

Vulkan
seit 1898

OUTDOOR LIGHTING

Vulkan – the traditional brand

Vulkan stands for high-quality and extremely efficient products “Made in Germany” – and that for well over a century.

The roots of Vulkan date back to 1898. This makes Vulkan to one of the oldest brands in the lighting industry with a very high reputation, especially in German-speaking countries.

Vulkan offers cities, municipalities and energy suppliers technically sophisticated products that ensure the standard-compliant illumination of roads, traffic junctions, danger spots, pedestrian zones and public facilities.

Vulkan – technical and efficient

High quality technical products. Products „made in Germany“. Vulkan stands also for very attractive terms. In combination with a very high energy efficiency and long service intervals it leads to more than lucrative payback periods for Vulkan customers.

Energy efficiency meets technical functionality

The focus of the Vulkan luminaires is aligned to a high technical functionality and maximum energy efficiency. We achieve both by using the latest LED technology and existing skills in the field of technical execution.

Furthermore, our development is based on the needs of our customers. Dependent on the individual application we develop a perfectly adapted lighting technology.

Quality – out and out.

Quality – made in Germany.



V3610



V3456



V3130



V5050



V3630



References	7
Technical luminaires	20
Catenary luminaires	26
Cylindrical luminaires	30
Light columns	34
Bell-shaped luminaires	36
Heritage luminaires	38
Façade and wall lights	40
Poles and brackets	44
Heritage poles and brackets	52
Intelligent lighting	54
List of abbreviations	60
List of symbols	61
Nordeon Group	62

Providing lighting when and where it is needed.

Routes such as service roads and side roads are lit at night even if this isn't even necessary. Our goal is only to illuminate areas when light is actually needed. Integrating sensors helps to optimize the light output without impacting on convenience or safety.

The integrated motion detector can reduce the light intensity to a minimum. As soon as a sensor detects traffic, the light intensity increases to a specified value. At the same time, this command is sent to two previously defined adjoining luminaires to ensure consistent lighting for the entire section."

***"INTEGRATED MOTION
DETECTORS GUARANTEE
INTELLIGENT ENERGY SAVING
WITHOUT NEGLECTING
SAFETY!"***

Sascha Schönfelder,
Head of Manufacturing Engineering, Development,
Laboratory and Quality (Nordeon)



The island of Texel in northern Holland is a pioneer in carbon-neutral living. By the year 2020, the island aims to produce no carbon whatsoever. As well as setting up its own power supply based on solar systems and tidal power plants, huge energy savings, especially from street lighting, will help the island meet its goal. The Vulkan LED luminaire V3630 is very important to this project. This modular and efficient luminaire has impressed the Texel community.

The V3630 is available in many different performance levels and is supplied with an open-source light management system integrated in the luminaire. Using an open-source solution gives the community on Texel maximum freedom in using existing or new management systems.

“THE MODULAR DESIGN OF
THE V3630 MAKES IT THE
IDEAL LUMINAIRE FOR US.
IT DELIVERS EXACTLY WHAT
WE NEED: TAILORED ENERGY
EFFICIENCY AND LIGHT.”

Stefan Kikkert,
Manager Public Lighting at local authority Texel





Sustainability and energy-saving lighting with a special charm.

**“WITH ITS RESERVED
FORM, THE V3630 CAN
BE USED IN ALMOST
ANY ENVIRONMENT.”**

Klaus Schmidt, technical manager

Customer City of Bühl, Germany
Product V3630

Car parks need to be well lit to give users a sense of security at night.

“POWERFUL AND RELIABLE LIGHTING MAKE THIS CAR PARK A PLACE WHERE DRIVERS AND PEDESTRIANS FEEL REALLY SAFE AGAIN. THE V3630 IS A GREAT EXAMPLE OF EFFICIENT AND HOMOGENOUS LIGHTING.”

City of Bellegarde, France



Customer City of Bellegarde, France
Product V3630
Project Effia car park, Bellegarde, France



Heritage luminaires produce and underpin the charm of historical buildings, bridges or districts.

