

Vulkan

GROUPE RAGNI

Outdoor lighting

Vulkan – the traditional brand

Vulkan stands for products that are of premium quality, in terms of engineering, as well as highly efficient and have been for more than a century.

Vulkan's roots go all the way back to the year 1898. This makes Vulkan one of the oldest brands in the lighting industry. Particularly within the German-speaking area, the company enjoys a very good reputation.

Vulkan offers cities, municipalities and energy suppliers, technically highly advanced products for a standard-compliant illumination of streets, central traffic intersections, car parks, pedestrian zones and public facilities.

Vulkan – well-engineered and efficient

Technically advanced outdoor luminaires ensure high reliability and a long service life. Vulkan also stands for extremely attractive conditions. The combination of very high levels of energy-efficiency and long maintenance intervals result in very lucrative payback periods for Vulkan customers.

Energy efficiency meets high functionality

Vulkan luminaires are designed for a high level of technical functionality and maximum energy efficiency. Both are achieved through the use of state-of-the-art LED technology - paired with a high level of expertise in the field of mechanical design.

In addition, we align ourselves very closely with our customer requirements when developing new products. Depending on the corresponding application area, we develop lighting technology that is optimally matched to the requirements.

VULKAN – Quality from the Black Forest.



Hess – enhancing urban spaces

Thanks to its extremely varied range of luminaires, premium supplier Hess is able to fulfil every lighting design requirement for public and private outdoor spaces and exterior illumination of objects and properties. Together with the Hess brand Vulkan, the company covers almost the entire spectrum of outdoor lighting – from technically efficient to multifunctional, smart luminaires.

Perfectly matched, high-quality site furnishings round out the product portfolio. The perfect combination of luminaires and site furnishings allows the realisation of holistic concepts for urban and open space design – and, as a special hallmark of Hess, also the most unique special solutions.

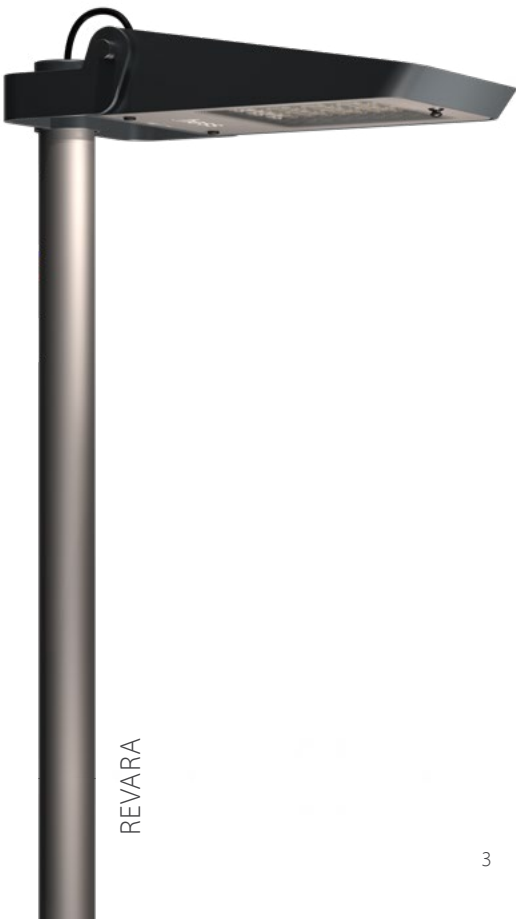
As the world's first manufacturer of LED streetlights, Hess played a pioneering role in innovative LED outdoor lighting already in 2003.

Hess offers a portfolio of innovative LED lights, which feature a unique design, modular LED technology and intelligent lighting management systems.

In addition to luminaires, Hess also produces high-quality site furnishings comprising among others benches, planters, barrier systems, waste receptacles, tree grates and bicycle racks. The products are conceived for the most demanding conditions while taking into account the highest design requirements.

Hess supports cities and municipalities on their way to becoming "Smart Cities" – with a comprehensive, innovative and design-oriented portfolio of products and solutions.

Hess: Enhancing urban spaces – we enhance smart cities.





Content

References	06
Optics overview	18
Mounting heights	21
Products	22
Technical luminaires	24
Catenary luminaires	30
Cylindrical luminaires	32
Chalice luminaire	40
Bell-shaped luminaires	42
Heritage luminaires	56
Replacement Kit	64
Accessories	62
Poles	64
Pole top mountings & brackets	66
Traverses	67
Curved pole brackets	68
Heritage poles	70
Accessories & wall brackets	72
Intelligent lighting	74
Smart City	76
List of abbreviations and symbols	78
Request Log Street Lighting	80



References



Product: V3630
Project: Fire station
Bad Nenndorf, Germany



Product: V3456
Project: Ravensberger Park
Bielefeld, Germany



Product: V7420
Project: Pöppelmann Bridge
Grimma, Germany



Product: V8448
Project: Tram station Ensen Gilgaustraße
Cologne, Germany



Product: V8448, M3000
Project: Conversion V8448
Weida, Germany




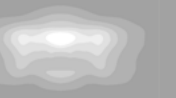








Product: V3610
Project: LED refurbishment
Coppenbrügge, Germany



Product: V8481
Project: Conversion City Circle
Cologne, Germany

Optics asymmetrical

					
Application examples*	Main thoroughfares	Thoroughfares	Low-order thoroughfares	Cycle paths / walkways	Pedestrian crossings, illumination to the right
Luminaires	Optic O1	Optic O2	Optic O3	Optic O4	Optic O6R
V3125					
V3454		✓		✓	
V3456		✓		✓	
V3457		✓		✓	
V3458		✓		✓	
V3606	✓	✓	✓		✓
V3610	✓	✓	✓	✓	✓
V3630	✓	✓	✓		✓
V5480		✓		✓	
V7410		✓		✓	
V7420		✓		✓	
V8446	✓	✓	✓		
V8447	✓	✓	✓		
V8448	✓	✓	✓		
V8450	✓	✓	✓		
V8466	✓	✓	✓		
V8481		✓	✓		
V8482	✓	✓	✓		

					
Application examples*	Side streets / paths	Sport facilities, Parking areas	Large areas	Large areas	Car parks
Luminaires	Optic O7	Optic O14	Optic O20	Optic O23	Optic O24
V3125					
V3454	✓				
V3456	✓				
V3457	✓				
V3458	✓				
V3606	✓	✓			
V3610	✓	✓			
V3630	✓	✓			
V5480	✓				
V7410	✓				
V7420	✓				
V8446	✓				
V8447	✓				
V8448	✓				
V8450	✓				
V8466	✓				
V8481	✓				
V8482	✓				

* The shown graphics give examples of the light distribution of the individual optics. These can vary depending on their mounting height, location and luminaire. LDT/IES data can be found for each luminaire model at www.vulkan.de. All optics (cluster of 4) can be combined with each other and changed on site in 90°- steps.

Optics symmetrical & axially symmetric

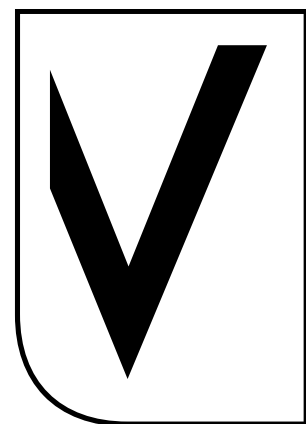
Application examples*	Pedestrian path / symmetric	Main thoroughfares or pedestrian zones	Main thoroughfares	Spotlighting	Large areas
Luminaires	Optic O8	Optic O9	Optic O10	Optic O15	Optic O16
V3125		✓	✓		
V3454	✓	✓			
V3456	✓	✓			
V3457	✓	✓			
V3458	✓	✓			
V3606	✓	✓			
V3610					
V3630	✓	✓			
V5480	✓	✓			
V7410	✓	✓			
V7420	✓	✓			
V8446	✓	✓			
V8447	✓	✓			
V8448	✓	✓			
V8450	✓	✓			
V8466	✓	✓			
V8481	✓	✓			
V8482	✓	✓			

* The shown graphics give examples of the light distribution of the individual optics. These can vary depending on their mounting height, location and luminaire. LDT/IES data can be found for each luminaire model at www.vulkan.de. All optics (cluster of 4) can be combined with each other and changed on site in 90°- steps.

Mounting heights

Recommended mounting heights

Luminaires	4-6 m	6-8 m	8-10 m	10-16 m	> 16 m
V3125		✓	✓		
V3454	✓				
V3456	✓				
V3457	✓				
V3458	✓				
V3606		✓	✓	✓	
V3610	✓	✓			
V3630		✓	✓		
V5480	✓				
V7410	✓				
V7420	✓				
V8446	✓	✓			
V8447		✓	✓		
V8448	✓	✓			
V8450	✓	✓			
V8466	✓	✓			
V8481	✓				
V8482	✓	✓			

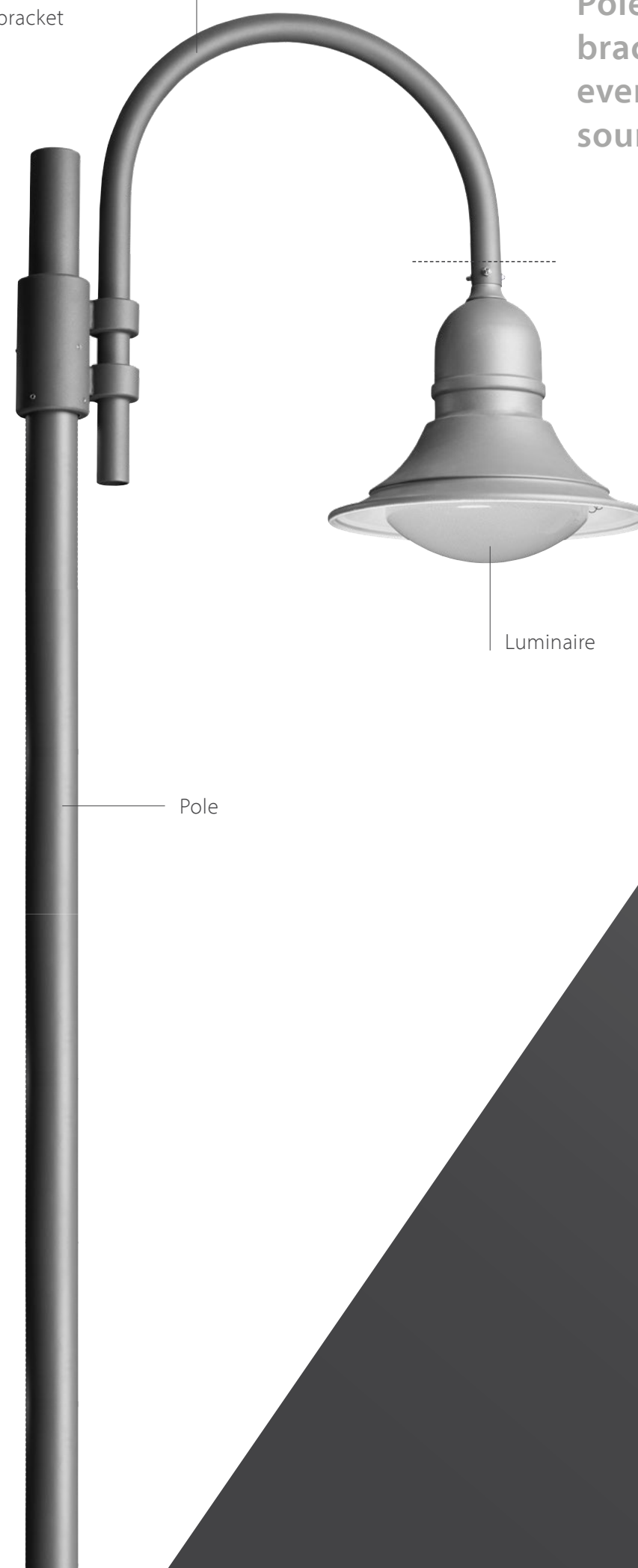


Vulkan
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Products

Curved pole
bracket

**Pole, curved pole
bracket, luminaire –
everything from one
source!**



Luminaire

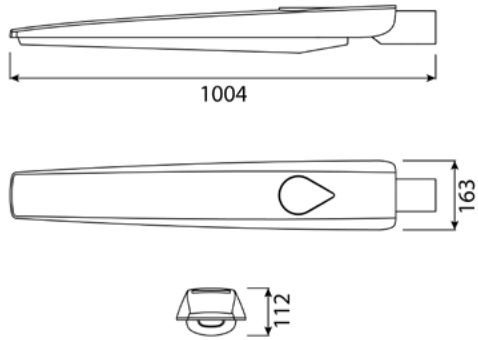
Pole



Modern interpretation of the classic linear luminaire

- ✓ Luminaire in slender, classic linear luminaire design
- ✓ Optimal for pole heights from 6 m to 12 m
- ✓ High quality aluminium housing
- ✓ Can be used as a side mounted and pole top mounted luminaire
- ✓ Components can be supplied and exchanged as spare parts

