48	48 W	55 W	1000 mA	3500 K	6300 lm	6000 lm	109 lm/W	6,5 kg
214933/4/...	DROP LED 48	48 W	55 W	1000 mA	4000 K	6950 lm	6200 lm	113 lm/W	6,5 kg
214933/6/...	DROP LED 48	48 W	55 W	1000 mA	5000 K	7300 lm	6500 lm	118 lm/W	6,5 kg

/... Symbol of selected optical system

GEMINI LED



Lighting example



Local road

GEMINI LED 48W

Parameters:

H – luminaire mounting height: 7 m

W – pole spacing: 33 m

S – road width: 5,5 m

Lighting class M5

Application: residential streets, office buildings surrounding, parks, pedestrian walkways

Installation: on extension arms with $\varnothing 60 \times 100$ mm ending

Ingress protection: IP 66 for the optical part, IP54 for the driver

Material: anodised aluminium alloy

Colour: inox / black

Optical system: PMMA optics

Number of LEDs: 12 for 36 W, 16 for 48 W

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

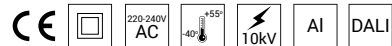
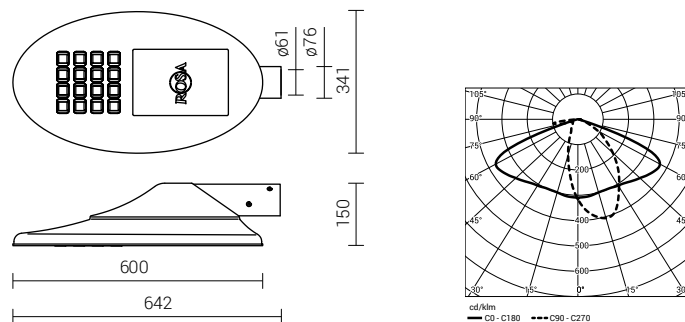
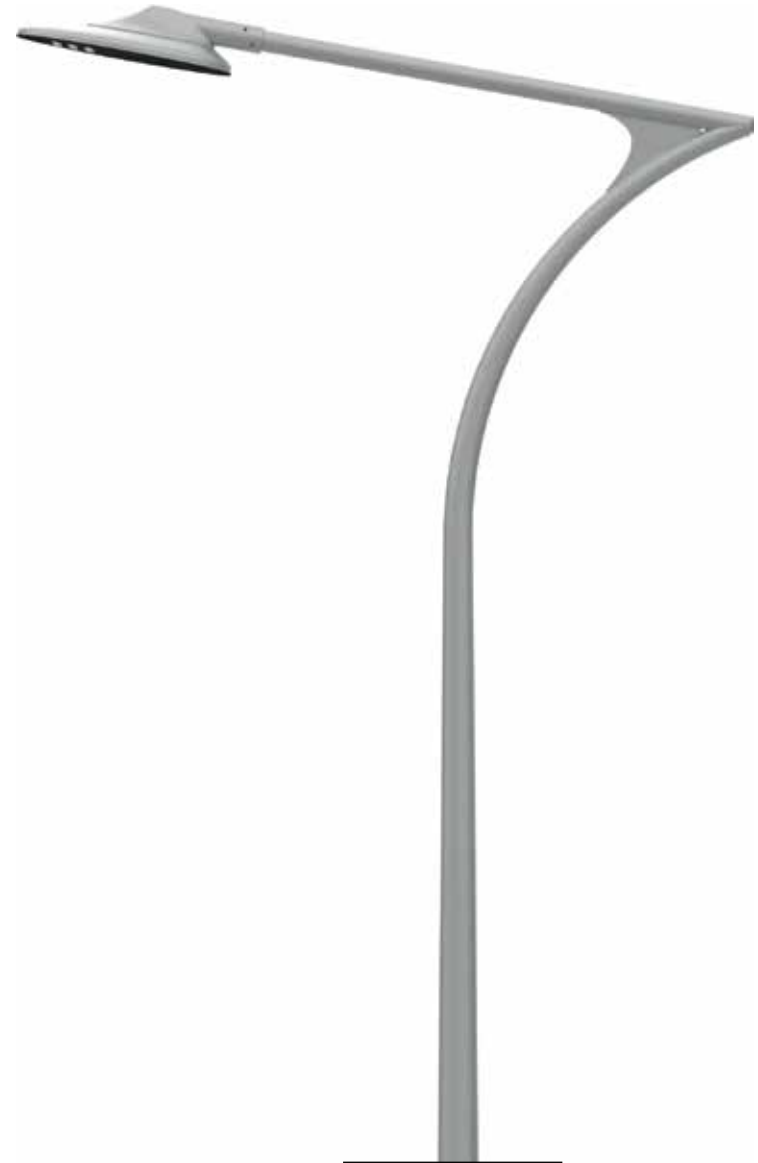
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,035 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire GEMINI LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).

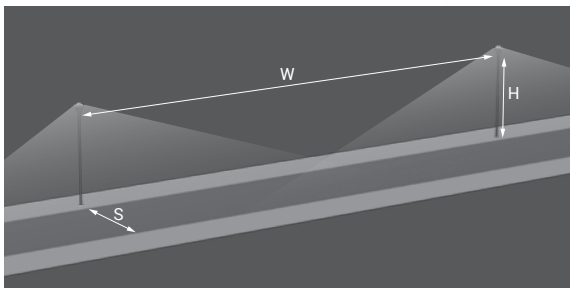


Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
214332/3	GEMINI LED 36	36 W	42 W	1000 mA	3500 K	4950 lm	4600 lm	110 lm/W	8 kg
214332/4	GEMINI LED 36	36 W	42 W	1000 mA	4000 K	5500 lm	4700 lm	112 lm/W	8 kg
214332/6	GEMINI LED 36	36 W	42 W	1000 mA	5000 K	5750 lm	4950 lm	118 lm/W	8 kg
214333/3	GEMINI LED 48	48 W	55 W	1000 mA	3500 K	6300 lm	6000 lm	109 lm/W	8 kg
214333/4	GEMINI LED 48	48 W	55 W	1000 mA	4000 K	6950 lm	6200 lm	113 lm/W	8 kg
214333/6	GEMINI LED 48	48 W	55 W	1000 mA	5000 K	7300 lm	6500 lm	118 lm/W	8 kg

COSMO DELTA LED



Lighting example



Local road

COSMO DELTA LED 72W, T2 optics

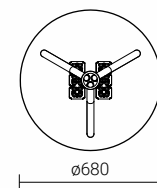
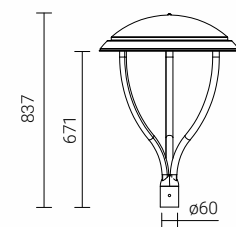
Parameters:

H – luminaire mounting height: 6 m

W – pole spacing: 35 m

S – road width: 6 m

Lighting class C3



Application: urban roads, residential streets, parks, pedestrian walkways

Installation: pole top mounted with $\varnothing 60 \times 85$ mm ending

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy

Colour: inox / black

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 24

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

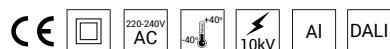
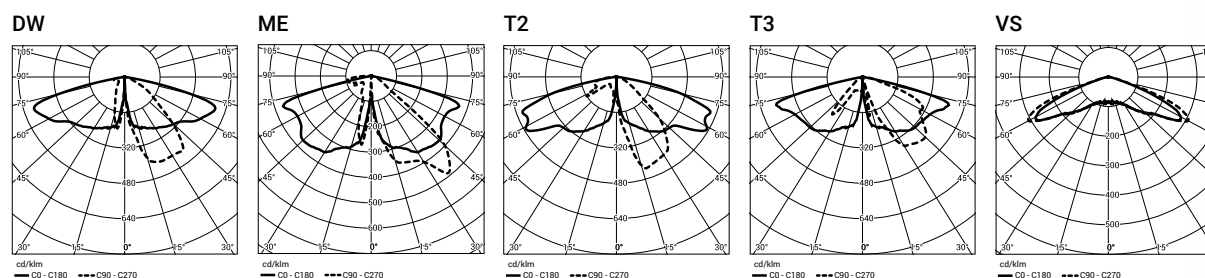
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,32 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire COSMO DELTA LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).



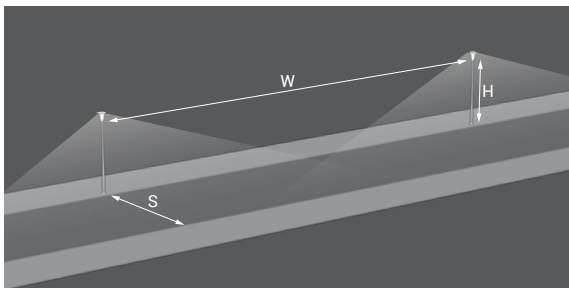
Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
2148032/3/...	COSMO DELTA LED 36	36 W	44 W	500 mA	3500 K	5250 lm	4750 lm	108 lm/W	11 kg
2148032/4/...	COSMO DELTA LED 36	36 W	44 W	500 mA	4000 K	5850 lm	4950 lm	117 lm/W	11 kg
2148032/6/...	COSMO DELTA LED 36	36 W	44 W	500 mA	5000 K	6100 lm	5150 lm	117 lm/W	11 kg
2148033/3/...	COSMO DELTA LED 48	48 W	56 W	700 mA	3500 K	7000 lm	6300 lm	113 lm/W	11 kg
2148033/4/...	COSMO DELTA LED 48	48 W	56 W	700 mA	4000 K	7300 lm	6600 lm	118 lm/W	11 kg
2148033/6/...	COSMO DELTA LED 48	48 W	56 W	700 mA	5000 K	8150 lm	6900 lm	123 lm/W	11 kg
2148035/3/...	COSMO DELTA LED 72	72 W	80 W	1000 mA	3500 K	9400 lm	8500 lm	106 lm/W	11 kg
2148035/4/...	COSMO DELTA LED 72	72 W	80 W	1000 mA	4000 K	10450 lm	8800 lm	110 lm/W	11 kg
2148035/6/...	COSMO DELTA LED 72	72 W	80 W	1000 mA	5000 K	10950 lm	9250 lm	116 lm/W	11 kg

/... Symbol of selected optical system

ATLANTIS LED



Lighting example



Sidewalk

ATLANTIS LED

Parameters:

H – luminaire mounting height: 4 m

W – pole spacing: 26 m

S – road width: 4 m

Lighting class P4

Application: parks, pedestrian walkways, bike paths

Installation: pole top mounted or on extension arms with $\varnothing 60 \times 50$ mm ending

Ingress protection: IP 66

Material: base – high-pressure die-casted aluminium alloy,
frosted diffuser (PMMA),
cap – formed aluminium sheet,

Colour: inox

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

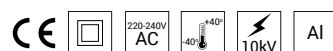
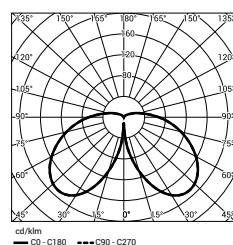
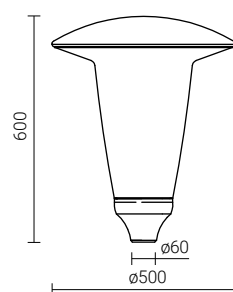
CRI: > 90

Unit volume: 0,22 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire ATLANTIS LED has the possibility to connect to an external control system via analog signal 1-10 V.

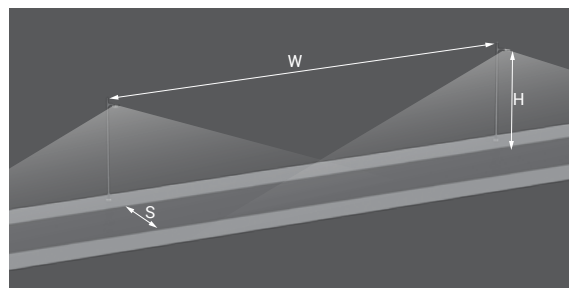


Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
214650/3	ATLANTIS LED	38 W	43 W	940 mA	3500 K	4000 lm	3 400 lm	79 lm/W	4,6 kg

VEGA LED



Lighting example



Local road

VEGA LED 60W, T3 optics

Parameters:

H – luminaire mounting height: 7,7 m

W – pole spacing: 35 m

S – road width: 6 m

Lighting class P4

Application: urban roads, residential streets, pedestrian walkways

Installation: on extension arms with $\varnothing 60 \times 100$ mm ending

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy,

Colour: inox / graphite

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 24

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

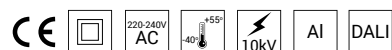
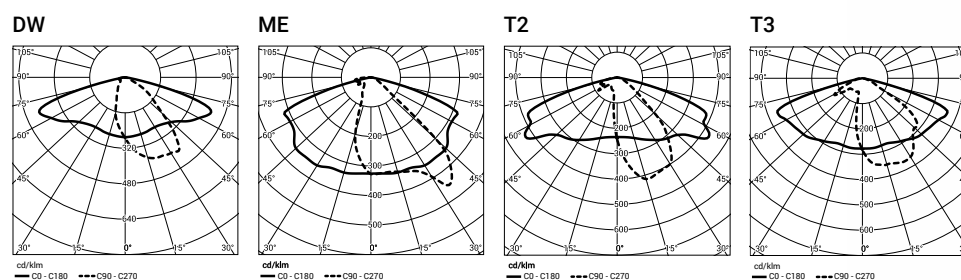
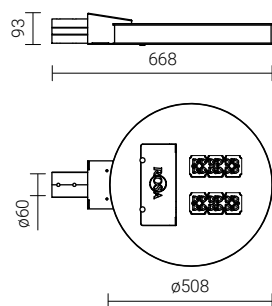
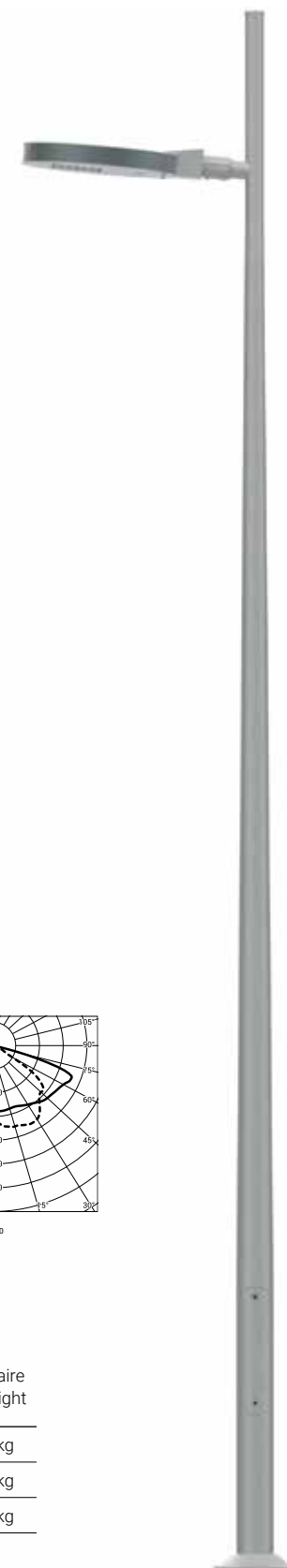
Unit volume: 0,068 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire VEGA LED has the possibility to connect to an external control system

via DALI interface (optionally via analog signal 1-10 V).



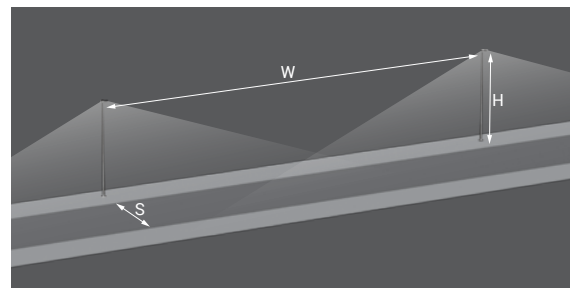
Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
2141034/3/...	VEGA LED 60	60 W	67 W	830 mA	3500 K	8050 lm	7700 lm	115 lm/W	10,5 kg
2141034/4/...	VEGA LED 60	60 W	67 W	830 mA	4000 K	8950 lm	8000 lm	119 lm/W	10,5 kg
2141034/6/...	VEGA LED 60	60 W	67 W	830 mA	5000 K	9350 lm	8400 lm	125 lm/W	10,5 kg

/... Symbol of selected optical system

VEGA LED ALFA



Lighting example



Local road

VEGA LED ALFA 60W, T3 optics

Parameters:

H – luminaire mounting height: 7 m

W – pole spacing: 32 m

S – road width: 6 m

Lighting class M4

Application: urban roads, residential streets, parks, pedestrian walkways

Installation: pole top mounted with $\varnothing 60 \times 100$ mm ending

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy

Colour: inox / graphite

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 24

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

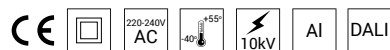
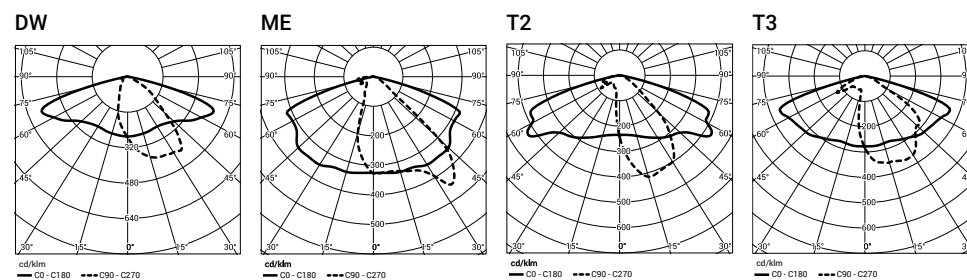
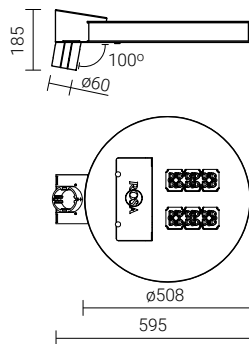
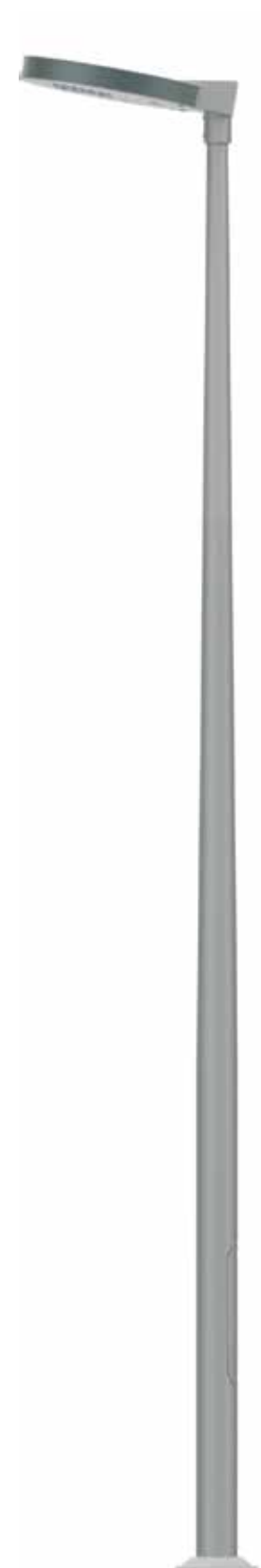
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,099 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire VEGA LED ALFA has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).



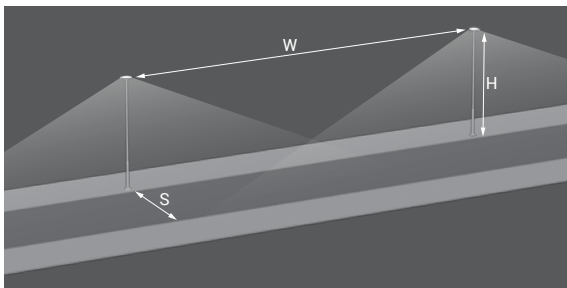
Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
2142034/3/...	VEGA LED ALFA 60	60 W	67 W	830 mA	3500 K	8050 lm	7700 lm	115 lm/W	10,5 kg
2142034/4/...	VEGA LED ALFA 60	60 W	67 W	830 mA	4000 K	8950 lm	8000 lm	119 lm/W	10,5 kg
2142034/6/...	VEGA LED ALFA 60	60 W	67 W	830 mA	5000 K	9350 lm	8400 lm	125 lm/W	10,5 kg

/... Symbol of selected optical system

VEGA LED BETA



Lighting example



Bicycle and pedestrian path

VEGA LED BETA 60W, T3 optics

Parameters:

H – luminaire mounting height: 5 m

W – pole spacing: 18 m

S – road width: 5 m

Lighting class P2

Application: parks, pedestrian walkways, parking lots

Installation: pole top mounted with $\varnothing 60 \times 100$ mm ending

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy

Colour: inox / graphite

Optical system: PMMA optics

Number of LEDs: 20

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

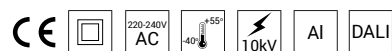
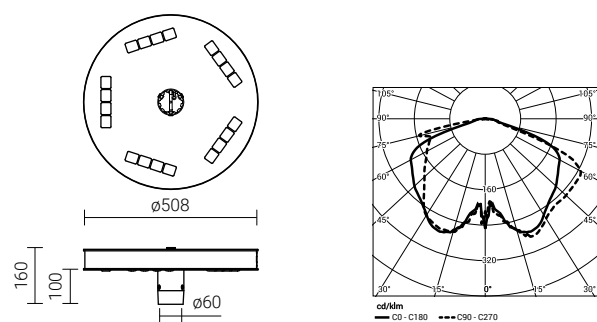
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80,

Unit volume: 0,068 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire VEGA LED BETA has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).



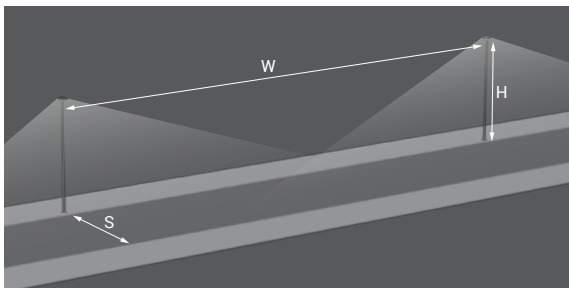
Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
214032/3	VEGA LED BETA 36	36 W	43 W	600 mA	3500 K	5150 lm	4650 lm	108 lm/W	9,5 kg
214032/4	VEGA LED BETA 36	36 W	43 W	600 mA	4000 K	5700 lm	4850 lm	113 lm/W	9,5 kg
214032/6	VEGA LED BETA 36	36 W	43 W	600 mA	5000 K	5950 lm	5050 lm	117 lm/W	9,5 kg
214033/3	VEGA LED BETA 48	48 W	55 W	800 mA	3500 K	6550 lm	6150 lm	112 lm/W	9,5 kg
214033/4	VEGA LED BETA 48	48 W	55 W	800 mA	4000 K	7250 lm	6400 lm	116 lm/W	9,5 kg
214033/6	VEGA LED BETA 48	48 W	55 W	800 mA	5000 K	7600 lm	6700 lm	122 lm/W	9,5 kg
214034/3	VEGA LED BETA 60	60 W	68 W	1000 mA	3500 K	7850 lm	7250 lm	107 lm/W	9,5 kg
214034/4	VEGA LED BETA 60	60 W	68 W	1000 mA	4000 K	8700 lm	7500 lm	110 lm/W	9,5 kg
214034/6	VEGA LED BETA 60	60 W	68 W	1000 mA	5000 K	9100 lm	7850 lm	115 lm/W	9,5 kg



CORONA LED



Lighting example



Residential street with sidewalk

CORONA LED 72W

Parameters:

H – luminaire mounting height: 6 m

W – pole spacing: 31 m

S – road width: 3 m; sidewalk width: 3 m

Lighting class C3

Application: office buildings surrounding, parks, parking lots

Installation: pole top mounted with $\varnothing 60 \times 95$ mm ending

Ingress protection: IP 66

Material: anodised aluminium alloy

Colour: inox / graphite

Number of LEDs: 216

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

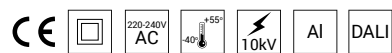
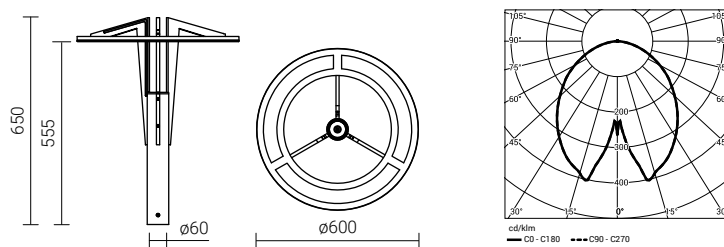
CRI: >70

Unit volume: 0,25 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire CORONA LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).

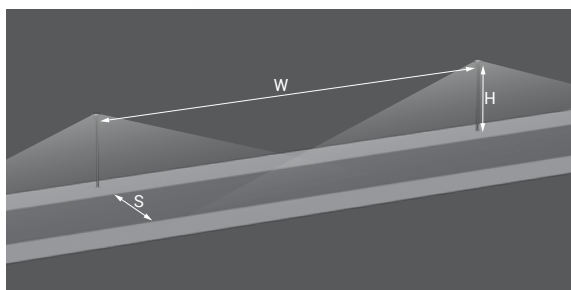


Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
214735/6	CORONA LED 72	72 W	80 W	1000 mA	5000 K	10500 lm	9000 lm	112 lm/W	13 kg

MIRA LED



Lighting example



Pedestrian walkway 6 m

MIRA LED 36W

Parameters:

H – luminaire mounting height: 4,5 m

W – pole spacing: 30 m

S – road width: 6 m

Lighting class P3

Application: residential streets, office buildings surrounding, parks, pedestrian walkways, bike paths

Installation: pole top mounted with $\varnothing 60$ x 80 mm ending

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy

Colour: inox / graphite

Optical system: PMMA optics

Number of LEDs: 12

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

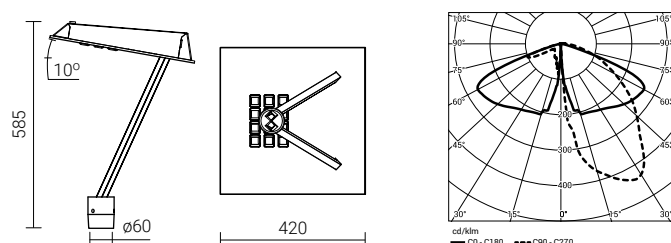
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,155 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire MIRA LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).

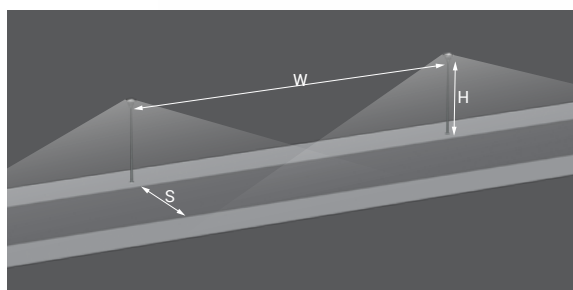


Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
214530/3	MIRA LED 24	24 W	32 W	700 mA	3500 K	3500 lm	3300 lm	103 lm/W	6,1 kg
214530/4	MIRA LED 24	24 W	32 W	700 mA	4000 K	3900 lm	3400 lm	106 lm/W	6,1 kg
214530/6	MIRA LED 24	24 W	32 W	700 mA	5000 K	4100 lm	3550 lm	111 lm/W	6,1 kg
214532/3	MIRA LED 36	36 W	42 W	1000 mA	3500 K	4750 lm	4500 lm	107 lm/W	6,1 kg
214532/4	MIRA LED 36	36 W	42 W	1000 mA	4000 K	5250 lm	4600 lm	110 lm/W	6,1 kg
214532/6	MIRA LED 36	36 W	42 W	1000 mA	5000 K	5500 lm	4850 lm	115 lm/W	6,1 kg

MIZAR LED



Lighting example



Bicycle and pedestrian path

MIZAR LED 48W

Parameters:

H – luminaire mounting height: 4,5 m

W – pole spacing: 22 m

S – road width: 4 m

Lighting class P2

Application: office buildings surrounding, parks, pedestrian walkways, parking lots

Installation: pole top mounted with $\varnothing 60 \times 80$ mm ending

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy

Colour: inox / graphite

Optical system: PMMA optics

Number of LEDs: 16

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

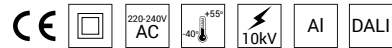
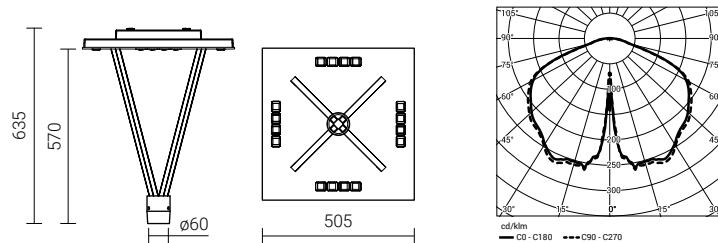
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,172 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire MIZAR LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).

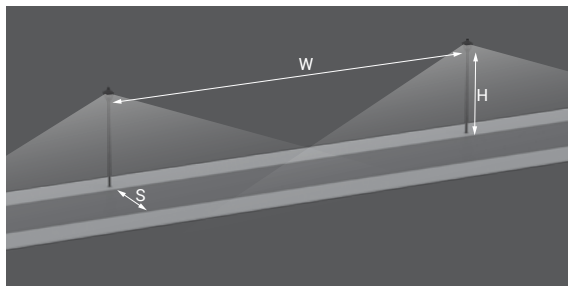


Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
214432/3	MIZAR LED 36	36 W	42 W	750 mA	3500 K	4950 lm	4250 lm	101 lm/W	9,2 kg
214432/4	MIZAR LED 36	36 W	42 W	750 mA	4000 K	5500 lm	4400 lm	105 lm/W	9,2 kg
214432/6	MIZAR LED 36	36 W	42 W	750 mA	5000 K	5750 lm	4600 lm	110 lm/W	9,2 kg
214433/3	MIZAR LED 48	48 W	55 W	1000 mA	3500 K	6300 lm	5700 lm	104 lm/W	9,2 kg
214433/4	MIZAR LED 48	48 W	55 W	1000 mA	4000 K	6950 lm	5900 lm	107 lm/W	9,2 kg
214433/6	MIZAR LED 48	48 W	55 W	1000 mA	5000 K	7300 lm	6200 lm	112 lm/W	9,2 kg

OS-1 LED



Lighting example



Park avenue

OS-1 LED

Parameters:

H – luminaire mounting height: 4 m

W – pole spacing: 19 m

S – road width: 4 m

Lighting class P3

Application: parks, pedestrian walkways

Installation: on S and SP type columns with spigot type B, on bracket configurations, on wall brackets KR, KP columns, extension arms, aluminium wall brackets with $\varnothing 60 \times 60$ mm ending

Ingress protection: IP 66 for the optical part, IP54 for the driver

Material: body – UV resistant polypropylene with glass fiber

Colour: black / LED panel inox

Optical system: PMMA optics

Number of LEDs: 16

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

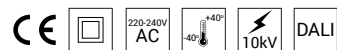
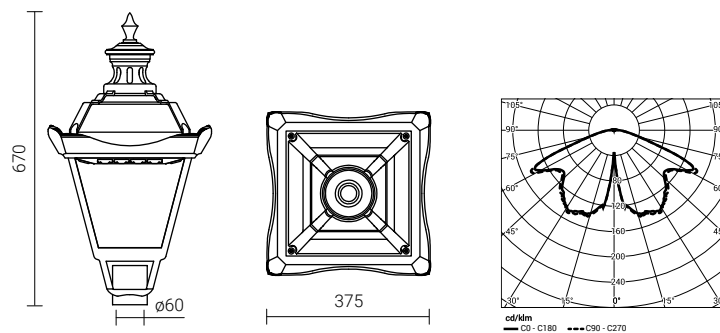
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,1 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire OS-1 LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).



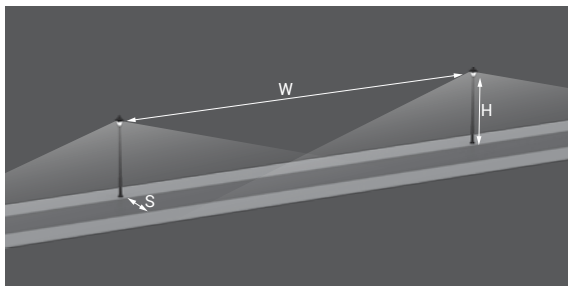
Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
211331/3	OS-1 LED 32	32 W	36 W	700 mA	3500 K	3750 lm	3300 lm	92 lm/W	5,2 kg
211331/4	OS-1 LED 32	32 W	36 W	700 mA	4000 K	4800 lm	3550 lm	99 lm/W	5,2 kg
211331/6	OS-1 LED 32	32 W	36 W	700 mA	5000 K	5100 lm	3700 lm	103 lm/W	5,2 kg



OS-11 LED



Lighting example



Sidewalk

OS-11 LED

Parameters:

H - luminaire mounting height: 3,7 m

W - pole spacing: 22 m

S - road width: 3 m

Lighting class P3

Application: parks, pedestrian walkways

Installation: on S and SP type columns with spigot type B, on bracket configurations, on wall brackets KR, KP, columns, extension arms, aluminium brackets with $\varnothing 60 \times 60$ mm ending

Ingress protection: IP54

Material: body – UV resistant polypropylene with glass fiber, diffuser – frosted PMMA

Colour: black

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h,

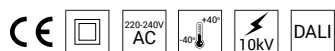
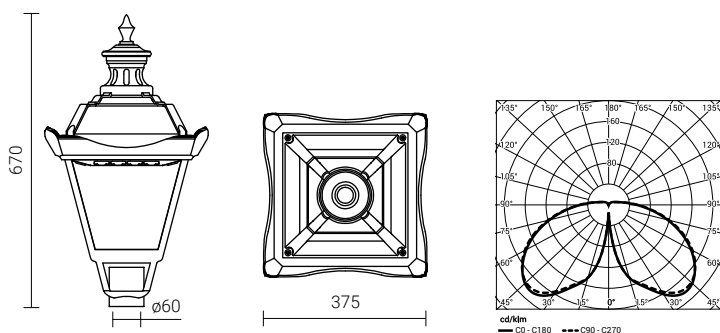
CRI: >90

Unit volume: 0,1 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire OS-11 LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).



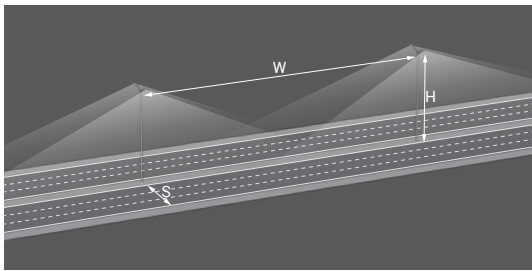
Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
2110050/3	OS-11 LED	38 W	43 W	940 mA	3500 K	4000 lm	3300 lm	77 lm/W	5,3 kg



CUDDLE LED



Lighting example



Six-lane road with median strip lane

CUDDLE LED 144W, T3 optics

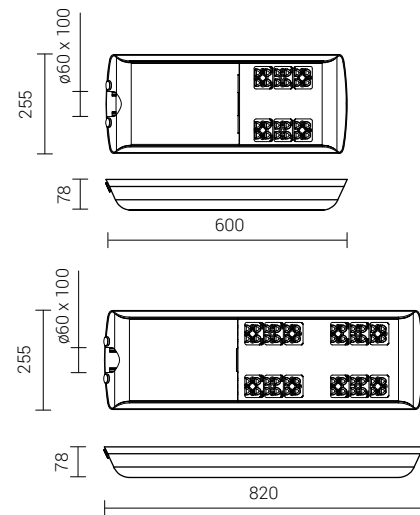
Parameters:

H – luminaire mounting height: 12 m

W – pole spacing: 43 m

S – road width: 10,5 m

Lighting class M2



Application: urban roads, residential streets, parks, pedestrian walkways, parking lots, motorways and expressways

Installation: on extension arms with $\varnothing 60 \times 100$ mm ending

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy

Colour: inox / black

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 24 (for 48W, 60W, 72W)

48 (for 96W, 120W, 144W)

Operating temperature range: od -40°C do +55°C (dla 48 W, 60 W, 72 W, 96 W, 120 W), od -40°C do +40°C (dla 144 W)

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

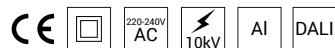
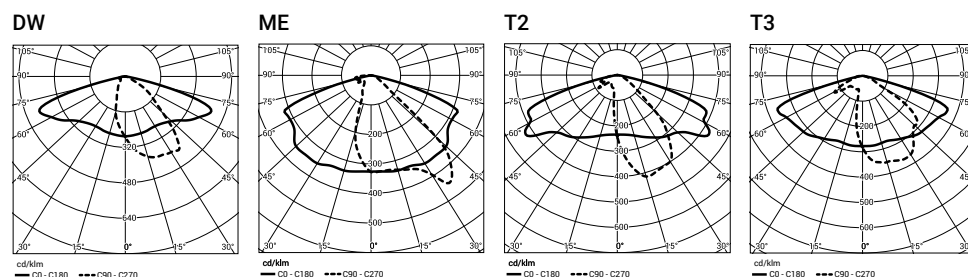
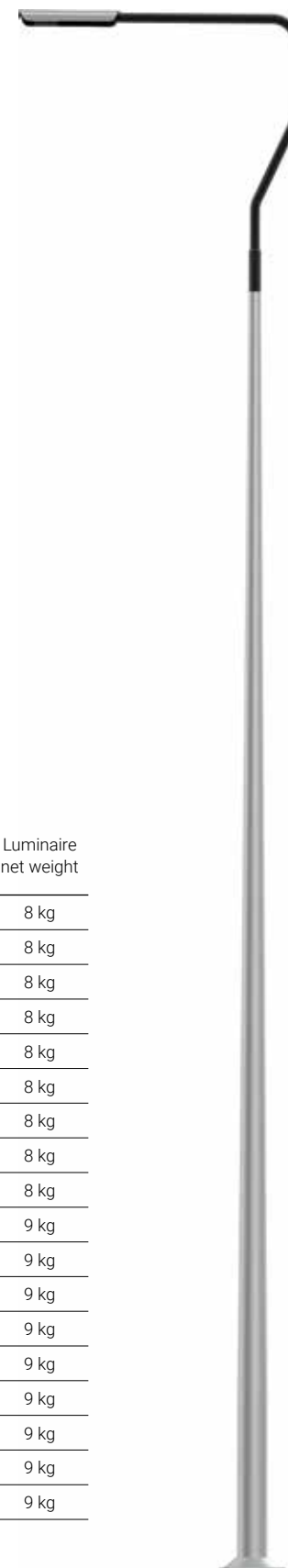
Unit volume: 0,022 m³ (for 48 W, 60 W, 72 W), 0,045 m³ (for 96 W, 120 W, 144 W)

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire CUDDLE LED has the possibility to connect to an external control system via DALI interface

(optionally via analog signal 1- 10V).