“TAKE A STROLL ON THE
FAMOUS PÖPPELMANN
BRIDGE AND GET LOST IN
YOUR DREAMS THANKS TO
THE TRADITIONAL HERITAGE
LIGHTING FROM VULKAN,
WHICH SLOTS PERFECTLY
INTO THE HISTORICAL
TOWNSCAPE OF GRIMMA.”

Frank Sprenger, project manager

Product Heritage luminaire V7420
Project Pöppelmann Bridge, Grimma, Germany

PRODUCTS

MAXIMUM FLEXIBILITY FOR INDIVIDUAL APPLICATIONS

V3610

- All components are designed for a very long lifetime of 100 000 hours
- Smooth and flat aluminium housing acts as a heat sink – without cooling fins which are prone to dirt
- Universal and rapid mounting
- No light pollution from directed light
- 6 inclination levels adjustable in 5° increments

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
Optics	Lighting of roads that complies with EN 13201; lens optics made from PMMA in multi-layer technology optics O1 - major thoroughfares; O3 - minor thoroughfares; O4 - narrow roads, cycle paths and walkways; O7 - thoroughfares and residential streets
Rated luminous flux	650lm to 5650lm - L80/B10 for 100 000h
Light colour	4000K (neutral white), 3000K (warm white); >R _a 70
Rated input power	6W to 58W
Protection rating	I or II
Surface vulnerable to wind	0.05m²
Weight	approx. 5.8 - 6.7 kg
Finish	DB 703 or RAL 7035, others on request

ELECTRICAL SPECIFICATION

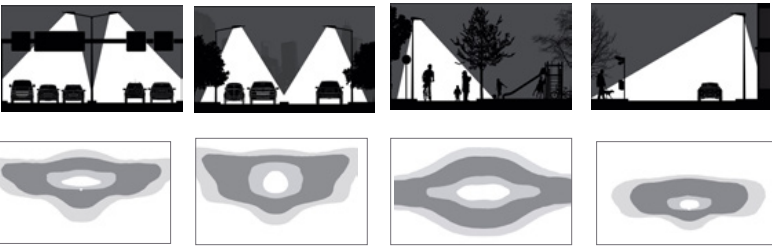
LED technology	8, 16, or 24 LEDs
	High-quality LED modules, each with 8 highly efficient high-power LEDs with up to 170 lm/W
	Aluminium core PCB for optimum thermal management
	Integrated, electronically controlled temperature monitoring
	LED module frame to reduce scatter loss to a minimum
Monitoring	Thermal monitoring of LED unit and operating device
Overvoltage protection	Integrated; surge voltage resistance of 6kV (L-N) and 8kV (L/N earth), 10kV on request

ADDITIONAL SPECIFICATION

Housing	Powder-coated die-cast aluminium
Installation	Pole top diam. 60-76mm Side mounted luminaire diam. 42-60mm
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)
	Digital communication with DALI
	Radio-controlled Light Management System (LMS) with monitoring, error messages, motion control and other features



OPTICS AND APPLICATIONS



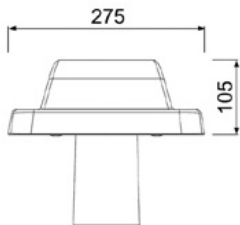
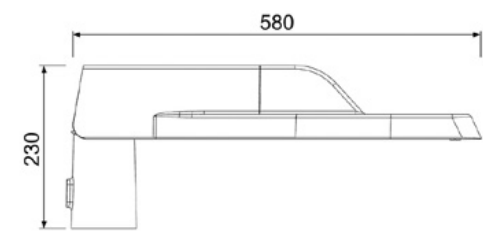
- Optics O1**
Major thoroughfares
- Optics O3**
Minor thoroughfares
- Optics O4**
Narrow roads, cycle paths and walkways
- Optics O7**
Thoroughfares and residential streets