Dimensional drawing in mm



General specifications

Enclosure	Convex cover made of impact-resistant and UV-stable polycarbonate; optimised for far-reaching lateral illumination with large pole distances; visibility of luminaire even from a distance to support the appearance of classic linear luminaires
Rated luminous flux	3.033 lm - 9.374 lm, L90/B10 at 100.000 h
Light colour	4.000 K, 3.000 K, others on request
Rated power	21 W - 70 W; power-dependent equipping with 24 or 36 high-power LEDs
Protection rating	I or II
Surface vulnerable to wind	max. 0,1 m²
Weight	approx. 6 kg
Finish	DB 703, others on request
Accessories	From page 62
Optics	Pages 18 - 20

Additional specifications

Housing	Die-cast housing made of corrosion-resistant aluminium alloy
Installation	Two versions for Ø 60 mm as well as Ø 42-48 mm pole spigot, both for side mounting and pole top mounting, setting angle + or - 15° in 5 ° increments
Light regulation	Constant Lumen Management (CLM); autonomous power reduction for operation in networks without a control line (LRA); power reduction by switching off a control line (LRT); optionally available as "Zhaga Ready" with top/bottom Zhaga Book 18 socket and SR driver; 3-stage lumen power switch on request
	Digital communication with DALI
	Radio-controlled Light Management System (LMS) with monitoring, error messages, motion control and other features



V3610

Technical luminaires



Six inclination levels from -5° to +20°

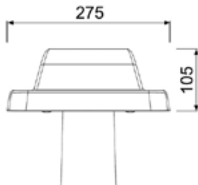
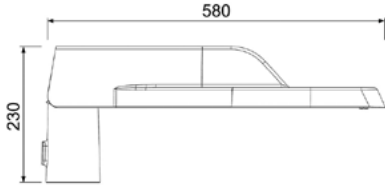


↑ Pole top mounting with six inclination levels from -5° to +20°

↑ For brackets without inclination, 5° inclination is possible

↑ Brackets with inclination of up to 20° can be inclined down to 0°

Dimensional drawing in mm



General specifications

Enclosure	Flat single-pane tempered safety glass, partially printed on the inside in black; easy to open thanks to quick-release lock with 90° rotation, enclosure glass can be hinged towards the pole
Rated luminous flux	742 lm - 6.874 lm, L90/B10 for 100.000 h
Light colour	4.000 K, 3.000 K, 2.700 K, 1.800 K, others on request
Rated input power	6 W - 52 W
Protection rating	I or II
Surface vulnerable to wind	0,05 m²
Weight	approx. 5,8 - 6,7 kg
Finish	DB 703 or RAL 7035, others on request
Accessories	See from page 62
Optics	Pages 18 - 20

Additional specifications

Housing	Powder-coated, die-cast aluminium
Installation	Pole top ø 60 - 76 mm Side mounted luminaire ø 42 - 60 mm (for ø 42 mm adapter requested)
Light regulation	Constant Lumen Management (CLM); autonomous performance reduction for operation in networks without a control line (Light Regulation Autarkic – LRA); performance reduction by switching off a control line (Light Regulation Twin – LRT), Optional as “Control Ready”, deliverable with Zhaga Book 18 socket and SR drive located above or under; 3 levelled lumen circuit-breaker upon request Digital communication with DALI Radio-controlled Light Management System (LMS) with monitoring, error messages, motion control and other features



Maximum flexibility for individual applications

- ✓ Universal and simple installation
- ✓ Optimal for pole heights of 4 m to 8 m
- ✓ Easy opening through quick-release lock
- ✓ Components exchangeable and available as spare parts



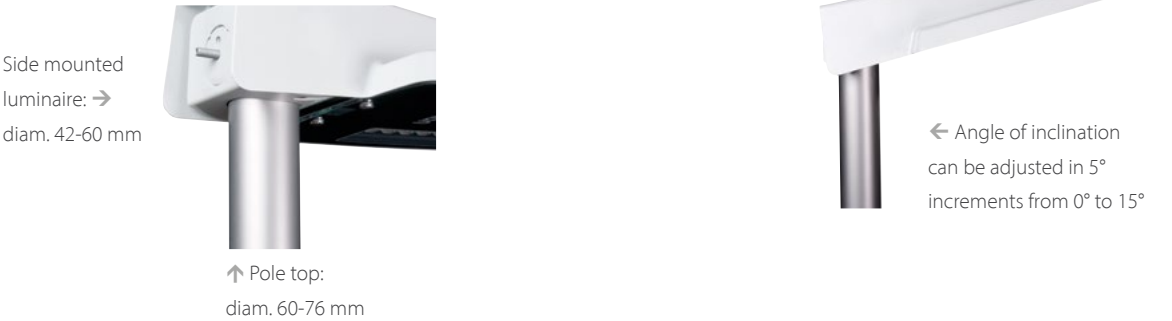
Find more technical details
<https://www.vulkan.eu/en/street-lighting/v3610/>

V3630

Technical luminaires



Inclination levels from 0° to + 15°



Dimensional drawing in mm



General specifications

Enclosure	Flat single-pane, tempered safety glass, partially printed on the inside in black; easy to open; quick release look with 90° rotation, enclosure glass can be hinged towards the pole
Rated luminous flux	1.325 lm - 16.362 lm, L90/B10 for 100.000 h
Light colour	4.000 K, 3.000 K, 2.700 K, 1.800 K, others on request
Rated input power	11 W - 139 W
Protection rating	I or II
Surface vulnerable to wind	0,06 m²
Weight	approx. 9,2 to 10,5 kg
Finish	DB 703 or RAL 7035, others on request
Accessories	See from page 62
Optics	Pages 18 - 20

Additional specifications

Housing	Powder-coated die-cast aluminium
Installation	Pole top ø 60 - 76 mm Side mounted luminaire ø 42 - 60 mm
Light regulation	Constant Lumen Management (CLM); autonomous performance reduction for operation in networks without a control line (Light Regulation Autarkic – LRA); performance reduction by switching off a control line (Light Regulation Twin – LRT); optional as “Control Ready”, deliverable with Zhaga Book 18 socket and SR drive located above or under; 3 levelled lumen circuit-breaker upon request
	Digital communication with DALI
	Radio-controlled Light Management System (LMS) with monitoring, error messages, motion control and other features



One design for all applications within a city

- ✓ Flexibility in mounting on pole top and as side mounted luminaire, integrated pole flap
- ✓ Optimal for pole heights of 5 m to 12 m
- ✓ Easy opening through quick-release lock
- ✓ Components exchangeable and available as spare parts

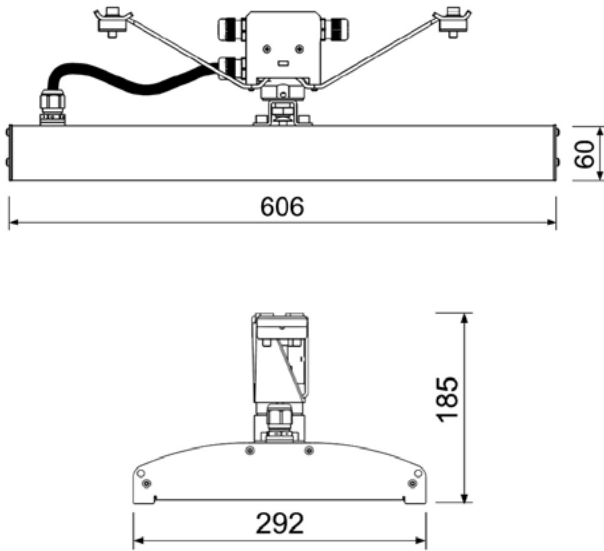


V3125

Catenary luminaires



Dimensional drawing in mm



General specifications

Enclosure	Enclosure made from flat single-pane tempered safety glass, partially printed on the inside in black; maintenance-free concept; weather resistant EPDM gasket
Rated luminous flux	2.651 lm - 16.362 lm, L90/B10 for 100.000 h
Light colour	4.000 K, 3.000 K, 2.700 K, 1.800 K, others on request
Rated input power	21 W - 139 W
Protection rating	I or II
Surface vulnerable to wind	0,05 m²
Weight	approx. 9 kg
Finish	DB 703, others on request
Accessories	See from page 62
Optics	Pages 18 - 20

Additional specifications

Housing	Extruded aluminium section, powder-coated, DB 703
Installation	Suspension, screws and fastening components made from stainless steel; attachment mechanism for suspension cable 8 - 12 mm
Light regulation	Constant Lumen Management (CLM); autonomous performance reduction for operation in networks without a control line (Light Regulation Autarkic – LRA); performance reduction by switching off a control line (Light Regulation Twin – LRT); optional as "Control Ready", deliverable with Zhaga Book 18 socket and SR drive located above or under; 3 levelled lumen circuit-breaker upon request



Aerodynamic shape for challenging lighting conditions

- ✓ Flat, aerodynamic shape with low wind load
- ✓ No light pollution from directed light
- ✓ Components exchangeable and available as spare parts



V3454

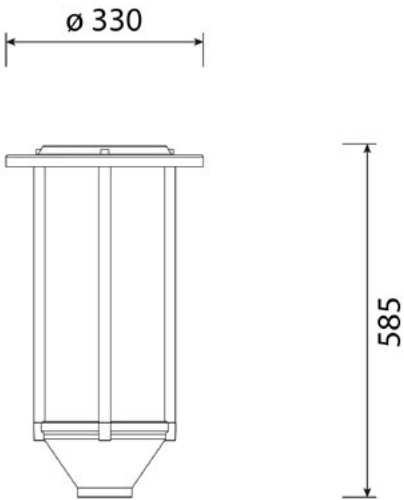
Cylindrical luminaires



Decorative top-mounted luminaire
with timeless, elegant design

- ✓ Dimensionally-stable and corrosion-resistant aluminium
- ✓ Stable roof fixation with three massive external aluminium rods
- ✓ Efficient thermal management thanks to built-in heat sink
- ✓ Interchangeable LED module with highly efficient high-power LEDs