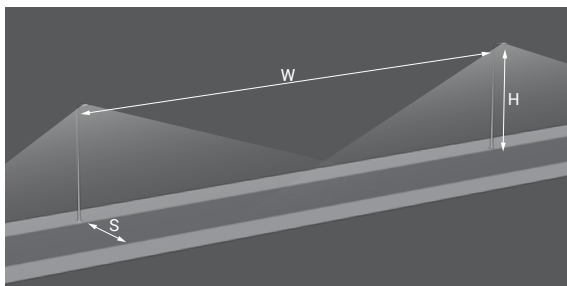
Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
222333/3/...	CUDDLE LED 48	48 W	55 W	700 mA	3500 K	7000 lm	6550 lm	119 lm/W	8 kg
222333/4/...	CUDDLE LED 48	48 W	55 W	700 mA	4000 K	7300 lm	6800 lm	124 lm/W	8 kg
222333/6/...	CUDDLE LED 48	48 W	55 W	700 mA	5000 K	8150 lm	7100 lm	129 lm/W	8 kg
222334/3/...	CUDDLE LED 60	60 W	67 W	830 mA	3500 K	8050 lm	7700 lm	115 lm/W	8 kg
222334/4/...	CUDDLE LED 60	60 W	67 W	830 mA	4000 K	8950 lm	8000 lm	119 lm/W	8 kg
222334/6/...	CUDDLE LED 60	60 W	67 W	830 mA	5000 K	9350 lm	8400 lm	125 lm/W	8 kg
222335/3/...	CUDDLE LED 72	72 W	80 W	1000 mA	3500 K	9400 lm	8950 lm	112 lm/W	8 kg
222335/4/...	CUDDLE LED 72	72 W	80 W	1000 mA	4000 K	10450 lm	9300 lm	116 lm/W	8 kg
222335/6/...	CUDDLE LED 72	72 W	80 W	1000 mA	5000 K	10950 lm	9750 lm	122 lm/W	8 kg
222337/3/...	CUDDLE LED 96	96 W	105 W	700 mA	3500 K	14050 lm	13100 lm	125 lm/W	9 kg
222337/4/...	CUDDLE LED 96	96 W	105 W	700 mA	4000 K	14650 lm	13550 lm	129 lm/W	9 kg
222337/6/...	CUDDLE LED 96	96 W	105 W	700 mA	5000 K	16350 lm	14250 lm	136 lm/W	9 kg
222339/3/...	CUDDLE LED 120	120 W	129 W	830 mA	3500 K	16100 lm	15450 lm	120 lm/W	9 kg
222339/4/...	CUDDLE LED 120	120 W	129 W	830 mA	4000 K	17850 lm	15950 lm	124 lm/W	9 kg
222339/6/...	CUDDLE LED 120	120 W	129 W	830 mA	5000 K	18750 lm	16750 lm	130 lm/W	9 kg
222341/3/...	CUDDLE LED 144	144 W	154 W	1000 mA	3500 K	18850 lm	17950 lm	117 lm/W	9 kg
222341/4/...	CUDDLE LED 144	144 W	154 W	1000 mA	4000 K	20850 lm	1 8600 lm	121 lm/W	9 kg
222341/6/...	CUDDLE LED 144	144 W	154 W	1000 mA	5000 K	21900 lm	19500 lm	127 lm/W	9 kg

/... Symbol of selected optical system

COSMO LED



Lighting example



Local road

COSMO LED 72W, T3 optics

Parameters:

H – luminaire mounting height: 9,5 m

W – pole spacing: 42 m

S – road width: 6 m

Lighting class M4

Application: urban roads, pedestrian walkways, parking lots

Installation: on extension arms with $\varnothing 60 \times 100$ mm ending

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy

Colour: inox / black

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 24

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

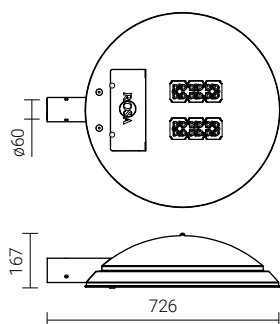
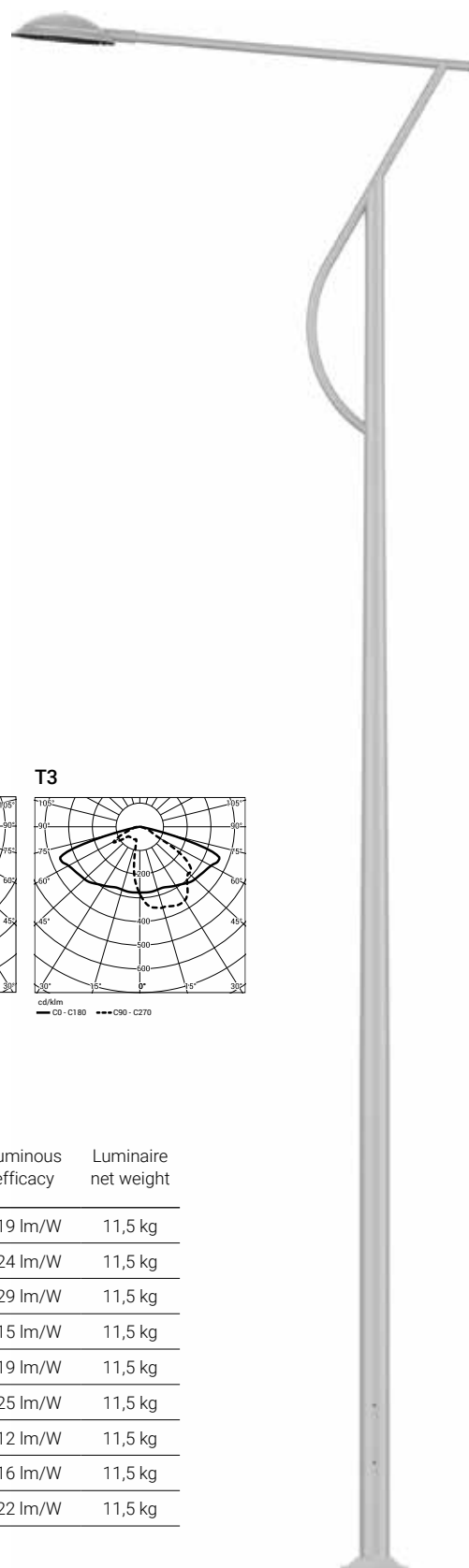
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,073 m³

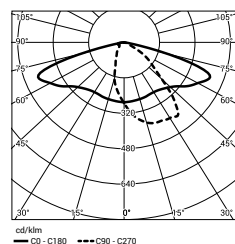
Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

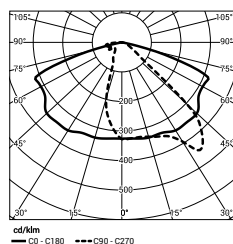
Luminaire COSMO LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).



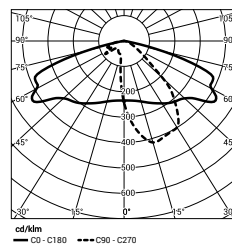
DW



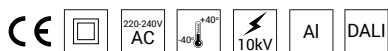
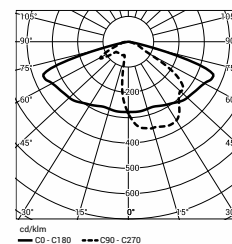
ME



T2



T3



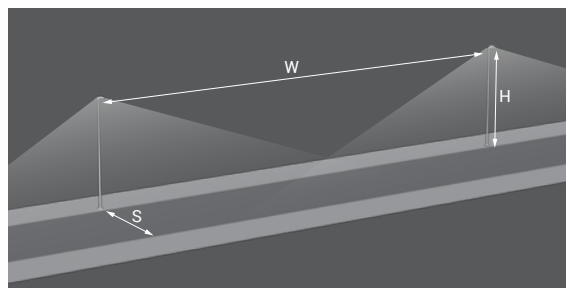
Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
2210033/3/...	COSMO LED 48	48 W	55 W	700 mA	3500 K	7000 lm	6550 lm	119 lm/W	11,5 kg
2210033/4/...	COSMO LED 48	48 W	55 W	700 mA	4000 K	7300 lm	6800 lm	124 lm/W	11,5 kg
2210033/6/...	COSMO LED 48	48 W	55 W	700 mA	5000 K	8150 lm	7100 lm	129 lm/W	11,5 kg
2210034/3/...	COSMO LED 60	60 W	67 W	830 mA	3500 K	8050 lm	7700 lm	115 lm/W	11,5 kg
2210034/4/...	COSMO LED 60	60 W	67 W	830 mA	4000 K	8950 lm	8000 lm	119 lm/W	11,5 kg
2210034/6/...	COSMO LED 60	60 W	67 W	830 mA	5000 K	9350 lm	8400 lm	125 lm/W	11,5 kg
2210035/3/...	COSMO LED 72	72 W	80 W	1000 mA	3500 K	9400 lm	8950 lm	112 lm/W	11,5 kg
2210035/4/...	COSMO LED 72	72 W	80 W	1000 mA	4000 K	10450 lm	9300 lm	116 lm/W	11,5 kg
2210035/6/...	COSMO LED 72	72 W	80 W	1000 mA	5000 K	10950 lm	9750 lm	122 lm/W	11,5 kg

/... Symbol of selected optical system

COSMO LED ALFA



Lighting example



Urban road

COSMO LED ALFA 72W, DW optics

Parameters:

H – luminaire mounting height: 7 m

W – pole spacing: 31 m

S – road width: 7 m

Lighting class M3

Application: urban roads, pedestrian walkways, parking lots

Installation: pole top mounted with $\varnothing 60 \times 80$ mm ending

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy

Colour: inox / black

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 24

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

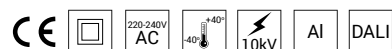
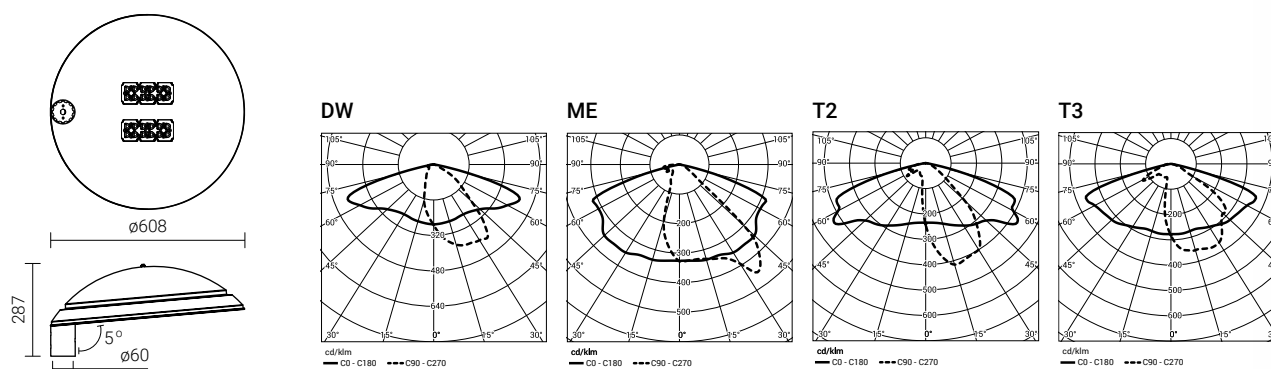
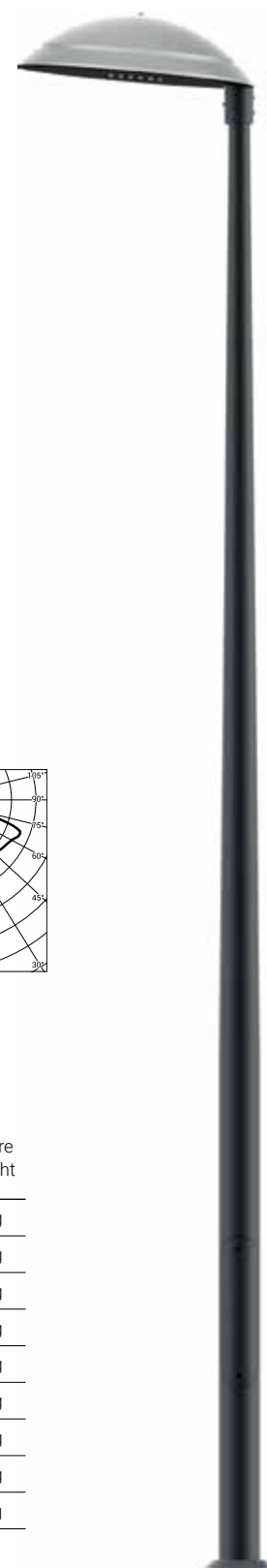
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,073 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire COSMO LED ALFA has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).



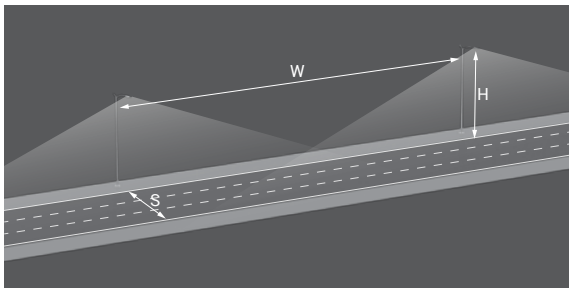
Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
2212033/3/...	COSMO LED ALFA 48	48 W	55 W	700 mA	3500 K	7000 lm	6550 lm	119 lm/W	11,5 kg
2212033/4/...	COSMO LED ALFA 48	48 W	55 W	700 mA	4000 K	7300 lm	6800 lm	124 lm/W	11,5 kg
2212033/6/...	COSMO LED ALFA 48	48 W	55 W	700 mA	5000 K	8150 lm	7100 lm	129 lm/W	11,5 kg
2212034/3/...	COSMO LED ALFA 60	60 W	67 W	830 mA	3500 K	8050 lm	7700 lm	115 lm/W	11,5 kg
2212034/4/...	COSMO LED ALFA 60	60 W	67 W	830 mA	4000 K	8950 lm	8000 lm	119 lm/W	11,5 kg
2212034/6/...	COSMO LED ALFA 60	60 W	67 W	830 mA	5000 K	9350 lm	8400 lm	125 lm/W	11,5 kg
2212035/3/...	COSMO LED ALFA 72	72 W	80 W	1000 mA	3500 K	9400 lm	8950 lm	112 lm/W	11,5 kg
2212035/4/...	COSMO LED ALFA 72	72 W	80 W	1000 mA	4000 K	10450 lm	9300 lm	116 lm/W	11,5 kg
2212035/6/...	COSMO LED ALFA 72	72 W	80 W	1000 mA	5000 K	10950 lm	9750 lm	122 lm/W	11,5 kg

/... Symbol of selected optical system

URSA LED



Lighting example



Single carriageway
with three lanes

URSA LED 120W, DW optics

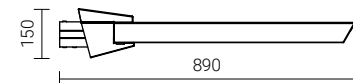
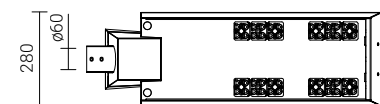
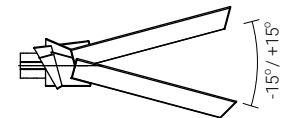
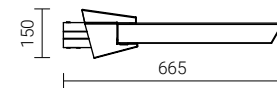
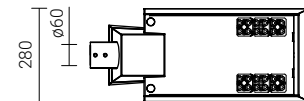
Parameters:

H – luminaire mounting height: 9 m

W – pole spacing: 38 m

S – road width: 10,5 m

Lighting class M3



Application: urban roads, residential streets, pedestrian walkways, parking lots, motorways and expressways

Installation: on extension arms with $\varnothing 60 \times 95$ mm ending

Luminaire angular adjustment: in the range from -15° to 15°

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy

Colour: inox / black

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 24 (for 48 W, 60 W, 72 W), 48 (for 96 W, 120 W, 144 W)

Operating temperature range: od -40°C do $+55^\circ\text{C}$ (dla 48 W, 60 W, 72 W, 96 W, 120 W), od -40°C do $+40^\circ\text{C}$ (dla 144 W)

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

CRI: for 4000 K, 5000 K > 70 , for 3500 K > 80

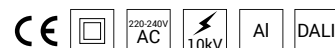
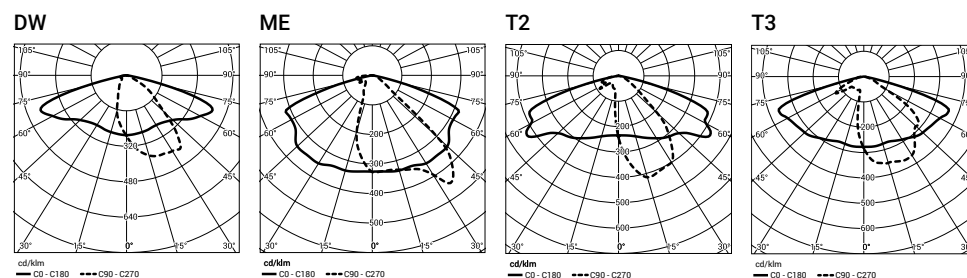
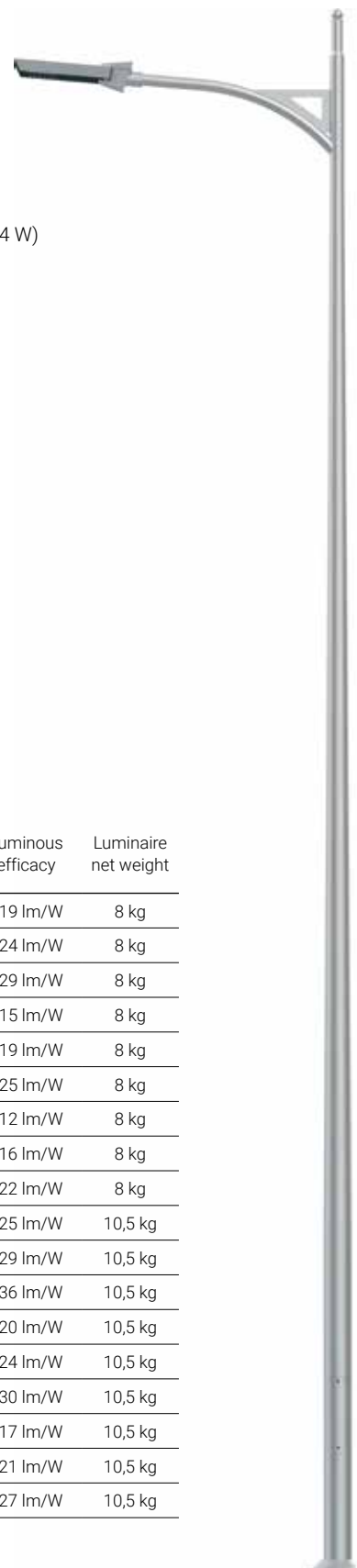
Unit volume: 0,028 m³ (for 48 W, 60 W, 72 W), 0,037 m³ (for 96 W, 120 W, 144 W)

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire URSA LED has the possibility to connect to an external control system via DALI interface

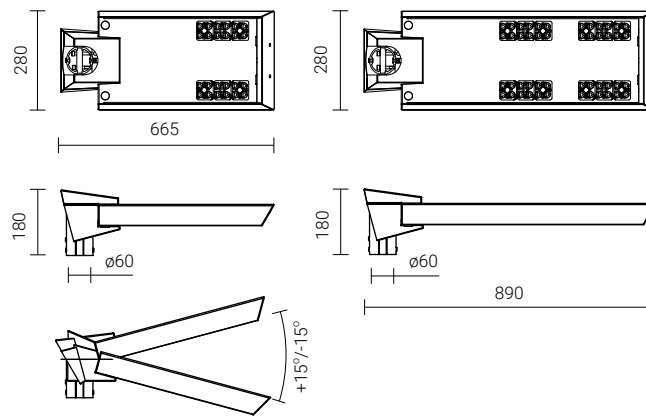
(optionally via analog signal 1-10 V).



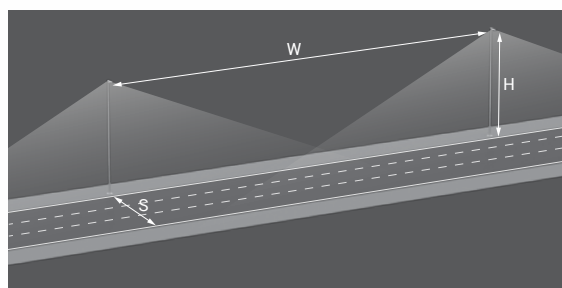
Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
2220033/3/...	URSA LED 48	48 W	55 W	700 mA	3500 K	7000 lm	6550 lm	119 lm/W	8 kg
2220033/4/...	URSA LED 48	48 W	55 W	700 mA	4000 K	7300 lm	6800 lm	124 lm/W	8 kg
2220033/6/...	URSA LED 48	48 W	55 W	700 mA	5000 K	8150 lm	7100 lm	129 lm/W	8 kg
2220034/3/...	URSA LED 60	60 W	67 W	830 mA	3500 K	8050 lm	7700 lm	115 lm/W	8 kg
2220034/4/...	URSA LED 60	60 W	67 W	830 mA	4000 K	8950 lm	8000 lm	119 lm/W	8 kg
2220034/6/...	URSA LED 60	60 W	67 W	830 mA	5000 K	9350 lm	8400 lm	125 lm/W	8 kg
2220035/3/...	URSA LED 72	72 W	80 W	1000 mA	3500 K	9400 lm	8950 lm	112 lm/W	8 kg
2220035/4/...	URSA LED 72	72 W	80 W	1000 mA	4000 K	10450 lm	9300 lm	116 lm/W	8 kg
2220035/6/...	URSA LED 72	72 W	80 W	1000 mA	5000 K	10950 lm	9750 lm	122 lm/W	8 kg
2220037/3/...	URSA LED 96	96 W	105 W	700 mA	3500 K	14050 lm	13100 lm	125 lm/W	10,5 kg
2220037/4/...	URSA LED 96	96 W	105 W	700 mA	4000 K	14650 lm	13550 lm	129 lm/W	10,5 kg
2220037/6/...	URSA LED 96	96 W	105 W	700 mA	5000 K	16350 lm	14250 lm	136 lm/W	10,5 kg
2220039/3/...	URSA LED 120	120 W	129 W	830 mA	3500 K	16100 lm	15450 lm	120 lm/W	10,5 kg
2220039/4/...	URSA LED 120	120 W	129 W	830 mA	4000 K	17850 lm	15950 lm	124 lm/W	10,5 kg
2220039/6/...	URSA LED 120	120 W	129 W	830 mA	5000 K	18750 lm	16750 lm	130 lm/W	10,5 kg
2220041/3/...	URSA LED 144	144 W	154 W	1000 mA	3500 K	18850 lm	17950 lm	117 lm/W	10,5 kg
2220041/4/...	URSA LED 144	144 W	154 W	1000 mA	4000 K	20850 lm	18600 lm	121 lm/W	10,5 kg
2220041/6/...	URSA LED 144	144 W	154 W	1000 mA	5000 K	21900 lm	19500 lm	127 lm/W	10,5 kg

/... Symbol of selected optical system

URSA LED ALFA



Lighting example



Single carriageway
with three lanes

URSA LED ALFA 120W, DW optics

Parameters:

H – luminaire mounting height: 10 m

W – pole spacing: 39 m

S – road width: 10,5 m

Lighting class M3

Application: urban roads, residential streets, pedestrian walkways, parking lots, motorways and expressways

Installation: pole top mounted with $\varnothing 60 \times 95$ mm ending

Luminaire angular adjustment: in the range from -15° to 15°

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy,

Colour: inox / black

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 24 (for 48 W, 60 W, 72 W), 48 (for 96 W, 120 W, 144 W)

Operating temperature range: od -40°C do $+55^\circ\text{C}$ (dla 48 W, 60 W, 72 W, 96 W, 120 W), od -40°C do $+40^\circ\text{C}$ (dla 144 W)

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

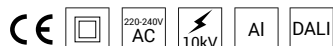
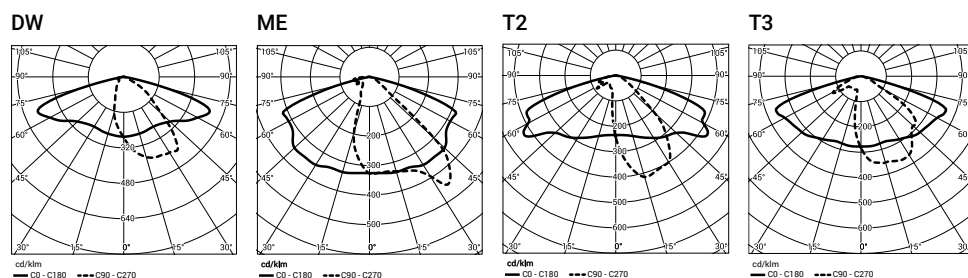
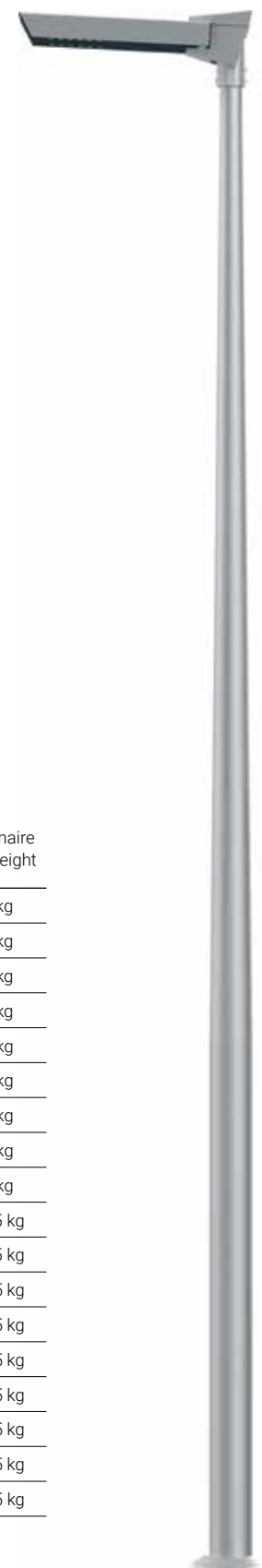
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,028 m³ (for 48 W, 60 W, 72 W), 0,037 m³ (for 96 W, 120 W, 144 W)

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

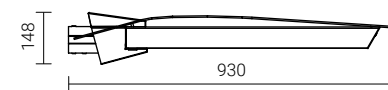
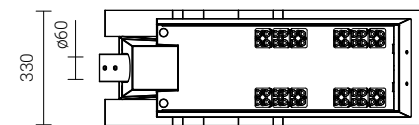
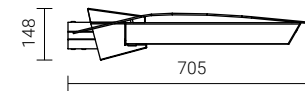
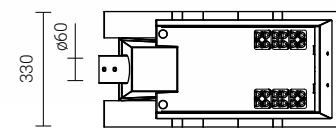
Luminaire URSA LED ALFA has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).



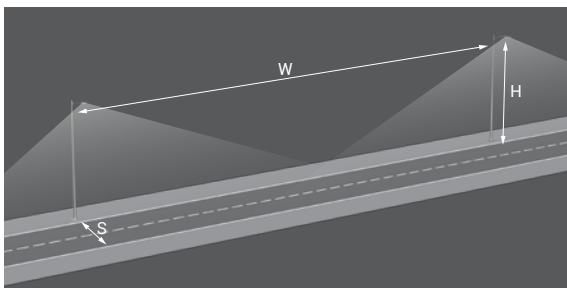
Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
2221033/3/...	URSA LED ALFA 48	48 W	55 W	700 mA	3500 K	7000 lm	6550 lm	119 lm/W	8 kg
2221033/4/...	URSA LED ALFA 48	48 W	55 W	700 mA	4000 K	7300 lm	6800 lm	124 lm/W	8 kg
2221033/6/...	URSA LED ALFA 48	48 W	55 W	700 mA	5000 K	8150 lm	7100 lm	129 lm/W	8 kg
2221034/3/...	URSA LED ALFA 60	60 W	67 W	830 mA	3500 K	8050 lm	7700 lm	115 lm/W	8 kg
2221034/4/...	URSA LED ALFA 60	60 W	67 W	830 mA	4000 K	8950 lm	8000 lm	119 lm/W	8 kg
2221034/6/...	URSA LED ALFA 60	60 W	67 W	830 mA	5000 K	9350 lm	8400 lm	125 lm/W	8 kg
2221035/3/...	URSA LED ALFA 72	72 W	80 W	1000 mA	3500 K	9400 lm	8950 lm	112 lm/W	8 kg
2221035/4/...	URSA LED ALFA 72	72 W	80 W	1000 mA	4000 K	10450 lm	9300 lm	116 lm/W	8 kg
2221035/6/...	URSA LED ALFA 72	72 W	80 W	1000 mA	5000 K	10950 lm	9750 lm	122 lm/W	8 kg
2221037/3/...	URSA LED ALFA 96	96 W	105 W	700 mA	3500 K	14050 lm	13100 lm	125 lm/W	10,5 kg
2221037/4/...	URSA LED ALFA 96	96 W	105 W	700 mA	4000 K	14650 lm	13550 lm	129 lm/W	10,5 kg
2221037/6/...	URSA LED ALFA 96	96 W	105 W	700 mA	5000 K	16350 lm	14250 lm	136 lm/W	10,5 kg
2221039/3/...	URSA LED ALFA 120	120 W	129 W	830 mA	3500 K	16100 lm	15450 lm	120 lm/W	10,5 kg
2221039/4/...	URSA LED ALFA 120	120 W	129 W	830 mA	4000 K	17850 lm	15950 lm	124 lm/W	10,5 kg
2221039/6/...	URSA LED ALFA 120	120 W	129 W	830 mA	5000 K	18750 lm	16750 lm	130 lm/W	10,5 kg
2221041/3/...	URSA LED ALFA 144	144 W	154 W	1000 mA	3500 K	18850 lm	17950 lm	117 lm/W	10,5 kg
2221041/4/...	URSA LED ALFA 144	144 W	154 W	1000 mA	4000 K	20850 lm	18600 lm	121 lm/W	10,5 kg
2221041/6/...	URSA LED ALFA 144	144 W	154 W	1000 mA	5000 K	21900 lm	19500 lm	127 lm/W	10,5 kg

/... Symbol of selected optical system

ANDROMEDA LED



Lighting example



Single carriageway with two lanes

ANDROMEDA LED 72W, T3 optics

Parameters:

H – luminaire mounting height: 9,5 m

W – pole spacing: 42 m

S – road width: 7 m

Lighting class M4

Application: urban roads, pedestrian walkways, parking lots, motorways and expressways

Installation: on extension arms with $\varnothing 60 \times 95$ mm ending

Luminaire angular adjustment: in the range from -15° to 15°

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy

Colour: inox / black

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 24 (for 60 W, 72 W), 48 (for 96 W, 120 W, 144 W)

Operating temperature range: od -40°C do $+55^\circ\text{C}$ (dla 60 W, 72 W, 96 W, 120 W), od -40°C do $+40^\circ\text{C}$ (dla 144 W)

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

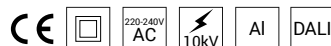
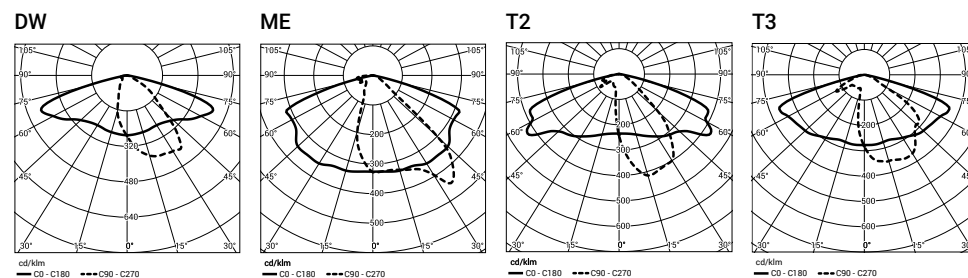
CRI: for 4000 K, 5000 K > 70 , for 3500 K > 80

Unit volume: 0,035 m³ (for 60 W, 72 W), 0,046 m³ (for 96 W, 120 W, 144 W)

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire ANDROMEDA LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).