4000K OUTPUT EXAMPLE

Current	1x LED	2x LED	3x LED
200 mA	650lm / 6W	1330lm/ 12W	2000lm / 18W
300 mA	845lm / 8W	2020lm / 18W	2860lm / 26W
350 mA	1075lm / 10W	2185lm / 20W	3260lm / 30W
400 mA	1205lm / 12W	2450lm / 22W	3650lm / 34W
500 mA	1460lm / 15W	2955lm / 28W	4375lm / 41W
600 mA	1690lm / 18W	3430lm / 34W	5040lm / 50W
700 mA	1915lm / 21W	3960lm / 40W	5650lm / 58W

Rated power and Rated luminous flux rounded and averaged, 4000K. Data may differ if using different optics.

DIMENSIONAL DRAWING IN MM



SIX INCLINATION LEVELS FROM -5° TO + 20°



ONE DESIGN FOR ALL APPLICATIONS WITHIN A CITY

V3630

- System efficiency of up to 122 lm/W
- Very long life: 100 000 hours L80/B10
- Universal and rapid assembly with just one screw
- Flexibility in mounting on pole top and as side mounted luminaire, integrated pole flap
- Heat sink integrated in housing design for optimum and efficient thermal management



GENERAL SPECIFICATIONS

Enclosure	Enclosure made from flat single-pane tempered safety glass with bicolour printing; easy to open thanks to quick-release lock with 90° rotation, enclosure glass can be hinged towards the pole
Optics	Optics O1 - major thoroughfares; O2 - minor thoroughfares; O3 - low-order thoroughfares; O4 - narrow roads, cycle paths and walkways; O5 - open spaces and public area lighting; O6 - pedestrian crossings; O7 - thoroughfares and residential streets
Rated luminous flux	1200lm to 14000lm - L80/B10 for 100 000h
Light colour	4000K (neutral white), 3000K (warm white) or 5000K (cold white); >R _a 70
Rated input power	12W to 140W
Protection rating	I or II
Surface vulnerable to wind	Side: A = 0.06 m²
Weight	approx. 9.2 to 10.5 kg
Finish	DB 703 or RAL 7035, others on request

ELECTRICAL SPECIFICATION

LED technology	High-quality LED modules, each with 16 highly efficient high-power LEDs with up to 170 lm/W
	Aluminium core PCB for optimum thermal management
	Integrated, electronically controlled temperature monitoring
Monitoring	Thermal monitoring of LED unit and operating device
Overvoltage protection	Integrated; surge voltage resistance of 6kV (L-N) and 8kV (L/N earth), 10kV on request

ADDITIONAL SPECIFICATION

Housing	Powder-coated die-cast aluminium
Installation	Pole top diam. 60-76mm Side mounted luminaire diam. 42-60mm
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)
	Digital communication with DALI
	Radio-controlled Light Management System (LMS) with monitoring, error messages, motion control and other features

OPTICS AND APPLICATIONS

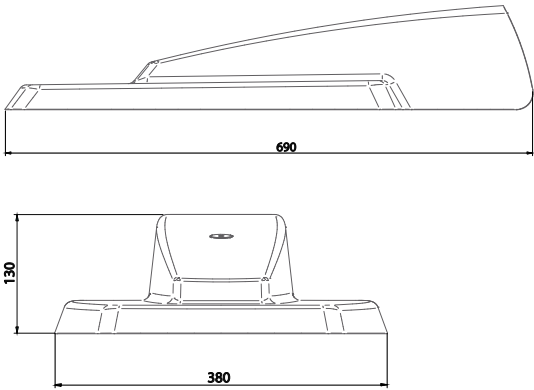
Optics O1 Major thoroughfares	Optics O2 Minor thoroughfares	Optics O3 Low-order thoroughfares	Optics O4 Narrow roads, cycle paths and walkways	Optics O5 Open spaces and public area lighting	Optics O6 Pedestrian crossings	Optics O7 Thoroughfares and residential streets