Dimensional drawing in mm



General specifications

Enclosure	Acrylic (PMMA) cylinder glass, clear, satin-finished at top
Rated luminous flux	1.449 lm - 4.476 lm, L90/B10 for 100.000 h
Light colour	4.000 K, 3.000 K, 2.700 K, 1.800 K, others on request
Rated input power	11 W - 36 W
Protection rating	I or II
Surface vulnerable to wind	0,1 m²
Weight	approx. 10 kg
Finish	DB 703, others on request
Accessories	See from page 62
Optics	Pages 18 - 20

Additional specifications

Housing	Dimensionally-stable and corrosion-resistant aluminium
Installation	Structurally secure three-point pole attachment in pole top for pole spigot diameter of 76 mm; reducing piece 60 mm to be ordered separately
Light regulation	Constant Lumen Management (CLM); autonomous performance reduction for operation in networks without a control line (Light Regulation Autarkic – LRA); performance reduction by switching off a control line (Light Regulation Twin – LRT)



V3456

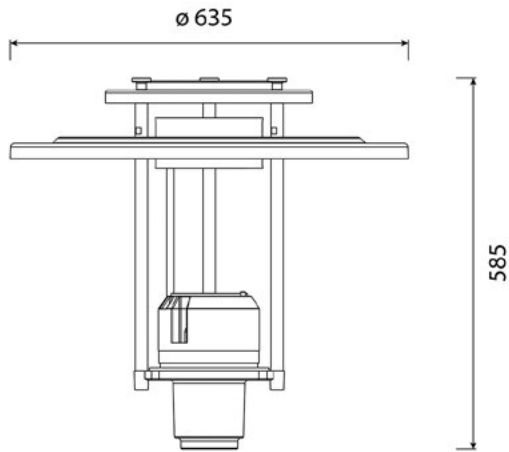
Cylindrical luminaires



Decorative top-mounted luminaire with timeless, elegant design

- ✓ Dimensionally-stable and corrosion-resistant aluminium
- ✓ Stable roof fixation with three massive external aluminium rods
- ✓ Efficient thermal management thanks to built-in heat sink
- ✓ Interchangeable LED module with highly efficient high-power LEDs

Dimensional drawing in mm



General specifications

Enclosure	Acrylic (PMMA) cylinder glass, clear, satin-finished at top
Rated luminous flux	1.449 lm - 4.476 lm, L90/B10 for 100.000 h
Light colour	4.000 K, 3.000 K, 2.700 K, 1.800 K, others on request
Rated input power	11 W - 36 W
Protection rating	I or II
Surface vulnerable to wind	0,1 m²
Weight	approx. 11 kg
Finish	DB 703, others on request
Accessories	See from page 62
Optics	Pages 18 - 20

Additional specifications

Housing	Dimensionally-stable and corrosion-resistant aluminium
Installation	Structurally secure three-point pole attachment in pole top for pole spigot diameter of 76 mm; reducing piece 60 mm to be ordered separately
Light regulation	Constant Lumen Management (CLM); autonomous performance reduction for operation in networks without a control line (Light Regulation Autarkic – LRA); performance reduction by switching off a control line (Light Regulation Twin – LRT); optional as "Control Ready", deliverable with Zhaga Book 18 socket and SR drive located above or under; 3 levelled lumen circuit-breaker upon request



V3457

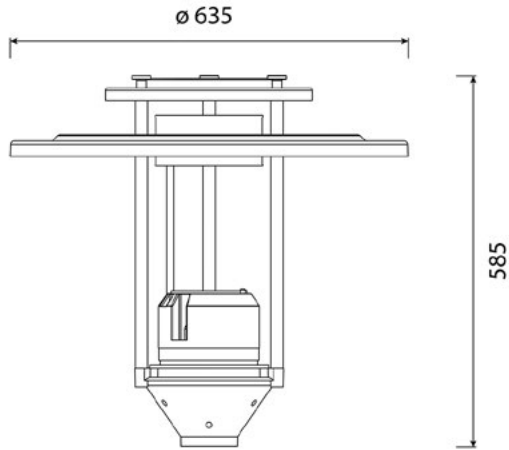
Cylindrical luminaires



Decorative top-mounted luminaire with timeless, elegant design

- ✓ Dimensionally-stable and corrosion-resistant aluminium
- ✓ Stable roof fixation with three massive external aluminium rods
- ✓ Efficient thermal management thanks to built-in heat sink
- ✓ Interchangeable LED module with highly efficient high-power LEDs

Dimensional drawing in mm



General specifications

Enclosure	Acrylic (PMMA) cylinder glass, clear, satin-finished at top
Rated luminous flux	1.520 lm - 4.689 lm, L90/B10 for 100.000 h
Light colour	4.000 K, 3.000 K, 2.700 K, 1.800 K, others on request
Rated input power	11 W - 36 W
Protection rating	I or II
Surface vulnerable to wind	0,1 m²
Weight	approx. 11 kg
Finish	DB 703, others on request
Accessories	See from page 62
Optics	Pages 18 - 20

Additional specifications

Housing	Dimensionally-stable and corrosion-resistant aluminium
Installation	Structurally secure three-point pole attachment in pole top for pole spigot diameter of 76 mm; reducing piece 60 mm to be ordered separately
Light regulation	Constant Lumen Management (CLM); autonomous performance reduction for operation in networks without a control line (Light Regulation Autarkic – LRA); performance reduction by switching off a control line (Light Regulation Twin – LRT); optional as “Control Ready”, deliverable with Zhaga Book 18 socket and SR drive located above or under; 3 levelled lumen circuit-breaker upon request



V3458

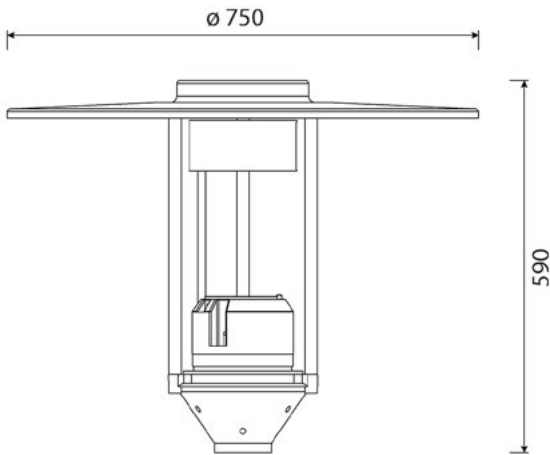
Cylindrical luminaires



Decorative top-mounted luminaire
with timeless, elegant design

- ✓ Dimensionally-stable and corrosion-resistant aluminium
- ✓ Stable roof fixation with three massive external aluminium rods
- ✓ Efficient thermal management thanks to built-in heat sink
- ✓ Interchangeable LED module with highly efficient high-power LEDs

Dimensional drawing in mm



General specifications

Enclosure	Acrylic (PMMA) cylinder glass, clear, satin-finished at top
Rated luminous flux	1.449 lm - 4.476 lm, L90/B10 for 100.000 h
Light colour	4.000 K, 3.000 K, 2.700 K, 1.800 K, others on request
Rated input power	11 W - 36 W
Protection rating	I or II
Surface vulnerable to wind	0,1m ²
Weight	approx. 11 kg
Finish	DB 703, others on request
Accessories	See from page 62
Optics	Pages 18 - 20

Additional specifications

Housing	Dimensionally-stable and corrosion-resistant aluminium
Installation	Structurally secure three-point pole attachment in pole top for pole spigot diameter of 76 mm; reducing piece 60 mm to be ordered separately
Light regulation	Constant Lumen Management (CLM); autonomous performance reduction for operation in networks without a control line (Light Regulation Autarkic – LRA); performance reduction by switching off a control line (Light Regulation Twin – LRT); optional as “Control Ready”, deliverable with Zhaga Book 18 socket and SR drive located above or under; 3 levelled lumen circuit-breaker upon request



V5480

Chalice luminaire



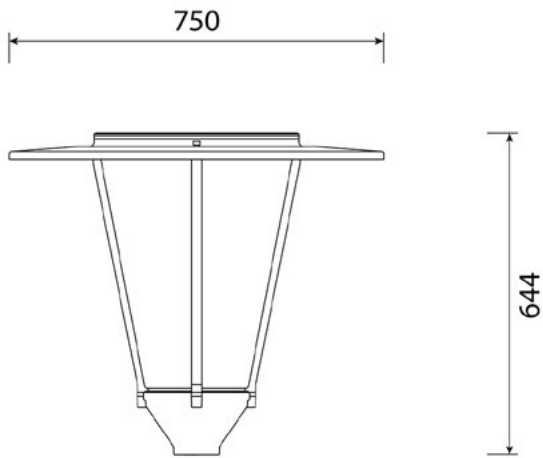
Decorative top-mounted luminaire with timeless, elegant design

- ✓ Dimensionally-stable and corrosion-resistant aluminium
- ✓ Efficient thermal management thanks to built-in heat sink
- ✓ Interchangeable LED module with highly efficient high-power LEDs

CE

10-year guarantee on request

Dimensional drawing in mm



General specifications

Enclosure	Acrylic (PMMA) cylinder glass, clear or opal version
Rated luminous flux	1.507 lm - 6.976 lm, L90/B10 for 100.000 h
Light colour	4.000 K, 3.000 K, 2.700 K, 1.800 K, others on request
Rated input power	11 W - 52 W
Protection rating	II
Surface vulnerable to wind	0,12m²
Weight	approx. 9 kg
Finish	DB 703, others on request
Accessories	See from page 62
Optics	Pages 18 - 20

Additional specifications

Housing	Dimensionally-stable and corrosion-resistant aluminium
Installation	Structurally secure three-point pole attachment in pole top for pole spigot diameter of 76 mm; reducing piece 60 mm to be ordered separately
Light regulation	Constant Lumen Management (CLM); autonomous performance reduction for operation in networks without a control line (Light Regulation Autarkic – LRA); performance reduction by switching off a control line (Light Regulation Twin – LRT); optional as "Control Ready", deliverable with Zhaga Book 18 socket and SR drive located above or under; 3 levelled lumen circuit-breaker upon request



Find more technical details
<https://www.vulkan.eu/en/decorative-lighting/v5480/>

V8446

Bell-shaped luminaires

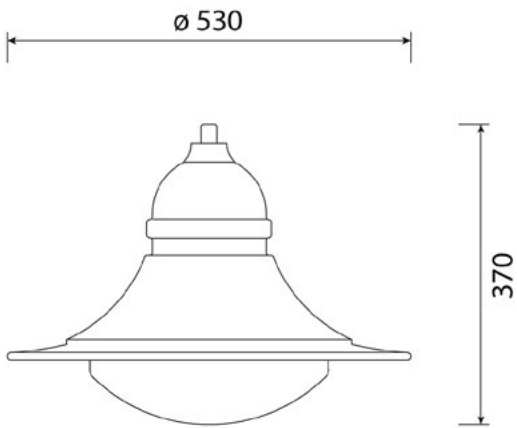
www.vulkan.eu



Decorative bell-shaped luminaires with traditional design

- ✓ Enclosure opens without tools
- ✓ Rapid mounting using Vulkan Patent System (VPS)
- ✓ Low glare thanks to large optics surface
- ✓ Efficient thermal management thanks to in-built heat sink