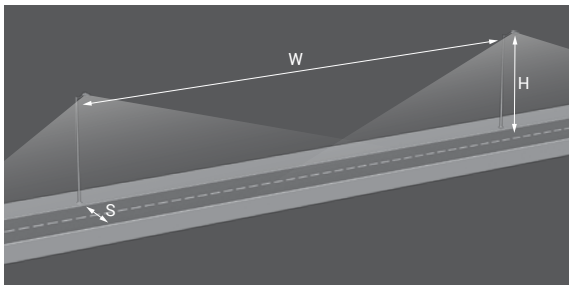
Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
2222034/3/...	ANDROMEDA LED 60	60 W	67 W	830 mA	3500 K	8050 lm	7700 lm	115 lm/W	10 kg
2222034/4/...	ANDROMEDA LED 60	60 W	67 W	830 mA	4000 K	8950 lm	8000 lm	119 lm/W	10 kg
2222034/6/...	ANDROMEDA LED 60	60 W	67 W	830 mA	5000 K	9350 lm	8400 lm	125 lm/W	10 kg
2222035/3/...	ANDROMEDA LED 72	72 W	80 W	1000 mA	3500 K	9400 lm	8950 lm	112 lm/W	10 kg
2222035/4/...	ANDROMEDA LED 72	72 W	80 W	1000 mA	4000 K	10450 lm	9300 lm	116 lm/W	10 kg
2222035/6/...	ANDROMEDA LED 72	72 W	80 W	1000 mA	5000 K	10950 lm	9750 lm	122 lm/W	10 kg
2222037/3/...	ANDROMEDA LED 96	96 W	105 W	700 mA	3500 K	14050 lm	13100 lm	125 lm/W	13,5 kg
2222037/4/...	ANDROMEDA LED 96	96 W	105 W	700 mA	4000 K	14650 lm	13550 lm	129 lm/W	13,5 kg
2222037/6/...	ANDROMEDA LED 96	96 W	105 W	700 mA	5000 K	16350 lm	14250 lm	136 lm/W	13,5 kg
2222039/3/...	ANDROMEDA LED 120	120 W	129 W	830 mA	3500 K	16100 lm	15450 lm	120 lm/W	13,5 kg
2222039/4/...	ANDROMEDA LED 120	120 W	129 W	830 mA	4000 K	17850 lm	15950 lm	124 lm/W	13,5 kg
2222039/6/...	ANDROMEDA LED 120	120 W	129 W	830 mA	5000 K	18750 lm	16750 lm	130 lm/W	13,5 kg
2222041/3/...	ANDROMEDA LED 144	144 W	154 W	1000 mA	3500 K	18850 lm	17950 lm	117 lm/W	13,5 kg
2222041/4/...	ANDROMEDA LED 144	144 W	154 W	1000 mA	4000 K	20850 lm	18600 lm	121 lm/W	13,5 kg
2222041/6/...	ANDROMEDA LED 144	144 W	154 W	1000 mA	5000 K	21900 lm	19500 lm	127 lm/W	13,5 kg

/... Symbol of selected optical system

MAGNOLIA LED



Lighting example



Local road

Magnolia LED 48W, T2 optics

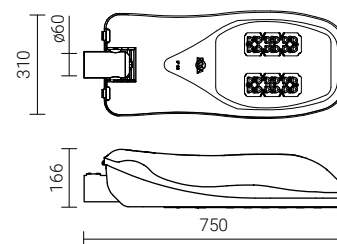
Parameters:

H - luminaire mounting height: 7,9 m

W - pole spacing: 39 m

S - road width: 5,5 m

Lighting class M5



Application: urban roads, residential streets, pedestrian walkways, parking lots

Installation: pole top mounted or on extension arms with $\varnothing 60 \times 120$ mm ending

Luminaire angular adjustment: in the range from -5° to 20° by $2,5^\circ$

Ingress protection: IP 66 for the optical part and the driver

Material: body and cover made of high-pressure die casted aluminium alloy

Colour: body RAL 9006 structure, cover – SILVER RENOIR, LED cover black anodised

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 24

Expected useful lifetime: L90F10 - 50 000 h, L80F20 – 100 000 h,

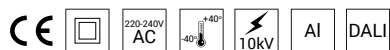
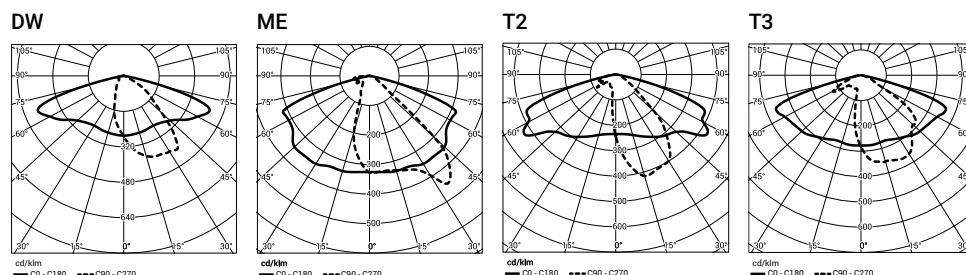
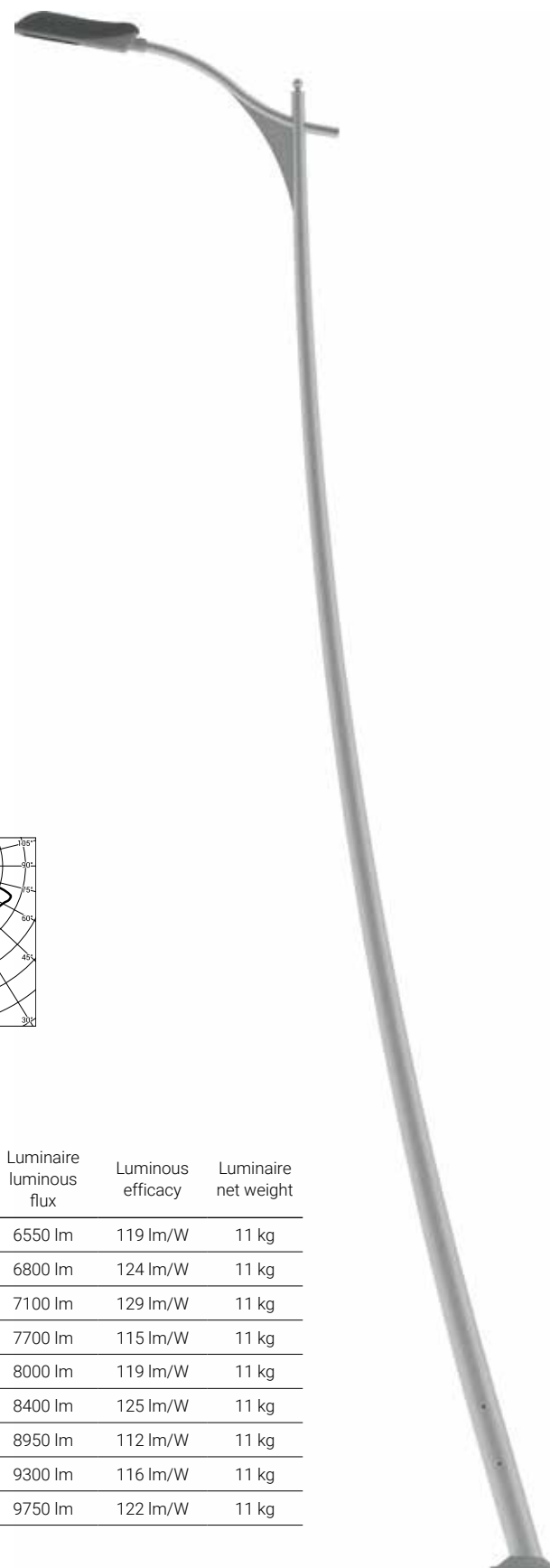
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80,

Unit volume: 0,040 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire MAGNOLIA LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).



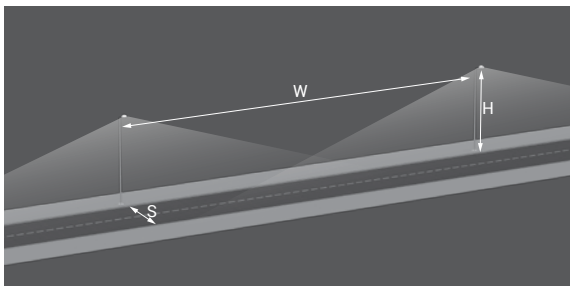
Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
220933/3/...	MAGNOLIA LED 48	48 W	55 W	700 mA	3500 K	7000 lm	6550 lm	119 lm/W	11 kg
220933/4/...	MAGNOLIA LED 48	48 W	55 W	700 mA	4000 K	7300 lm	6800 lm	124 lm/W	11 kg
220933/6/...	MAGNOLIA LED 48	48 W	55 W	700 mA	5000 K	8150 lm	7100 lm	129 lm/W	11 kg
220934/3/...	MAGNOLIA LED 60	60 W	67 W	830 mA	3500 K	8050 lm	7700 lm	115 lm/W	11 kg
220934/4/...	MAGNOLIA LED 60	60 W	67 W	830 mA	4000 K	8950 lm	8000 lm	119 lm/W	11 kg
220934/6/...	MAGNOLIA LED 60	60 W	67 W	830 mA	5000 K	9350 lm	8400 lm	125 lm/W	11 kg
220935/3/...	MAGNOLIA LED 72	72 W	80 W	1000 mA	3500 K	9400 lm	8950 lm	112 lm/W	11 kg
220935/4/...	MAGNOLIA LED 72	72 W	80 W	1000 mA	4000 K	10450 lm	9300 lm	116 lm/W	11 kg
220935/6/...	MAGNOLIA LED 72	72 W	80 W	1000 mA	5000 K	10950 lm	9750 lm	122 lm/W	11 kg

/... Symbol of selected optical system

LUNOIDA LED



Lighting example



Urban road

LUNOIDA 60W, T3 optics

Parameters:

H – luminaire mounting height: 7 m

W – pole spacing: 32 m

S – road width: 6 m

Lighting class M4

Application: urban roads, motorways and expressways

Installation: pole top mounted or on extension arms with $\varnothing 60 - \varnothing 76$ mm x 100mm ending

Luminaire angular adjustment: in the range from 0° to 110° by 4,5°

Ingress protection: IP 66 for the optical part and the driver

Material: body made of high-pressure die casted aluminium alloy, cover made of UV resistant plastic

Colour: body RAL 7038, cover RAL 7035, LED cover black anodised

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 24

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

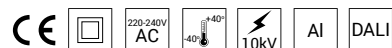
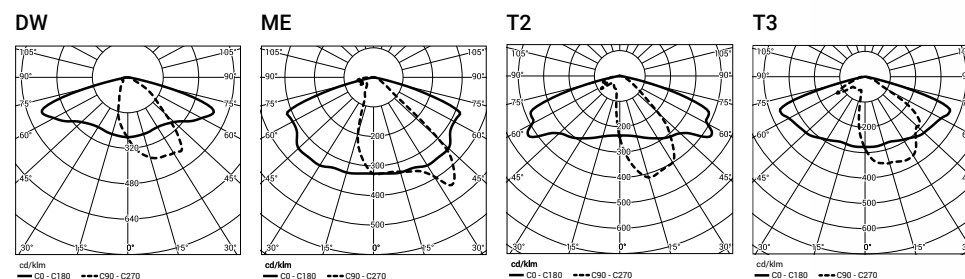
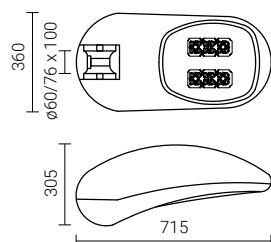
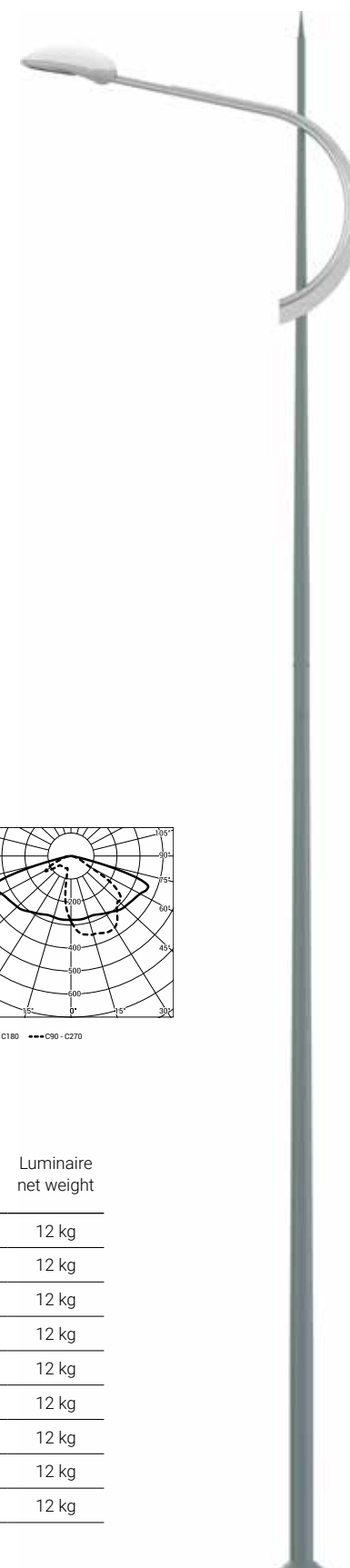
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,070 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire LUNOIDA LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).



Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
2202033/3/...	LUNOIDA LED 48	48 W	55 W	700 mA	3500 K	7000 lm	6550 lm	119 lm/W	12 kg
2202033/4/...	LUNOIDA LED 48	48 W	55 W	700 mA	4000 K	7300 lm	6800 lm	124 lm/W	12 kg
2202033/6/...	LUNOIDA LED 48	48 W	55 W	700 mA	5000 K	8150 lm	7100 lm	129 lm/W	12 kg
2202034/3/...	LUNOIDA LED 60	60 W	67 W	830 mA	3500 K	8050 lm	7700 lm	115 lm/W	12 kg
2202034/4/...	LUNOIDA LED 60	60 W	67 W	830 mA	4000 K	8950 lm	8000 lm	119 lm/W	12 kg
2202034/6/...	LUNOIDA LED 60	60 W	67 W	830 mA	5000 K	9350 lm	8400 lm	125 lm/W	12 kg
2202035/3/...	LUNOIDA LED 72	72 W	80 W	1000 mA	3500 K	9400 lm	8950 lm	112 lm/W	12 kg
2202035/4/...	LUNOIDA LED 72	72 W	80 W	1000 mA	4000 K	10450 lm	9300 lm	116 lm/W	12 kg
2202035/6/...	LUNOIDA LED 72	72 W	80 W	1000 mA	5000 K	10950 lm	9750 lm	122 lm/W	12 kg

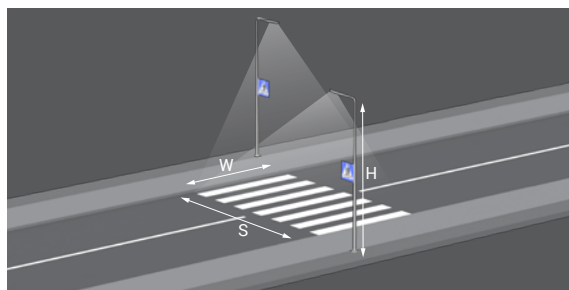
/... Symbol of selected optical system

ISKRA LED P

for pedestrian crossing



Lighting example



Pedestrian crossing lighting 7 x 4 m
– single carriageway two-way traffic

ISKRA LED P 36W

Parameters:

H – luminaire mounting height: 5 m

W – pole spacing: 4 m

S – road width: 7 m

Application: pedestrian crossings

Installation: on extension arms with $\varnothing 60 \times 90$ mm ending

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy

Colour: inox / black

Optical system: PMMA optics

Number of LEDs: 12

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

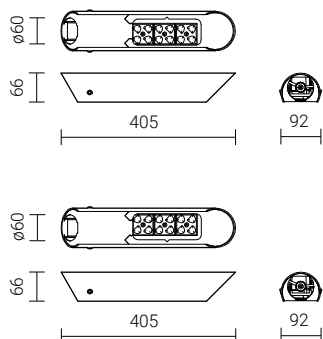
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,005 m³

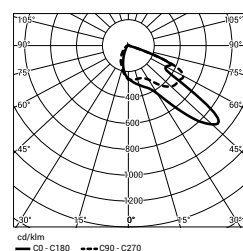
Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

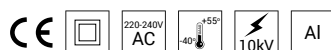
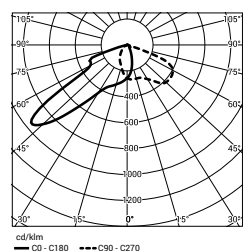
Luminaire ISKRA LED P optionally has the possibility, to connect to an external control system via analog signal 1-10 V.



P – asymmetric distribution for roads with right-hand side traffic



L – asymmetric distribution for roads with left-hand side traffic



Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
2132032/3/...	ISKRA LED P 36	36 W	39 W	960 mA	3500 K	4550 lm	4300 lm	110 lm/W	2,2 kg
2132032/4/...	ISKRA LED P 36	36 W	39 W	960 mA	4000 K	5050 lm	4600 lm	118 lm/W	2,2 kg
2132032/6/...	ISKRA LED P 36	36 W	39 W	960 mA	5000 K	5250 lm	4800 lm	123 lm/W	2,2 kg

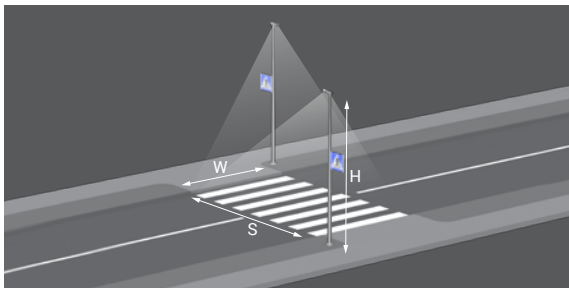
/... Symbol of selected optical system

ISKRA LED P ALFA

for pedestrian crossing



Lighting example



Pedestrian crossing lighting 7 x 4 m
– single carriageway two-way traffic

ISKRA LED P 36W ALFA

Parameters:

H – luminaire mounting height: 5 m

W – pole spacing: 4 m

S – road width: 7 m

Application: pedestrian crossings

Installation: pole top mounted with $\varnothing 60 \times 80$ mm ending

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy

Colour: inox / black

Optical system: PMMA optics

Number of LEDs: 12

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

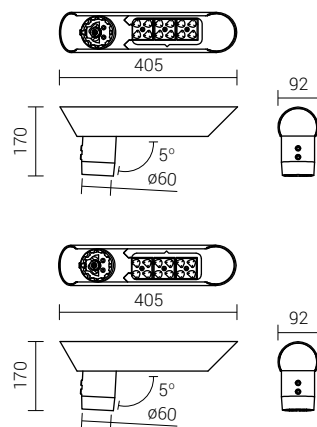
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,01 m³

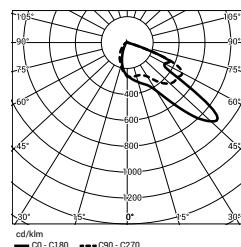
Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

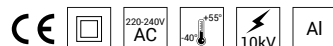
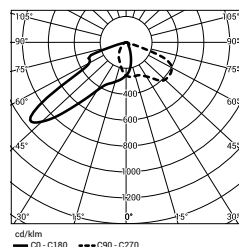
Luminaire ISKRA LED P ALFA optionally has the possibility, to connect to an external control system via analog signal 1-10 V.



P – asymmetric distribution for roads with right-hand side traffic



L – asymmetric distribution for roads with left-hand side traffic

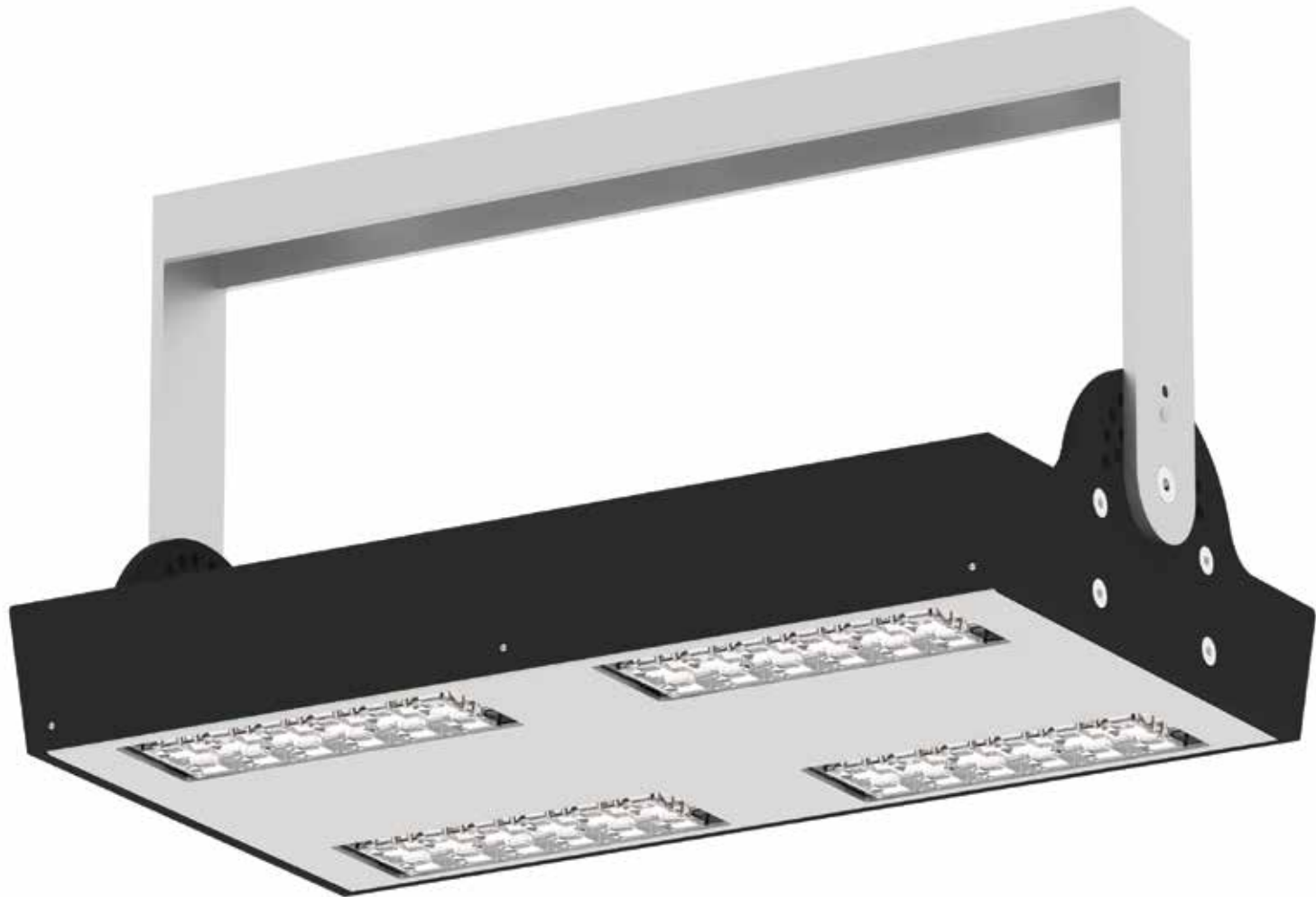


Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
2133032/3/...	ISKRA LED P 36 ALFA	36 W	39 W	960 mA	3500 K	4550 lm	4300 lm	110 lm/W	2,6 kg
2133032/4/...	ISKRA LED P 36 ALFA	36 W	39 W	960 mA	4000 K	5050 lm	4600 lm	118 lm/W	2,6 kg
2133032/6/...	ISKRA LED P 36 ALFA	36 W	39 W	960 mA	5000 K	5250 lm	4800 lm	123 lm/W	2,6 kg

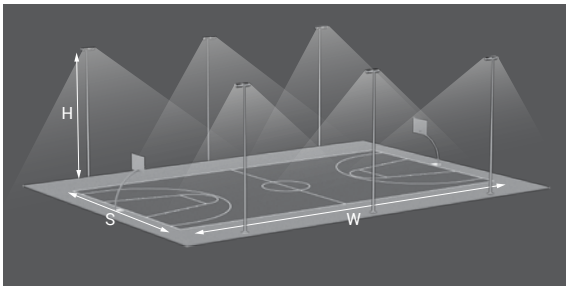
/... Symbol of selected optical system



ARTEMIS LED



Lighting example



Court

ARTEMIS LED 144W

Parameters:

H – luminaire mounting height: 12 m

W – court length: 28 m

S – court width: 15 m

Number of luminaires – 12

Average illuminance: Eav – 200lx

Application: industrial halls, sports facilities, parking lots

Installation: suspended or on WN type extension arms

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy

Colour: inox / black

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 48

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

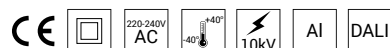
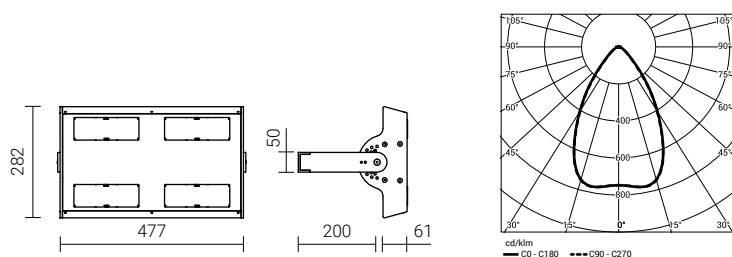
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80,

Unit volume: 0,022 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

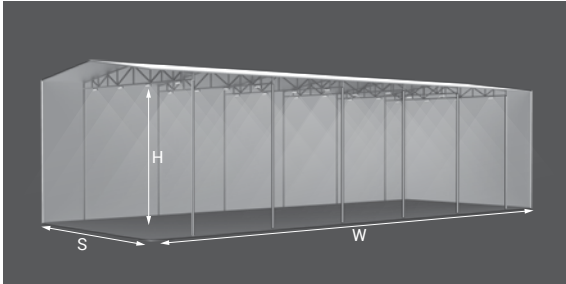
Luminaire ARTEMIS LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).



Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
229041/3	ARTEMIS LED 144	144 W	154 W	1000 mA	3500 K	18850 lm	17950 lm	117 lm/W	8 kg
229041/4	ARTEMIS LED 144	144 W	154 W	1000 mA	4000 K	20850 lm	18600 lm	121 lm/W	8 kg
229041/6	ARTEMIS LED 144	144 W	154 W	1000 mA	5000 K	21900 lm	19500 lm	127 lm/W	8 kg

ISKRA LED LB

Lighting example



Industrial hall

ISKRA LED LB 80W

Parameters:

H – luminaire mounting height: 10 m

W – hall length: 40 m

S – hall width: 15 m

Number of luminaires: 24

Average illuminance: $E_{av} = 300lx$



Application: industrial halls, tunnels and underground passages

Installation: suspended or on an extension arms WN-1, WN-2, smoothly adjustable mounting angle in the range of 0-45°

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy

Colour: inox / black

Optical system: PMMA optics

Number of LEDs: 12 (for 36 W) 24 (for 80 W)

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

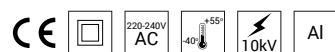
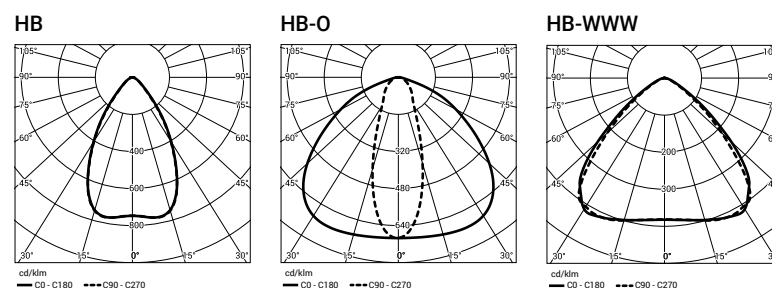
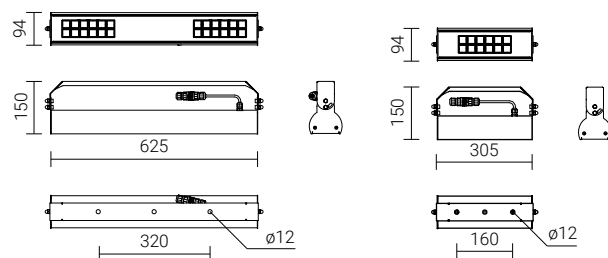
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,01 m³ / 0,02 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire ISKRA LED LB optionally has the possibility, to connect to an external control system via analog signal 1-10 V.



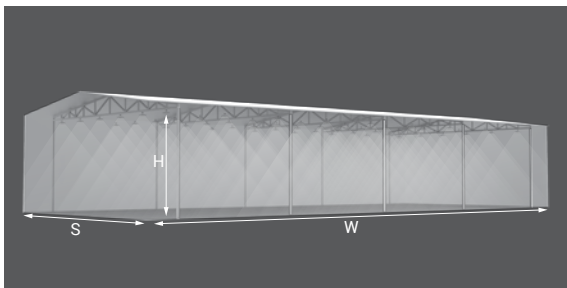
Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
230632/3/...	ISKRA LED LB 36	36 W	39 W	960 mA	3500 K	4550 lm	4300 lm	110 lm/W	5,0 kg
230632/4/...	ISKRA LED LB 36	36 W	39 W	960 mA	4000 K	5050 lm	4600 lm	118 lm/W	5,0 kg
230632/6/...	ISKRA LED LB 36	36 W	39 W	960 mA	5000 K	5250 lm	4800 lm	123 lm/W	5,0 kg
230752/3/...	ISKRA LED LB 80	80 W	86 W	1075 mA	3500 K	10100 lm	9650 lm	112 lm/W	7,0 kg
230752/4/...	ISKRA LED LB 80	80 W	86 W	1075 mA	4000 K	11200 lm	10000 lm	116 lm/W	7,0 kg
230752/6/...	ISKRA LED LB 80	80 W	86 W	1075 mA	5000 K	11800 lm	10500 lm	122 lm/W	7,0 kg

/... Symbol of selected optical system

ISKRA LED HB



Lighting example



Industrial hall

ISKRA LED HB 180W

Parameters:

H – luminaire mounting height: 12 m

W – hall length: 80 m

S – hall width: 30 m

number of luminaires: 60

Average illuminance: $E_{av} = 500lx$

Application: industrial halls

Installation: suspended

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium alloy

Colour: inox / black

Optical system: PMMA optics

Number of LEDs: 48

Expected useful lifetime: L90F10 – 50 000 h L80F20 – 100 000 h

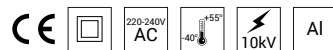
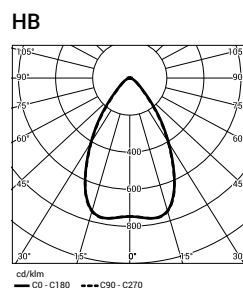
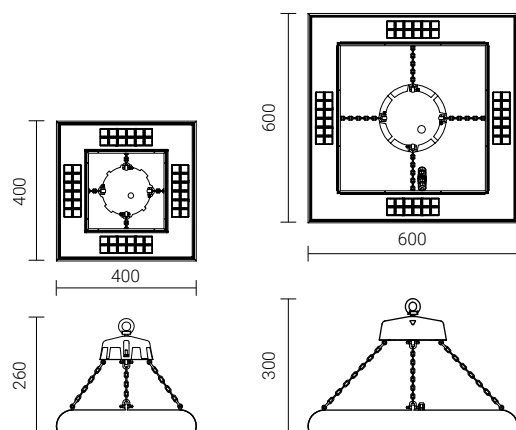
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,02 m³ / 0,03 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Luminaire ISKRA LED HB optionally has the possibility, to connect to an external control system via analog signal 1- 10V.



Code	Name	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Luminaire net weight
231039/3/...	ISKRA LED HB 120	120 W	135 W	825 mA	3500 K	16100 lm	15300 lm	113 lm/W	10 kg
231039/4/...	ISKRA LED HB 120	120 W	135 W	825 mA	4000 K	17850 lm	15900 lm	118 lm/W	10 kg
231039/6/...	ISKRA LED HB 120	120 W	135 W	825 mA	5000 K	18750 lm	16700 lm	124 lm/W	10 kg
231144/3/...	ISKRA LED HB 180	180 W	200 W	1250 mA	3500 K	22400 lm	21700 lm	109 lm/W	15 kg
231144/4/...	ISKRA LED HB 180	180 W	200 W	1250 mA	4000 K	24850 lm	22500 lm	113 lm/W	15 kg
231144/6/...	ISKRA LED HB 180	180 W	200 W	1250 mA	5000 K	26050 lm	23600 lm	118 lm/W	15 kg

/... Symbol of selected optical system

Lighting sets and columns

Bonarka City Center, Cracow,, Poland

Architectural design studio: Architectural concept design - BOSE International Planing and Architecture
Preparation of the architectural project IBM Asymetria, Development office of Cracow, NIRAS, ARCADE





Orlen Arena, Poznań, Poland
Architect: Henryk Nowacki with the MCD Poznań team





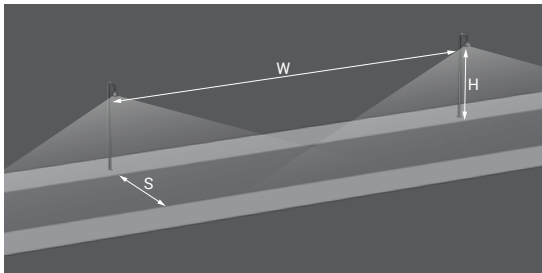
The Museum of the Mazovian Countryside, Sierpc, Poland
 Architectural design studio: Companies consortium Consultor and Chilli Anita Horowska studio



Lighting sets LED

DROP I LED DROP II LED

Lighting example



Bicycle and pedestrian path

DROP I LED 48W

Parameters:

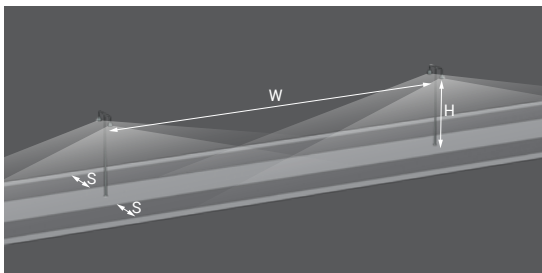
H – lighting sets height: 5 m

W – pole spacing: 24 m

S – sidewalk width: 5 m

Lighting class C2

Lighting example



Bicycle and pedestrian path

DROP II LED 2 x 48W

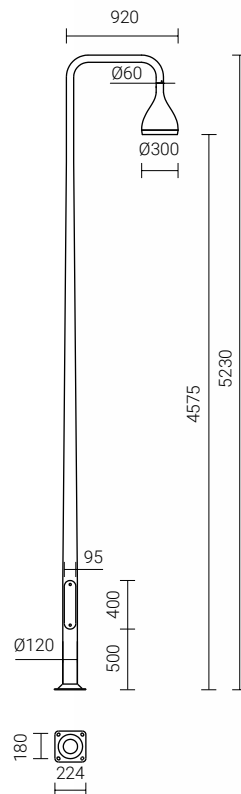
Parameters:

H – lighting sets height: 5 m

W – pole spacing: 24 m

S – sidewalk width: 5 x 3 x 5 m

Lighting class C2



Application: residential streets, parks, pedestrian walkways

Ingress protection: IP 66

Material: anodised aluminium alloy

Colour: inox / graphite

Optical system: PMMA optics

Number of LEDs: 16 (DROP I), 2 x 16 (DROP II)

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 1,78 m³ (DROP I), 3,01 m³ (DROP II)

Input voltage frequency: 50/60 Hz

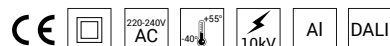
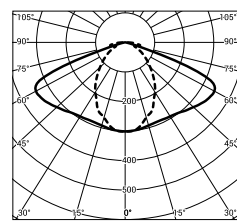
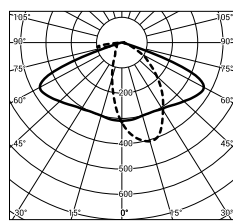
Power factor: ≥ 0.95

Lighting sets DROP I LED and DROP II LED have the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10V).



A – asymmetrical

S – symmetrical



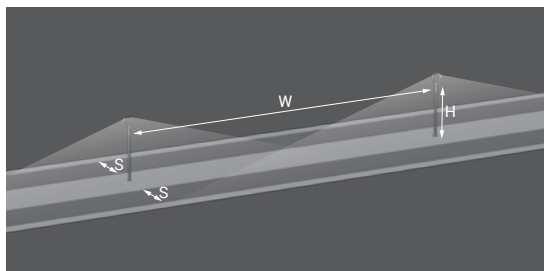
Code	Name	Height H	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
215033/3/...	DROP I LED 48	5,2 m	48 W	55 W	1000 mA	3500 K	6300 lm	6000 lm	109 lm/W	25,9 kg	B-50 / Z-50
215033/4/...	DROP I LED 48	5,2 m	48 W	55 W	1000 mA	4000 K	6950 lm	6200 lm	113 lm/W	25,9 kg	B-50 / Z-50
215033/6/...	DROP I LED 48	5,2 m	48 W	55 W	1000 mA	5000 K	7300 lm	6500 lm	118 lm/W	25,9 kg	B-50 / Z-50
215133/3/...	DROP II LED 48	5,2 m	2 x 48 W	2 x 55 W	1000 mA	3500 K	2 x 6300 lm	2 x 6000 lm	109 lm/W	34,9 kg	B-50 / Z-50
215133/4/...	DROP II LED 48	5,2 m	2 x 48 W	2 x 55 W	1000 mA	4000 K	2 x 6950 lm	2 x 6200 lm	113 lm/W	34,9 kg	B-50 / Z-50
215133/6/...	DROP II LED 48	5,2 m	2 x 48 W	2 x 55 W	1000 mA	5000 K	2 x 7300 lm	2 x 6500 lm	118 lm/W	34,9 kg	B-50 / Z-50

/... Symbol of selected optical system

Lighting sets LED

FLEXI LED

Lighting example



Bicycle and pedestrian path

FLEXI LED 24W

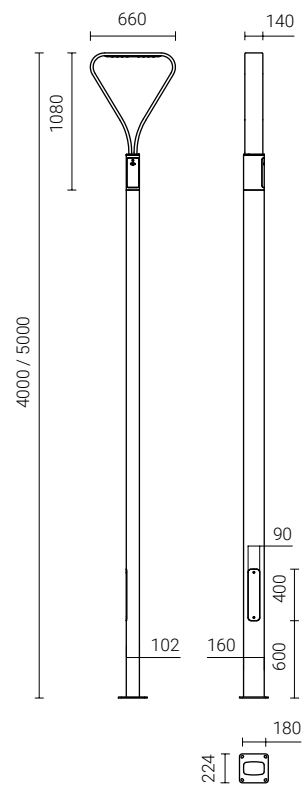
Parameters:

H – lighting sets height: 4 m

W – pole spacing: 22 m

S – sidewalk width: 4 m

Lighting class P3



Tychy, Polska



Application: residential streets, office buildings surrounding, parks, pedestrian walkways

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium profiles

Colour: inox / graphite

Optical system: PMMA optics

Number of LEDs: 8 (for 24 W), 16 (for 48 W)

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,6 m³ (for 24 W), 0,75 m³ (for 48 W)

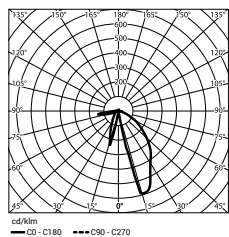
Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

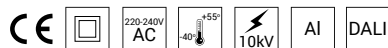
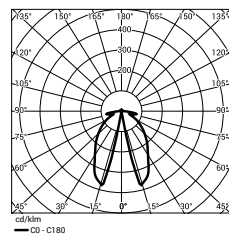
Lighting set FLEXI LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).