4000K OUTPUT EXAMPLE

Current	1x LED	2x LED	3x LED	4x LED
200 mA	1200lm / 12W	2300lm / 23W	3500lm / 33W	4800lm / 42W
300 mA	1700lm / 17W	3300lm / 32W	5000lm / 47W	6800lm / 61W
400 mA	2200lm / 22W	4200lm / 41W	6500lm / 62W	8800lm / 80W
500 mA	2600lm / 27W	5200lm / 51W	7800lm / 76W	10500lm / 100W
600 mA	3100lm / 32W	6000lm / 61W	9200lm / 91W	12500lm / 120W
700 mA	3500lm/ 37W	6800lm / 71W	10500lm / 106W	14000lm / 140W

Rated power and Rated luminous flux rounded and averaged, 4000K. Data may differ if using different optics.

DIMENSIONAL DRAWING IN MM



INCLINATION LEVELS FROM 0° TO + 15°



IP66 IK08



100.000 h
L80/B10

HIGHLY EFFICIENT WHIP POLE LUMINAIRE

V5050

- All components are designed for a very long life of 100 000 hours
- Substitute for linear luminaires for one or two fluorescent lamps
- Directed light for high efficiency
- Discreet, slimline and minimalist design
- Flat, flush pane of glass for easy cleaning



↑
Linear luminaire with one LED board



↑
Linear luminaire with two LED boards

GENERAL SPECIFICATIONS

Enclosure	Enclosure made from flat single-pane tempered safety glass, inserted flush in the housing and glued from the inside; weather-resistant EPDM gasket
Optics	Choice of various asymmetrical, wide-beam precision optics for optimum illumination of the relevant application; lens optics made from PMMA in multi-layer technology; spring attachment for optics and LED that doesn't damage the material
Rated luminous flux	1830lm to 3275lm (with 1 LED board) and 3730lm to 6700lm (with 2 LED boards) - L80/B10 for 100 000h
Light colour	4000K (neutral white), 3000K (warm white); >R _a 70
Rated input power	18W to 36W (with 1 LED board) and 37W to 72W (with 2 LED boards)
Protection rating	I or II
Surface vulnerable to wind	Side: A = 0.04 m ² (with 1 LED board), side A= 0.06m ² (with 2 LED boards)
Weight	approx. 3 kg or 5.7 kg
Finish	Housing in DB 702, pole top in DB 703, powder-coated or customer's choice

ELECTRICAL SPECIFICATION

LED technology	Versions with one or two LED boards, each with 16 high-power-LEDs with up to 170 lm/W
	Aluminium core PCB for optimum thermal management
	Integrated, electronically controlled temperature monitoring
Monitoring	Thermal monitoring of LED unit and operating device
Overvoltage protection	Integrated; surge voltage resistance of 6kV (L-N) and 8kV (L/N earth), 10kV on request

ADDITIONAL SPECIFICATION

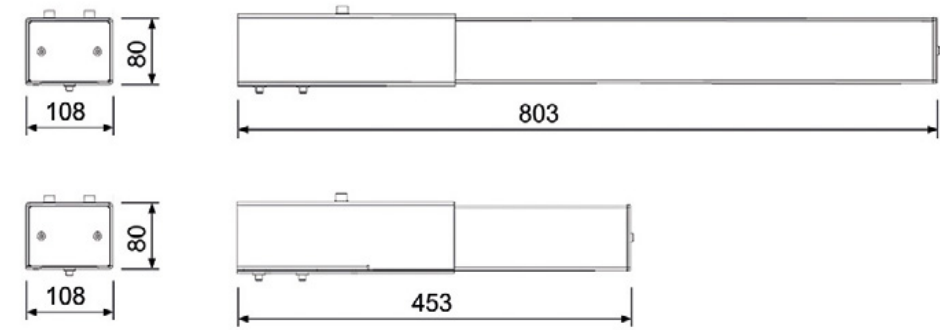
Housing	Extruded aluminium section serves as heat sink & efficient thermal management
Installation	Side mounted luminaire diam. 42-48mm
Light regulation (optionally with dimmer function)	Constant Lumen Management (CLM); autonomous performance reduction for operation in networks without a control line (Light Regulation Autarkic - LRA); performance reduction by switching off a control line (Light Regulation Twin - LRT)
	Digital communication with DALI