Dimensional drawing in mm



General specifications

Enclosure	Acrylic outer casing (PMMA), clear or structured version
Rated luminous flux	1.643 lm - 5.077 lm, L90/B10 for 100.000 h
Light colour	4.000 K, 3.000 K, 2.700 K, 1.800 K, others on request
Rated input power	11 W - 36 W
Protection rating	I or II
Surface vulnerable to wind	0,09 m²
Weight	approx. 6,0 kg
Finish	DB 703, others on request
Accessories	See from page 62, curved pole brackets pages 68 - 69
Optics	Pages 18 - 20

Additional specifications

Housing	Single-part luminaire housing constructed from dimensionally-stable and corrosion-resistant aluminium
Installation	Pole attachment with VPS quick mounting system (shown on page 73), with adapter also for 1/2" external threads; rosetten nut available for differing diameters of pole bracket mounted luminaires
Light regulation	Constant Lumen Management (CLM); autonomous performance reduction for operation in networks without a control line (Light Regulation Autarkic – LRA); performance reduction by switching off a control line (Light Regulation Twin – LRT); deliverable with Zhaga Book 18 socket



IP65 IK06

100.000 h
L90/B10

5 YEARS

10 YEARS

10-year guarantee
on request

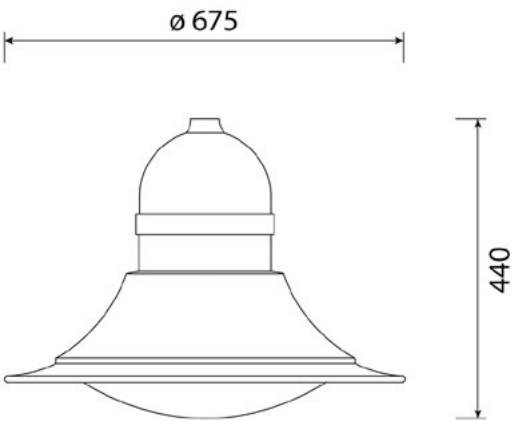


Find more technical details
<https://www.vulkan.eu/en/decorative-lighting/v8446/>

V8447

Bell-shaped luminaires

Dimensional drawing in mm



Decorative bell-shaped luminaires
with traditional design

- ✓ Enclosure opens without tools
- ✓ Rapid mounting using Vulkan Patent System (VPS)
- ✓ Low glare thanks to large optics surface
- ✓ Efficient thermal management thanks to built-in heat sink

General specifications

Enclosure	Acrylic outer casing (PMMA), clear or structured version
Rated luminous flux	1.550 lm - 14.360 lm, L90/B10 for 100.000 h
Light colour	4.000 K, 3.000 K, 2.700 K, 1.800 K, others on request
Rated input power	11 W - 104 W
Protection rating	I or II
Surface vulnerable to wind	0,14 m²
Weight	approx. 9 kg
Finish	RAL-colors and DB 703, others on request
Accessories	See from page 62, curved pole brackets pages 68 - 69
Optics	Pages 18 - 20

Additional specifications

Housing	Single-part luminaire housing constructed from dimensionally-stable and corrosion-resistant aluminium
Installation	Pole attachment with VPS quick mounting system (shown on page 73), with adapter also for 1/2" external threads; rosetten nut available for differing diameters of pole bracket mounted luminaires
Light regulation	Constant Lumen Management (CLM); autonomous performance reduction for operation in networks without a control line (Light Regulation Autarkic – LRA); performance reduction by switching off a control line (Light Regulation Twin – LRT); auf deliverable with Zhaga Book 18 socket



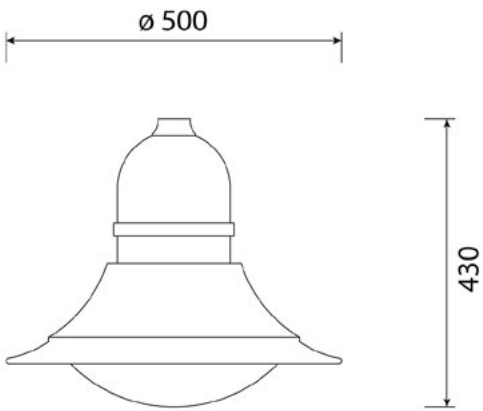
V8448



Decorative bell-shaped luminaires with traditional design

- ✓ Enclosure opens without tools
- ✓ Rapid mounting using Vulkan Patent System (VPS)
- ✓ Low glare thanks to large optics surface
- ✓ Efficient thermal management thanks to built-in heat sink

Dimensional drawing in mm



General specifications

Enclosure	Acrylic outer casing (PMMA), clear or structured version
Rated luminous flux	1.639 lm - 5.059 lm, L90/B10 for 100.000 h
Light colour	4.000 K, 3.000 K, 2.700 K, 1.800 K, others on request
Rated input power	11 W - 36 W
Protection rating	I or II
Surface vulnerable to wind	0,09 m²
Weight	approx. 6 kg
Finish	RAL-colors and DB 703, others on request
Accessories	See from page 62, curved pole brackets pages 68 - 69
Optics	Pages 18 - 20

Additional specifications

Housing	Single-part luminaire housing constructed from dimensionally-stable and corrosion-resistant aluminium
Installation	Pole attachment with VPS quick mounting system (shown on page 73), with adapter also for 1/2" external threads; rosetten nut available for differing diameters of pole bracket mounted luminaires
Light regulation	Constant Lumen Management (CLM); autonomous performance reduction for operation in networks without a control line (Light Regulation Autarkic – LRA); performance reduction by switching off a control line (Light Regulation Twin – LRT); deliverable with Zhaga Book 18 socket



V8450

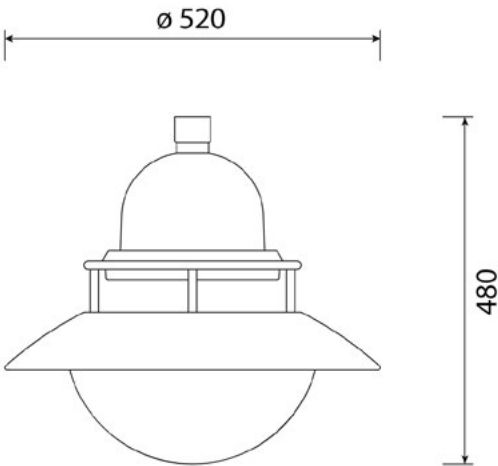
Bell-shaped luminaires



Decorative bell-shaped luminaires with traditional design

- ✓ Enclosure opens without tools
- ✓ Rapid mounting using Vulkan Patent System (VPS)
- ✓ Low glare thanks to large optics surface
- ✓ Efficient thermal management thanks to built-in heat sink

Dimensional drawing in mm



General specifications

Enclosure	Acrylic outer casing (PMMA), clear or structured version
Rated luminous flux	1.639 lm - 5.059 lm, L90/B10 for 100.000 h
Light colour	4.000 K, 3.000 K, 2.700 K, 1.800 K, others on request
Rated input power	11 W - 36 W
Protection rating	I or II
Surface vulnerable to wind	0,14 m²
Weight	approx. 9 kg
Finish	RAL-colors and DB 703, others on request
Accessories	See from page 62, curved pole brackets pages 68 - 69
Optics	Pages 18 - 20

Additional specifications

Housing	Single-part luminaire housing constructed from dimensionally-stable and corrosion-resistant aluminium
Installation	Pole attachment with VPS quick mounting system (shown on page 73), with adapter also for 1/2" external threads; rosetten nut available for differing diameters of pole bracket mounted luminaires
Light regulation	Optional with integrated Constant Lumen Management (CLM); autonomous performance reduction (midnight point, can be programmed to several levels) (Light Regulation Autarkic – LRA), reduction in output via control line (Light Regulation Twin – LRT) or using DALI interface; on request with integrated Zhaga Book 18 Socket



V8466

Bell-shaped luminaires

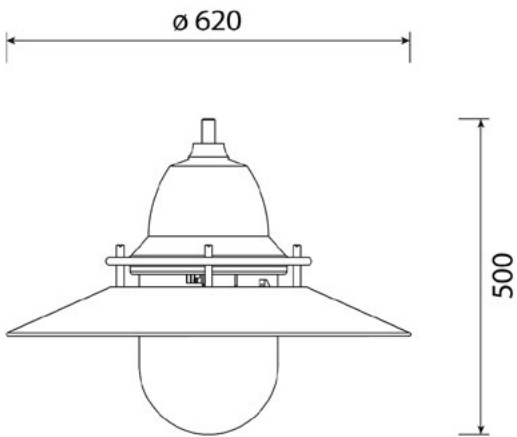
www.vulkan.eu



Decorative bell-shaped luminaires with traditional design

- ✓ Enclosure opens without tools
- ✓ Rapid mounting using Vulkan Patent System (VPS)
- ✓ Low glare thanks to large optics surface
- ✓ Efficient thermal management thanks to built-in heat sink

Dimensional drawing in mm



General specifications

Enclosure	Acrylic outer casing (PMMA), clear or structured version
Rated luminous flux	1.639 lm - 5.059 lm, L90/B10 for 100.000 h
Light colour	4.000 K, 3.000 K, 2.700 K, 1.800 K, others on request
Rated input power	11 W - 36 W
Protection rating	I or II
Surface vulnerable to wind	0,14 m²
Weight	approx. 11 kg
Finish	RAL-colors and DB 703, others on request
Accessories	See from page 62, curved pole brackets pages 68 - 69
Optics	Pages 18 - 20

Additional specifications

Housing	Single-part luminaire housing constructed from dimensionally-stable and corrosion-resistant aluminium
Installation	Pole attachment with VPS quick mounting system (shown on page 73), with adapter also for 1/2" external threads; rosetten nut available for differing diameters of pole bracket mounted luminaires
Light regulation	Optional with integrated Constant Lumen Management (CLM); autonomous performance reduction (midnight point, can be programmed to several levels) (Light Regulation Autarkic – LRA), reduction in output via control line (Light Regulation Twin – LRT) or using DALI interface; on request with integrated Zhaga Book 18 Socket



IP65 IK06

100.000 h
L90/B10

5 YEARS

10 YEARS

10-year guarantee
on request



Find more technical details
<https://www.vulkan.eu/en/decorative-lighting/v8466/>

V8481

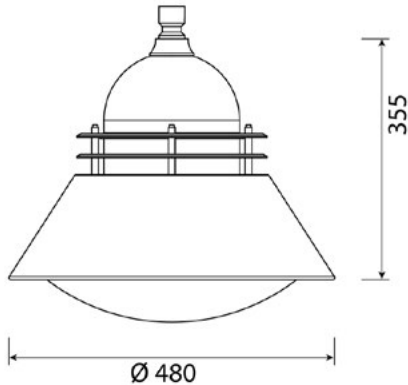
Bell-shaped luminaires



Decorative bell-shaped luminaires with sleek design

- ✓ Enclosure opens without tools
- ✓ Versatile mounting on bends and booms
- ✓ Low glare thanks to large optics surface
- ✓ Various covers upon request

Dimensional drawing in mm



General specifications

Enclosure	Acrylic outer casing (PMMA), clear or structured version
Rated luminous flux	1.639 lm - 5.059 lm, L90/B10 for 100.000 h
Light colour	4.000 K, 3.000 K, 2.700 K, 1.800 K, others on request
Rated input power	11 W - 36 W
Protection rating	I or II
Surface vulnerable to wind	0,11 m²
Weight	approx. 7,8 kg
Finish	RAL-colors and DB 703, others on request
Accessories	See from page 62, curved pole brackets pages 68 - 69
Optics	Pages 18 - 20