A – asymmetrical



S – symmetrical



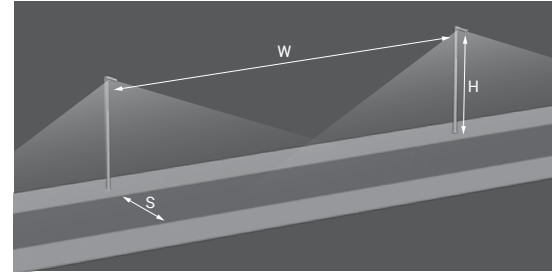
Code	Name	Height H	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
215530/3/A	FLEXI LED 24	4 m	24 W	28 W	1000 mA	3500 K	2600 lm	1900 lm	68 lm/W	29 kg	B-50 / Z-50
215530/3/S	FLEXI LED 24	4 m	24 W	28 W	1000 mA	3500 K	2600 lm	2050 lm	73 lm/W	29 kg	B-50 / Z-50
215530/4/A	FLEXI LED 24	4 m	24 W	28 W	1000 mA	4000 K	3400 lm	2300 lm	82 lm/W	29 kg	B-50 / Z-50
215530/4/S	FLEXI LED 24	4 m	24 W	28 W	1000 mA	4000 K	3400 lm	2300 lm	82 lm/W	29 kg	B-50 / Z-50
215530/6/A	FLEXI LED 24	4 m	24 W	28 W	1000 mA	5000 K	3400 lm	2300 lm	82 lm/W	29 kg	B-50 / Z-50
215530/6/S	FLEXI LED 24	4 m	24 W	28 W	1000 mA	5000 K	3400 lm	2500 lm	89 lm/W	29 kg	B-50 / Z-50
215533/3/A	FLEXI LED 48	5 m	48 W	55 W	1000 mA	3500 K	4850 lm	3800 lm	69 lm/W	32,5 kg	B-50 / Z-50
215533/3/S	FLEXI LED 48	5 m	48 W	55 W	1000 mA	3500 K	4850 lm	4100 lm	75 lm/W	32,5 kg	B-50 / Z-50
215533/4/A	FLEXI LED 48	5 m	48 W	55 W	1000 mA	4000 K	6200 lm	4700 lm	85 lm/W	32,5 kg	B-50 / Z-50
215533/4/S	FLEXI LED 48	5 m	48 W	55 W	1000 mA	4000 K	6200 lm	4700 lm	85 lm/W	32,5 kg	B-50 / Z-50
215533/6/A	FLEXI LED 48	5 m	48 W	55 W	1000 mA	5000 K	6200 lm	4700 lm	85 lm/W	32,5 kg	B-50 / Z-50
215533/6/S	FLEXI LED 48	5 m	48 W	55 W	1000 mA	5000 K	6200 lm	5050 lm	92 lm/W	32,5 kg	B-50 / Z-50

Lighting sets LED

CUT LED



Lighting example



Sidewalk

CUT-5 LED 36W, T3 optics

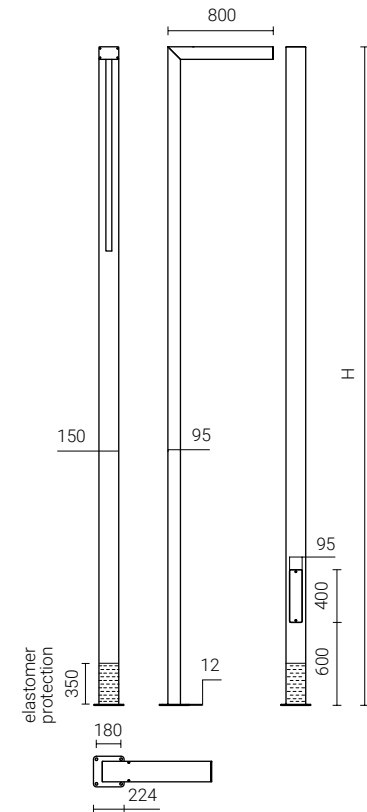
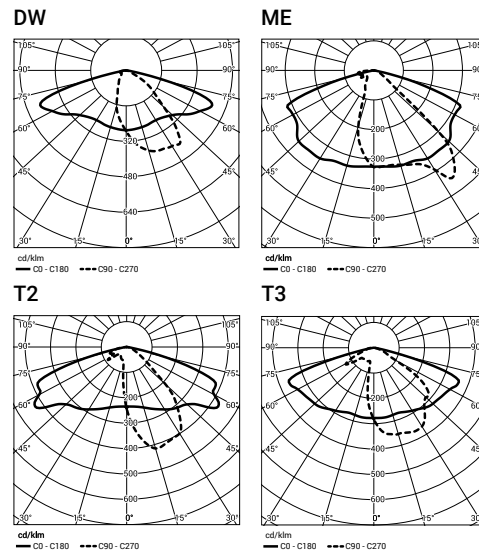
Parameters:

H – lighting sets height: 5 m

W – pole spacing: 19 m

S – sidewalk width: 5 m

Lighting class C2



Application: residential streets, parks, pedestrian walkways, office buildings surrounding

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium profiles

Colour: inox / gray

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 12 (for 24 W, 36 W), 24 (for 48 W)

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,5 m³ (for CUT-3)

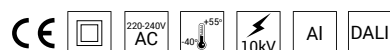
0,7 m³ (for CUT-4)

1,0 m³ (for CUT-5)

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Lighting set CUT LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).



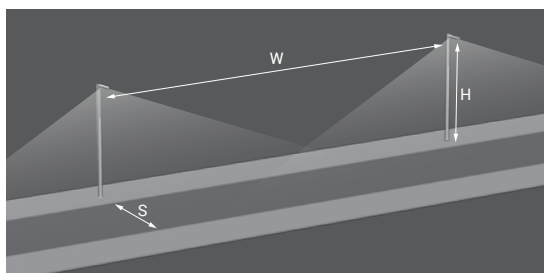
Code	Name	Height H	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
216230/3/...	CUT-3 LED 24	3 m	24 W	31 W	700 mA	3500 K	3500 lm	2850 lm	92 lm/W	31 kg	B-50 / Z-50
216230/4/...	CUT-3 LED 24	3 m	24 W	31 W	700 mA	4000 K	3900 lm	3150 lm	102 lm/W	31 kg	B-50 / Z-50
216230/6/...	CUT-3 LED 24	3 m	24 W	31 W	700 mA	5000 K	4100 lm	3300 lm	106 lm/W	31 kg	B-50 / Z-50
216232/3/...	CUT-3 LED 36	3 m	36 W	42 W	1000 mA	3500 K	4750 lm	3850 lm	92 lm/W	31 kg	B-50 / Z-50
216232/4/...	CUT-3 LED 36	3 m	36 W	42 W	1000 mA	4000 K	5250 lm	4250 lm	101 lm/W	31 kg	B-50 / Z-50
216232/6/...	CUT-3 LED 36	3 m	36 W	42 W	1000 mA	5000 K	5500 lm	4450 lm	106 lm/W	31 kg	B-50 / Z-50
216330/3/...	CUT-4 LED 24	4 m	24 W	31 W	700 mA	3500 K	3500 lm	2850 lm	92 lm/W	37,5 kg	B-50 / Z-50
216330/4/...	CUT-4 LED 24	4 m	24 W	31 W	700 mA	4000 K	3900 lm	3150 lm	102 lm/W	37,5 kg	B-50 / Z-50
216330/6/...	CUT-4 LED 24	4 m	24 W	31 W	700 mA	5000 K	4100 lm	3300 lm	106 lm/W	37,5 kg	B-50 / Z-50
216332/3/...	CUT-4 LED 36	4 m	36 W	42 W	1000 mA	3500 K	4750 lm	3850 lm	92 lm/W	37,5 kg	B-50 / Z-50
216332/4/...	CUT-4 LED 36	4 m	36 W	42 W	1000 mA	4000 K	5250 lm	4250 lm	101 lm/W	37,5 kg	B-50 / Z-50
216332/6/...	CUT-4 LED 36	4 m	36 W	42 W	1000 mA	5000 K	5500 lm	4450 lm	106 lm/W	37,5 kg	B-50 / Z-50
216333/3/...	CUT-4 LED 48	4 m	48 W	55 W	700 mA	3500 K	7000 lm	5650 lm	103 lm/W	37,5 kg	B-50 / Z-50
216333/4/...	CUT-4 LED 48	4 m	48 W	55 W	700 mA	4000 K	7300 lm	5900 lm	107 lm/W	37,5 kg	B-50 / Z-50
216333/6/...	CUT-4 LED 48	4 m	48 W	55 W	700 mA	5000 K	8150 lm	6500 lm	118 lm/W	37,5 kg	B-50 / Z-50
216030/3/...	CUT-5 LED 24	5 m	24 W	31 W	700 mA	3500 K	3500 lm	2850 lm	92 lm/W	42 kg	B-50 / Z-50
216030/4/...	CUT-5 LED 24	5 m	24 W	31 W	700 mA	4000 K	3900 lm	3150 lm	102 lm/W	42 kg	B-50 / Z-50
216030/6/...	CUT-5 LED 24	5 m	24 W	31 W	700 mA	5000 K	4100 lm	3300 lm	106 lm/W	42 kg	B-50 / Z-50
216032/3/...	CUT-5 LED 36	5 m	36 W	42 W	1000 mA	3500 K	4750 lm	3850 lm	92 lm/W	42 kg	B-50 / Z-50
216032/4/...	CUT-5 LED 36	5 m	36 W	42 W	1000 mA	4000 K	5250 lm	4250 lm	101 lm/W	42 kg	B-50 / Z-50
216032/6/...	CUT-5 LED 36	5 m	36 W	42 W	1000 mA	5000 K	5500 lm	4450 lm	106 lm/W	42 kg	B-50 / Z-50
216033/3/...	CUT-5 LED 48	5 m	48 W	55 W	700 mA	3500 K	7000 lm	5650 lm	103 lm/W	42 kg	B-50 / Z-50
216033/4/...	CUT-5 LED 48	5 m	48 W	55 W	700 mA	4000 K	7300 lm	5900 lm	107 lm/W	42 kg	B-50 / Z-50
216033/6/...	CUT-5 LED 48	5 m	48 W	55 W	700 mA	5000 K	8150 lm	6500 lm	118 lm/W	42 kg	B-50 / Z-50

/... Symbol of selected optical system

Lighting sets LED

CUT-8 LED

Lighting example



Road with parking bays and sidewalk

CUT-8 LED 72W, T3 optics

Parameters:

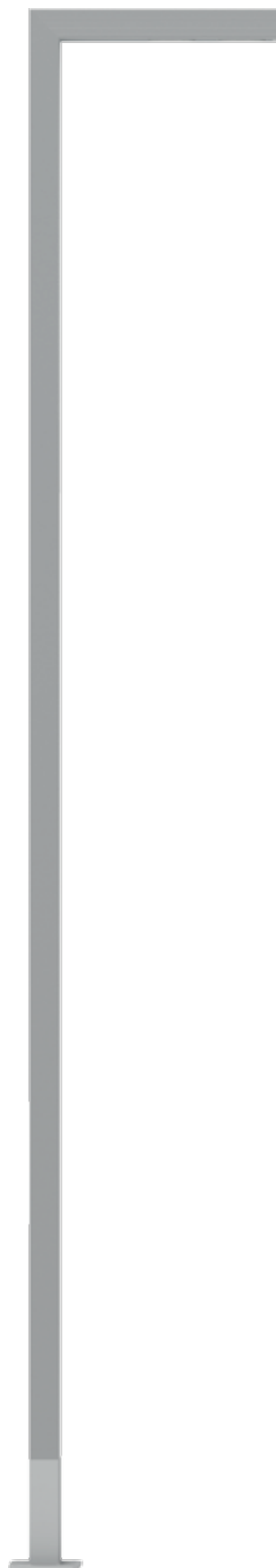
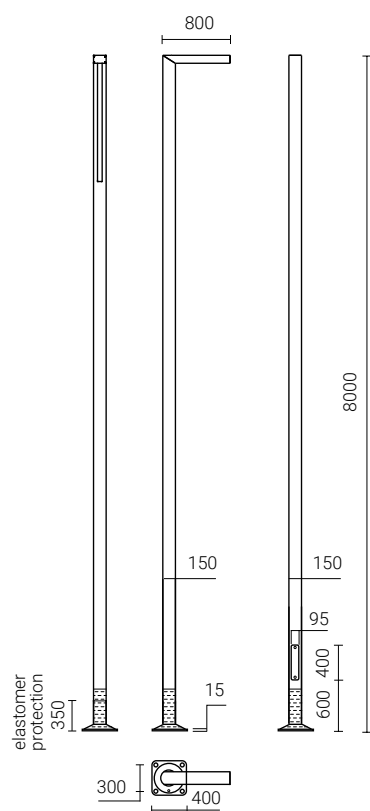
H – lighting sets height: 8 m

W – pole spacing: 25 m

S1 – sidewalk width: 3 m

S2 – road width: 7 m

Lighting class C2



Warsaw, Polska



Application: urban roads, residential streets, office buildings surrounding, parks, pedestrian walkways

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium profiles

Colour: inox / gray

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 24

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

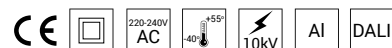
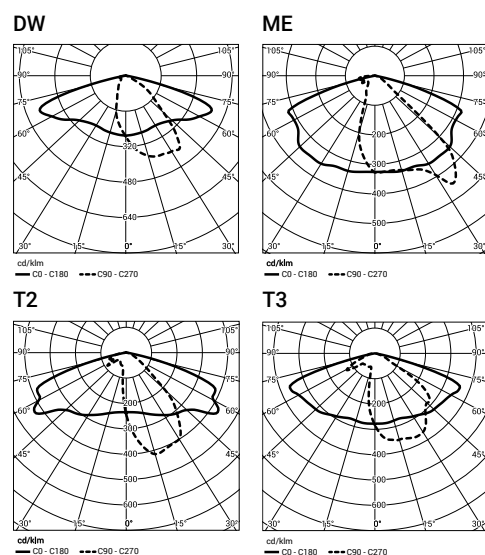
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 2,6 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Lighting set CUT-8 LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).



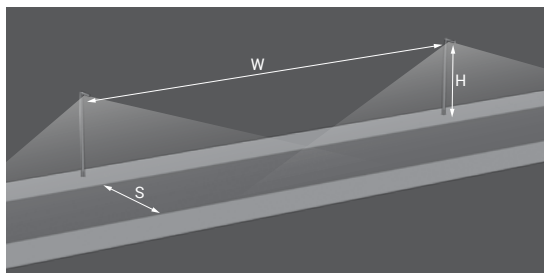
Code	Name	Height H	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
216433/3/...	CUT-8 LED 48	8 m	48 W	55 W	700 mA	3500 K	7000 lm	5650 lm	103 lm/W	76 kg	B-70, B-71 / Z-70, Z-71
216433/4/...	CUT-8 LED 48	8 m	48 W	55 W	700 mA	4000 K	7300 lm	5900 lm	107 lm/W	76 kg	B-70, B-71 / Z-70, Z-71
216433/6/...	CUT-8 LED 48	8 m	48 W	55 W	700 mA	5000 K	8150 lm	6500 lm	118 lm/W	76 kg	B-70, B-71 / Z-70, Z-71
216435/3/...	CUT-8 LED 72	8 m	72 W	80 W	1000 mA	3500 K	9400 lm	7600 lm	95 lm/W	76 kg	B-70, B-71 / Z-70, Z-71
216435/4/...	CUT-8 LED 72	8 m	72 W	80 W	1000 mA	4000 K	10450 lm	8450 lm	106 lm/W	76 kg	B-70, B-71 / Z-70, Z-71
216435/6/...	CUT-8 LED 72	8 m	72 W	80 W	1000 mA	5000 K	10950 lm	8850 lm	110 lm/W	76 kg	B-70, B-71 / Z-70, Z-71

/... Symbol of selected optical system

Lighting sets LED

CORE LED

Lighting example



Residential street

CORE LED 48W, DW optics

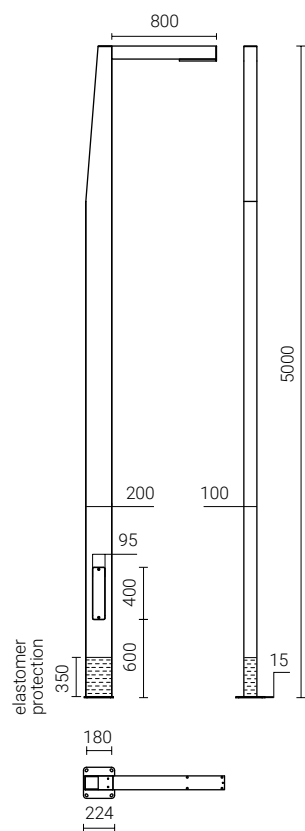
Parameters:

H – lighting sets height: 5 m

W – pole spacing: 27 m

S – road width: 6 m

Lighting class P2



Application: residential streets, office buildings surrounding, parks, pedestrian walkways

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium profiles

Colour: graphite / black

Optical system: PMMA optics, interchangeable LED module

Decorative elements: strip of exotic wood

Number of LEDs: 12 (for 24 W), 24 (for 48 W)

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

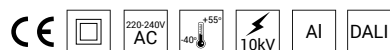
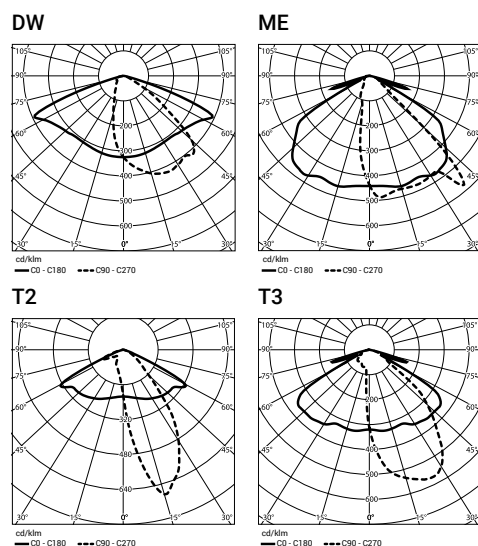
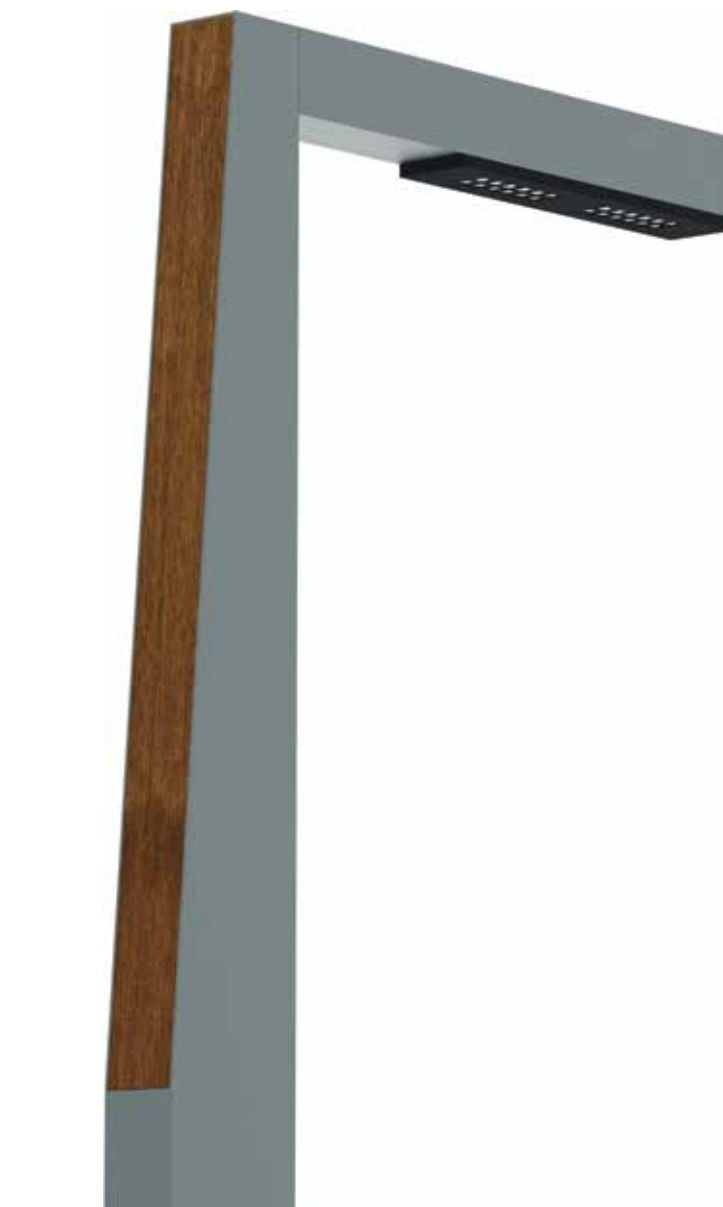
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 1,75 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Lighting set CORE LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).

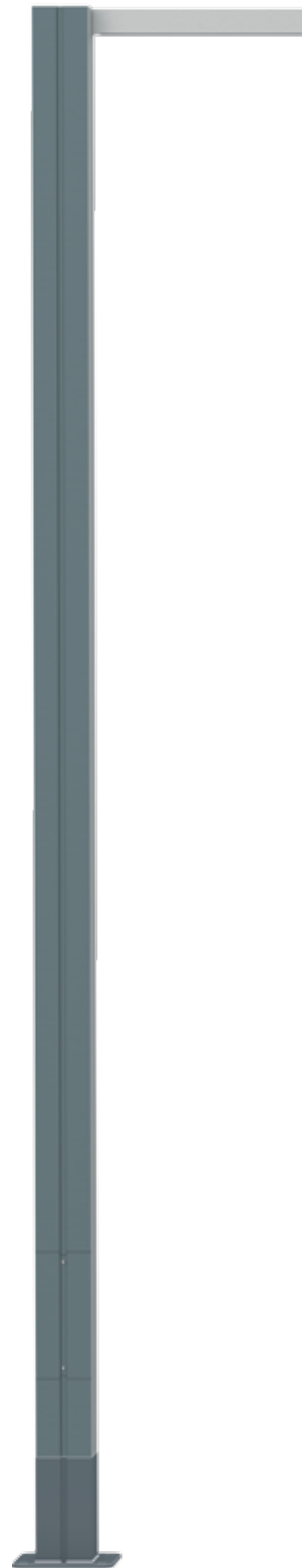
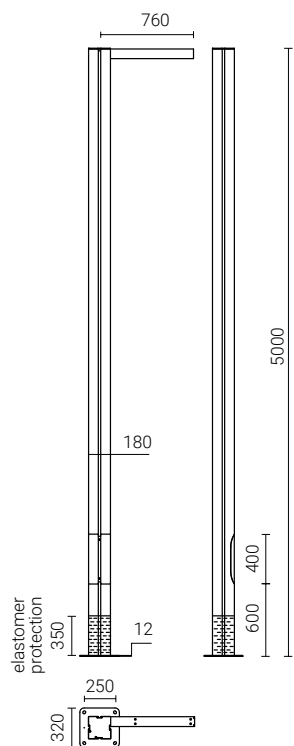


Code	Name	Height H	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
216530/3/...	CORE LED 24	5 m	24 W	31 W	700 mA	3500 K	3500 lm	2650 lm	86 lm/W	42 kg	B-50 / Z-50
216530/4/...	CORE LED 24	5 m	24 W	31 W	700 mA	4000 K	3900 lm	2750 lm	89 lm/W	42 kg	B-50 / Z-50
216530/6/...	CORE LED 24	5 m	24 W	31 W	700 mA	5000 K	4100 lm	2900 lm	94 lm/W	42 kg	B-50 / Z-50
216533/3/...	CORE LED 48	5 m	48 W	55 W	700 mA	3500 K	7000 lm	5250 lm	95 lm/W	42 kg	B-50 / Z-50
216533/4/...	CORE LED 48	5 m	48 W	55 W	700 mA	4000 K	7300 lm	5400 lm	98 lm/W	42 kg	B-50 / Z-50
216533/6/...	CORE LED 48	5 m	48 W	55 W	700 mA	5000 K	8150 lm	5700 lm	104 lm/W	42 kg	B-50 / Z-50

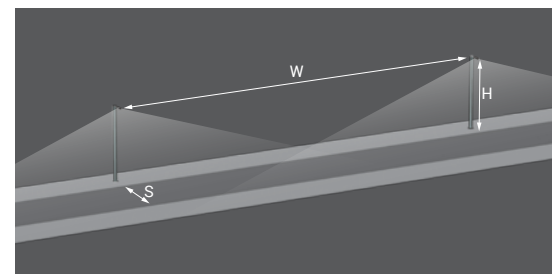
/... Symbol of selected optical system

Lighting sets LED

STICK I LED



Lighting example



Bicycle and pedestrian path

STICK LED 24W, T3 optics

Parameters:

H – lighting sets height: 5 m

W – pole spacing: 27 m

S – road width: 5 m

Lighting class P3

Application: residential streets, office buildings surrounding, parks, pedestrian walkways

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium profiles

Colour: inox / gray

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 12 (for 24 W), 24 (for 48 W)

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

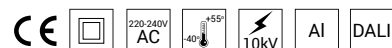
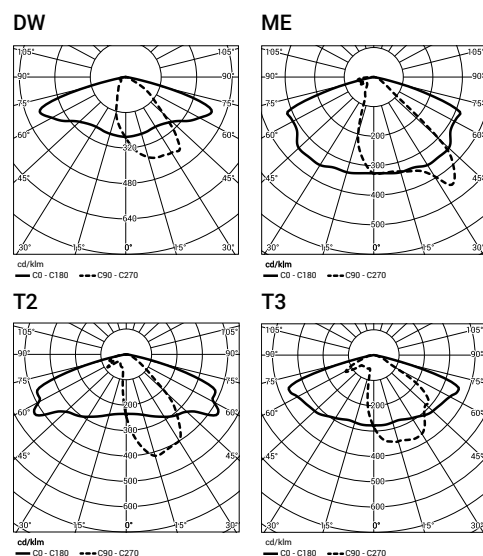
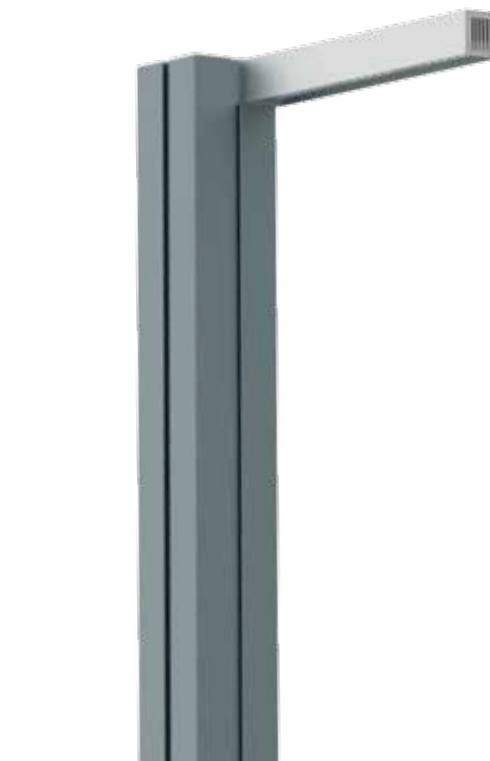
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,95 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Lighting set STICK LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V).

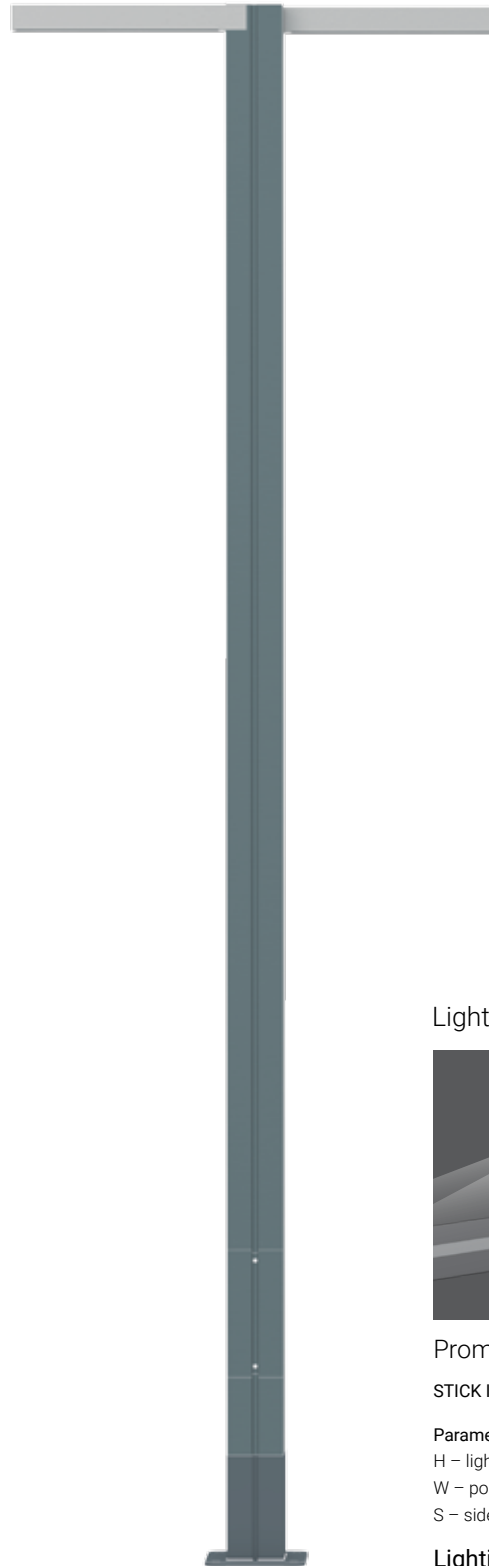
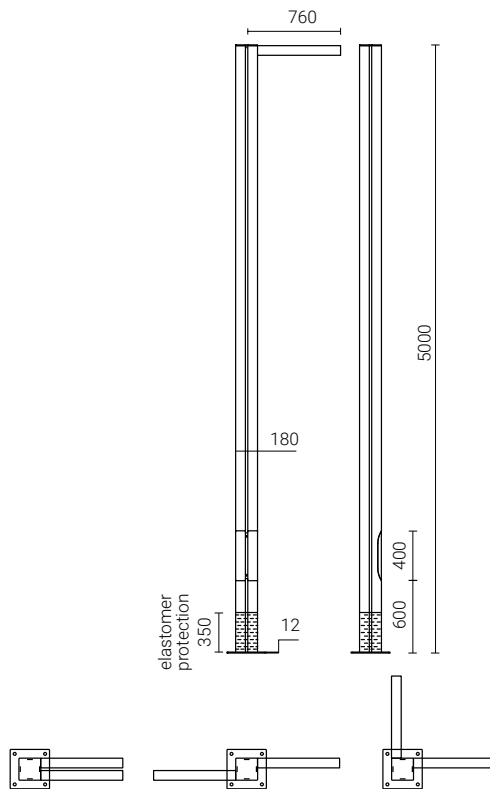
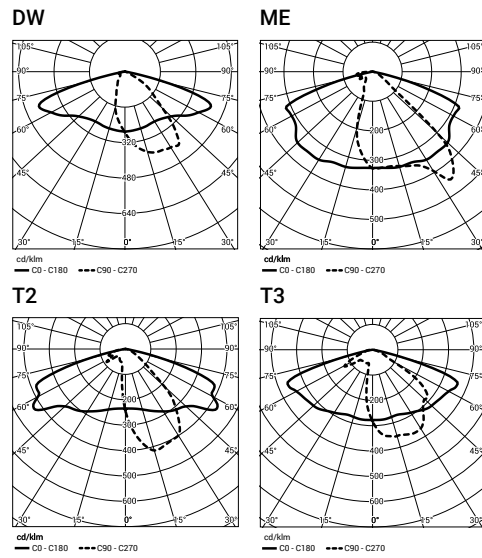


Code	Name	Height H	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
217030/3/...	STICK LED 24	5 m	24 W	31 W	700 mA	3500 K	3500 lm	2650 lm	86 lm/W	59 kg	B-60 / Z-60
217030/4/...	STICK LED 24	5 m	24 W	31 W	700 mA	4000 K	3900 lm	2750 lm	89 lm/W	59 kg	B-60 / Z-60
217030/6/...	STICK LED 24	5 m	24 W	31 W	700 mA	5000 K	4100 lm	2900 lm	94 lm/W	59 kg	B-60 / Z-60
217033/3/...	STICK LED 48	5 m	48 W	55 W	700 mA	3500 K	7000 lm	5250 lm	95 lm/W	59 kg	B-60 / Z-60
217033/4/...	STICK LED 48	5 m	48 W	55 W	700 mA	4000 K	7300 lm	5400 lm	98 lm/W	59 kg	B-60 / Z-60
217033/6/...	STICK LED 48	5 m	48 W	55 W	700 mA	5000 K	8150 lm	5700 lm	104 lm/W	59 kg	B-60 / Z-60

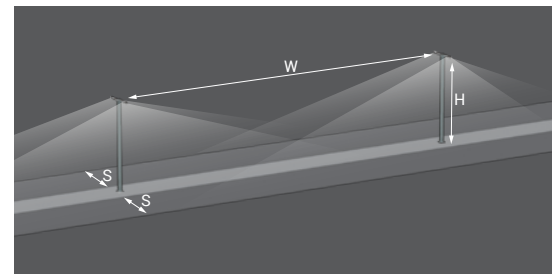
/... Symbol of selected optical system

Lighting sets LED

STICK II LED



Lighting example



Promenade

STICK II LED 24W, T2 optics

Parameters:

H – lighting sets height: 5 m

W – pole spacing: 19 m

S – sidewalk width: 3,5 m

Lighting class C3

Application: residential streets, office buildings surrounding, parks, pedestrian walkways

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium profiles

Colour: inox / gray

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 2 x 12 (for 24 W), 2 x 24 (for 48 W)

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

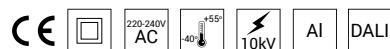
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 1,51 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Lighting set STICK II LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10V).