4000K OUTPUT EXAMPLE

Current	1x LED	2x LED
350 mA	1830lm / 18W	3730lm/ 37W
400 mA	2055lm / 21W	4190lm / 42W
450 mA	2270lm / 23W	4635lm / 47W
500 mA	2485lm / 26W	5080lm / 51W
600 mA	2910lm / 31W	5945lm / 62W
700 mA	3275lm / 36W	6700lm / 72W

Rated power and Rated luminous flux rounded and averaged, 4000K. Data may differ if using different optics.

DIMENSIONAL DRAWING IN MM



IP65 IK10

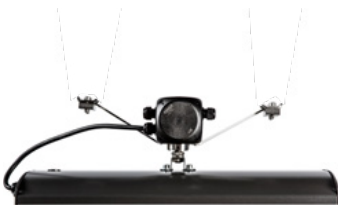


100.000 h
L80/B10

AERODYNAMIC SHAPE FOR CHALLENGING LIGHT CONDITIONS

V3125

- All components are designed for a very long life of 100 000 hours
- Smooth aluminium housing without cooling fins which are prone to dirt
- Flat, aerodynamic shape with low wind load
- No light pollution from directed light



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
Optics	Choice of various light distributions for various applications to ensure lighting of roads that complies with EN 13201; lens optics made from PMMA in multi-layer technology; spring attachment for optics and LED that doesn't damage the material
Rated luminous flux	3240lm to 6910lm (with 2 LED boards) and 6580lm to 10180lm (with 4 LED boards) - L80/B10 for 100 000h
Light colour	4000K (neutral white), 3000K (warm white)
Rated input power	32W to 71W (with 2 LED boards) and 61W to 100W (with 4 LED boards)
Protection rating	I or II
Surface vulnerable to wind	Side: A = 0.05 m²
Weight	approx. 9 kg
Finish	DB 703, others on request

ELECTRICAL SPECIFICATION

LED technology	Versions with two or four LED boards, each with 16 high-power-LEDs with up to 170 lm/W
	Aluminium core PCB for optimum thermal management
	Integrated, electronically controlled temperature monitoring
Monitoring	Thermal monitoring of LED unit and operating device
Overvoltage protection	Integrated; surge voltage resistance of 6kV (L-N) and 8kV (L/N earth), 10kV on request

ADDITIONAL SPECIFICATION

Housing	Extruded aluminium section, powder coated DB 703
Attachment	Suspension, screws and fastening components made from stainless steel; Attachment mechanism for suspension cable 8-12mm
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)

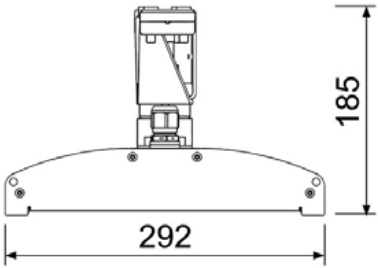
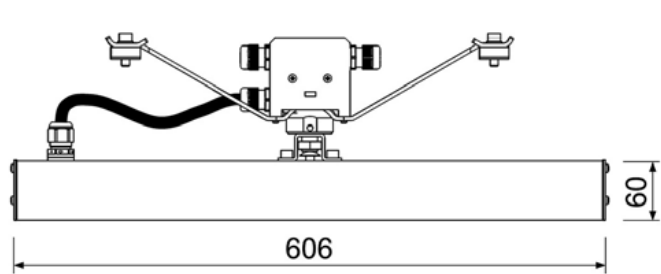


4000K OUTPUT EXAMPLE

Current	2x LED	4x LED
300 mA	3240lm / 32W	6580lm / 61W
350 mA	3780lm / 37W	7450lm / 73W
500 mA	5160lm / 51W	10180lm / 100W
700 mA	6910lm / 71W	

Rated power and Rated luminous flux rounded and averaged, 4000K. Data may differ if using different optics.