Additional specifications

Housing	Single-part luminaire housing constructed from dimensionally-stable and corrosion-resistant aluminium
Installation	Pole attachment with VPS quick mounting system (shown on page 73), with adapter also for 3/4" external threads; rosetten nut available for differing diameters of pole bracket mounted luminaires
Light regulation	Constant Lumen Management (CLM); autonomous performance reduction for operation in networks without a control line (Light Regulation Autarkic – LRA); performance reduction by switching off a control line (Light Regulation Twin – LRT); deliverable with Zhaga Book 18 socket



V8482

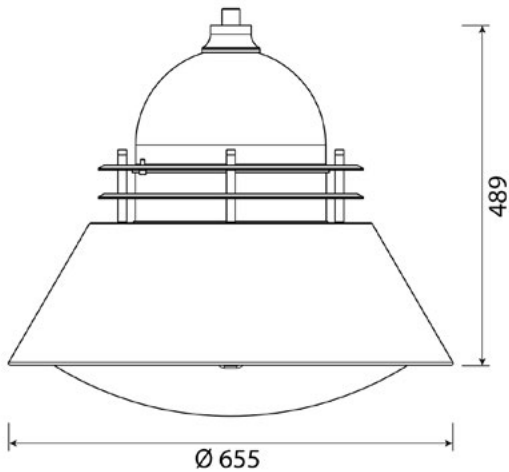
Bell-shaped luminaires



Representative bell-shaped luminaires for individual urban design

- ✓ Enclosure opens without tools
- ✓ Versatile mounting on bends and booms
- ✓ Low glare thanks to large optics surface
- ✓ Various covers upon request

Dimensional drawing in mm



General specifications

Enclosure	Acrylic outer casing (PMMA), clear or structured version
Rated luminous flux	2.721 lm - 12.597 lm, L90/B10 for 100.000 h
Light colour	4.000 K, 3.000 K, 2.700 K, 1.800 K, others on request
Rated input power	21 W - 104 W
Protection rating	I or II
Surface vulnerable to wind	0,21 m²
Weight	approx. 16 kg
Finish	RAL-colors and DB 703, others on request
Accessories	See from page 62, curved pole brackets pages 68 - 69
Optics	Pages 18 - 20

Additional specifications

Housing	Single-part luminaire housing constructed from dimensionally-stable and corrosion-resistant aluminium
Installation	Pole attachment with VPS quick mounting system (shown on page 73), with adapter also for 3/4" external threads; rosetten nut available for differing diameters of pole bracket mounted luminaires
Light regulation	Constant Lumen Management (CLM); autonomous performance reduction for operation in networks without a control line (Light Regulation Autarkic – LRA); performance reduction by switching off a control line (Light Regulation Twin – LRT); deliverable with Zhaga Book 18 socket



V7410

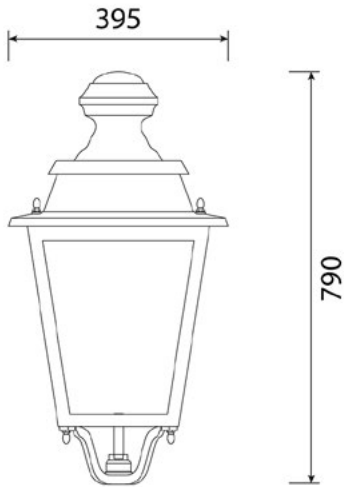
Heritage luminaires



Heritage luminaires – luminaire design classics

- ✓ Luminaire housing and pole top constructed from high-quality cast aluminium
- ✓ Nostalgic design for old city areas

Dimensional drawing in mm



General specifications

Enclosure	Enclosure glass made from acrylic (PMMA), clear or structured
Rated luminous flux	1.400 lm - 4.323 lm, L90/B10 for 100.000 h
Light colour	4.000 K, 3.000 K, 2.700 K, 1.800 K, others on request
Rated input power	11 W - 36 W
Protection rating	I or II
Surface vulnerable to wind	0,1 m²
Weight	approx. 13 kg
Finish	DB 703, others on request
Accessories	See from page 62
Optics	Pages 18 - 20

Additional specifications

Housing	Luminaire housing and pole top constructed from high-quality cast aluminium
Installation	Pole attachment with pole top with a G3/4" external thread for attachment to heritage poles or optionally with adapter for cylindrical stepped poles with a pole spigot diameter of 76 mm
Light regulation	Constant Lumen Management (CLM); autonomous performance reduction for operation in networks without a control line (Light Regulation Autarkic – LRA); performance reduction by switching off a control line (Light Regulation Twin – LRT); deliverable with Zhaga Book 18 socket



V7420

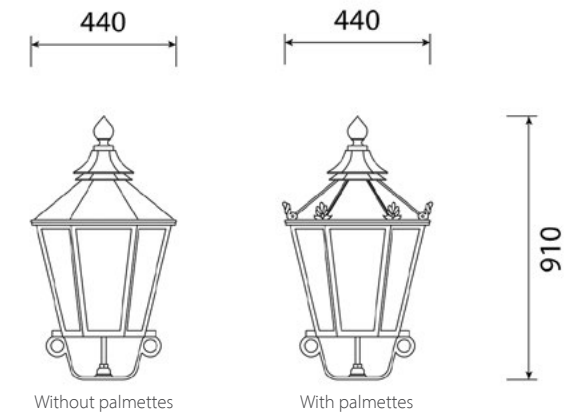
Heritage luminaires



Heritage luminaires – luminaire design classics

- ✓ Luminaire housing and pole top constructed from high-quality cast aluminium
- ✓ Nostalgic design for old city areas

Dimensional drawing in mm



General specifications

Enclosure	Enclosure glass made from acrylic (PMMA), clear or structured
Rated luminous flux	1.432 lm - 4.418 lm, L90/B10 for 100.000 h
Light colour	4.000 K, 3.000 K, 2.700 K, 1.800 K, others on request
Rated input power	11 W - 36 W
Protection rating	I or II
Surface vulnerable to wind	0,1 m ²
Weight	approx. 13 kg
Finish	DB 703, others on request
Accessories	See from page 62
Optics	Pages 18 - 20

Additional specifications

Housing	Luminaire housing and pole top constructed from high-quality cast aluminium
Installation	Pole attachment with pole top with a G3/4" external thread for attachment to heritage poles or optionally with adapter for cylindrical stepped poles with a pole spigot diameter of 76 mm
Light regulation	Constant Lumen Management (CLM); autonomous performance reduction for operation in networks without a control line (Light Regulation Autarkic – LRA); performance reduction by switching off a control line (Light Regulation Twin – LRT); deliverable with Zhaga Book 18 socket



MODUL

3000

Replacement Kit



H: 120 mm, W: 200 mm, L: 200 mm

General specifications

Enclosure	Cover made of flat toughened safety glass, flush-mounted and screwed into the housing; weather-resistant
Rated luminous flux	1.485 lm - 5.153 lm, L90/B10 for 100.000 h
Light colour	4.000 K, 3.000 K, 2.700 K, 1.800 K, others on request
Rated input power	11 W - 37W
Protection rating	I or II
Surface vulnerable to wind	Depending on luminaire installation type
Weight	approx. 2 kg resp. 2,7 kg
Finish	Housing aluminum untreated, cover round standard white, further colors upon request
Optics	Pages 18 - 20

Additional specifications

Housing	Aluminium die cast
Installation	Cover round is adapted to housing type; diameter variable
Light regulation (optional with dimming function)	Constant Lumen Management (CLM); autonomous performance reduction for operation in networks without a control line (Light Regulation Autarkic – LRA); performance reduction by switching off a control line (Light Regulation Twin – LRT); deliverable with Zhaga Book 18 socket

IP rating depending on luminaire application.



Multifunctional installation kit

- ✓ Conversion kit for outdoor luminaire types such as Cylinder lights, bell lights and umbrella lights, heritage lights and technical street lights
- ✓ The cover crown required for fastening is adapted to the specific design of the type
- ✓ Conversion kit also possible for third-party lights
- ✓ Best for pole heights from 4m up to 8m





Accessories

Poles

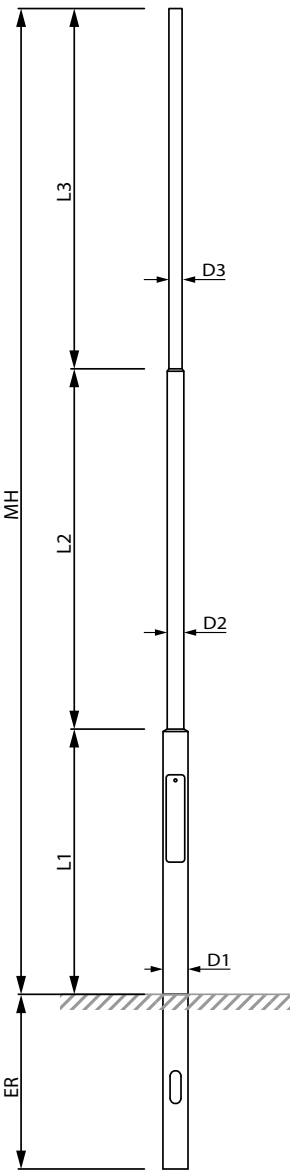
Cylindrical or conical – the choice is yours

Our poles are high quality products that are expertly crafted. The conical poles or poles with several steps are made of steel pipes, in accordance with DIN EN 40 and are hot-dip galvanised, in accordance with DIN EN ISO 1461. This ensures a long-lasting quality for your lighting systems. All poles can be powder-coated to ensure the perfect colour match.

Custom poles

We are happy to provide further models to suit your requirements. For example, we could provide a different length, an aluminium pole, a spigot diameter of 60 mm, a version with a base plate, powder coating in RAL or DB colours or wet coating, epoxy resin coating / bitumen in the ground section or shrink-fitting of a PE sleeve.

Individual poles – for your individual project!
We will be happy to help you.



Cylindrically stepped steel poles, spigot Ø 60

MH	D1	D2	D3	L1	L2	L3	ER	FL □
3,500	108	60	-	1,000	2,500	-	700	280 x 280
4,000	108	60	-	1,200	2,800	-	800	280 x 280
4,500	108	60	-	1,200	3,300	-	800	280 x 280
5,000	108	60	-	1,200	3,800	-	800	280 x 280
6,000	114	89	60	1,400	1,600	3,000	1,000	300 x 300

All dimensions in mm

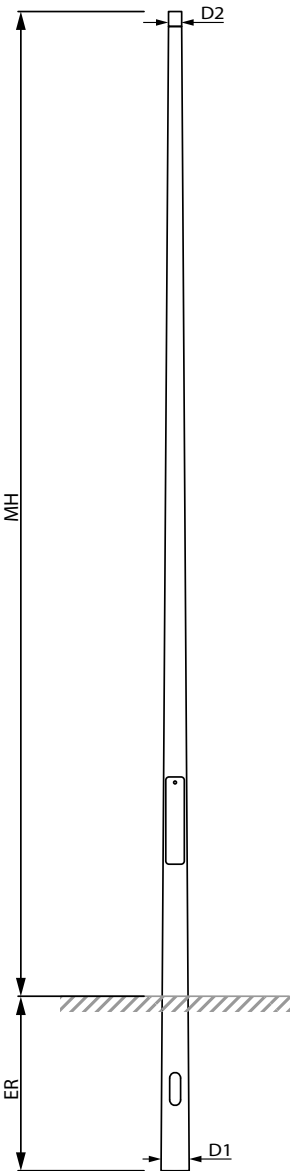
Cylindrically stepped steel poles, spigot Ø 76