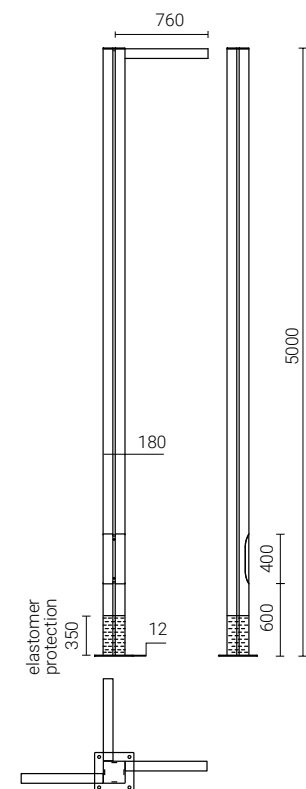
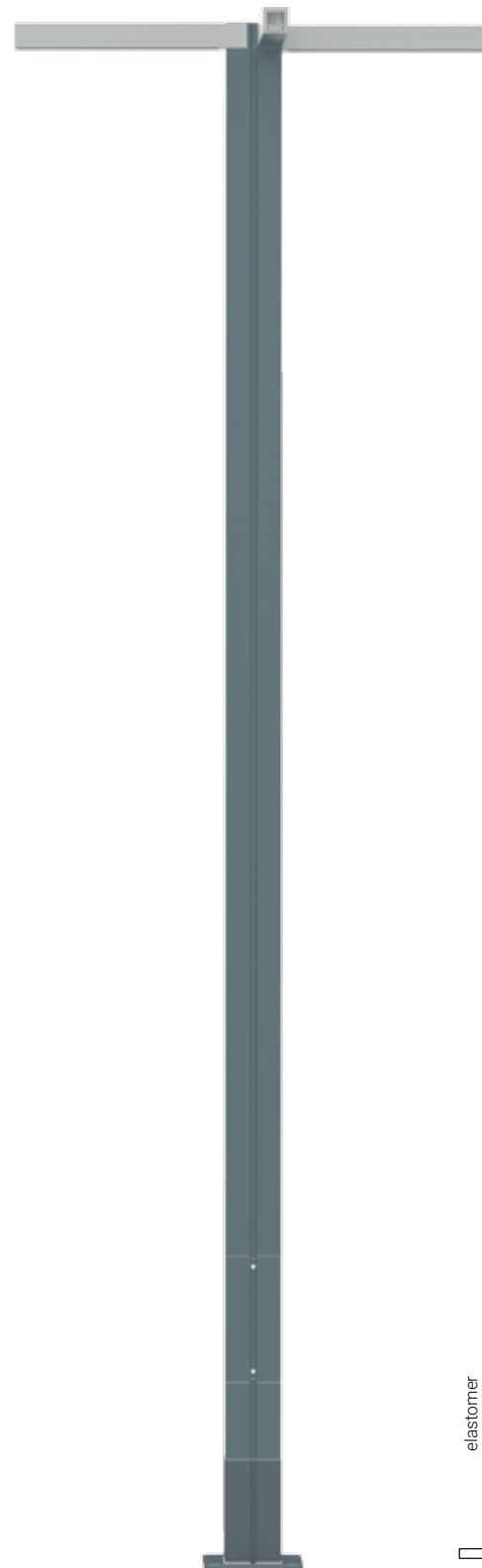
Code	Name	Height H	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
217130/3/...	STICK II LED 2x24	5 m	2 x 24 W	2 x 31 W	700 mA	3500 K	2 x 3500 lm	2 x 2650 lm	86 lm/W	62 kg	B-60 / Z-60
217130/4/...	STICK II LED 2x24	5 m	2 x 24 W	2 x 31 W	700 mA	4000 K	2 x 3900 lm	2 x 2750 lm	89 lm/W	62 kg	B-60 / Z-60
217130/6/...	STICK II LED 2x24	5 m	2 x 24 W	2 x 31 W	700 mA	5000 K	2 x 4100 lm	2 x 2900 lm	94 lm/W	62 kg	B-60 / Z-60
217133/3/...	STICK II LED 2x48	5 m	2 x 48 W	2 x 55 W	700 mA	3500 K	2 x 7000 lm	2 x 5250 lm	95 lm/W	62 kg	B-60 / Z-60
217133/4/...	STICK II LED 2x48	5 m	2 x 48 W	2 x 55 W	700 mA	4000 K	2 x 7300 lm	2 x 5400 lm	98 lm/W	62 kg	B-60 / Z-60
217133/6/...	STICK II LED 2x48	5 m	2 x 48 W	2 x 55 W	700 mA	5000 K	2 x 8150 lm	2 x 5700 lm	104 lm/W	62 kg	B-60 / Z-60
217230/3/...	STICK II LED 90° 2x24	5 m	2 x 24 W	2 x 31 W	700 mA	3500 K	2 x 3500 lm	2 x 2650 lm	86 lm/W	62 kg	B-60 / Z-60
217230/4/...	STICK II LED 90° 2x24	5 m	2 x 24 W	2 x 31 W	700 mA	4000 K	2 x 3900 lm	2 x 2750 lm	89 lm/W	62 kg	B-60 / Z-60
217230/6/...	STICK II LED 90° 2x24	5 m	2 x 24 W	2 x 31 W	700 mA	5000 K	2 x 4100 lm	2 x 2900 lm	94 lm/W	62 kg	B-60 / Z-60
217233/3/...	STICK II LED 90° 2x48	5 m	2 x 48 W	2 x 55 W	700 mA	3500 K	2 x 7000 lm	2 x 5250 lm	95 lm/W	62 kg	B-60 / Z-60
217233/4/...	STICK II LED 90° 2x48	5 m	2 x 48 W	2 x 55 W	700 mA	4000 K	2 x 7300 lm	2 x 5400 lm	98 lm/W	62 kg	B-60 / Z-60
217233/6/...	STICK II LED 90° 2x48	5 m	2 x 48 W	2 x 55 W	700 mA	5000 K	2 x 8150 lm	2 x 5700 lm	104 lm/W	62 kg	B-60 / Z-60
217330/3/...	STICK II LED 180° 2x24	5 m	2 x 24 W	2 x 31 W	700 mA	3500 K	2 x 3500 lm	2 x 2650 lm	86 lm/W	62 kg	B-60 / Z-60
217330/4/...	STICK II LED 180° 2x24	5 m	2 x 24 W	2 x 31 W	700 mA	4000 K	2 x 3900 lm	2 x 2750 lm	89 lm/W	62 kg	B-60 / Z-60
217330/6/...	STICK II LED 180° 2x24	5 m	2 x 24 W	2 x 31 W	700 mA	5000 K	2 x 4100 lm	2 x 2900 lm	94 lm/W	62 kg	B-60 / Z-60
217333/3/...	STICK II LED 180° 2x48	5 m	2 x 48 W	2 x 55 W	700 mA	3500 K	2 x 7000 lm	2 x 5250 lm	95 lm/W	62 kg	B-60 / Z-60
217333/4/...	STICK II LED 180° 2x48	5 m	2 x 48 W	2 x 55 W	700 mA	4000 K	2 x 7300 lm	2 x 5400 lm	98 lm/W	62 kg	B-60 / Z-60
217333/6/...	STICK II LED 180° 2x48	5 m	2 x 48 W	2 x 55 W	700 mA	5000 K	2 x 8150 lm	2 x 5700 lm	104 lm/W	62 kg	B-60 / Z-60

/... Symbol of selected optical system

Lighting sets LED

STICK III LED

Radom, Poland



Application: residential streets, office buildings surrounding, parks, pedestrian walkways

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium profiles

Colour: inox / gray

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 3 x 12 (for 24 W), 3 x 24 (for 48 W)

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

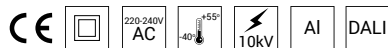
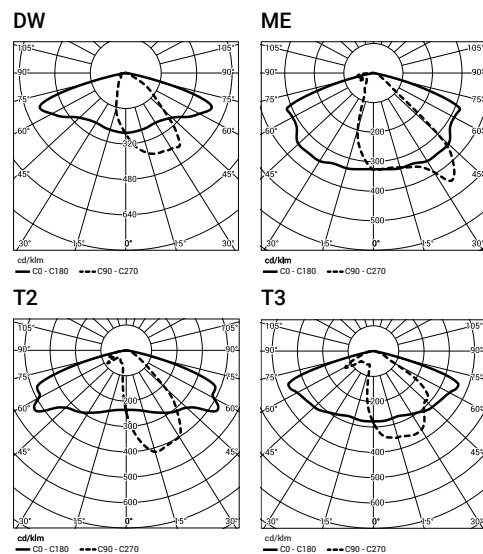
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 2,58 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Lighting set STICK III LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1- 10V).



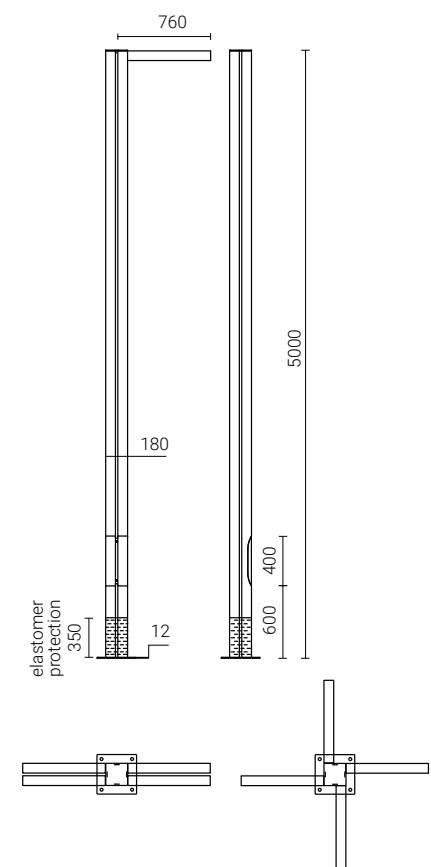
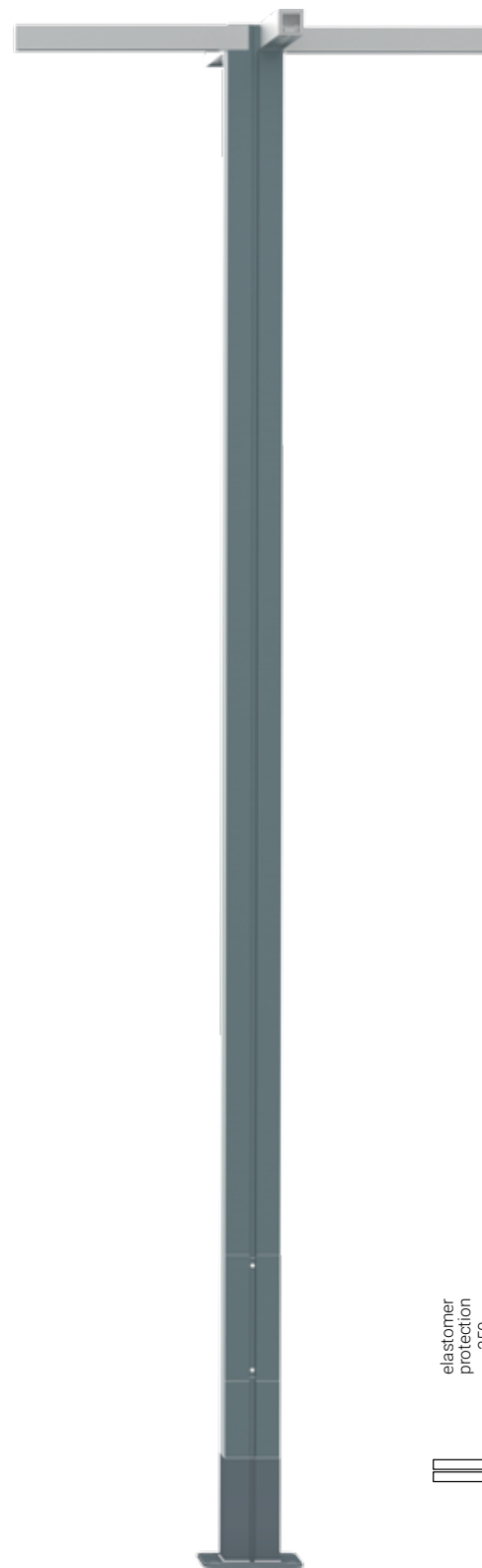
Code	Name	Height H	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
217430/3/...	STICK III LED 3x24	5 m	3 x 24 W	3 x 31 W	700 mA	3500 K	3 x 3500 lm	3 x 2650 lm	86 lm/W	65 kg	B-60 / Z-60
217430/4/...	STICK III LED 3x24	5 m	3 x 24 W	3 x 31 W	700 mA	4000 K	3 x 3900 lm	3 x 2750 lm	89 lm/W	65 kg	B-60 / Z-60
217430/6/...	STICK III LED 3x24	5 m	3 x 24 W	3 x 31 W	700 mA	5000 K	3 x 4100 lm	3 x 2900 lm	94 lm/W	65 kg	B-60 / Z-60
217433/3/...	STICK III LED 3x48	5 m	3 x 48 W	3 x 55 W	700 mA	3500 K	3 x 7000 lm	3 x 5250 lm	95 lm/W	65 kg	B-60 / Z-60
217433/4/...	STICK III LED 3x48	5 m	3 x 48 W	3 x 55 W	700 mA	4000 K	3 x 7300 lm	3 x 5400 lm	98 lm/W	65 kg	B-60 / Z-60
217433/6/...	STICK III LED 3x48	5 m	3 x 48 W	3 x 55 W	700 mA	5000 K	3 x 8150 lm	3 x 5700 lm	104 lm/W	65 kg	B-60 / Z-60

/... Symbol of selected optical system

Lighting sets LED

STICK IV LED

Saudi Arabia



Application: residential streets, office buildings surrounding, parks, pedestrian walkways

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium profiles

Colour: inox / gray

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 4 x 12 (for 24 W), 4 x 24 (for 48 W)

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

CRI: for 4000 K, 5000 K > 70, for 3500 K > 80,

Unit volume: 3,3 m³

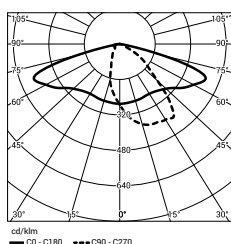
Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

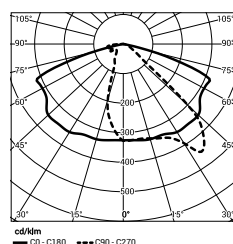
Lighting set STICK IV LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10V).



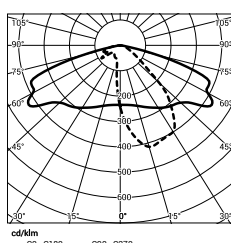
DW



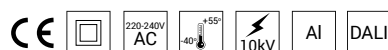
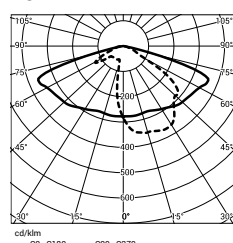
ME



T2



T3



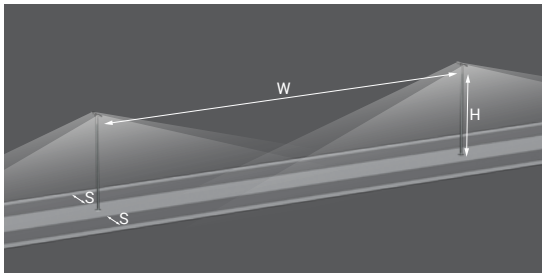
Code	Name	Height H	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
217630/3/...	STICK IV LED 4x24	5 m	4 x 24 W	4 x 31 W	700 mA	3500 K	4 x 3500 lm	4 x 2650 lm	86 lm/W	68 kg	B-60 / Z-60
217630/4/...	STICK IV LED 4x24	5 m	4 x 24 W	4 x 31 W	700 mA	4000 K	4 x 3900 lm	4 x 2750 lm	89 lm/W	68 kg	B-60 / Z-60
217630/6/...	STICK IV LED 4x24	5 m	4 x 24 W	4 x 31 W	700 mA	5000 K	4 x 4100 lm	4 x 2900 lm	94 lm/W	68 kg	B-60 / Z-60
217633/3/...	STICK IV LED 4x48	5 m	4 x 48 W	4 x 55 W	700 mA	3500 K	4 x 7000 lm	4 x 5250 lm	95 lm/W	68 kg	B-60 / Z-60
217633/4/...	STICK IV LED 4x48	5 m	4 x 48 W	4 x 55 W	700 mA	4000 K	4 x 7300 lm	4 x 5400 lm	98 lm/W	68 kg	B-60 / Z-60
217633/6/...	STICK IV LED 4x48	5 m	4 x 48 W	4 x 55 W	700 mA	5000 K	4 x 8150 lm	4 x 5700 lm	104 lm/W	68 kg	B-60 / Z-60
217730/3/...	STICK IV LED 90° 4x24	5 m	4 x 24 W	4 x 31 W	700 mA	3500 K	4 x 3500 lm	4 x 2650 lm	86 lm/W	68 kg	B-60 / Z-60
217730/4/...	STICK IV LED 90° 4x24	5 m	4 x 24 W	4 x 31 W	700 mA	4000 K	4 x 3900 lm	4 x 2750 lm	89 lm/W	68 kg	B-60 / Z-60
217730/6/...	STICK IV LED 90° 4x24	5 m	4 x 24 W	4 x 31 W	700 mA	5000 K	4 x 4100 lm	4 x 2900 lm	94 lm/W	68 kg	B-60 / Z-60
217733/3/...	STICK IV LED 90° 4x48	5 m	4 x 48 W	4 x 55 W	700 mA	3500 K	4 x 7000 lm	4 x 5250 lm	95 lm/W	68 kg	B-60 / Z-60
217733/4/...	STICK IV LED 90° 4x48	5 m	4 x 48 W	4 x 55 W	700 mA	4000 K	4 x 7300 lm	4 x 5400 lm	98 lm/W	68 kg	B-60 / Z-60
217733/6/...	STICK IV LED 90° 4x48	5 m	4 x 48 W	4 x 55 W	700 mA	5000 K	4 x 8150 lm	4 x 5700 lm	104 lm/W	68 kg	B-60 / Z-60

/... Symbol of selected optical system

Lighting sets LED

GULLWING LED

Lighting example



Urban road

GULLWING LED 2 x 72W, T3 optics

Parameters:

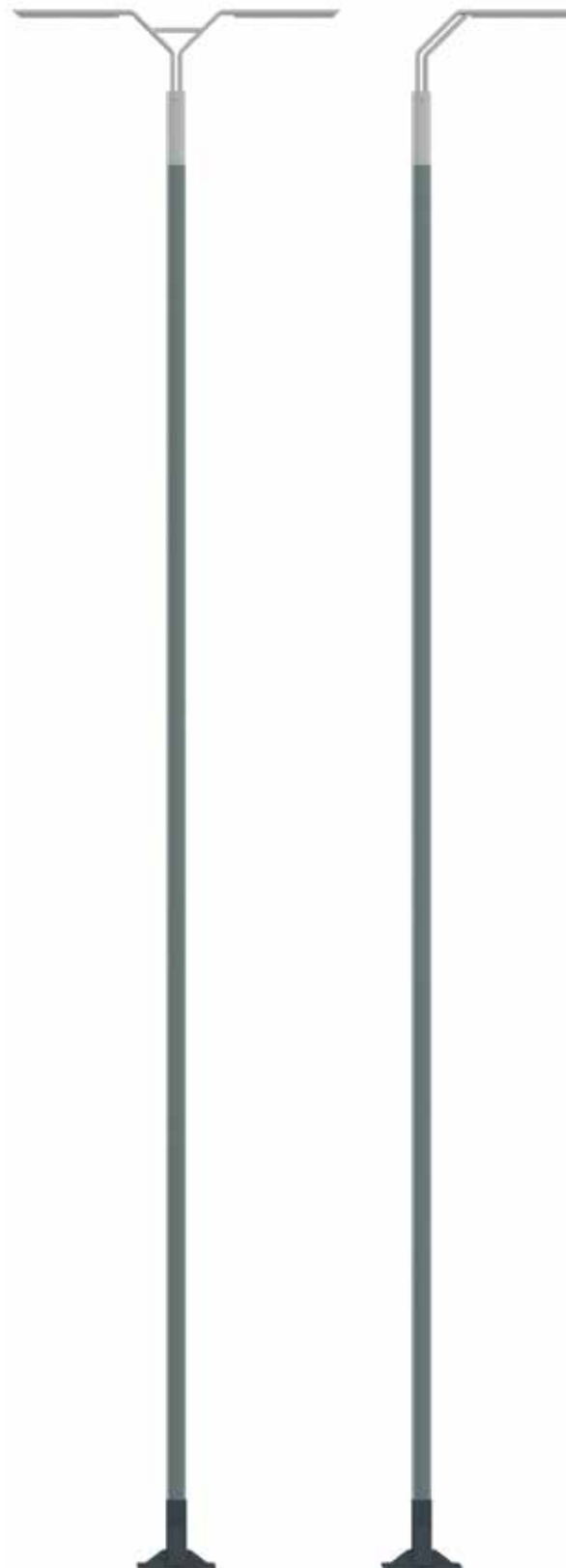
H – lighting sets height: 8 m

W – pole spacing: 35 m

S – road width: 7 m (green belt 2,5 m)

Lighting class M3

Goczałkowice Zdrój, Poland



Application: urban roads, expressways and motorways, parking lots

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium profiles

Colour: graphite / inox

Optical system: PMMA optics, interchangeable LED module

Number of LEDs: 24 (for 72 W), 2 x 24 (for 2 x 72 W)

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

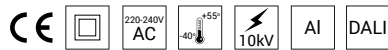
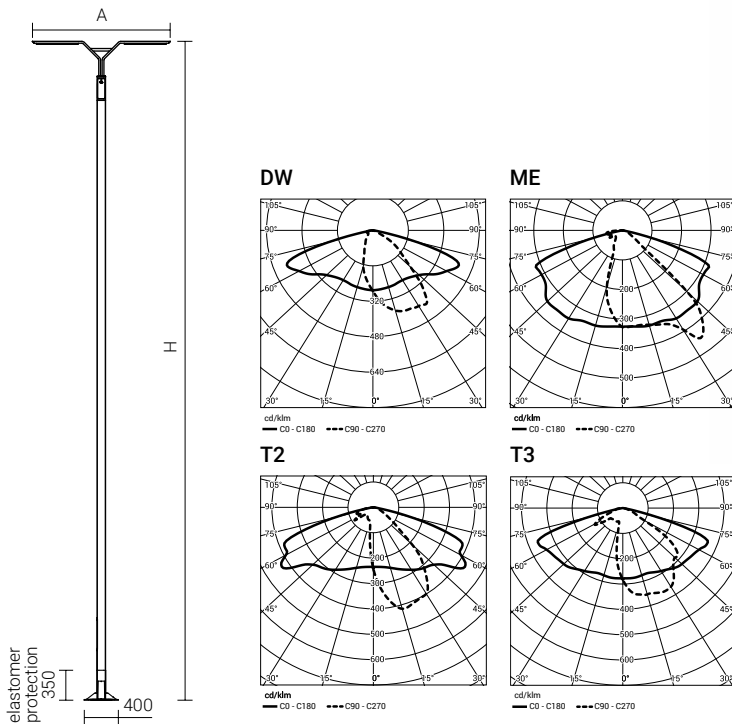
CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 3,20 m³ (dla 72 W), 3,52 m³ (dla 2 x 72 W)

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Lighting set GULLWING LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10V).



Code	Name	Height H	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	LEDs luminous flux	Luminaire luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
218135/3/...	GULLWING LED 1x72	8 m	72 W	80 W	1000 mA	3500 K	9400 lm	8950 lm	112 lm/W	54 kg	B-70 / Z-70
218135/4/...	GULLWING LED 1x72	8 m	72 W	80 W	1000 mA	4000 K	10450 lm	9300 lm	116 lm/W	54 kg	B-70 / Z-70
218135/6/...	GULLWING LED 1x72	8 m	72 W	80 W	1000 mA	5000 K	10950 lm	9750 lm	122 lm/W	54 kg	B-70 / Z-70
218035/3/...	GULLWING LED 2x72	8 m	2 x 72 W	2 x 80 W	1000 mA	3500 K	2 x 9400 lm	2 x 8950 lm	112 lm/W	57 kg	B-70 / Z-70
218035/4/...	GULLWING LED 2x72	8 m	2 x 72 W	2 x 80 W	1000 mA	4000 K	2 x 10450 lm	2 x 9300 lm	116 lm/W	57 kg	B-70 / Z-70
218035/6/...	GULLWING LED 2x72	8 m	2 x 72 W	2 x 80 W	1000 mA	5000 K	2 x 10950 lm	2 x 9750 lm	122 lm/W	57 kg	B-70 / Z-70

/... Symbol of selected optical system

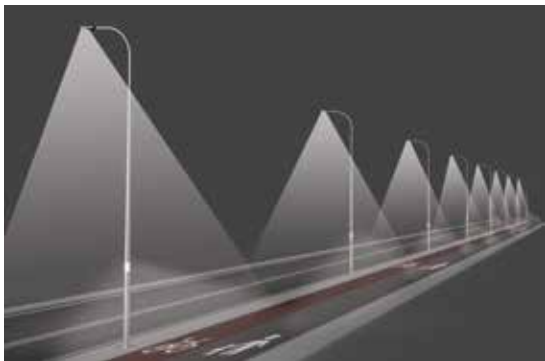
Lighting sets LED

EDGE LED

ROSA EDGE series features modern edge lighting system. Introduced edge lighting technology is widely used in the display construction such as monitors, televisions, tablet screens etc. Edge lighting in this series is the introduction of light wave to the edge of the light elements, which scatter light outside. With the light source turned off these elements are crystal clear, and during operation the light is uniformly diffused over the entire surface. Light diffusing effect is achieved by unique combination of PMMA produced by a renowned company EVONIK, which provides durability and high light transmission rate. Used in ROSA EDGE series lighting elements in the form of LEDs are not directly visible and relatively large (several hundred times larger than the light source) light emitting surface minimize the glare. As a light source in these structures are high-performance modules with LEDs of warm white colour temperature 3500 K and neutral white – 5000 K. There is also possibility of other colour variations - blue, red or green.

Elements using edge-lit technology may be used in the street columns of this series equipped with necking of cross-sectional constriction adapted to their assembly. As a result, light elements harmonize with the column providing aesthetic appearance. The construction of columns is unitary and durable because there are no other weakness of the column section beyond the power cords insertion holes. The application of such elements is solution patented by ROSA.

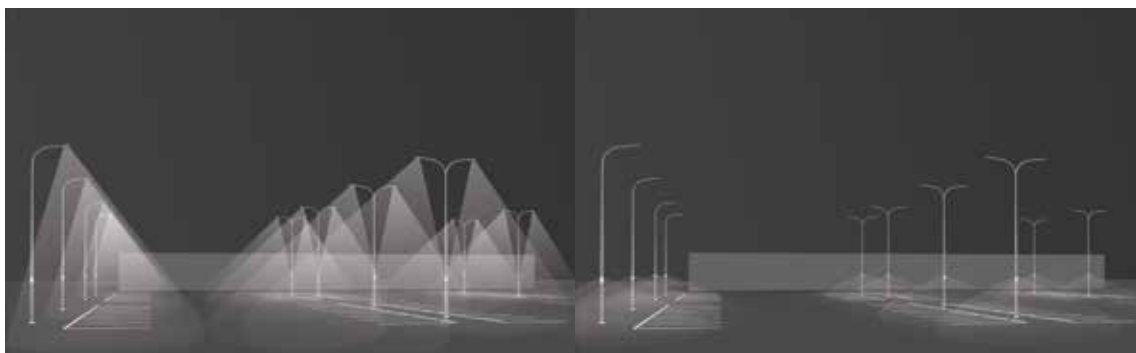
Additional illumination of sidewalks and bicycle paths



Optical guidance



Technology savings thanks to EDGE



Standard lighting

EDGE lighting



LED light source

Installed in half-ring shapes high-performance LED modules with 3500 K warm white and neutral white – 5000 K and in an alternative range of colours (blue, red, green)

Smooth design

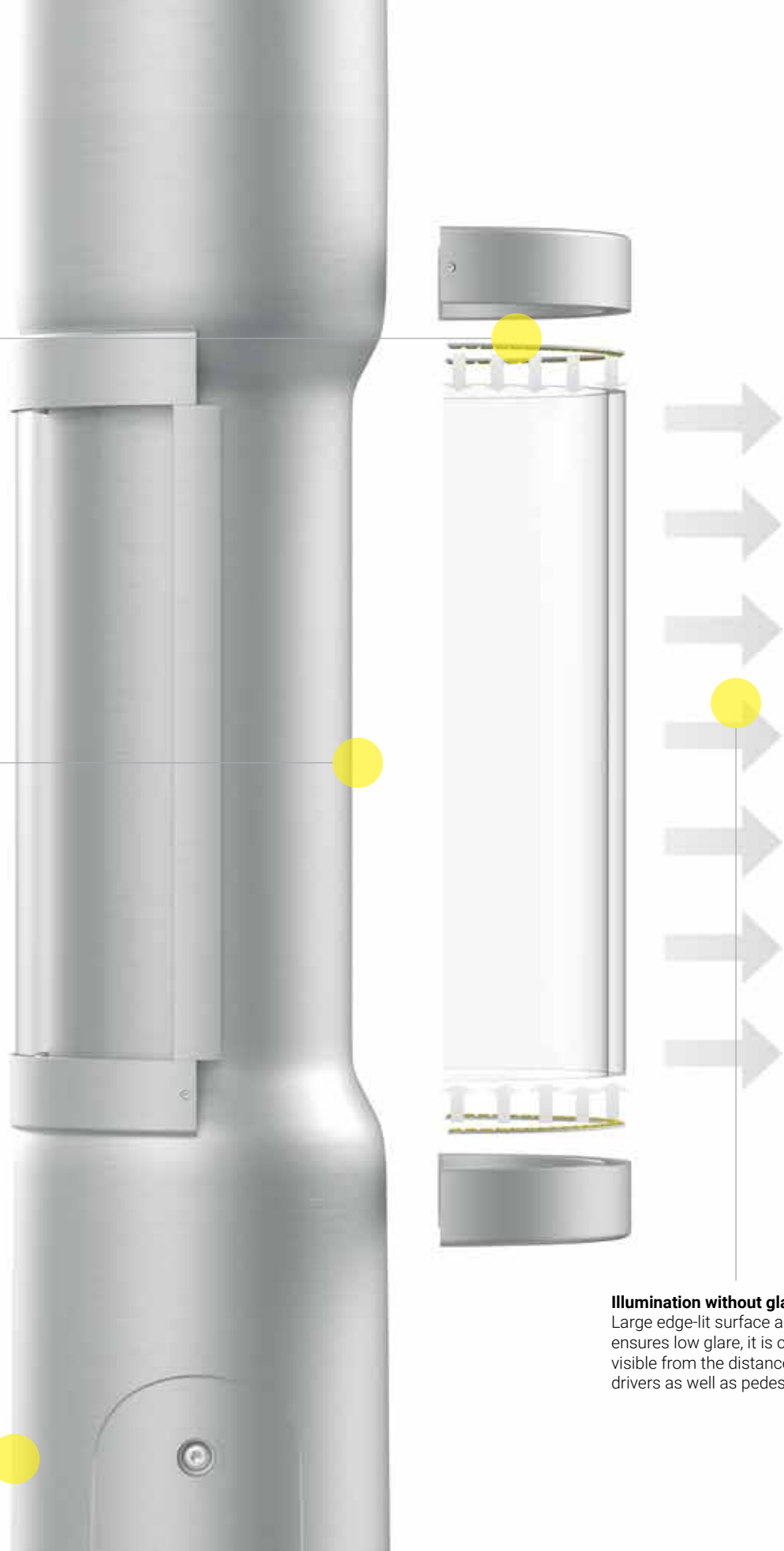
Built in the contour of the columns provides aesthetic design and solid construction

Driver Philips Xitanium

DC, high-performance driver with 7 programmable functions according to customer requirements

Programmable time profiles

The driver function with maximum 5 power levels in the range from 10 to 100% rated power in the selected luminaire operating time

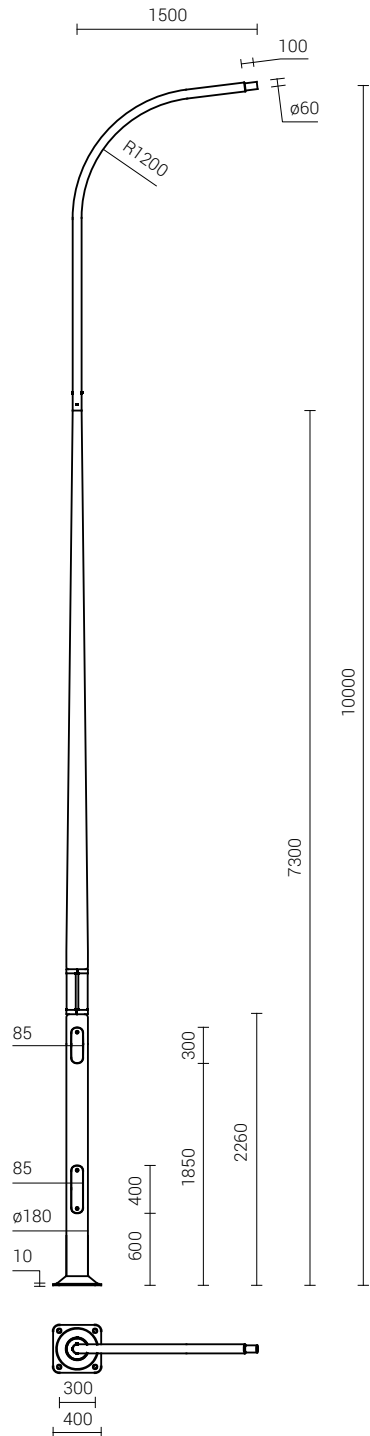


Illumination without glare

Large edge-lit surface area ensures low glare, it is clearly visible from the distance for drivers as well as pedestrians

Lighting sets LED

EDGE LED



Colour 1 Colour 2

Available colours:
R – red
G – green
B – blue
6 – white 5000 K
3 – white 3500 K

SAL 10 W&L N 1/1,5,2,7/5 EDGE-1
Code: **4273127**/colour 1
SAL 10 W&L N 1/1,5,2,7/5 EDGE-2
Code: **4273129**/colour 1/couleur 2

EDGE-1 LED



Colour: green
Code: **4273127/G**

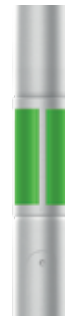


Colour: blue
Code: **4273127/B**



Colour: red
Code: **4273127/R**

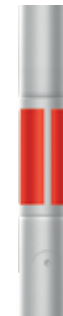
EDGE-2 LED



Colour: green
Code: **4273129/G/G**



Colour: blue
Code: **4273129/B/B**



Colour: red
Code: **4273129/R/R**



Colour: green/red
Code: **4273129/G/R**



Colour: blue/red
Code: **4273129/B/R**



Colour: white/red
Code: **4273129/6/R**

Application: urban roads, expressways and motorways, parking lots

Ingress protection: IP 66 for the optical part and the driver

Material: anodised aluminium profiles

Diffuser: made of polymethyl methacrylate (PMMA)

Unit volume: 0,67 m³ (for SAL 9)

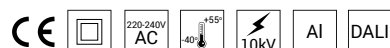
0,74 m³ (for SAL 10)

0,82 m³ (for SAL 11)

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Lighting set EDGE LED has the possibility to connect to an external control system via DALI interface (optionally via analog signal 1-10 V)

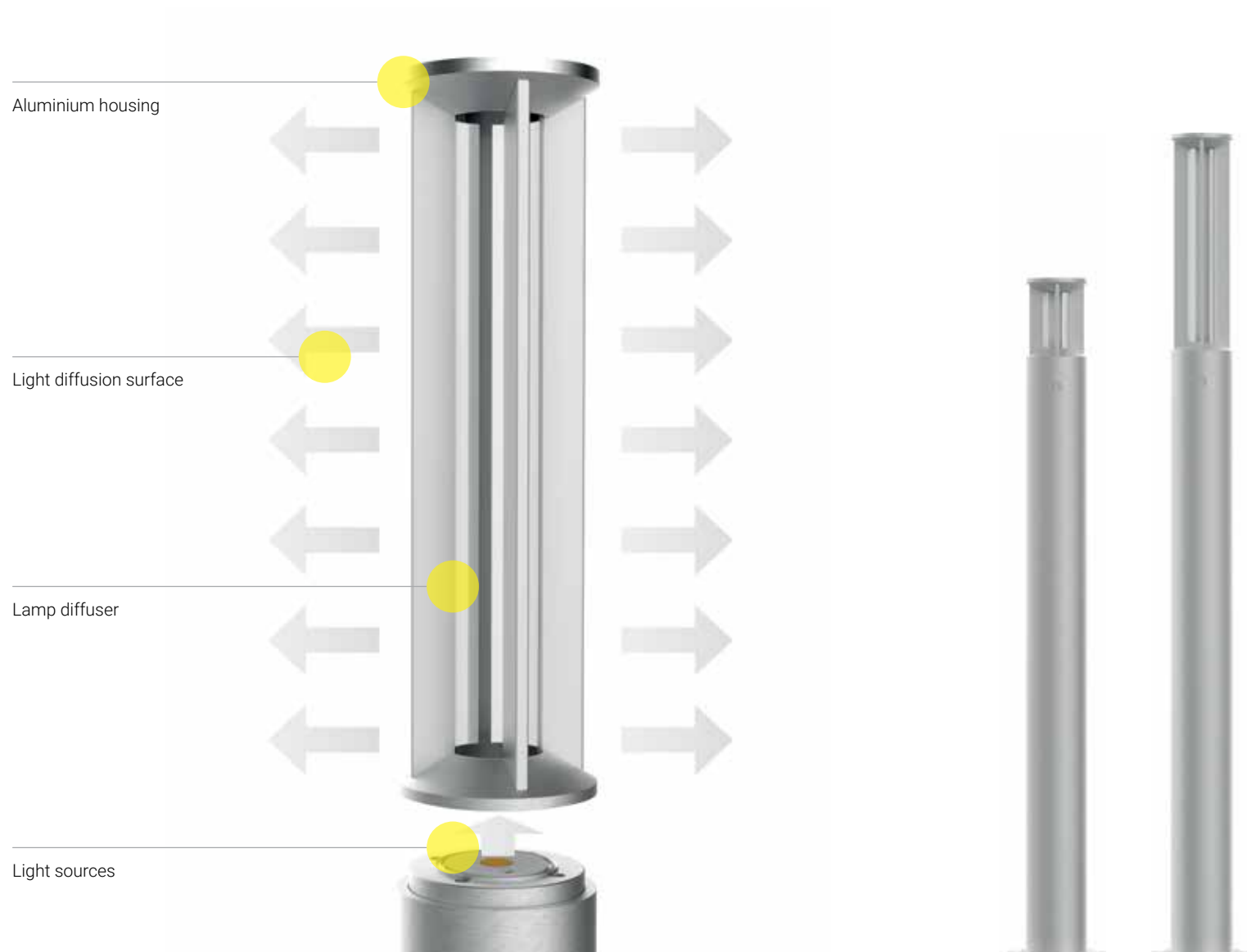


Code	Name	Height H	LED power	Luminaire power consumption	Colour temperature (CCT)	Luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
4273027/3/...	SAL 9 WLN 1/1,5/1,7/5 EDGE-1	9 m	10 W	14 W	3500 K	1150 lm	82 lm/W	45,3 kg	B-71 / Z-71
4273027/6/...	SAL 9 WLN 1/1,5/1,7/5 EDGE-1	9 m	10 W	14 W	5000 K	1150 lm	82 lm/W	45,3 kg	B-71 / Z-71
4273127/3/...	SAL 10 WLN 1/1,5/2,7/5 EDGE-1	10 m	10 W	14 W	3500 K	1150 lm	82 lm/W	47,4 kg	B-71 / Z-71
4273127/6/...	SAL 10 WLN 1/1,5/2,7/5 EDGE-1	10 m	10 W	14 W	5000 K	1150 lm	82 lm/W	47,4 kg	B-71 / Z-71
4273227/3/...	SAL 11 WLN 1/1,5/3,7/5 EDGE-1	11 m	10 W	14 W	3500 K	1150 lm	82 lm/W	49,5 kg	B-71 / Z-71
4273227/6/...	SAL 11 WLN 1/1,5/3,7/5 EDGE-1	11 m	10 W	14 W	5000 K	1150 lm	82 lm/W	49,5 kg	B-71 / Z-71
4273029/3/...	SAL 9 WLN 1/1,5/1,7/5 EDGE-2	9 m	20 W	26 W	3500 K	2350 lm	90 lm/W	45,3 kg	B-71 / Z-71
4273029/6/...	SAL 9 WLN 1/1,5/1,7/5 EDGE-2	9 m	20 W	26 W	5000 K	2350 lm	90 lm/W	45,3 kg	B-71 / Z-71
4273129/3/...	SAL 10 WLN 1/1,5/2,7/5 EDGE-2	10 m	20 W	26 W	3500 K	2350 lm	90 lm/W	47,4 kg	B-71 / Z-71
4273129/6/...	SAL 10 WLN 1/1,5/2,7/5 EDGE-2	10 m	20 W	26 W	5000 K	2350 lm	90 lm/W	47,4 kg	B-71 / Z-71
4273229/3/...	SAL 11 WLN 1/1,5/3,7/5 EDGE-2	11 m	20 W	26 W	3500 K	2350 lm	90 lm/W	49,5 kg	B-71 / Z-71
4273229/6/...	SAL 11 WLN 1/1,5/3,7/5 EDGE-2	11 m	20 W	26 W	5000 K	2350 lm	90 lm/W	49,5 kg	B-71 / Z-71

Lighting columns LED

SLICE LED

The SLICE LED column is made of anodised aluminium with a height of 1000 and 1200 mm, equipped with a single lighting diffuser in the shape of a rod (40 mm) with a length of 100 or 300 mm.