DIMENSIONAL DRAWING IN MM



DISCREET CATENARY LUMINAIRE FOR ANY TOWNSCAPE

V3130

- All components are designed for a very long life of 100 000 hours
- Smooth aluminium housing, without cooling fins which are prone to dirt
- Narrow design for reduced visibility
- No light pollution from directed light
- Pane inserted flush for easy cleaning



GENERAL SPECIFICATIONS

Enclosure	Enclosures made from flat single-pane tempered safety glass, inserted into housing flush from the inside; easy cleaning of single-pane tempered safety glass inserted flush; weather-resistant EPDM gasket
Optics	Choice of various light distributions for various applications to ensure lighting of roads that complies with EN 13201; lens optics made from PMMA in multi-layer technology; spring attachment for optics and LED that doesn't damage the material
Rated luminous flux	3850lm to 6385lm - L80/B10 for 100 000h
Light colour	4000K (neutral white), 3000K (warm white)
Rated input power	38W to 62W
Protection rating	I or II
Surface vulnerable to wind	Side: A = 0.06 m²
Weight	approx. 6.3 kg
Finish	DB 703, others on request

ELECTRICAL SPECIFICATION

LED technology	Versions with two LED boards, each with 16 high-power-LEDs with up to 170 lm/W
	Aluminium core PCB for optimum thermal management
	Integrated, electronically controlled temperature monitoring
Monitoring	Thermal monitoring of LED unit and operating device
Overvoltage protection	Integrated; surge voltage resistance of 6kV (L-N) and 8kV (L/N earth), 10kV on request

ADDITIONAL SPECIFICATION

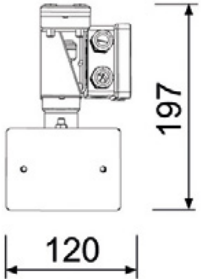
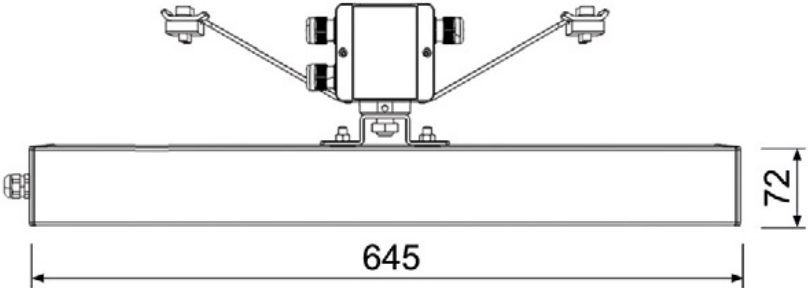
Housing	Extruded aluminium section serves as heat sink & efficient thermal management, powder coated DB703
Attachment	Suspension, screws and fastening components made from stainless steel; Attachment mechanism for suspension cable 8-12mm
Light regulation	Constant Lumen Management (CLM); autonomous performance 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)

4000K OUTPUT EXAMPLE

Current	2x LED
300 mA	3850lm / 38W
400 mA	4260lm / 42W
450 mA	4710lm / 46W
500 mA	5155lm / 52W
600 mA	6385lm / 62W

Rated power and Rated luminous flux rounded and averaged, 4000K. Data may differ if using different optics.

DIMENSIONAL DRAWING IN MM



IP65 IK10



100.000 h
L80/B10

DECORATIVE TOP-MOUNTED LUMINAIRE WITH TIMELESS, ELEGANT DESIGN

V3450 / V3456 / V3457 / V3458

- All components are designed for a very long life of 100 000 hours
- Dimensionally stable and corrosion resistant aluminium
- Efficient thermal management thanks to built-in heat sink
- Interchangeable LED module with highly efficient high-power LEDs
- Little glare thanks to large optics surface