MH	D1	D2	D3	L1	L2	L3	ER	FL □
3,500	114	76	-	1,000	2,500	-	700	280 x 280
4,000	114	76	-	1,200	2,800	-	800	300 x 300
4,500	114	76	-	1,200	3,300	-	800	300 x 300
5,000	114	76	-	1,200	3,800	-	800	300 x 300
6,000	114	89	76	1,400	1,600	3,000	1,000	300 x 300
8,000	133	102	76	1,800	3,000	3,200	1,200	400 x 400

All dimensions in mm

Standard equipment:

- Standard dimensions of pole door: 400 x 85 mm
- Door latch, in accordance with DIN 49778, with M10 triangular screw
- Plain earthing link with two M6 sliding nuts
- Embedded base with 150 x 50 mm cable entry
- Without cable junction box and accessories – please order separately



Conical steel pole, spigot Ø 60

MH	D1	D2	ER	FL □	Door
3,500	119	60	700	280 x 280	400 x 85
4,000	127	60	800	300 x 300	400 x 85
4,500	134	60	800	300 x 300	400 x 85
5,000	141	60	800	300 x 300	400 x 85
6,000	144	60	1,000	300 x 300	400 x 85
8,000	152	60	1,200	400 x 400	400 x 85

All dimensions in mm

Conical steel pole, spigot Ø 76

MH	D1	D2	ER	FL □	Door
3,500	126	76	700	280 x 280	400 x 85
4,000	124	76	800	300 x 300	400 x 85
4,500	129	76	800	300 x 300	400 x 85
5,000	134	76	800	300 x 300	400 x 85
6,000	146	76	1,000	300 x 300	400 x 85
8,000	168	76	1,200	400 x 400	400 x 100
10,000	191	76	1,500	400 x 400	400 x 100
12,000	211	76	1,500	400 x 400	400 x 100

All dimensions in mm

Standard equipment:

- Standard dimensions of pole door: 400 x 85 mm or 100 x 400 m
- Door latch, in accordance with DIN 49778, with M10 triangular screw
- Plain earthing link with two M6 sliding nuts
- Embedded base with 150 x 50 mm cable entry
- Without cable junction box and other accessories – please order separately

* Square flange plate

Pole top mountings & brackets

Pole top mounted brackets for side mounted luminaires

Made of steel, welded and hot-dip galvanised.

Pole top mounting	Spigot		Projection	Angle
	Ø pole	Ø luminaire		
single Fig. 1	76	60	400	15°
	76	60	1000	15°
	89	60	400	15°
	89	60	1000	15°
double Fig. 2	76	60	2 x 400	15°
	76	60	2 x 1000	15°
	89	60	2 x 400	15°
	89	60	2 x 1000	15°
triple Fig. 3	76	60	3 x 400	15°
	89	60	3 x 400	15°
quadruple Fig. 4	76	60	4 x 400	15°
	89	60	4 x 400	15°

All dimensions in mm

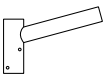


Fig. 1

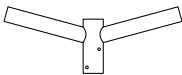


Fig. 2

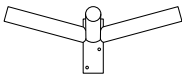


Fig. 3

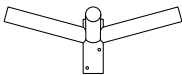
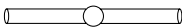
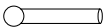


Fig. 4



Pole top mounted brackets for side mounted luminaires

Made of steel, welded and hot-dip galvanised.

Pole top mounting	Spigot		Projection
	Ø pole	Ø luminaire	
double Fig. 5	76	60	2 x 250
	76	60	2 x 500

All dimensions in mm

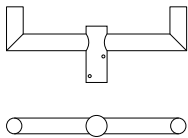


Fig. 5

Traverses

Pole top traverses for floodlights and spotlights

Made of steel, welded and hot-dip galvanised.

Pole top mounting	Spigot Ø pole	Number of spotlights	Projection
single Fig. 6	60	1	-
	76	1	-
	76	1	-
	89	1	-
	108	1	-
double Fig. 7	76	2	2 x 425
	89	2	2 x 600
	108	2	2 x 600
triple Fig. 8	76	3	3 x 500
	89	3	3 x 500
	108	3	3 x 580
quadruple Fig. 9	76	4	4 x 500
	89	4	4 x 500
	108	4	4 x 650

All dimensions in mm

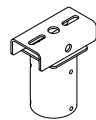


Fig. 6

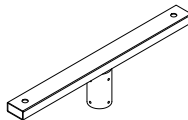


Fig. 7

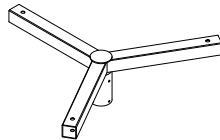


Fig. 8

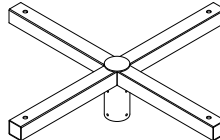


Fig. 9

Other brackets and traverses with other pole spigots, projections, setting angles as well as special shapes or colours are available on request.

Curved pole brackets

You have the choice: Single or double – simple or elegant

Our curved pole brackets as single and double brackets and in a simple as well as an elegant version. The unadorned version with a simple arch made of round tube mounts on top of the pole. While the more elegant version also mounts on top of the pole, it has a much more filigree appearance due

to its attached arch and lowered fastening bracket, which further enhance the appeal of the luminaire.

Further variants of our curved pole brackets are available on request.

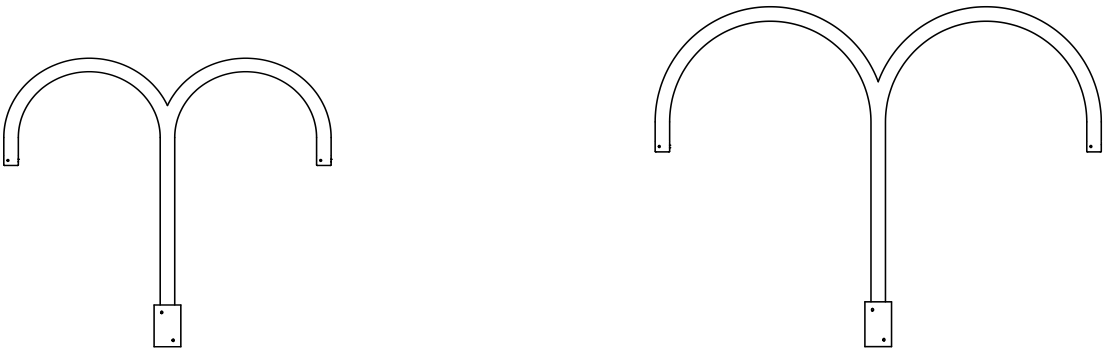


Simple curved pole bracket, single bracket

Made of steel, welded, hot-dip galvanised and finished to match the luminaire colour or according to customer requirements.

Pole spigot	Projection	Curved bracket radius	Overall height
Ø 76	520	260	1035
Ø 76	720	360	1135

All dimensions in mm



Simple curved pole bracket, double bracket

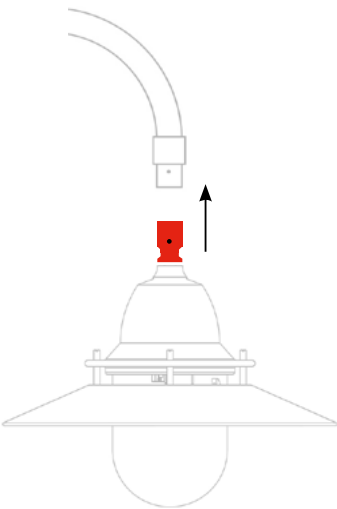
Made of steel, welded, hot-dip galvanised and finished to match the luminaire colour or according to customer requirements.

Pole spigot	Projection	Curved bracket radius	Overall height
Ø 76	2 x 520	260	1035
Ø 76	2 x 720	360	1135

All dimensions in mm

With patented Vulkan Patent System (VPS)

Quick mounting system for easy installation of the shade luminaires. A connection to the bracket is made through the cone attachment. This connection is fixed with three screws to hold the shade luminaire. The VPS attachment is completely hidden in the bracket. Thus, a flush transition is created. The luminaire head can be mounted, as desired, in a 360 degree range. With patented Vulkan Patent System (VPS).

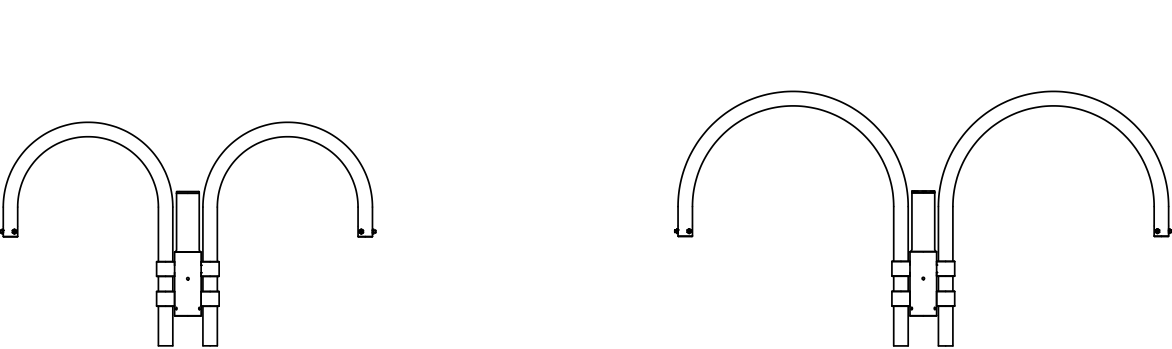


Elegant curved pole bracket, single bracket

Made of steel, welded, hot-dip galvanised and finished to match the luminaire colour or according to customer requirements.

Pole spigot	Projection	Curved bracket radius	Overall height
Ø 76	595	260	735
Ø 76	795	360	835

All dimensions in mm



Elegant curved pole bracket, double bracket

Made of steel, welded, hot-dip galvanised and finished to match the luminaire colour or according to customer requirements.

Pole spigot	Projection	Curved bracket radius	Overall height
Ø 76	2 x 595	260	750
Ø 76	2 x 795	360	850

All dimensions in mm

Heritage poles

Projects aiming to retain the historic ambience of an old city should include suitable heritage poles, that fit with the historic townscape. The heritage poles from Vulkan are made from cast aluminium and powder coated in DB 703. A coating colour in other DB or RAL shades can also be selected. Mounting is very simple and uses an inner core pole made from galvanised steel pipe, which perfectly links together all the decorative elements. Customers can choose between a foot plate or embedded base for the installation. The luminaires are mounted with a 3/4 thread. Brackets suitable for wall mounting are available.