Application: office buildings surrounding, parks, pedestrian walkways

Ingress protection: IP 65 for the optical part and the driver

Material: anodised aluminium alloy

Diffuser: transparent

Number of LEDs: 1

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

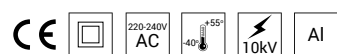
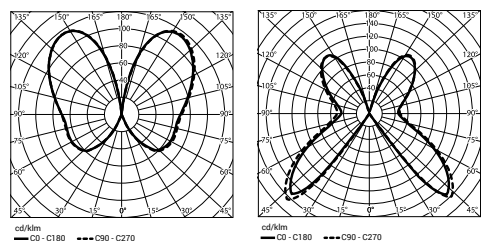
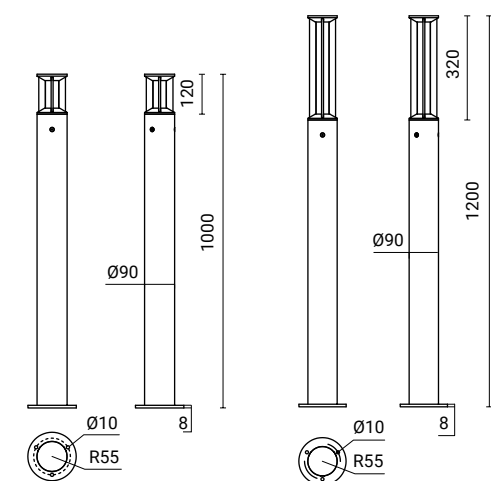
CRI: for 5000 K > 70, for 3500 K > 80

Unit volume: 0,021 m³ (SLICE LED 1000)

0,025 m³ (SLICE LED 1200)

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95



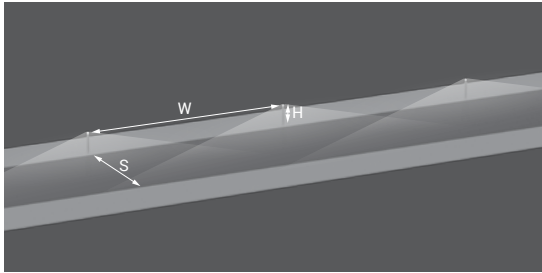
Code	Name	Height H	LED power	Luminaire power consumption	Colour temperature (CCT)	Luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
45290/3/C...	SLICE LED 1000	1000 mm	7 W	9 W	3500 K	300 lm	33 lm/W	4,6 kg	B-0A / Z-0A
45290/6/C...	SLICE LED 1000	1000 mm	7 W	9 W	5000 K	350 lm	40 lm/W	4,6 kg	B-0A / Z-0A
45291/3/C...	SLICE LED 1200	1200 mm	12 W	15 W	3500 K	550 lm	37 lm/W	5,3 kg	B-0A / Z-0A
45291/6/C...	SLICE LED 1200	1200 mm	12 W	15 W	5000 K	650 lm	43 lm/W	5,3 kg	B-0A / Z-0A

/C... – choice of anodising colour

Lighting columns LED

FLARE LED

Lighting example



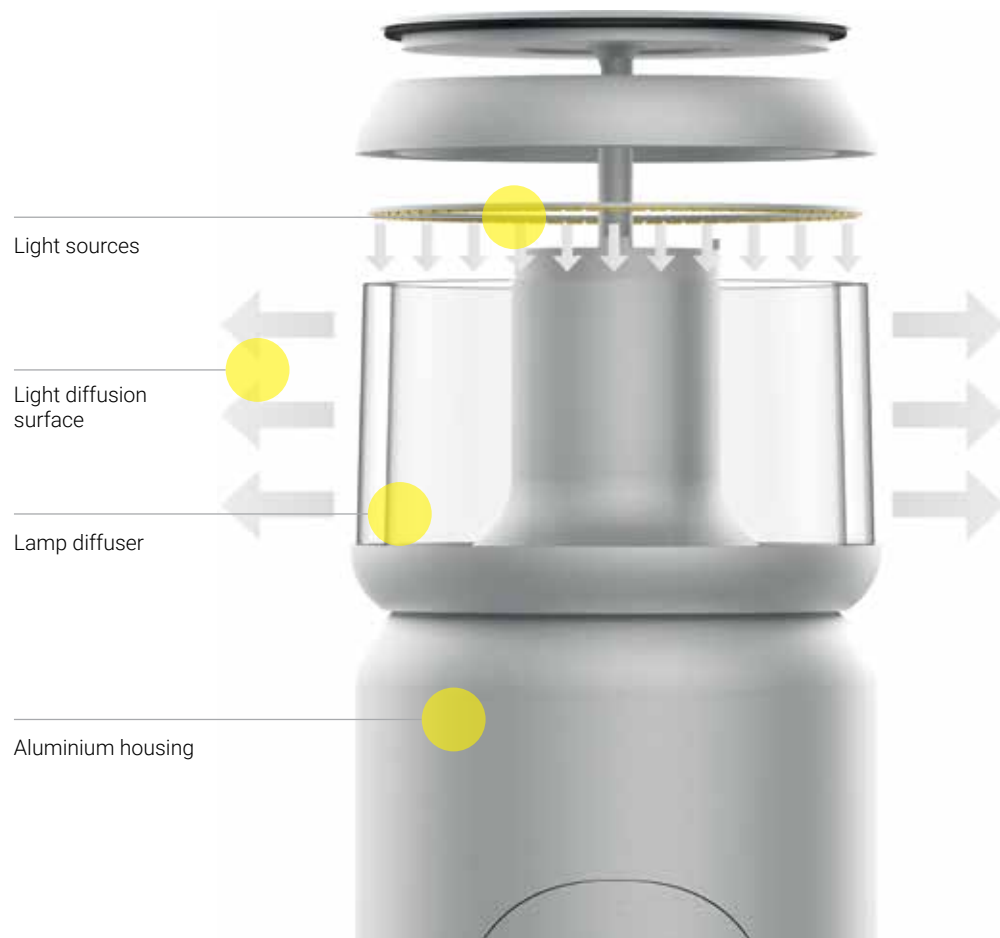
Sidewalk

FLARE LED 1

Parameters:

H – lighting bollard height: 1,2 m
W – lighting bollard spacing: 12 m
S – sidewalk width: 4 m

Lighting class P5



Application: office buildings surrounding, parks, pedestrian walkways

Ingress protection: IP 65 for the optical part and the driver

Material: anodised aluminium alloy

Diffuser: transparent

Number of LEDs: 64 (FLARE LED 1), 128 (FLARE LED 2)

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

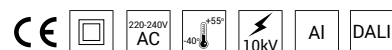
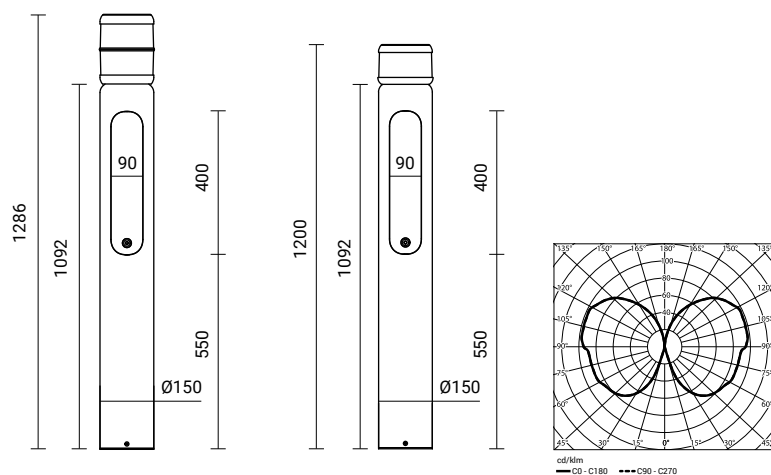
CRI: for 5000 K > 70, for 3500 K > 80,

Unit volume: 0,027 m³ (FLARE LED 1)

0,029 m³ (FLARE LED 2)

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95



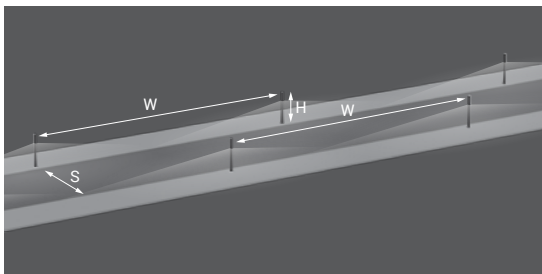
Code	Name	Height H	LED power	Luminaire power consumption	Colour temperature (CCT)	Luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
45280/3/C...	FLARE LED 1	1200 mm	14 W	16 W	3500 K	750 lm	54 lm/W	8,5 kg	B-0A / Z-0A
45280/6/C...	FLARE LED 1	1200 mm	14 W	16 W	5000 K	750 lm	54 lm/W	8,5 kg	B-0A / Z-0A
45281/3/C...	FLARE LED 2	1286 mm	22 W	22 W	3500 K	1 400 lm	71 lm/W	9,0 kg	B-0A / Z-0A
45281/6/C...	FLARE LED 2	1286 mm	22 W	22 W	5000 K	1 400 lm	71 lm/W	9,0 kg	B-0A / Z-0A

/C... – choice of anodising colour

Lighting columns LED

DAMA LED

Lighting example



Sidewalk

DAMA LED

Parameters:

H – lighting bollard height: 1,2 m
W – lighting bollard spacing: 11 m
S – sidewalk width: 4 m

Lighting class P4



Application: office buildings surrounding, parks, pedestrian walkways

Ingress protection: IP 65 for the optical part and the driver

Material: anodised aluminium alloy

Diffuser: transparent or frosted

Number of LEDs: 4

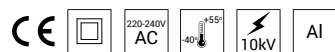
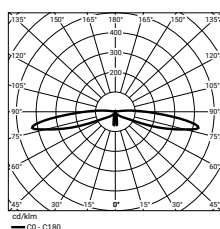
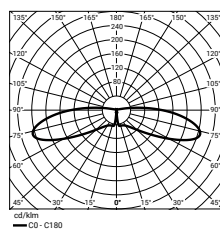
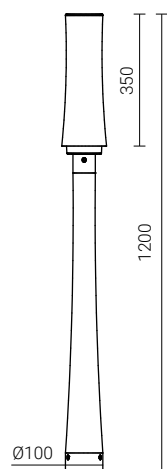
Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Unit volume: 0,03 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95



Code	Name	Height H	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	Luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
45320/3/P/C...	DAMA LED	1230 mm	8 W	12 W	700 mA	3500 K	600 lm	50 lm/W	4,4 kg	B-0A / Z-0A
45320/3/M/C...	DAMA LED	1230 mm	8 W	12 W	700 mA	3500 K	450 lm	38 lm/W	4,4 kg	B-0A / Z-0A
45320/4/P/C...	DAMA LED	1230 mm	8 W	12 W	700 mA	4000 K	650 lm	55 lm/W	4,4 kg	B-0A / Z-0A
45320/4/M/C...	DAMA LED	1230 mm	8 W	12 W	700 mA	4000 K	500 lm	42 lm/W	4,4 kg	B-0A / Z-0A
45320/6/P/C...	DAMA LED	1230 mm	8 W	12 W	700 mA	5000 K	720 lm	60 lm/W	4,4 kg	B-0A / Z-0A
45320/6/M/C...	DAMA LED	1230 mm	8 W	12 W	700 mA	5000 K	550 lm	46 lm/W	4,4 kg	B-0A / Z-0A

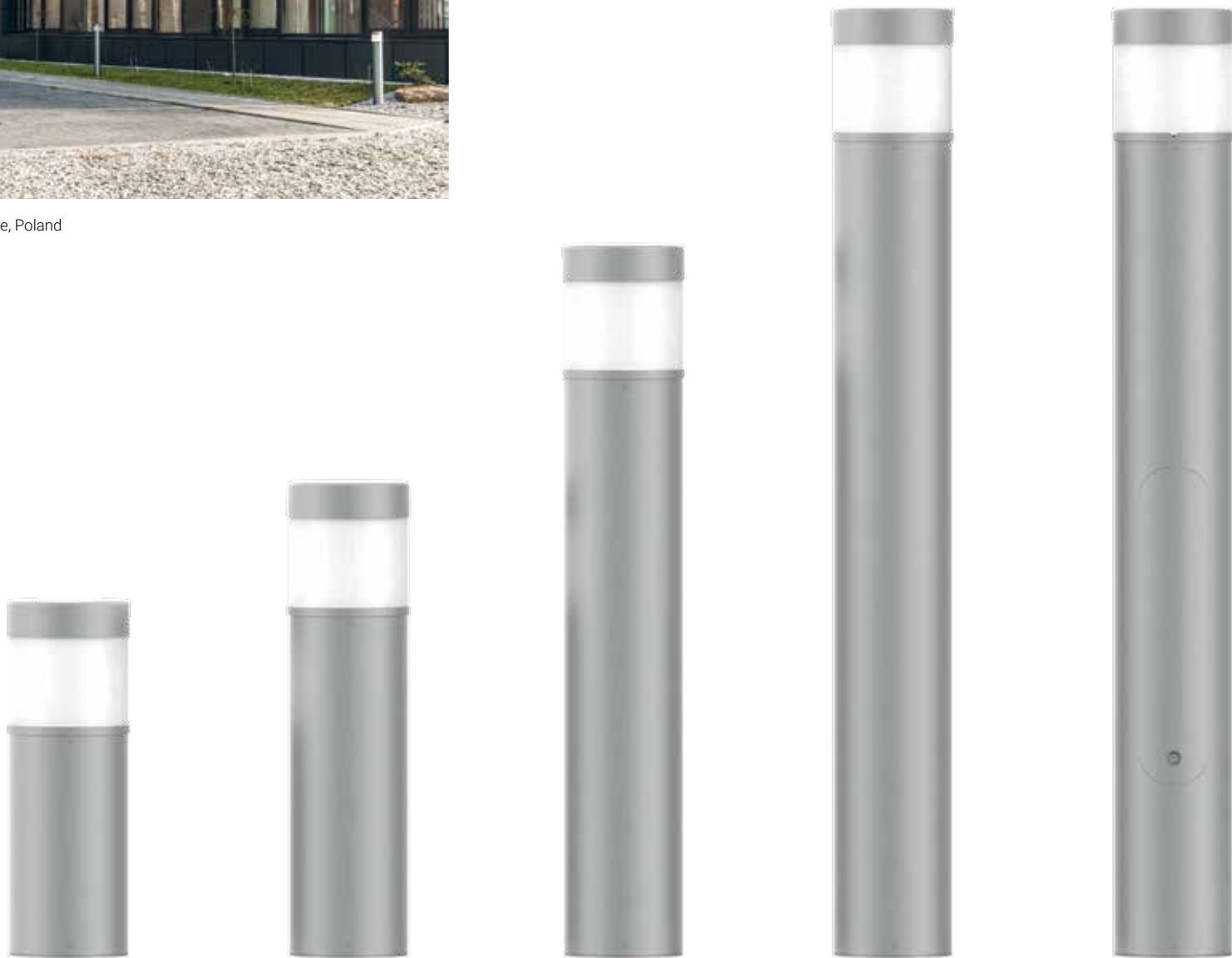
/C... – choice of anodising colour

Lighting columns LED

KARIN LED



Katowice, Poland



Application: office buildings surrounding, parks, pedestrian walkways

Ingress protection: IP 65 for the optical part and the driver

Material: anodised aluminium alloy

Diffuser: frosted

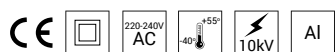
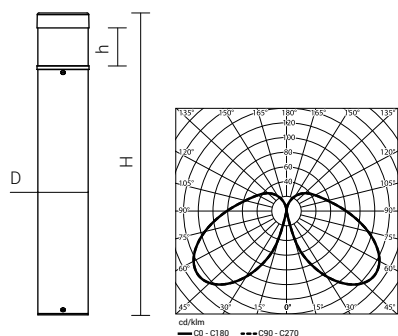
Number of LEDs: 8

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95



Code	Name	Height H	Diffuser height h	Diameter D	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	Luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
45200/3/C...	KARIN 450 LED 15W	455 mm	113 mm	150 mm	16 W	21 W	700 mA	3500 K	1150 lm	55 lm/W	3,0	B-0 / Z-0
45200/4/C...	KARIN 450 LED 15W	455 mm	113 mm	150 mm	16 W	21 W	700 mA	4000 K	1430 lm	68 lm/W	3,0	B-0 / Z-0
45200/6/C...	KARIN 450 LED 15W	455 mm	113 mm	150 mm	16 W	21 W	700 mA	5000 K	1500 lm	71 lm/W	3,0	B-0 / Z-0
45210/3/C...	KARIN 600 LED 15W	575 mm	113 mm	150 mm	16 W	21 W	700 mA	3500 K	1150 lm	55 lm/W	3,5	B-0 / Z-0
45210/4/C...	KARIN 600 LED 15W	575 mm	113 mm	150 mm	16 W	21 W	700 mA	4000 K	1430 lm	68 lm/W	3,5	B-0 / Z-0
45210/6/C...	KARIN 600 LED 15W	575 mm	113 mm	150 mm	16 W	21 W	700 mA	5000 K	1500 lm	71 lm/W	3,5	B-0 / Z-0
45220/3/C...	KARIN 900 LED 15W	875 mm	113 mm	150 mm	16 W	21 W	700 mA	3500 K	1150 lm	55 lm/W	4,2	B-0 / Z-0
45220/4/C...	KARIN 900 LED 15W	875 mm	113 mm	150 mm	16 W	21 W	700 mA	4000 K	1430 lm	68 lm/W	4,2	B-0 / Z-0
45220/6/C...	KARIN 900 LED 15W	875 mm	113 mm	150 mm	16 W	21 W	700 mA	5000 K	1500 lm	71 lm/W	4,2	B-0 / Z-0
45230/3/C...	KARIN 1200 LED 15W	1175 mm	113 mm	150 mm	16 W	21 W	700 mA	3500 K	1150 lm	55 lm/W	5,5	B-0 / Z-0
45230/4/C...	KARIN 1200 LED 15W	1175 mm	113 mm	150 mm	16 W	21 W	700 mA	4000 K	1430 lm	68 lm/W	5,5	B-0 / Z-0
45230/6/C...	KARIN 1200 LED 15W	1175 mm	113 mm	150 mm	16 W	21 W	700 mA	5000 K	1500 lm	71 lm/W	5,5	B-0 / Z-0
45232/3/C...	KARIN 1200W LED 15W	1175 mm	113 mm	150 mm	16 W	21 W	700 mA	3500 K	1150 lm	55 lm/W	6,8	B-0 / Z-0
45232/4/C...	KARIN 1200W LED 15W	1175 mm	113 mm	150 mm	16 W	21 W	700 mA	4000 K	1430 lm	68 lm/W	6,8	B-0 / Z-0
45232/6/C...	KARIN 1200W LED 15W	1175 mm	113 mm	150 mm	16 W	21 W	700 mA	5000 K	1500 lm	71 lm/W	6,8	B-0 / Z-0

/C... – choice of anodising colour

Lighting columns LED

KARIN LED



Żywiec, Poland



Application: office buildings surrounding, parks, pedestrian walkways

Ingress protection: IP 65 for the optical part and the driver

Material: anodised aluminium alloy, with exception in KARIN 6000 – painted finish

Diffuser: frosted

Number of LEDs: 16 (KARIN 2400 LED)

24 (KARIN 3600 LED)

44 (KARIN 4800 LED)

58 (KARIN 6000 LED)

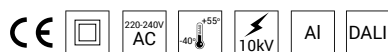
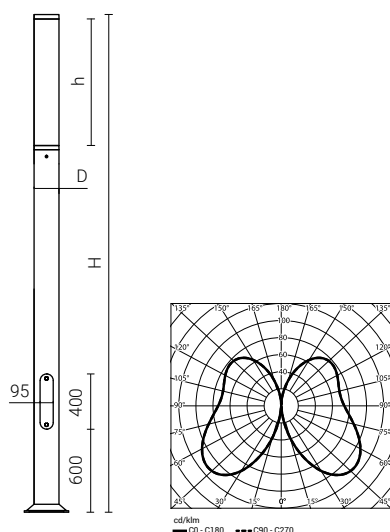
Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Lighting columns KARIN LED optionally has the possibility, to connect to an external control system via analog signal 1-10 V.



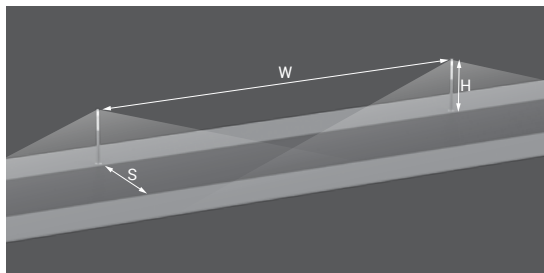
Code	Name	Height H	Diffuser height h	Diameter D	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	Luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
45240/3/C...	KARIN 2400 LED 32W	2400 mm	908 mm	150 mm	32 W	38 W	700 mA	3500 K	2550 lm	67 lm/W	12,0	B-50 / Z-50
45240/4/C...	KARIN 2400 LED 32W	2400 mm	908 mm	150 mm	32 W	38 W	700 mA	4000 K	2950 lm	78 lm/W	12,0	B-50 / Z-50
45240/6/C...	KARIN 2400 LED 32W	2400 mm	908 mm	150 mm	32 W	38 W	700 mA	5000 K	3100 lm	82 lm/W	12,0	B-50 / Z-50
45250/3/C...	KARIN 3600 LED 48W	3600 mm	915 mm	180 mm	48 W	55 W	700 mA	3500 K	3850 lm	70 lm/W	26,0	B-60 / Z-60
45250/4/C...	KARIN 3600 LED 48W	3600 mm	915 mm	180 mm	48 W	55 W	700 mA	4000 K	4400 lm	80 lm/W	26,0	B-60 / Z-60
45250/6/C...	KARIN 3600 LED 48W	3600 mm	915 mm	180 mm	48 W	55 W	700 mA	5000 K	4650 lm	85 lm/W	26,0	B-60 / Z-60
45260/3/C...	KARIN 4800 LED 82W	4800 mm	915 mm	200 mm	82 W	92 W	650 mA	3500 K	5350 lm	58 lm/W	44,0	B-60 / Z-60
45260/4/C...	KARIN 4800 LED 82W	4800 mm	915 mm	200 mm	82 W	92 W	650 mA	4000 K	6150 lm	67 lm/W	44,0	B-60 / Z-60
45260/6/C...	KARIN 4800 LED 82W	4800 mm	915 mm	200 mm	82 W	92 W	650 mA	5000 K	6500 lm	71 lm/W	44,0	B-60 / Z-60
45270/3/M/...	KARIN 6000 LED 116W	6000 mm	915 mm	300 mm	116 W	134 W	700 mA	3500 K	7550 lm	56 lm/W	70,0	B-71 / Z-71
45270/4/M/...	KARIN 6000 LED 116W	6000 mm	915 mm	300 mm	116 W	134 W	700 mA	4000 K	8650 lm	65 lm/W	70,0	B-71 / Z-71
45270/6/M/...	KARIN 6000 LED 116W	6000 mm	915 mm	300 mm	116 W	134 W	700 mA	5000 K	9150 lm	68 lm/W	70,0	B-71 / Z-71

/C... – choice of anodising colour

Lighting columns LED

KARIN DECOR LED

Lighting example



Bicycle and pedestrian path

KARIN DECOR 2400 LED

Parameters:

H – lighting column height: 2,4 m

W – lighting column spacing: 18 m

S – road width: 4 m

Lighting class P4



Tychy, Poland



Application: office buildings surrounding, parks, pedestrian walkways

Ingress protection: IP 65 for the optical part and the driver

Material: anodised aluminium alloy

Diffuser: frosted

Number of LEDs: 16 (KARIN DECOR 2400 LED)
24 (KARIN DECOR 3600 LED)
44 (KARIN DECOR 4800 LED)

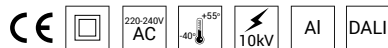
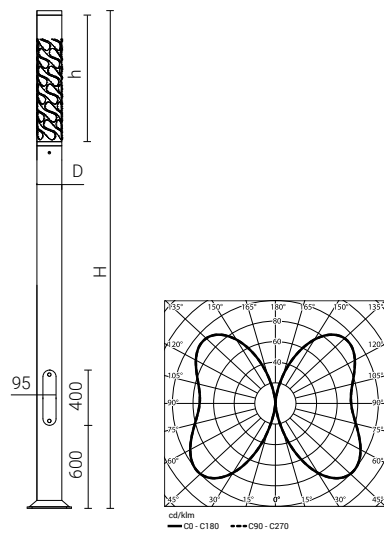
Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

CRI: for 4000 K, 5000 K > 70, for 3500 K > 80

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Lighting columns KARIN DECOR LED optionally has the possibility, to connect to an external control system via analog signal 1-10 V.



Code	Name	Height H	Diffuser height h	Diameter D	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	Luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
45241/3/C...	KARIN DECOR 2400 LED	2400 mm	908 mm	150 mm	32 W	39 W	700 mA	3500 K	1900 lm	49 lm/W	13,0	B-50 / Z-50
45241/4/C...	KARIN DECOR 2400 LED	2400 mm	908 mm	150 mm	32 W	39 W	700 mA	4000 K	2150 lm	55 lm/W	13,0	B-50 / Z-50
45241/6/C...	KARIN DECOR 2400 LED	2400 mm	908 mm	150 mm	32 W	39 W	700 mA	5000 K	2300 lm	59 lm/W	13,0	B-50 / Z-50
45251/3/C...	KARIN DECOR 3600 LED	3600 mm	915 mm	180 mm	48 W	58 W	700 mA	3500 K	2800 lm	48 lm/W	27,0	B-60 / Z-60
45251/4/C...	KARIN DECOR 3600 LED	3600 mm	915 mm	180 mm	48 W	58 W	700 mA	4000 K	3200 lm	55 lm/W	27,0	B-60 / Z-60
45251/6/C...	KARIN DECOR 3600 LED	3600 mm	915 mm	180 mm	48 W	58 W	700 mA	5000 K	3400 lm	59 lm/W	27,0	B-60 / Z-60
45261/3/C...	KARIN DECOR 4800 LED	4800 mm	915 mm	180 mm	82 W	92 W	650 mA	3500 K	4050 lm	44 lm/W	33,0	B-60 / Z-60
45261/4/C...	KARIN DECOR 4800 LED	4800 mm	915 mm	180 mm	82 W	92 W	650 mA	4000 K	4650 lm	51 lm/W	33,0	B-60 / Z-60
45261/6/C...	KARIN DECOR 4800 LED	4800 mm	915 mm	180 mm	82 W	92 W	650 mA	5000 K	4900 lm	53 lm/W	33,0	B-60 / Z-60

/C... – choice of anodising colour

Lighting columns LED

SAL DECO-1 LED



Racibórz, Poland



Application: residential streets, office buildings surrounding, parks, pedestrian walkways

Ingress protection: IP 65 for the optical part and the driver

Material: anodised aluminium alloy

Optical system: enclosed by heat-resistant glass, cap with external reflectors in the form of convex, mirrored squares; 3 arms connects column with the round cap

Number of LEDs: 8

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

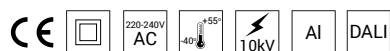
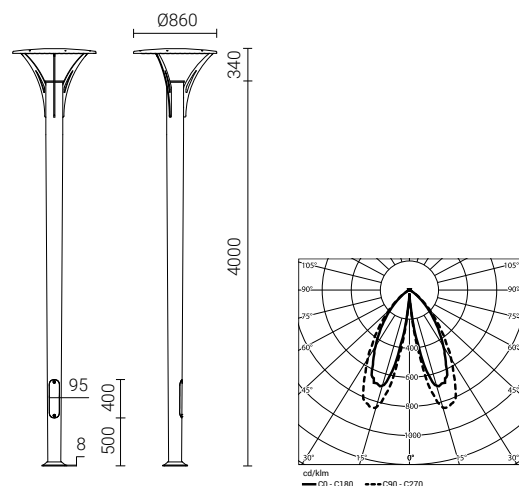
CRI: 5000 K > 70

Unit volume: 0,35 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Lighting columns SAL DECO-1 LED optionally has the possibility, to connect to an external control system via analog signal 1-10 V.



Code	Name	Height H	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	Luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
42928/C...	SAL DECO-1 LED	4000 mm	65 W	73 W	700 mA	5000 K	4100 lm	56 lm/W	45 kg	B-51A / Z-51 A

/C... – choice of anodising colour

Lighting columns LED

SAL DECO-2 LED



Łódź, Poland



Application: residential streets, office buildings surrounding, parks, pedestrian walkways

Ingress protection: IP 65 for the optical part and the driver

Material: anodised aluminium alloy

Optical system: enclosed by heat-resistant glass, cap with external reflectors in the form of convex, mirrored squares; 2 arms connects column with the rectangular cap

Number of LEDs: 8

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

CRI: 5000 K > 70

Unit volume: 0,35 m³

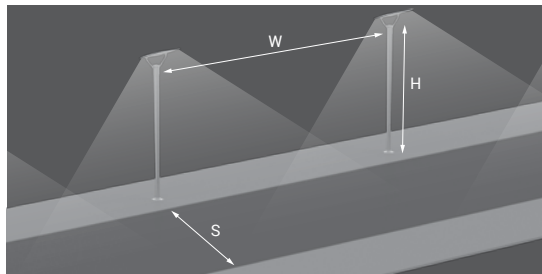
Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Lighting columns SAL DECO-2 LED optionally has the possibility, to connect to an external control system via analog signal 1-10 V.



Lighting example



Promenade

SAL DECO-2 LED 65W

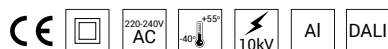
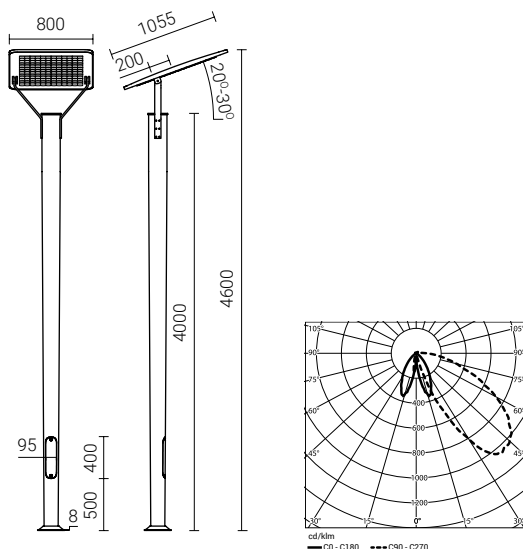
Parameters:

H – lighting column height: 4,6 m

W – lighting column spacing: 9 m

S – promenade width: 6 m

Lighting class C2



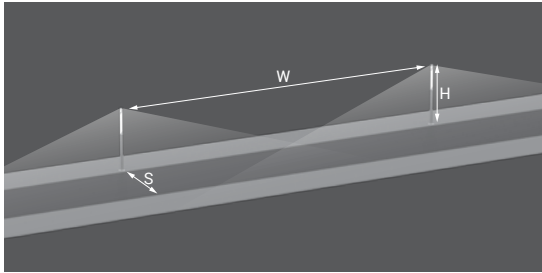
Code	Name	Height H	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	Luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
42929/C...	SAL DECO-2 LED	4600 mm	65 W	73 W	700 mA	5000 K	4100 lm	56 lm/W	47 kg	B-51 A / Z-51A

/C... – choice of anodising colour

Lighting columns LED

SAL DECO-3 LED

Lighting example



Sidewalk / promenade

SAL DECO-3 LED 48W

Parameters:

H – lighting column height: 3,5 m

W – lighting column spacing: 20 m

S – promenade width: 5 m

Lighting class P4

France



Application: residential streets, office buildings surrounding, parks, pedestrian walkways

Ingress protection: IP 65 for the optical part and the driver

Material: anodised aluminium alloy

Optical system: diffuser: opal white made of UV resistant PC, aluminium decorative elements

Number of LEDs: 24

Expected useful lifetime: L90F10 – 50 000 h, L80F20 – 100 000 h

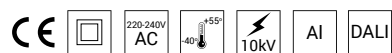
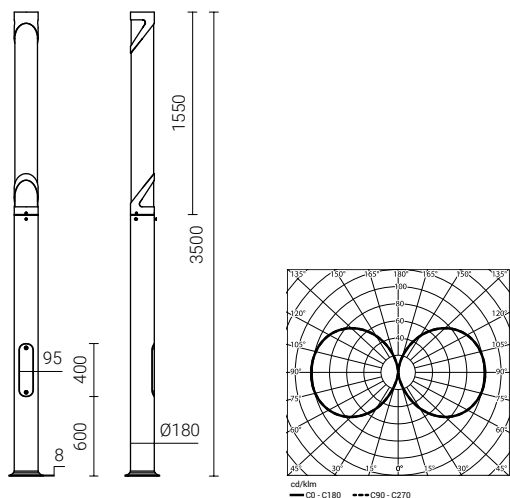
CRI: 5000 K > 70

Unit volume: 0,12 m³

Input voltage frequency: 50/60 Hz

Power factor: ≥ 0.95

Lighting columns SAL DECO-3 LED optionally has the possibility, to connect to an external control system via analog signal 1-10 V.