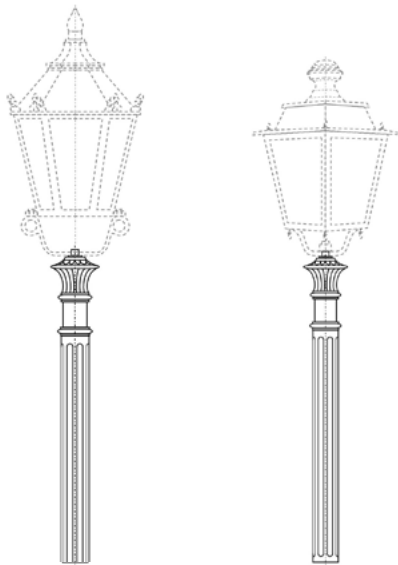


Fig. of heritage pole group 15101 for mounting one luminaire

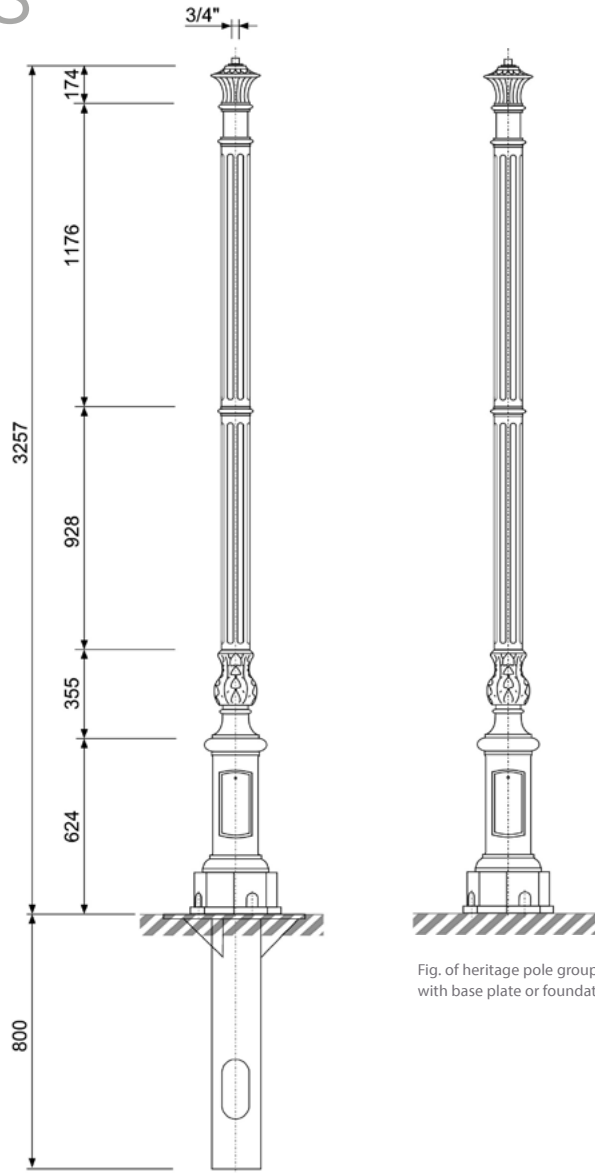


Fig. of heritage pole group 15101 with embedded base

Fig. of heritage pole group 15101 with base plate or foundations

Heritage brackets W4000 and W5000

Made of steel, welded, hot-dip galvanised and with integrated cable guide for hidden cable routing. Finished as requested to match the luminaire colour.

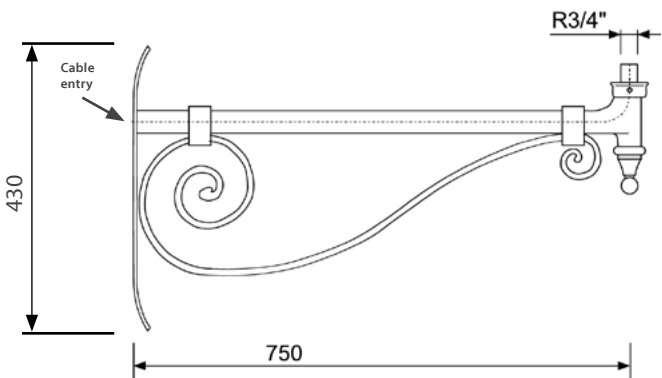


Fig. of W4000 wall bracket

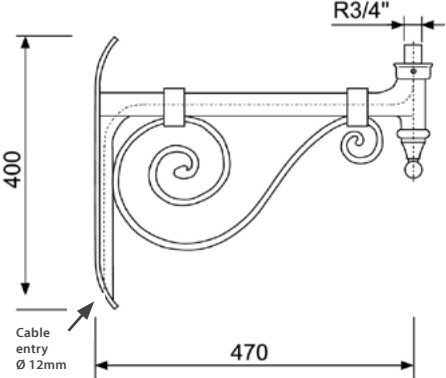
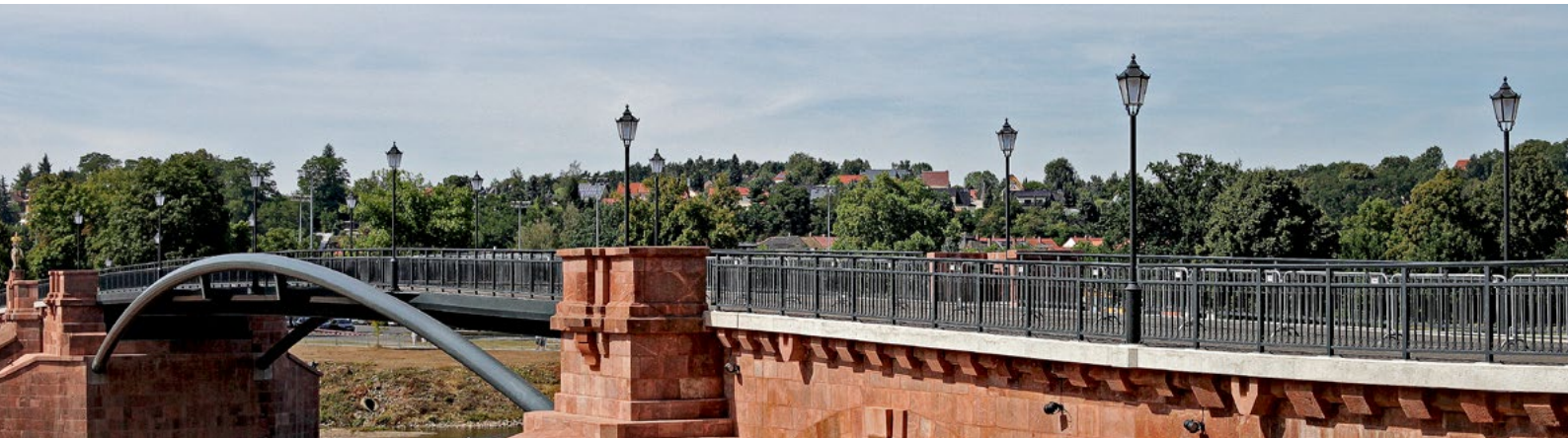


Fig. of W5000 wall bracket



Accessories & wall brackets

Cable connection and junction box with surge protection

Cable connection and junction box for light pole with surge protection module.
Satisfies all mechanical and electrical requirements and is manufactured in accordance with DIN 43628.

- Optimum mounting thanks to large connection space
- Design in accordance with DIN 43628
- Clamp connection for 2 cables 2.5-16 mm²
- Ingress protection IP 54 / protection rating II
- Sturdy housing made from impact-resistant polyamide, solid-coloured, RAL 7035, light grey
- Enclosure made from polycarbonate (PC), grey
- Equipped with two fuse elements 2 x D01, 6A
- With integrated sliding and spring clamping technology
- Permanently attached, transparent protection against contact
- Suitable for pole installation starting from an inner diameter of 90 mm
- Can be used with door sizes starting from 80 x 300 mm
- Dimensions: L=277 mm, W=80 mm, D=66 mm
- Integrated surge voltage module in accordance with EN 61643-11 / IEC 61643-11 type 2 Protection rating II.

Technical data:

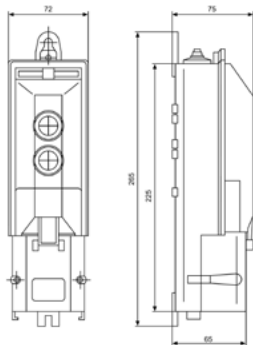
- Maximum continuous voltage AC [L-N] (UC) 275 V (50 / 60 Hz)
- Maximum continuous voltage AC [N-PE] (UC) 255 V (50 / 60 Hz)
- Nominal discharge current (8/20 µs) (In) 5 kA
- Max. discharge current (8/20 µs) (Imax) 10 kA
- Total discharge current (8/20 µs) [L+N-PE] (Itotal) 20 kA

Other versions with other specifications and modules available on request.

Cable connection and junction box

For light pole with compact design starting from 3m, manufactured in accordance with DIN VDE 0660-505 and DIN 43628.
Type: LAK 75

- Protection against contact in accordance with VBG 4
- Reliable clamp connection for 3 cables 5 x 16 mm²
- Ingress protection IP 44 / protection rating II
- Base body made from PA plastic, cover made from PC plastic
- Cable in-feed for 2 or 3 cables with knock-out seal rings
- Equipped with two fuse elements D 01 / E 14
- Flexible internal pre-wiring
- Separate earthing cable guide without terminal box limitation
- Contact module for PE and N output terminal in luminaire output area
- 2 luminaire outputs with plastic sleeves which can be cut



Shrink-fit corrosion protection sleeves

Suitable for cylindrical and conical poles

Nominal range	Shrink-fit range	Length
100	90 - 110	400
115	110 - 130	400
125	125 - 150	400
160	145 - 170	400
170	155 - 180	400

All dimensions in mm



Fig. of corrosion protection sleeve

Edge protection for cable in-feed in ground area

Suitable for cylindrical and conical poles
Dimensions: 150 x 50 mm

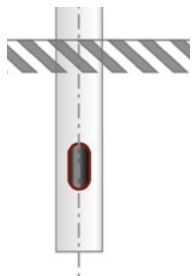


Fig. of edge protection for cable in-feed

Base plates for conical and cylindrical poles

Available in the following dimensions:
300 x 300 mm
400 x 400 mm

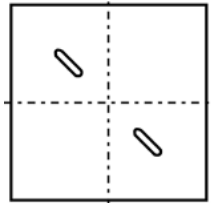


Fig. of base plate

Wall bracket with flange plate

Made out steel, welded and hot-dip galvanised.

Support: diam. 60 x 100 mm
Length: 150 mm, 250 mm or 400 mm
Setting angle: 0°, 5°, 10° or 15°

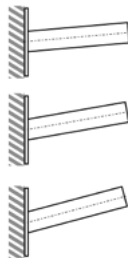
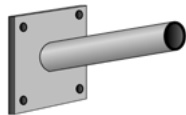


Fig. of 5° setting

Fig. of 10° setting

Fig. of 15° setting

Universal bracket for wall and corner mounting

Made out steel, welded and hot-dip galvanised.

Support: diam. 60 x 100 mm
Length: 300 mm or 500 mm
Setting angle: 15°

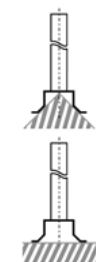
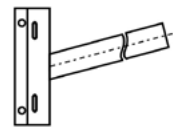


Fig. of corner mounting, view from above

Fig. of wall mounting, view from above

Intelligent lighting

Light controllers

Modern and energy-efficient LED lighting offers huge potential savings over conventional street lighting. Through the use of electronic components, it also opens up the option of very easily integrating a light controller to save additional energy.

The right controller for your application depends on your requirements and also the prevailing conditions. Intelligent light controllers in our luminaires make our lighting systems even more efficient. They minimise annual energy consumption and therefore associated costs too. We are happy to explain the options in more detail.

Without constant luminous flux

Over the course of a light source's life, its luminous flux falls by approximately 20 % (L80B10), but the system output remains unchanged. The drop in luminous flux must be taken into account when planning the use of the lamp luminous flux maintenance factor (LLWF). This means that from the outset the lighting system has to be provided with more energy to take the drop in luminous flux into account and still provide the amount of light needed at the end of its life.

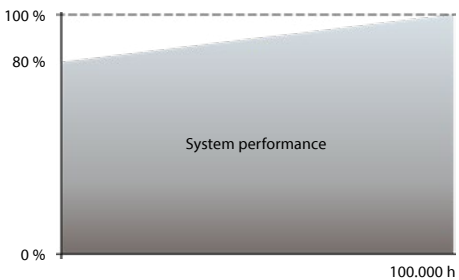
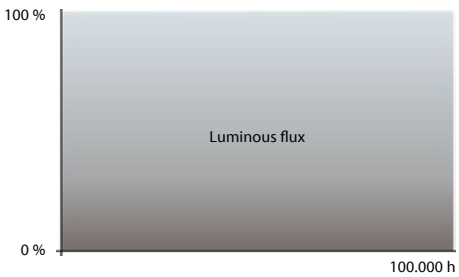
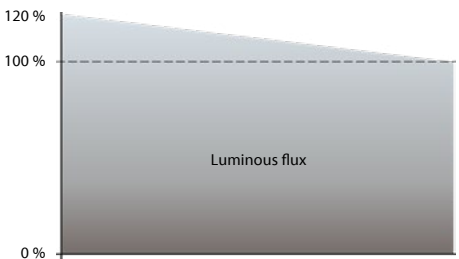
With constant luminous flux

The integrated electronics increase the flux over the illuminant's life and thereby keep the luminous flux constant. This does increase the system output over the illuminant's life, but you save energy right from the start because you don't have to oversize your lighting system.

These days, modern LED systems work in such a stable manner that they only lose a few percent of luminous flux over the course of their lives. The influence of constant luminous flux is therefore low.

CLM – Constant Lumen Management

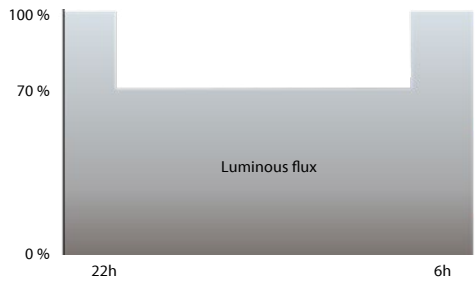
The luminous flux of all light sources, including LEDs, reduces as they age. The amount by which it reduces depends on various parameters. However, these days an electronic controller can counteract this reduction to provide constant luminous flux over the light sources entire life and save even more energy for good measure.



LRT – Light Regulation Twin (2 phases)

With this controller, the lighting is reduced using a second phase (control phase). Switching off the control phase, reduces the luminous flux to a predefined value. There are two versions available: With «LRT70», the luminous flux is reduced to around 70 % (equating to a reduction of roughly one lighting class).

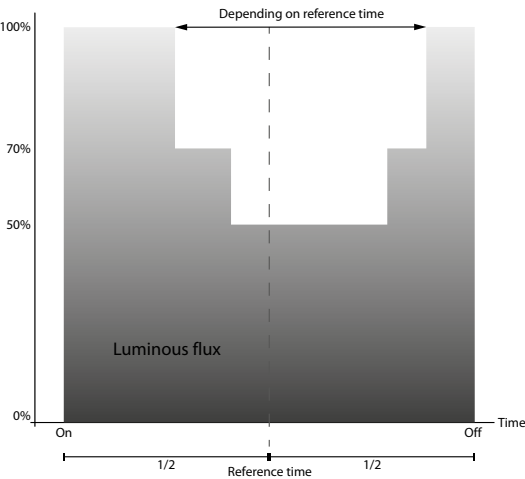
With the classic «LRT», it is reduced to 50 % (the familiar half-night setup). The duration and times can be freely determined by the user and adapted to suit user needs. This controller can be easily integrated into networks with an existing control phase and in new systems too.



LRA – Light Regulation Autarkic (self-sufficient)

As the name suggests, Light Regulation Autarkic is not dependent on an external control line. This controller can therefore also be easily integrated in existing lighting systems. It can be freely programmed in 5 levels with the data stored directly in the electronic operating unit, meaning that no additional components are needed.

The programmed times at which the luminous flux is reduced are automatically taken from the switch-on and switch-off times. The midway point between switching on and off is the reference time for the reduction. If this changes, the reduction times are adapted accordingly, as happens e.g. when switching between CET summer / winter time.



DALI

For integration in external controllers, Vulkan's luminaires can also be supplied with a DALI connection. In addition to the control function, the other benefit of DALI is that it is a two-way protocol and e.g. errors and lighting hours can also be read out. The reduction in performance is then of course dependent on the controller used and the options it offers. One of the disadvantages of these systems is the limited cable lengths which is why the signal converter (controller) is usually located in the pole or luminaire.

Smart City

Smart City stands for holistic development concepts, networking of different systems and the generation of data – with a clear goal: the optimization of urban spaces. Lighting and the associated lighting management systems are an important part of a Smart City.

Software forms the basis of a light management system and can control the entire lighting of a city. Individual light points are clearly displayed on a map and can be read out and adjusted individually or in groups at any time.

The connection or communication is ensured via a network. Through the integration of sensors, such as B. Twilight switch, Frahlingsensor or a sensor for traffic measurement, the lighting can be optimized for weather conditions without sacrificing comfort and safety.

We would be happy to advise you on your Smart City solution.



List of abbreviations


Luminaires

1x	1 LED module
2x	2 LED modules
30W	System output per LED module
730	Ra> 70; 3.000 K
740	Ra> 70; 4.000 K
750	Ra> 70; 5000 K
I	Protection rating I
II	Protection rating II
III	Protection rating III
CLM	Constant Lumen Management
LRT	Light Regulation Twin - reduction to around 50 % (default)
LRT70	Light Regulation Twin - reduction to around 70 %
LRA1	Light Regulation Autarkic, scene 1
LRA2	Light Regulation Autarkic, scene 2
LRA3	Light Regulation Autarkic, scene 3
LRAC	Light Regulation Autarkic, customised (option)
LMS	Light Management System
DALI	DALI for external controllers (default = DALI logarithmic)
HS	House-side shield
O1X	Catenary luminaires: If the luminaire is arranged across the street, the optics designation has an "X" tagged on the end, e.g. O1X, O3X, O7X, ...
O1L	Catenary luminaires: If the luminaire is arranged along the street, the optics designation has an "L" tagged on the end, e.g. O1L, O3L, O7L, ...
7035	RAL 7035 - light grey
703	DB 703 - iron mica, dark grey DB colour
703SP	DB 703 + seawater protective finish (add to colour code without space) SP = salt protection or seawater protection

Poles and brackets

ALK	Aluminium pole, conical
STK	Steel pole, conical
ALZ	Aluminium pole, cylindrical
STZ	Steel pole, cylindrical
STZ 2F	Steel pole, cylindrical, double bracket
STK-P	Steel pole, conical, whip shape (whip pole)
3000	Pole height above the ground 3 m
60	Pole diameter 60 mm
76	Pole diameter 76 mm
E-3/4	Outer diameter 3/4"
3.0	Wall thickness 3 mm
E700	Length of buried base in ground 0.7 m
MB-T1	Straight bracket, pole top, single
MB-T2	Straight bracket, pole top, double
MB-S1	Straight bracket, side entry, single
MB-S2	Straight bracket, side entry, double
MB-S3	Straight bracket, side entry, triple
MB-S4	Straight bracket, side entry, quadruple
MB-B1	Curved bracket, single
MB-B2	Curved bracket, double
MB-O	Round/circular bracket, single
WB-S1	Wall bracket, single
60x100	Support diameter x support length in mm
I-1/2-BE	Internal thread, diameter, curved bracket end
E-1/2-BE	External thread, diameter, curved bracket end
VPS	Vulkan Patent System
VPS-IB	Vulkan Patent System, in curved bracket
L1000	Length of bracket
L1000-5°	Length of bracket, 5° inclination
R260	Radius of curved bracket
HÖ	Höhn
WB-MF	Westerburg, far-off pole
WB-MN	Westerburg, nearby pole
V1	Curved bracket, version 1
V2	Curved bracket, version 2
V3	Curved bracket, version 3

List of symbols

 The CE symbol is used by the manufacturer and confirms that he is responsible for the products' conformity with the relevant EC and/or EU laws. Our products have to comply with the Low Voltage Directive and the EMC Directive 2004/108/EC (interference resistance, emitted interference) in order to use the CE symbol.

 The ENEC symbol is the European symbol proving that luminaires comply with European safety standards. The test method is described in the European 60598-1 standard. The ENEC symbol is used along with the identification number of a European test centre (VDE = 10). It documents the fact that the luminaires have been constructed and tested "in compliance with applicable standards", see Low Voltage Directive 2006/95/EC.



Protection rating I



Protection rating II



Protection rating III



Five-year guarantee



10-year guarantee on request

IP (Ingress Protection)

The IP is identified using 2 parameters:

Parameter 1: Level of protection against contact and foreign bodies

First parameter	Protection against foreign bodies	Protection against contact
0	No protection	No protection
1	Protected against solid foreign bodies with a diameter of 50 mm or more	Protected against access with the back of the hand
2	Protected against solid foreign bodies with a diameter of 12.5 mm or more	Protected against access with a finger
3	Protected against solid foreign bodies with a diameter of 2.5 mm or more	Protected against access with a tool
4	Protected against solid foreign bodies with a diameter of 1.0 mm or more	Protected against access with a wire
5	Dust-protected	Complete protection against contact
6	Dust-tight	Complete protection against contact

Parameter 2: Levels of protection for water protection

Second parameter	Protection against water
0	No protection
1	Protection against drips
2	Protection against falling drips if the housing is tilted up to 15°
3	Protection against falling spray up to 60° from the vertical
4	Protection against splashes from all sides
5	Protection against jets of water (nozzle) from any angle
6	Protection against powerful jets of water
7	Protection against brief immersion
8	Protection against permanent immersion
9	Protection against water during high-pressure/steam jet cleaning, especially in agriculture

Customer (name, adress)

Project (description e.g. street, neighbourhood, town/village, ...)

Lighting Specifications DIN 13201-1

Lighting situation _____ Lighting Class _____

No. of light point _____ No. in problem areas _____

Alternative specifications for 1-1-replacement of existing luminaires (luminaires to be replaced)

Manufacturer _____ Type _____

Type of luminaires _____ Power consumption _____

Pole (specifications or existing luminaires)

Pole height _____ Pole distance _____

Bracket length _____ Bracket angle _____

Pole arrangement _____

Road profile structure

Dimensioning (m) of the cross-section from the start to the end of the lighting, positioning of the lamp

Description	Width in m	Example
		Cycle path/Pavement
		Pole position
		Road
		Parking strip
		Grass verge

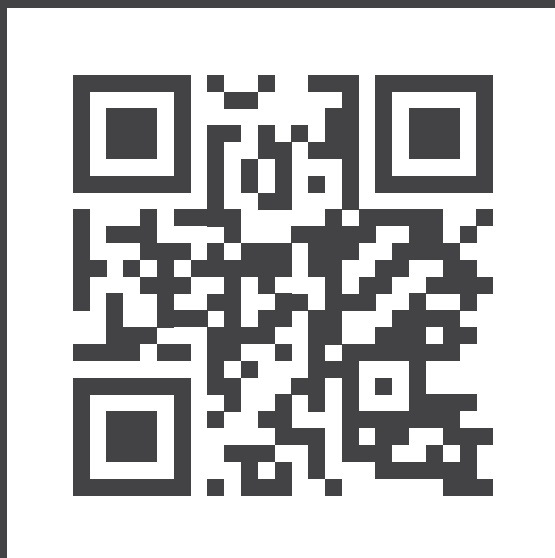
Details of the new luminaire / remarks

Luminaire type _____ Connection cable _____

Protection rating _____ Night-time dimming _____

Housing colour _____ Light colour _____

Your notes:



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