Code	Name	Height H	LED power	Luminaire power consumption	LED forward current	Colour temperature (CCT)	Luminous flux	Luminous efficacy	Total net weight	Concrete footing / reinforcement basket
42923/C...	SAL DECO-3 LED	3500 mm	48 W	56 W	700 mA	5000 K	2500 lm	45 lm/W	28 kg	B-51 / Z-51

/C... – choice of anodising colour





High-intensity discharge luminaires

OP

Application: parks, pedestrian walkway

Assembly: on poles type S, SP with spigot type B, on the brackets configuration, columns, extension arms, aluminium and steel wall brackets with spigot ending $\varnothing 60$ mm, length 45 mm

Ingress protection: IP 65 for optical system and for power supply

Insulation class: II

Material: base – polyamide, electrical gear cover – polycarbonate

Colour: black

Mounting method: upwards or downwards

Luminaires type:

OP 400 – diameter of lamp diffuser collar neck $\varnothing 180$ mm

OP 450 – diameter of lamp diffuser collar neck $\varnothing 200$ mm

Unit volume: 0,1 m³

Input voltage: 230 V AC

Input voltage frequency: 50 Hz



Luminaire OP



Luminaire OP S-70W/400

Lamp diffuser sphere transparent with small stainless steel louvre reflector mounted downwards



– small stainless steel louvre reflector mounted upwards

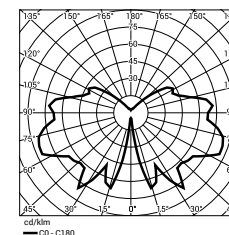
– lamp

– cover (PC)

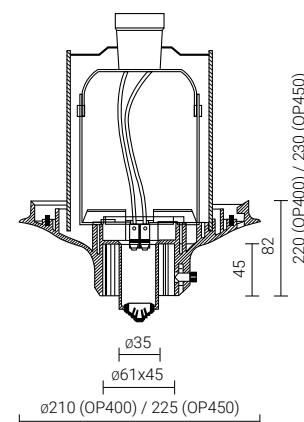
– universal assembling frame with electromagnetic or electronic gear

– luminaire base-plate (PA)

Luminaire OP S-70W/400
Lamp diffuser sphere transparent with small stainless steel louvre reflector mounted downwards



Code	Name	Power	Light source	Luminaire net weight	Diffuser types
210102	OP S-70W/400	70 W	Sodium E-27	2,4 kg	Sphere $\varnothing 400$, Klio $\varnothing 400$
210103	OP S-100W/400	100 W	Sodium E-27	2,6 kg	Sphere $\varnothing 400$
210107	OP MH-70W/400	70 W	Metal halide E-27	2,4 kg	Sphere $\varnothing 400$, Klio $\varnothing 400$
210108	OP MH-100W/400	100 W	Metal halide E-27	2,6 kg	Sphere $\varnothing 400$
210115	OP E/Z/400	23 W	Compact fluorescent lamp E-27	1,0 kg	Sphere $\varnothing 400$, Klio $\varnothing 400$
210202	OP S-70W/450	70 W	Sodium E-27	2,7 kg	Sphere $\varnothing 450$
210203	OP S-100W/450	100 W	Sodium E-27	2,9 kg	Sphere $\varnothing 450$
210215	OP E/Z/450	23 W	Compact fluorescent lamp E-27	1,3 kg	Sphere $\varnothing 450$



High-intensity discharge luminaires

OZ

Application: parks, pedestrian walkway

Assembly: on columns, extension arms, aluminium and steel wall brackets with spigot ending $\varnothing 60$ mm, length 70 mm and on poles type S and SP with ending specially adapted for OZ luminaire

Ingress protection: IP 44

Insulation class: II

Material: polyamide with glass fibre

Colour: black

Mounting: only upwards

Luminaires type: OZ 400 – diameter of luminaire collar neck $\varnothing 180$ mm

Unit volume: 0,0037 m³

Input voltage frequency: 50 Hz



Luminaire OZ 400,
lamp diffuser Klio white $\varnothing 400$



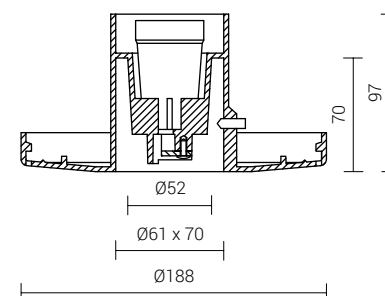
luminaire OZ 400



locking handle feeder cable

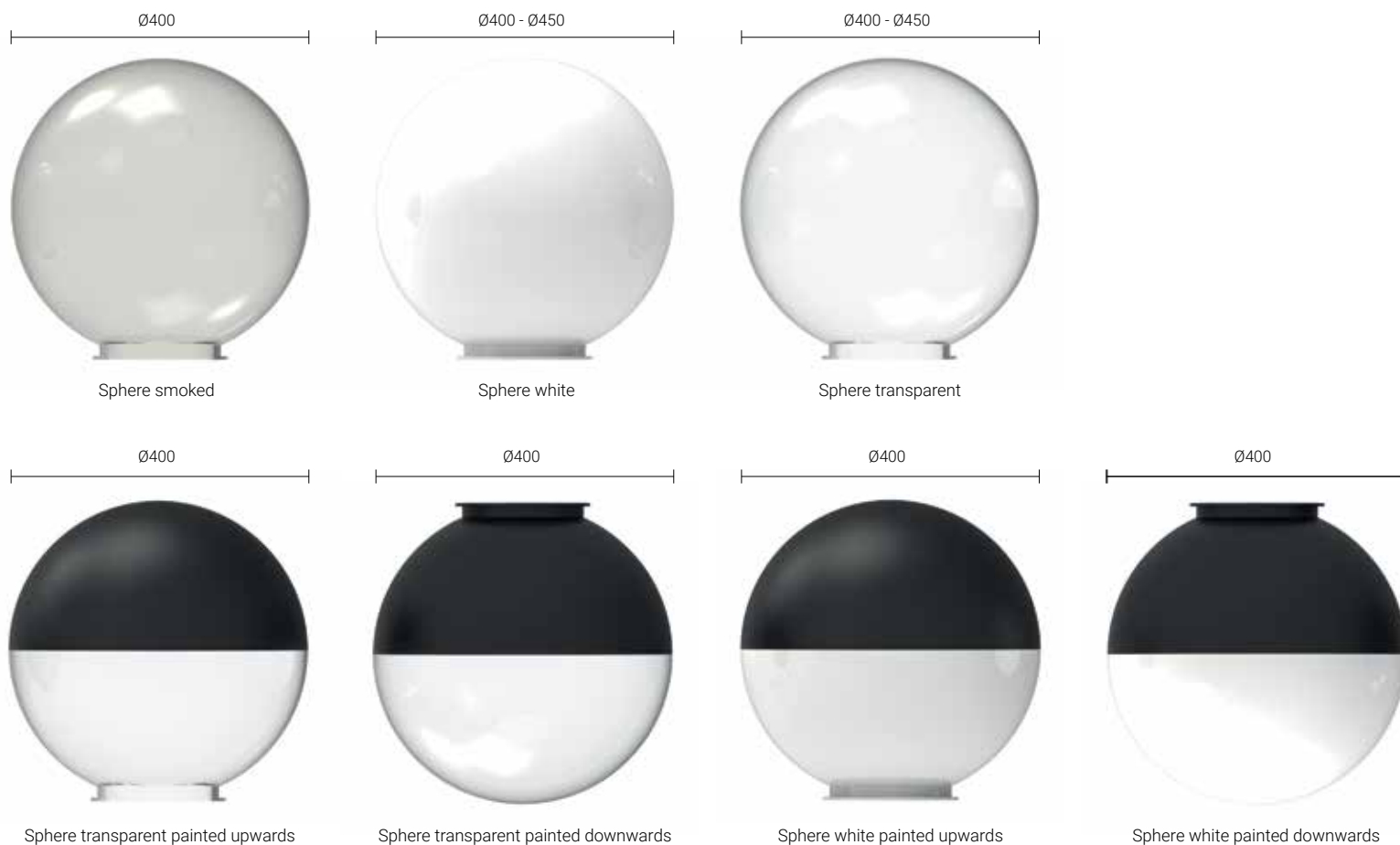


Luminaire OZ 400, lamp diffuser sphere
white $\varnothing 400$

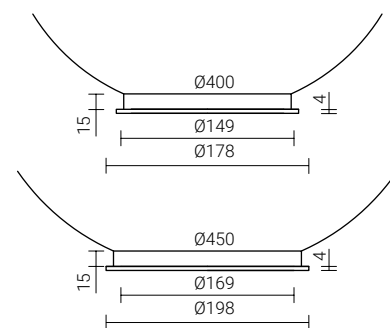


Code	Name	Light source	Luminaire net weight	Diffuser types
211415	OZ 400	Compact fluorescent lamp E-27	0,35 kg	Sphere $\varnothing 400$, Klio $\varnothing 400$

Lamp diffusers with collar neck Ø180 / Ø200



Name	Material type	Code			Luminaire types
		White	Transparent	Smoked	
Sphere 400 k-180	PC-UV	651168	-	-	OP 400, OZ 400 (upwards mounted only)
	PC	651170	651172	651174	
	PMMA	651171	651173	651175	
Sphere 400 k-180 painted mounted upwards	PC	669170	669172	-	OP 400
	PMMA	669171	669173	-	
Sphere 400 k-180 painted mounted downwards	PC	670170	670172	-	OP 400, OZ 400 (upwards mounted only)
	PMMA	670171	670173	-	
Sphere 450 k-200	PC-UV	651268	-	-	OP 450
	PMMA	651281	651283	-	
Klio 400	PMMA	675171	-	675175	OP 400, OZ 400 (upwards mounted only)





Klio white



Klio smoked



Klio white with cap

Tychy, Poland



High-intensity discharge luminaires

OPA-1

Application: parks, pedestrian walkways

Assembly: on columns, extension arms, aluminium and steel wall brackets with spigot ending $\varnothing 60$ mm, length 50 mm

Ingress protection: IP 65

Insulation class: II

Material: die cast aluminium-alloy, electrical gear cover – polycarbonate

Colour: black (possibility to paint in other colours – polyester powder paints)

Mounting: only upwards

Luminaire type: OPA-1 – diameter of lamp diffuser collar neck $\varnothing 150$ mm

Unit volume: 0,01 m³

Input voltage frequency: 50 Hz



– small stainless steel louvre reflector mounted upwards

– lamp

– cover PC

– universal assembling frame with electromagnetic or electronic gear

– aluminium luminaire base

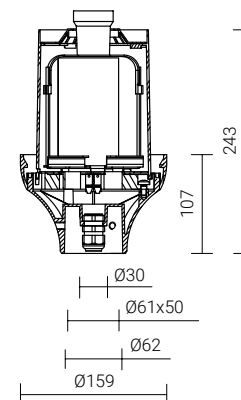
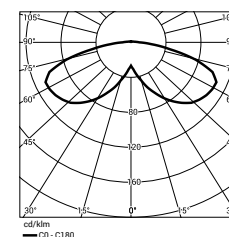


Luminaire OPA-1



Luminaire OPA-1, diffuser Atlantis

OPA-1 S-70W
Diffuser sphere painted $\varnothing 400$



Code	Name	Power	Light source	Luminaire net weight	Diffuser types
211802	OPA-1 S-70W	70 W	Sodium E-27	2,9 kg	Auris, Auris Maxi, Auris I, Auris Maxi I, Atlantis, Sphere $\varnothing 400-500$
211803	OPA-1 S-100W	100 W	Sodium E-27	3,1 kg	Auris, Auris Maxi, Auris I, Auris Maxi I, Atlantis, Sphere $\varnothing 400-500$
211807	OPA-1 MH-70W	70 W	Metal halide E-27	2,9 kg	Auris, Auris Maxi, Auris I, Auris Maxi I, Atlantis, Sphere $\varnothing 400-500$
211808	OPA-1 MH-100W	100 W	Metal halide E-27	3,1 kg	Auris, Auris Maxi, Auris I, Auris Maxi I, Atlantis, Sphere $\varnothing 400-500$
211815	OPA-1 E/Z	23 W	Compact fluorescent lamp E-27	1,3 kg	Auris, Auris Maxi, Auris I, Auris Maxi I, Atlantis, Sphere $\varnothing 400-500$

High-intensity discharge luminaires

OW

Application: urban roads, residential streets (internal), parks, pedestrian walkways, parkings

Assembly: on columns, extension arms, aluminium and steel wall brackets with spigot ending $\varnothing 42$ mm, length 40 mm

Ingress protection: IP 65

Insulation class: II

Material: base – high pressure die cast aluminium, casing – polyamide, cap – shaped aluminium sheet, electrical gear cover – polycarbonate

Colour: black possibility to paint in other colours – polyester powder paints

Mounting: only upwards

Luminaire type: OPA-1 – diameter of lamp diffuser collar neck $\varnothing 150$ mm

Unit volume: 0,01 m³

Input voltage frequency: 50 Hz

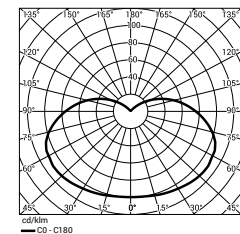


Luminaire OW

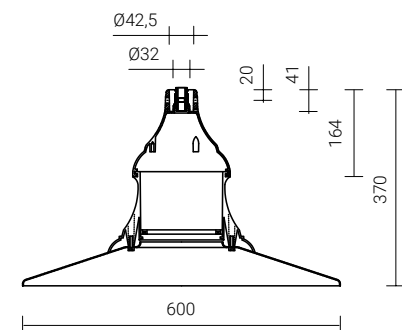


Luminaire OW, diffuser cone white $\varnothing 400$

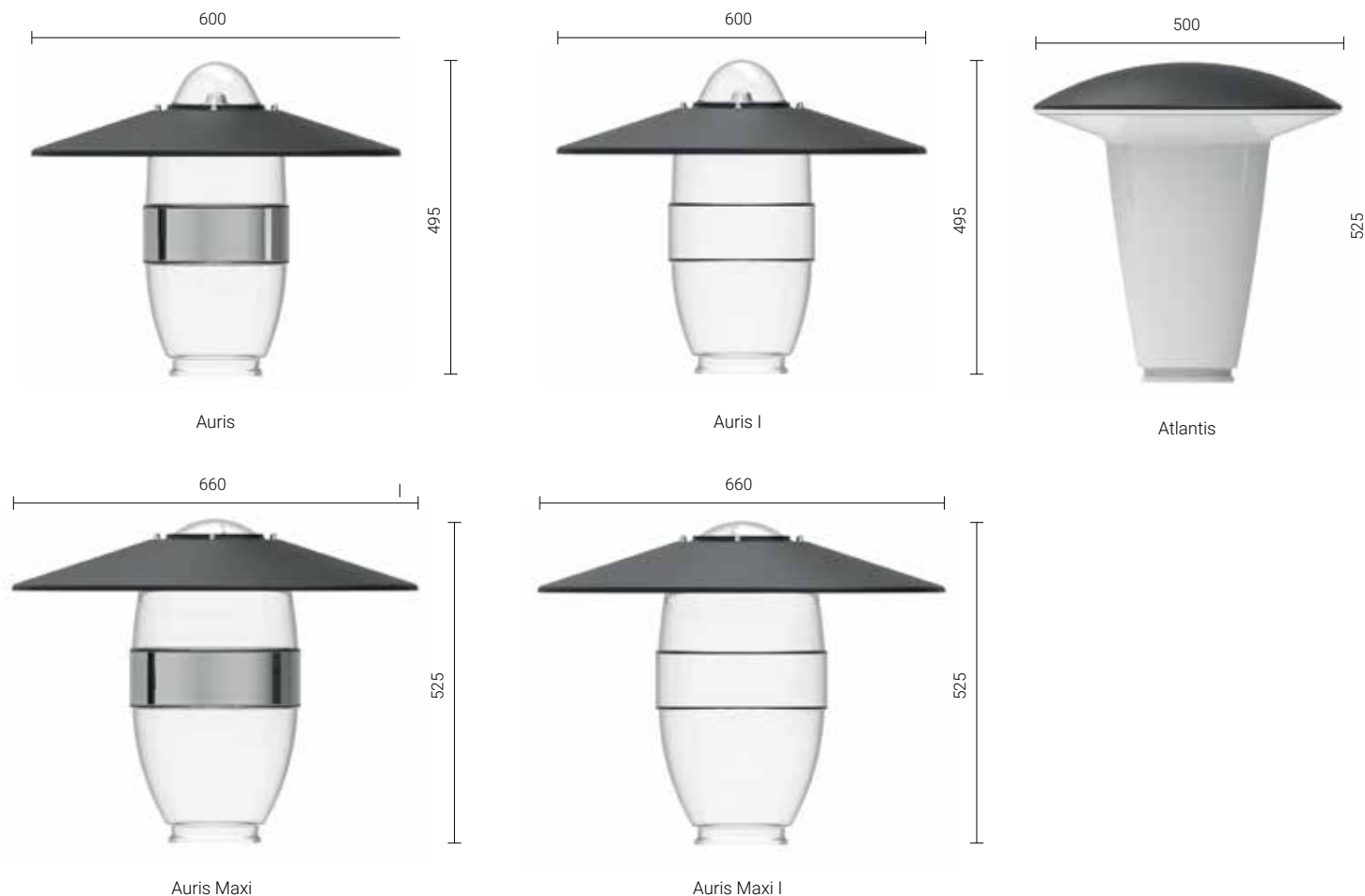
OW S-100W, diffuser cone white $\varnothing 400$



Code	Name	Power	Light source	Luminaire net weight	Diffuser types
210902	OW S-70W	70 W	Sodium E-27	4,6 kg	Sphere $\varnothing 400$ -450, Cone $\varnothing 400$
210903	OW S-100W	100 W	Sodium E-27	4,9 kg	Sphere $\varnothing 400$ -450, Cone $\varnothing 400$
210904	OW S-150W	150 W	Sodium E-27	5,5 kg	Sphere $\varnothing 400$ -450, Cone $\varnothing 400$
210907	OW MH-70W	70 W	Metal halide E-27	4,6 kg	Sphere $\varnothing 400$ -450, Cone $\varnothing 400$
210908	OW MH-100W	100 W	Metal halide E-27	4,8 kg	Sphere $\varnothing 400$ -450, Cone $\varnothing 400$
210915	OW E/Z	23 W	Compact fluorescent lamp E-27	3,2 kg	Sphere $\varnothing 400$ -450, Cone $\varnothing 400$



Lamp diffuser with collar neck $\varnothing 150$



Name	Material type	Code		Luminaire types	Cap of shaped aluminium sheet code black / other colour
		White	Transparent		
Auris without cap	PC-UV	-	660169	OPA-1	923602 / 923603
	PC	-	660162		
	PMMA	-	660163		
Auris I without cap	PC-UV	-	671169	OPA-1	923602 / 923603
	PC	-	671162		
	PMMA	-	671163		
Auris Maxi without cap	PC	-	660362	OPA-1	923662 / 923663
Auris Maxi I without cap	PC	-	671362	OPA-1	923662 / 923663
Atlantis frozen with cap painted black	PMMA	-	662368	OPA-1	-
Atlantis frozen with cap painted other colour	PMMA	-	670368	OPA-1	-

Ø400



Sphere transparent 400

Ø450



Sphere transparent 450

Ø500



Sphere transparent 500

420



Cone white

420



Cone transparent

450

450

Suwałki, Poland



Name	Material type	Code		Luminaire types
		White	Transparent	
Cone 400 k-150	PC	655160	655162	OW
	PMMA	655161	655163	
Sphere 400 k-150	PC	-	651162	OPA-1 (upwards mounted only), OW
Sphere 450 k-150	PC	-	651262	OPA-1 (upwards mounted only), OW
Sphere 500 k-150	PC	-	651362	OPA-1 (upwards mounted only), OW

High-intensity discharge luminaires

OS-1



- ending



- cap



- mounting plate with electromagnetic
or electronic gear



- frosted lamp diffuser



- luminaire body

Application: parks, pedestrian walkways

Assembly: on poles type S, SP with spigot type B, on the brackets configuration, wall brackets KR, KP, columns, extension arms, aluminium and steel wall brackets with spigot ending $\varnothing 60$ mm, length 60 mm

Ingress protection: IP 54

Insulation class: II

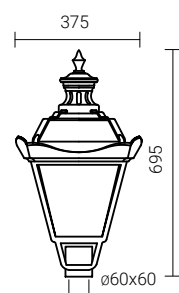
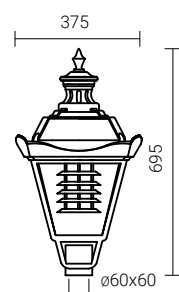
Material: luminaire body – UV resistant polypropylene with glass fibre, diffuser frosted – PMMA, diffuser transparent – PMMA or PC

Colour: black

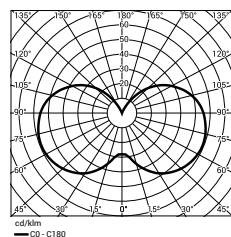
Mounting: upwards or downwards

Unit volume: 0,1 m³

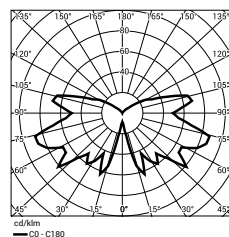
Input voltage frequency: 50 Hz



OS-1 S-70W
Frosted lamp diffuser



OS-1 MH-100W
Diffuser transparent with louvre reflector



Estonia



Code	Name	Power	Light source	Luminaire net weight
211202	OS-1 S-70W transparent diffuser PMMA	70 W	Sodium E-27	5,2 kg
211302	OS-1 S-70W transparent diffuser PC	70 W	Sodium E-27	5,2 kg
2110002	OS-1 S-70W frosted diffuser PMMA	70 W	Sodium E-27	5,2 kg
211207	OS-1 MH-70W transparent diffuser PMMA	70 W	Metal halide E-27	5,2 kg
211307	OS-1 MH-70W transparent diffuser PC	70 W	Metal halide E-27	5,2 kg
2110007	OS-1 MH-70W frosted diffuser PMMA	70 W	Metal halide E-27	5,2 kg
211308	OS-1 MH-100W transparent diffuser PC	100 W	Metal halide E-27	5,4 kg
211215	OS-1 E/Z transparent diffuser PMMA	23 W	Compact fluorescent lamp E-27	3,9 kg
211315	OS-1 E/Z transparent diffuser PC	23 W	Compact fluorescent lamp E-27	3,9 kg
2110015	OS-1 E/Z frosted diffuser PMMA	23 W	Compact fluorescent lamp E-27	3,9 kg

High-intensity discharge luminaires

ELBA



- nuts
- cover
- spacer sleeves
- cap
- Lamp diffuser
- lamp
- cover (PC)
- universal mounting frame with electromagnetic or electronic gear
- aluminium luminaire base

Application: parks, pedestrian walkways, bicycle path

Assembly: on columns or extension arms with spigot ending $\varnothing 60 \times 50$ mm

Ingress protection: IP 65

Insulation class: II

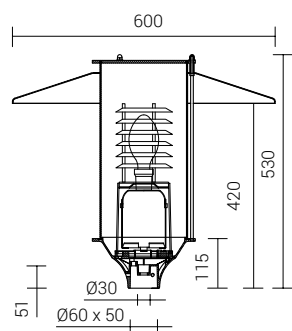
Material: base – high pressure die cast aluminium, electrical gear cover – polycarbonate, lamp diffuser – methacrylate PMMA frosted and transparent version, cylindrical $\varnothing 200$ mm, cap – shaped aluminium sheet

Colour: black (possibility to paint in other colours – polyester powder paints)

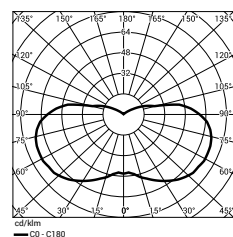
Mounting: only upwards

Unit volume: 0,06 m³

Input voltage frequency: 50 Hz



ELBA S-100W, frosted lamp diffuser



Lublin, Poland



Code	Name	Power	Light source	Luminaire net weight
2134002	ELBA S-70W, frosted diffuser PMMA	70 W	Sodium E-27	6,3 kg
2134003	ELBA S-100W, frosted diffuser PMMA	100 W	Sodium E-27	6,7 kg
2134007	ELBA MH-70W, frosted diffuser PMMA	70 W	Metal halide E-27	6,3 kg
2134015	ELBA E/Z, frosted diffuser PMMA	23 W	Compact fluorescent lamp E-27	5,0 kg
213602	ELBA S-70W, transparent diffuser PMMA	70 W	Sodium E-27	6,5 kg
213603	ELBA S-100W, transparent diffuser PMMA	100 W	Sodium E-27	6,9 kg
213607	ELBA MH-70W, transparent diffuser PMMA	70 W	Metal halide E-27	6,5 kg
213615	ELBA E/Z, transparent diffuser PMMA	23 W	Compact fluorescent lamp E-27	5,2 kg

High-intensity discharge luminaires

MAGNOLIA



Application: urban roads, residential streets (internal), pedestrian walkways, parkings

Installation: directly on poles with spigot $\varnothing 60 \times 120$ mm or on extension arm

Ingress protection IP: IP66 for optics and electrical accessory chamber

Insulation class: II

Material: body and cover – die cast aluminium-alloy, diffuser – convex tempered glass

Colour: body – RAL 9006 structure, cover – SILVER RENOIR (polyester powder paint)

Luminaire regulation: from -5° to 20° every $2,5^\circ$

Reposition of the light source – for the luminaire with light source up to 150 W

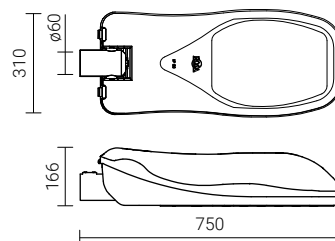
Low windage factor – 0,5

Unit volume: 0,04 m³

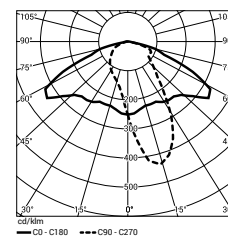
Input voltage frequency: 50 Hz

Power factor: ≥ 0.95

Code	Name	Power	Light source	Luminaire net weight
220502	Magnolia S-70W	70 W	Sodium E-27	8,3 kg
220503	Magnolia S-100W	100 W	Sodium E-27	8,6 kg
220504	Magnolia S-150W	150 W	Sodium E-27	9,3 kg
220505	Magnolia S-250W	250 W	Sodium E-27	10,4 kg
220507	Magnolia MH-70W	70 W	Metal halide E-27	8,3 kg
220508	Magnolia MH-100W	100 W	Metal halide E-27	8,5 kg
220509	Magnolia MH-150W	150 W	Metal halide E-27	9,2 kg
220510	Magnolia MH-250W	250 W	Metal halide E-27	10,3 kg



Magnolia S-150W



High-intensity discharge luminaires

LUNOIDA



Application: urban roads, highways, freeways

Installation: directly on poles with spigot $\varnothing 60$ - 76 x 80 mm or on extension arm

Ingress protection IP: IP67 for optics and IP 45 for electrical accessory chamber

Insulation class: I, II

Material: body – die cast aluminium-alloy, polymeric cover UV resistant
diffuser – tempered glass, pressed aluminium sheet reflector

Colour: body – RAL 7038, polymeric cover RAL 7035

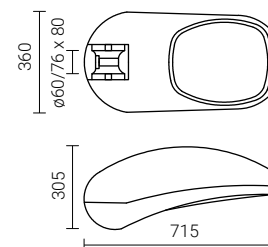
Luminaire regulation: from 0° to 110° every 4,5°

Reposition of the light source – for the luminaire with light source up to 150 W

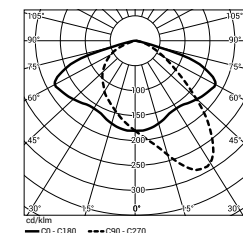
Unit volume: 0,07 m³

Input voltage frequency: 50 Hz

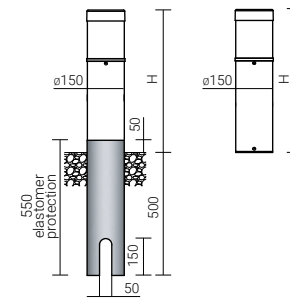
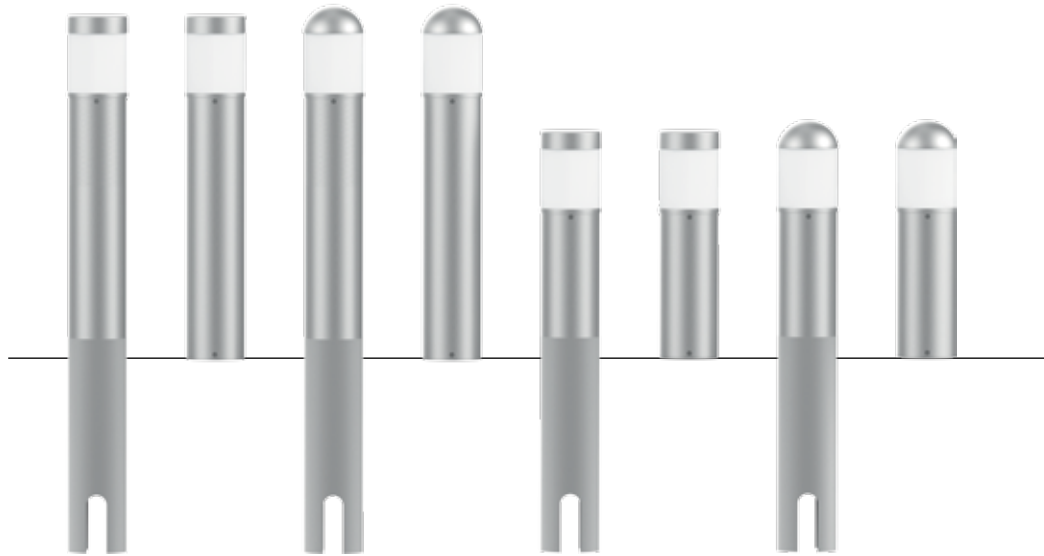
Code	Name	Power	Light source	Luminaire net weight
220102	Lunoida S-70W insulation class I	70 W	Sodium E-27	8,9 kg
220103	Lunoida S-100W insulation class I	100 W	Sodium E-27	9,3 kg
220104	Lunoida S-150W insulation class I	150 W	Sodium E-27	9,9 kg
220105	Lunoida S-250W insulation class I	250 W	Sodium E-27	11,2 kg
220108	Lunoida MH-100W insulation class I	100 W	Metal halide E-27	9,2 kg
220109	Lunoida MH-150W insulation class I	150 W	Metal halide E-27	9,8 kg
220110	Lunoida MH-250W insulation class I	250 W	Metal halide E-27	11,2 kg
220202	Lunoida S-70W insulation class II	70 W	Sodium E-27	9,0 kg
220203	Lunoida S-100W insulation class II	100 W	Sodium E-27	9,4 kg
220204	Lunoida S-150W insulation class II	150 W	Sodium E-27	10,0 kg
220205	Lunoida S-250W insulation class II	250 W	Sodium E-27	11,3 kg
220208	Lunoida MH-100W insulation class II	100 W	Metal halide E-27	9,3 kg
220209	Lunoida MH-150W insulation class II	150 W	Metal halide E-27	9,9 kg
220210	Lunoida MH-250W insulation class II	250 W	Metal halide E-27	11,3 kg



Lunoida S-150W



BOLLARD SAMR



Name	Cap	Code / Light source						Height [H]	Concrete footing / reinforcement basket
		S-50 W	S-70 W	MH-70 W	MH-70 W Electronic	MH-100 W	CFL compact 23W		
		E-27	E-27	E-27	E-27	E-27	E-27		
SAMR 600	round	450001/C...	450002/C...	450003/C...	450003E/C...	450004/C...	450006/C...	645	B-0, B-0A / Z-0, Z-0A
	flat	4500101/C.../P	450002/C.../P	450003/C.../P	450003E/C.../P	450004/C.../P	450006/C.../P	615	
SAMR 600 dz	round	450060/C...	450061/C...	450062/C...	450062E/C...	450063/C...	450066/C...	645	B-0, B-0A / Z-0, Z-0A
	flat	450060/C.../P	450061/C.../P	450062/C.../P	450062E/C.../P	450063/C.../P	450066/C.../P	615	
SAMR 900	round	450008/C...	450009/C...	450010/C...	450010E/C...	450011/C...	450014/C...	945	B-0, B-0A / Z-0, Z-0A
	flat	450008/C.../P	450009/C.../P	450010/C.../P	450010E/C.../P	450011/C.../P	450014/C.../P	915	
SAMR 900 dz	round	450067/C...	450068/C...	450069/C...	450069E/C...	450070/C...	450073/C...	945	B-0, B-0A / Z-0, Z-0A
	flat	450067/C.../P	450068/C.../P	450069/C.../P	450069E/C.../P	450070/C.../P	450073/C.../P	915	

/C... - choice of anodising colour

Application: parks, squares, pedestrian walkways, parkings, gardens

Ingress protection IP: IP65

Insulation class: II

Material: cylindrical aluminium tube, diffuser frosted PMMA tube

Types of bollards: on concrete footing and rooted (marked "dz" in the name) with round and flat cap (marked .../P in the product code)

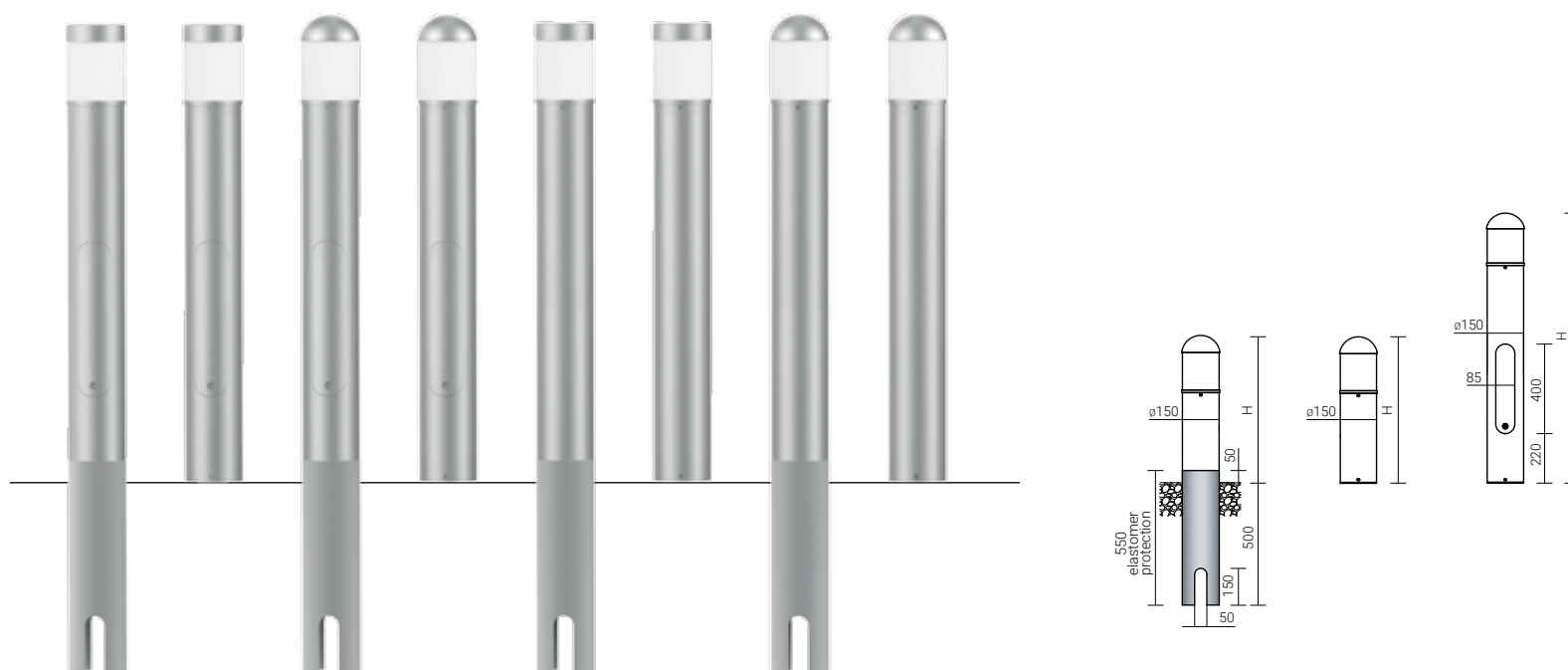
Types of light sources:

S – sodium 50 W, 70 W

MH – metal halide 70 W, 100 W

E/Z – energy-efficient source E-27

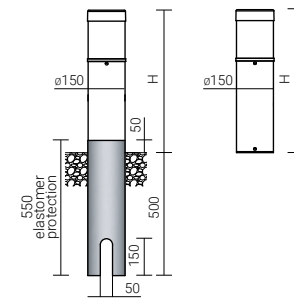
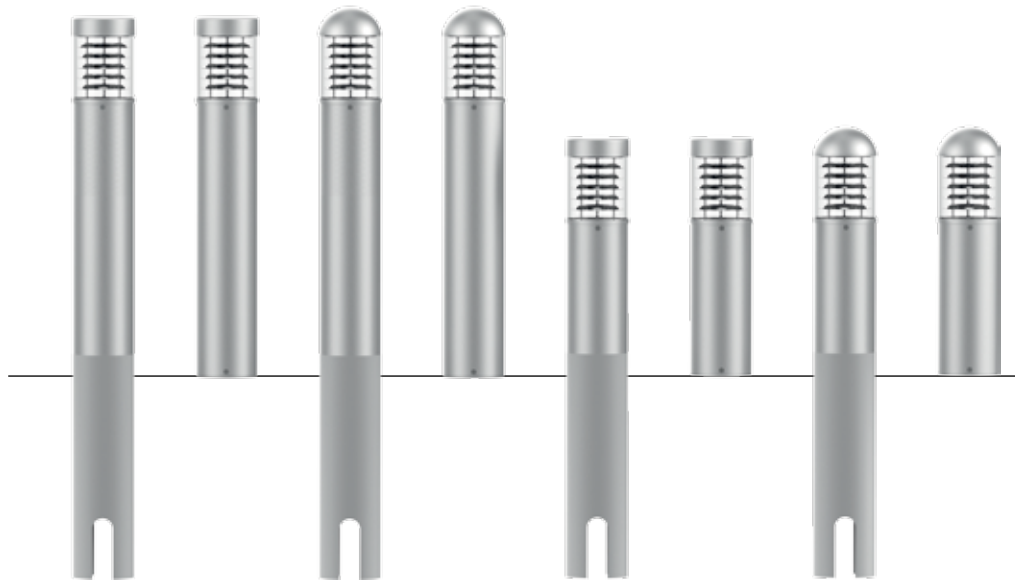
Input voltage frequency: 50 Hz



Name	Cap	Code / Light source						Height [H]	Concrete footing / reinforcement basket
		S-50 W	S-70 W	MH-70 W	MH-70 W Electronic	MH-100 W	CFL compact 23W		
		E-27	E-27	E-27	E-27	E-27	E-27		
SAMR 1200	round	450015/C...	450016/C...	450017/C...	450017E/C...	450018/C...	450021/C...	1245	B-0A / Z-0A
	flat	450015/C.../P	450016/C.../P	450017/C.../P	450017E/C.../P	450018/C.../P	450021/C.../P	1215	
SAMR 1200 dz	round	450074/C...	450075/C...	450076/C...	450076E/C...	450077/C...	450080/C...	1245	B-0A / Z-0A
	flat	450074/C.../P	450075/C.../P	450076/C.../P	450076E/C.../P	450077/C.../P	450080/C.../P	1215	
SAMR 1200 W	round	450022/C...	450023/C...	450024/C...	450024E/C...	450025/C...	450028/C...	1245	B-0A / Z-0A
	flat	450022/C.../P	450023/C.../P	450024/C.../P	450024E/C.../P	450025/C.../P	450028/C.../P	1215	
SAMR 1200 W dz	round	450081/C...	450082/C...	450083/C...	450083E/C...	450084/C...	450085/C...	1245	B-0A / Z-0A
	flat	450081/C.../P	450082/C.../P	450083/C.../P	450083E/C.../P	450084/C.../P	450085/C.../P	1215	

/C... – choice of anodising colour

BOLLARD SAP



Name	Cap	Code / Light source						Height [H]	Concrete footing / reinforcement basket
		S-50 W	S-70 W	MH-70 W	MH-70 W Electronic	MH-100 W	CFL compact 23W		
		E-27	E-27	E-27	E-27	E-27	E-27		
SAP 600	round	45030/C...	45031/C...	45032/C...	45032E/C...	45033/C...	45036/C...	645	B-0, B-0A / Z-0, Z-0A
	flat	45030/C.../P	45031/C.../P	45032/C.../P	45032E/C.../P	45033/C.../P	45036/C.../P	615	
SAP 600 dz	round	45088/C...	45089/C...	45090/C...	45090E/C...	45091/C...	45094/C...	645	
	flat	45088/C.../P	45089/C.../P	45090/C.../P	45090E/C.../P	45091/C.../P	45094/C.../P	615	
SAP 900	round	45037/C...	45038/C...	45039/C...	45039E/C...	45040/C...	45043/C...	945	B-0, B-0A / Z-0, Z-0A
	flat	45037/C.../P	45038/C.../P	45039/C.../P	45039E/C.../P	45040/C.../P	45043/C.../P	915	
SAP 900 dz	round	45095/C...	45096/C...	45097/C...	45097E/C...	45098/C...	45101/C...	945	
	flat	45095/C.../P	45096/C.../P	45097/C.../P	45097E/C.../P	45098/C.../P	45101/C.../P	915	

/C... – choice of anodising colour

Application: parks, squares, pedestrian walkways, parkings, gardens

Ingress protection IP: IP65

Insulation class: II

Material: cylindrical aluminium tube, diffuser clear PMMA tube

Types of bollards: on concrete footing and rooted (marked "dz" in the name) with round and flat cap (marked .../P in the product code)

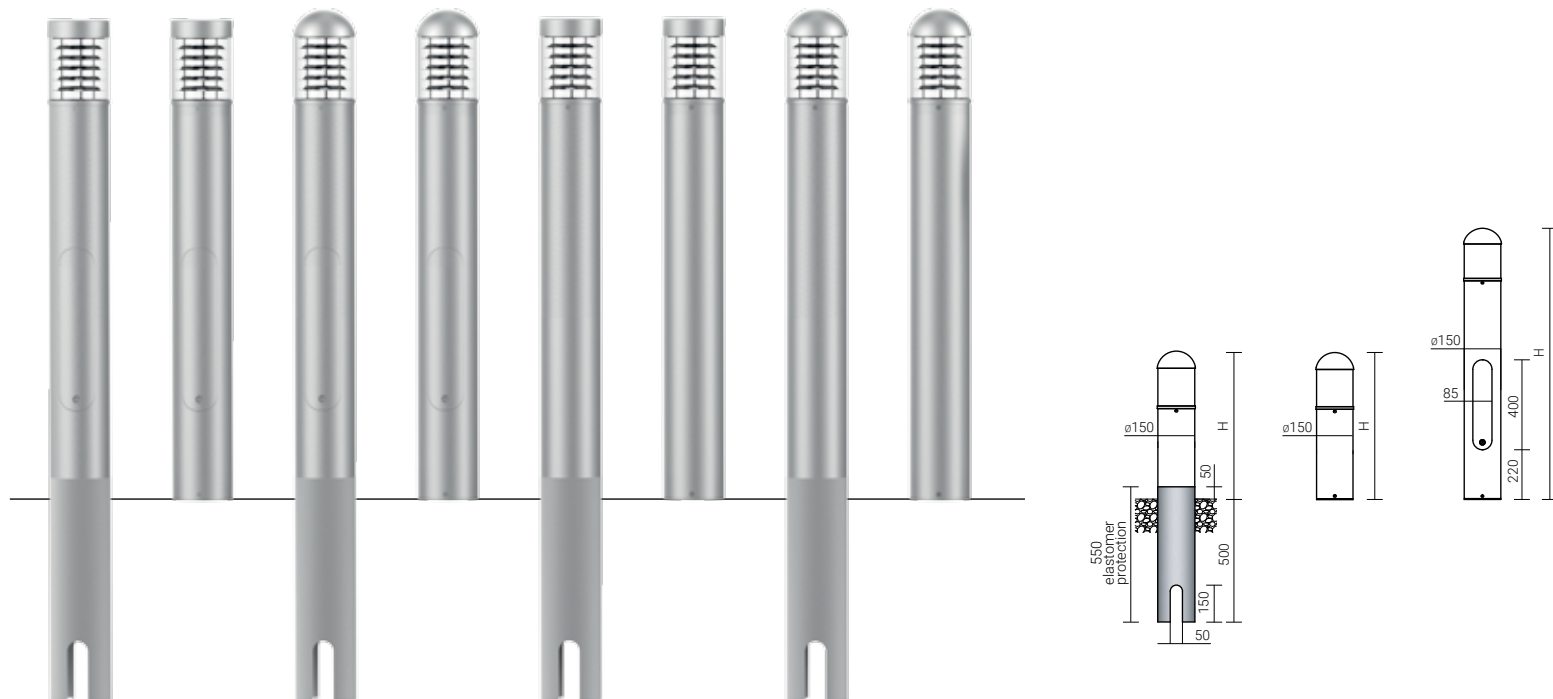
Types of light sources:

S – sodium 50W, 70W

MH – metal halide 70W, 100W

E/Z – energy-efficient source E-27

Input voltage frequency: 50 Hz



Name	Cap	Code / Light source						Height [H]	Concrete footing / reinforcement basket
		S-70 W		MH-70 W		CFL compact 23W			
		E-27	E-27	E-27	E-27	E-27	E-27		
SAP 1200	round	45044/C...	45045/C...	45046/C...	45046E/C...	45047/C...	45050/C...	B-0A / Z-0A	
	flat	45044/C.../P	45045/C.../P	45046/C.../P	45046E/C.../P	45047/C.../P	45050/C.../P		
SAP 1200 dz	round	45102/C...	45103/C...	45104/C...	45104E/C...	45105/C...	45108/C...	B-0A / Z-0A	
	flat	45102/C.../P	45103/C.../P	45104/C.../P	45104E/C.../P	45105/C.../P	45108/C.../P		
SAP 1200 W	round	45051/C...	45052/C...	45053/C...	45053E/C...	45054/C...	45056/C...	B-0A / Z-0A	
	flat	45051/C.../P	45052/C.../P	45053/C.../P	45053E/C.../P	45054/C.../P	45056/C.../P		
SAP 1200 W dz	round	45109/C...	45110/C...	45111/C...	45111E/C...	45112/C...	45115/C...	B-0A / Z-0A	
	flat	45109/C.../P	45110/C.../P	45111/C.../P	45111E/C.../P	45112/C.../P	45115/C.../P		

/C... – choice of anodising colour

Accessories

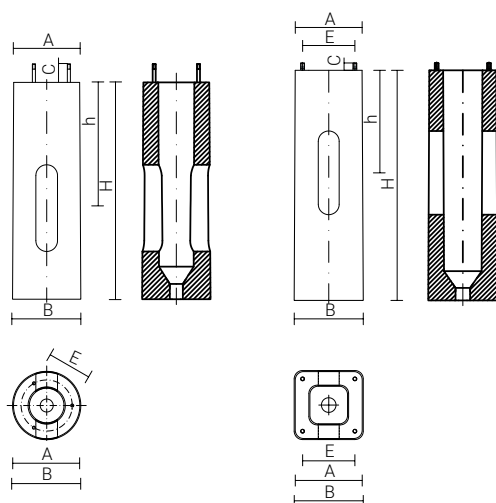
Concrete footings

Application:

- buried concrete footings are used as foundations for lighting columns

Technical information:

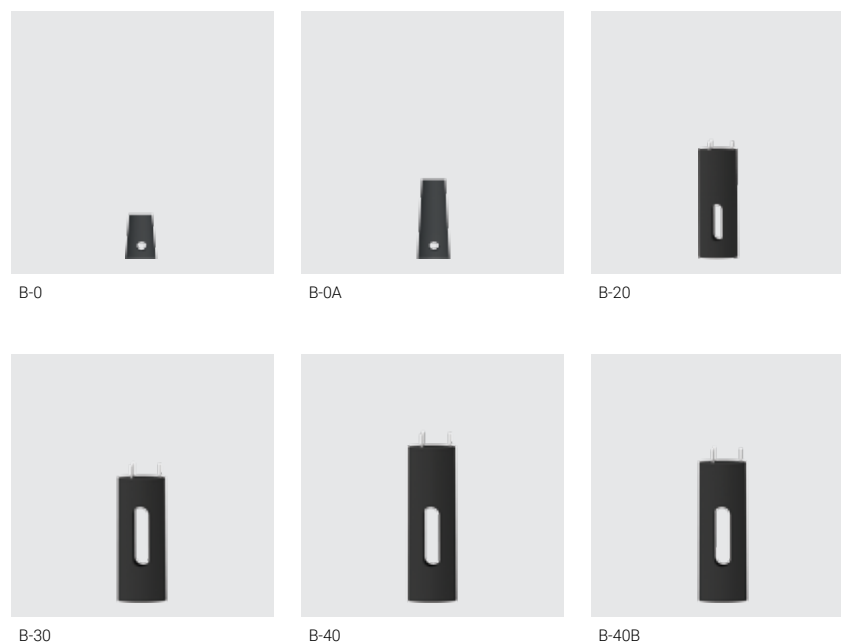
- concrete class 25/30 according standard EN 206-1,
- reinforcement basket made of B500 steel,
- threaded anchor endings hot galvanized,
- concrete footings for aluminium columns and aluminium flag poles are supplied with thermo-shrinkable sleeves installed on the threaded anchor endings, what protects against corrosion on threaded anchor ending,
- side holes and vertical hole to provide power cables,
- surface is covered with an impregnate agent (certified bitumen waterproofing emulsion),
- square section (aluminium columns and aluminium flag poles as well pole SP-5W and SP-31W) or round section (plastic coated poles).



Advantages:

- single-element construction makes easy foundation of products in the ground,
- fast and easy installation with no seasoning required,
- high quality due to the semi-automatic computer-controlled production line using the method of vibropressing.

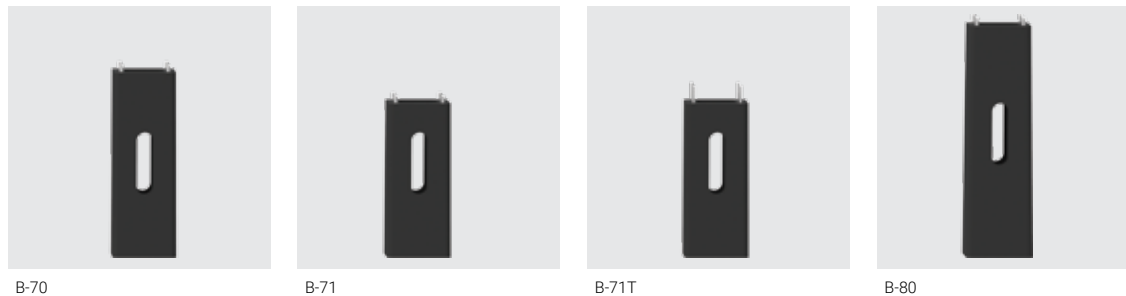
All concrete footings comply with standard EN 14991:2007 and have certificate of factory production control 1488-CPD-0208/Z.



Concrete footing type	B-0	B-0A	B-20	B-30	B-40	B-40B
Code	311100	311100A	311120	311130	311140	311140B
Shape	round					
Dimension A x B x H [mm]	Ø150 x Ø190 x 275	Ø150 x Ø190 x 490	Ø250 x Ø255 x 700	Ø305 x Ø315 x 800	Ø305 x Ø315 x 1000	Ø305 x Ø315 x 1000
Bolt spacing E [mm]	120	120	190	205	205	205
Height of threaded anchor ending C [mm]	-	-	50	85	85	85
Weight [kg]	12	12	61	95	120	110
Fasteners	M8 x 20 A2 DIN 6921	M8 x 20 A2 DIN 6921	311002	311003	311003	311003
Application	SAP and SAMR 600-900, KARIN 450-900 LED	SAP and SAMR 1200 KARIN 1200 LED	S-13, S-23, SP-2	S-21, S-21W, S-22, S-30, S-30W, S-31, S-31W, S-32	S-52W, S-54W, SP-4, SP-4W, SM-1W, SM-2W, SM-3W	S-40, S-40W, SP-3, SP-3W



Concrete footing type	B-50	B-51	B-51A	B-60	B-60T
Code	311150	311151	311151A	311160	311160T
Shape	square				
Dimension A x B x H [mm]	240 x 255 x 900	260 x 275 x 1000	260 x 275 x 1200	320 x 330 x 1000	320 x 330 x 1000
Bolt spacing E [mm]	180	200	200	250	250
Height of threaded anchor ending C [mm]	30	35	35	35	90
Weight [kg]	92	124	148	170	169
Fasteners	4006	4008	4008	4008	4008
Application	SAL \emptyset 114/B60, SAL \emptyset 120	SAL \emptyset 114/D60, SAL \emptyset 114/D75, SAL \emptyset 120E	SAL \emptyset 114/D60, SAL \emptyset 114/D75, SAL \emptyset 120E, SAL \emptyset 146G, SAL DECO-1, SAL DECO-2	SAL \emptyset 146	SP-31W



Concrete footing type	B-70	B-71	B-71T	B-80
Code	311170	311171	311171T	311180
Shape	square			
Dimension A x B x H [mm]	400 x 410 x 1200	400 x 410 x 1000	400 x 410 x 1000	400 x 430 x 1500
Bolt spacing E [mm]	300	300	300	300
Height of threaded anchor ending C [mm]	45	45	110	50
Weight [kg]	296	255	241	380
Fasteners	4012	4012	4008	4012
Application	SAL \emptyset 176, SAL \emptyset 178K, SAL \emptyset 180M	SAL \emptyset 146H, SAL \emptyset 176, SAL \emptyset 178K, SAL \emptyset 180M	SP-5W	MAL \emptyset 225



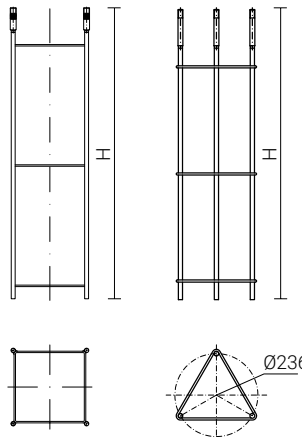
Reinforcement baskets

Application:

- buried concrete filled reinforcement baskets are used as foundations for lighting columns

Technical information:

- reinforcement basket made of B500 steel
- Oxide paint as a protection against corrosion resistant,
- threaded anchor endings hot galvanized,
- in reinforcement baskets for aluminium columns and aluminium flag poles are used thermo-shrinkable sleeves put on the threaded anchor endings in place of base plate deposition, what protects against corrosion on threaded anchor endings,
- square section (aluminium columns and aluminium flag poles as well pole SP-5W and SP-31W) or triangle (plastic coated poles).



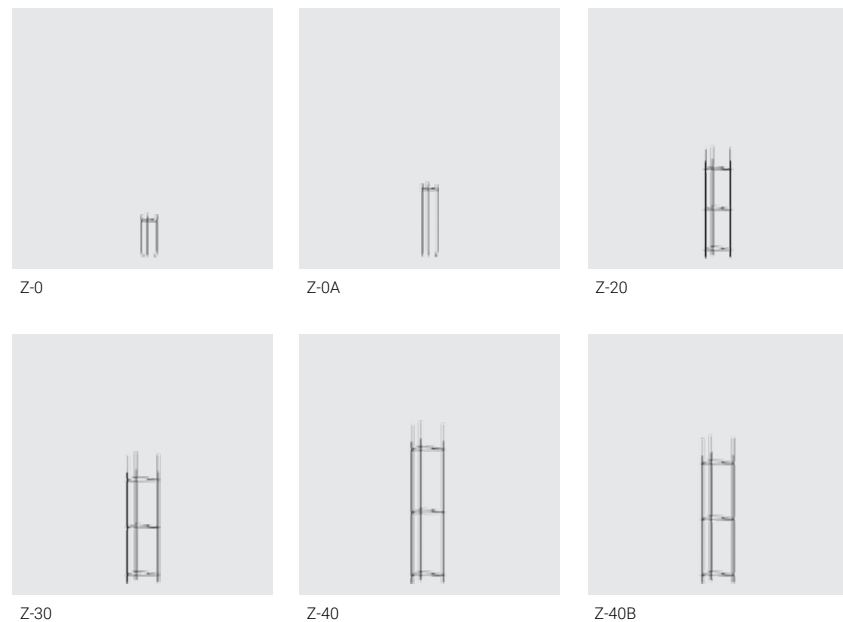
Advantages:

- light weight facilitates transport
- for installation on customer footings

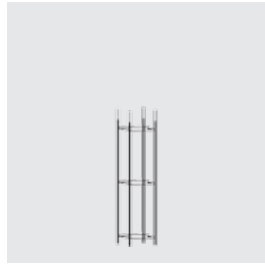
Additional elements:

- stainless washer, hot galvanized nut stainless washer are the fasteners sets available for columns SAL, MAL.
- stainless washer, hot galvanized nut, rubber cover plate for poles type S, SP, SM.

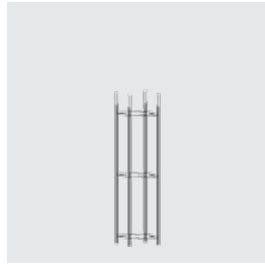
The manufacturer recommends using original concrete foundations, reinforcement baskets and fasteners guarantee stability and safety of whole construction.



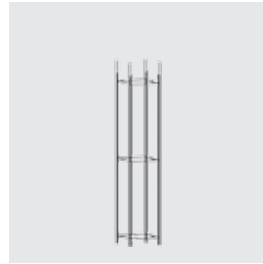
Reinforcement basket type	Z-0	Z-0A	Z-20	Z-30	Z-40	Z-40B
Code	311200	311200A	311202	311203	311204	311204B
Shape	triangle					
Height H [mm]	270	470	700	825	1025	935
Weight [kg]	12	12	2,21	2,78	3,32	3,07
Fasteners	M8 x 20 A2 DIN 6921	M8 x 20 A2 DIN 6921	311002	311003	311003	311003
Application	SAP and SAMR 600-900, KARIN 450-900 LED	SAP and SAMR 1200 KARIN 1200 LED	S-13, S-23, SP-2	S-21, S-21W, S-22, S-30, S-30W, S-31, S-31W, S-32	S-52W, S-54W, SP-4, SP-4W, SM-1W, SM-2W, SM-3W	S-40, S-40W, SP-3, SP-3W



Z-50



Z-51



Z-51A



Z-60



Z-60T

Reinforcement basket type	Z-50	Z-51	Z-51A	Z-60	Z-60T
Code	311205	311251	311251A	311206	311260T
Shape	square				
Height H [mm]	870	975	1180	985	1060
Weight [kg]	5,24	5,54	6,53	5,7	6,31
Fasteners	4006	4008	4008	4008	4008
Application	SAL \emptyset 114/B60 SAL \emptyset 120	SAL \emptyset 114/D60, SAL \emptyset 114/ D75, SAL \emptyset 120E	SAL \emptyset 114/D60, SAL \emptyset 114/D75, SAL \emptyset 120E, SAL \emptyset 146G, SAL DECO-1, SAL DECO-2	SAL \emptyset 146	SP-31W



Z-70



Z-71



Z-71T



Z-80

Reinforcement basket type	Z-70	Z-71	Z-71T	Z-80
Code	311207	311271	311271T	311208
Shape	square			
Height H [mm]	1190	965	1055	1500
Weight [kg]	9,2	7,76	6,41	11,42
Fasteners	4012	4012	4008	4012
Application	SAL \emptyset 176, SAL \emptyset 178K, SAL \emptyset 180M	SAL \emptyset 146H, SAL \emptyset 176, SAL \emptyset 178K, SAL \emptyset 180M	SP-5W	MAL \emptyset 225



Connection boxes

Connection box is an integral part of almost any lighting construction. It is used to connect power cables and electrical protection of luminaires mounted on columns and poles. It can be used in all columns and poles, where internal diameter is greater than 95 mm. The priority in the design of connection boxes is the safety of use, therefore they are made from high quality materials, excellent insulation properties and high mechanical strength.

- **protection degree:** IP54
- **insulation class:** II
- **rated voltage:** 500 V
- **rated current:** 80 A
- **fuse:** D01/E14, 2-16 A, 400 V, AC
- **casing dimensions:** 1. TB, NTB: 273 mm x 90 mm x 76 mm
(for TB-11, TB-12: 273 mm x 90 mm x 64 mm)
- **material:**
 - integrated terminal strip – made of PTB material (butylene polyterephthalate) with high insulation parameters and high mechanical strength
 - connection cover and clamp/cable protection – made of transparent polycarbonate
 - connection box base – made of polycarbonate reinforced by fibre glass, cable opening/outlets are protected with gaskets
- **assembly:** installed on the aluminium rail on the back wall of the column using two bolts M6

Advantages:

- small dimensions,
- quick, easy mounting due to the construction,
- all connection boxes are for 2-3 cables,
- construction of terminal strip (open from the top) enables cable installation.



Connection box installed in aluminium column

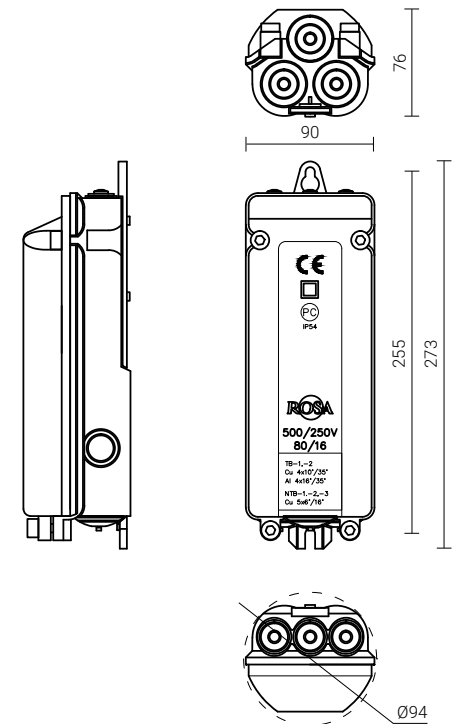


Connection box installed in plastic coated pole

Connection boxes NTB

Connection boxes NTB-1, NTB-2, NTB-3

- 5 tracks connection boxes for feeder cables with cross-section from 5 x 6 mm² up 5 x 16 mm²
- max. 3 cables
- the possibility of splitting load into particular phases
- the possibility of moving the fuse-sockets



Code	Name	Number of fuse-sockets [pcs]	Weight
324110	NTB-1	One fuse-socket mounted on L1 phase, there is a possibility of moving the fuse-socket on phase L2 or L3 by screwing-out two bolts	0,71 kg
324120	NTB-2	Two fuse-socket mounted on L1 and L2 phase, there is a possibility of moving the fuse-socket into phase L3 by screwing-out two bolts	0,73 kg
324130	NTB-3	Three fuse-sockets on three phases L1, L2, L3	0,76 kg

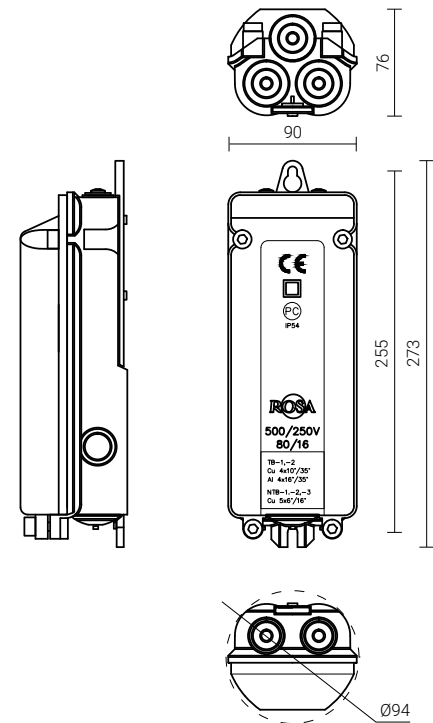
Fuses

Code	Name	Weight
322006	D01/E14 6A	0,01 kg
322010	D01/E14 10A	0,01 kg
322016	D01/E14 16A	0,01 kg

Connection boxes TB-1 / TB-2

Connection boxes TB-1 / TB-2

- connection box with 4 tracks for feeder cables with cross-section from 4 x 10 mm² up 4 x 35 mm²
- max. 3 cables
- the possibility of moving the fuse-sockets



Code	Name	Number of fuse-sockets [pcs]	Weight
324010	TB-1	One fuse-socket mounted on L1 phase, there is a possibility of moving the fuse-socket on phase L3 by screwing-out two bolts	0,71 kg
324020	TB-2	Two fuse-socket mounted on two phases L1 and L3	0,74 kg

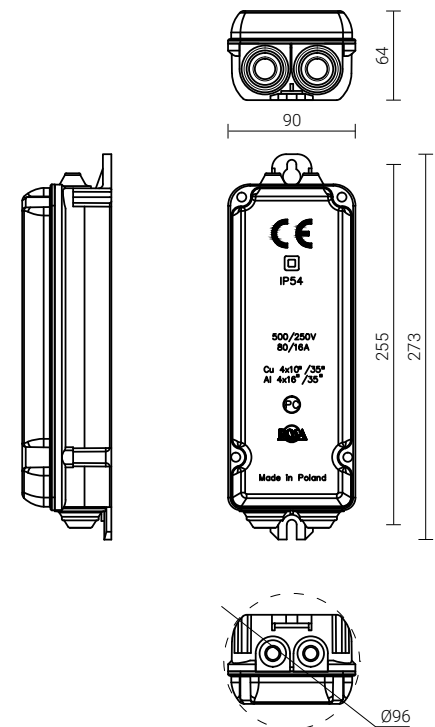
Fuses

Code	Name	Weight
322006	D01/E14 6A	0,01 kg
322010	D01/E14 10A	0,01 kg
322016	D01/E14 16A	0,01 kg

Connection boxes TB-11 / TB-12

Connection boxes TB-11 / TB-12

- connection boxes with 4 tracks for feeder cables with cross-section from 4 x 10 mm² up 4 x 35 mm²
- max. 2 cables
- simplified installation of cables ensure easier and more ergonomic operation
- smaller size provides more opportunities of applications
- the possibility of moving the fuse-sockets



Code	Name	Number of fuse-sockets [pcs]	Weight
324011	TB-11	One fuse-socket mounted on L1 phase, there is a possibility of moving the fuse-socket on phase L2 or L3 by screwing-out two bolts	0,71 kg
324012	TB-12	Two fuse-socket mounted on two phases L1 and L2	0,74 kg

Fuses

Code	Name	Weight
322006	D01/E14 6A	0,01 kg
322010	D01/E14 10A	0,01 kg
322016	D01/E14 16A	0,01 kg

Louvre reflector

Application: installation in park luminaire

Material: stainless steel

Assembly: no tools necessary, by screwing into luminaire casing, with OS-1 to assembly directly to mounting plate

Function: directing light transmittance, limiting the glare of light, decoration



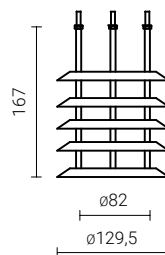
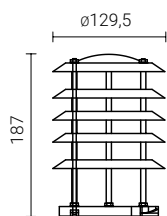
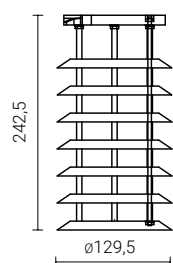
Louvre reflector big stainless steel



Louvre reflector small stainless steel



Louvre reflector small stainless steel for OS-1 luminaire



Code	Name	Luminaire type	Lamp holder type	Unit volume	Weight
911116	Big louvre reflector mounted upwards	OP, OPA-1	E-40	0,004 m³	0,40 kg
911117	Big louvre reflector mounted downwards	OP, OW	E-40	0,004 m³	0,40 kg
911126	Small louvre reflector mounted upwards	OP, OPA-1	E-27	0,004 m³	0,30 kg
911127	Small louvre reflector mounted downwards	OP, OW	E-27	0,004 m³	0,30 kg
911307	OS-1 louvre reflector	OS-1	E-27	0,004 m³	0,25 kg

Decorative elements

Application: aluminium columns with spigot endings $\varnothing 60$ mm and $\varnothing 76$ mm

Protection degree: IP 65 or IP 44 (after mounting on the column)

Insulation class: II

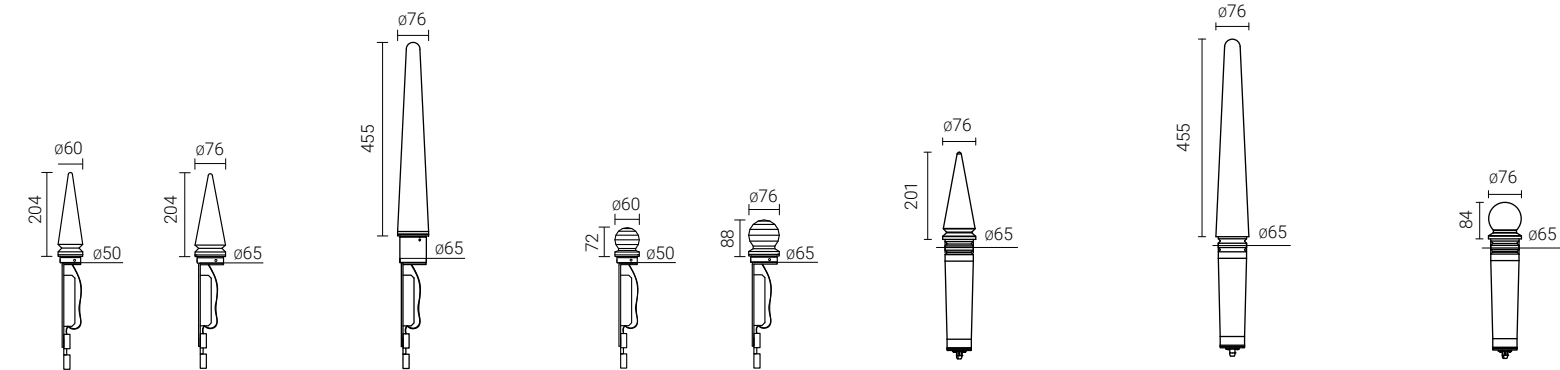
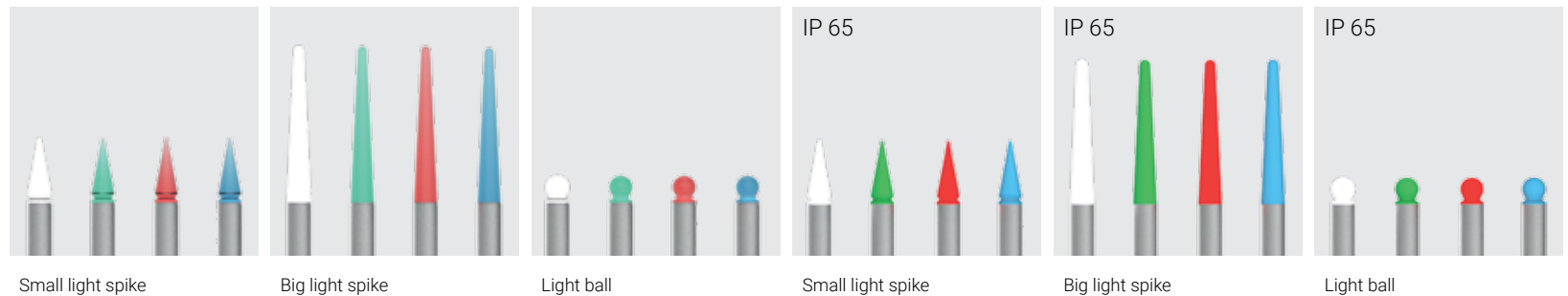
Material: PMMA (IP 44), HDPE (IP 65)

Colours: blue, green, red, white

LED power: 1 W – small light spike and light ball, 6 W – big light spike

Assembly: with 3 screws M5, after preparing mounting holes in the column

Input voltage frequency: 50/60 Hz



Name	Colour	Code		
		IP 44		IP 65
		mounting diameter [mm] $\varnothing 76$	mounting diameter [mm] $\varnothing 60$	mounting diameter [mm] $\varnothing 76$
Big light spike	Blue	4038	–	40380
	Green	4039	–	40390
	Red	4040	–	40400
	White	4041	–	40410
Small light spike	Blue	4050	4034	40500
	Green	4051	4035	40510
	Red	4052	4036	40520
	White	4053	4037	40530
Light ball	Blue	4046	4030	40460
	Green	4047	4031	40470
	Red	4048	4032	40480
	White	4049	4033	40490

Symbols



Symbol CE



Insulation class II



Ingress protection IP65



Ingress protection IP66



Input voltage: 220-240 V AC



Possibility to connect to an external control system via DALI



Surge protection device



Operating temperature range from -40°C to +55°C



Operating temperature range from -40°C to +40°C



Material aluminium



Symbol CE, Standard EN 40



100NE2 – energy absorption levels according to standard EN 12767



Possibility of anodising in 10 colours

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