GENERAL SPECIFICATIONS

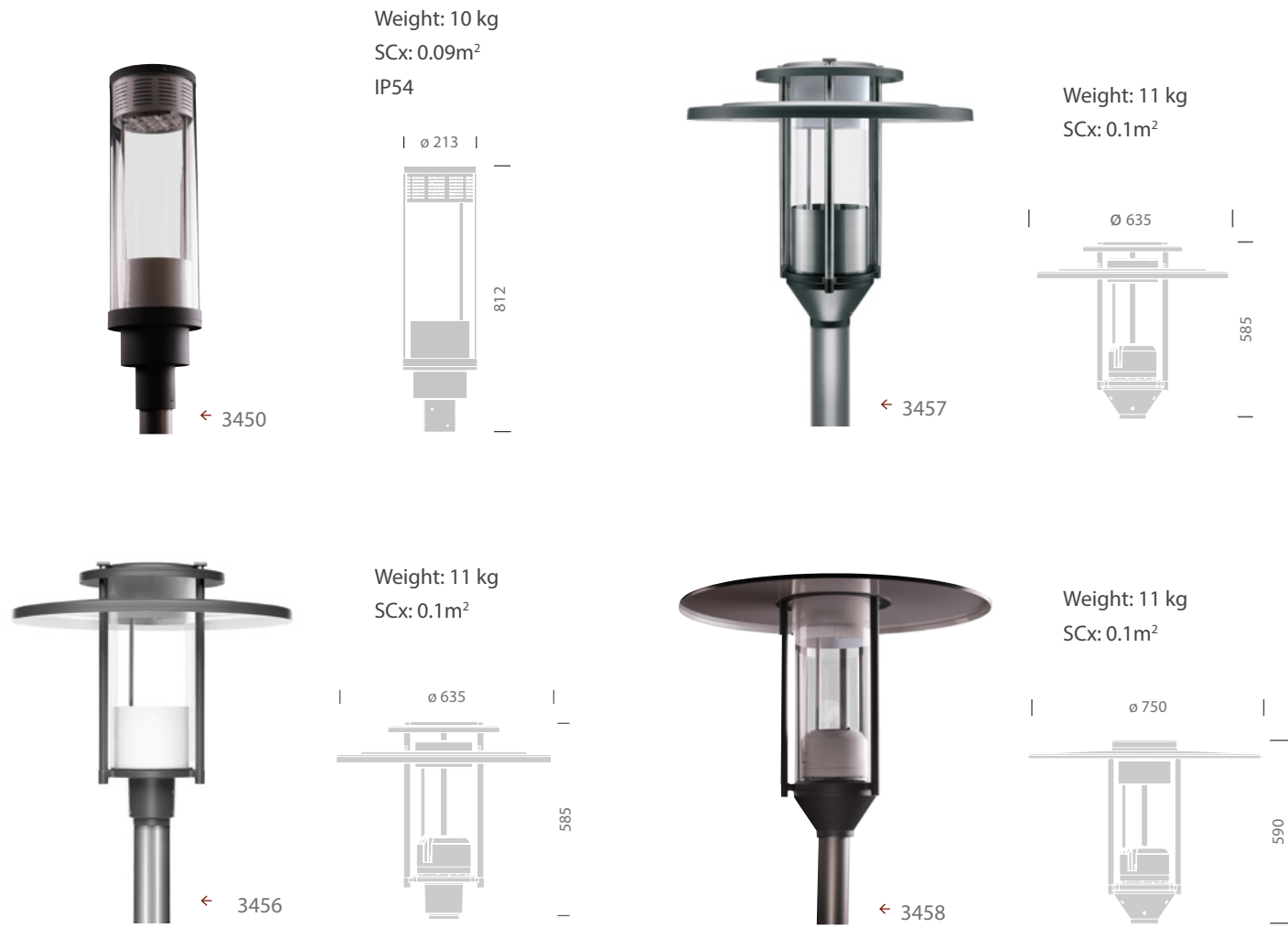
Enclosure	Acrylic (PMMA) cylinder glass, clear, satin-finished at top
Optics	4x4 arrangement with asymmetrical, wide-beam precision optics used to illuminate residential streets, pedestrian areas and for public area lighting
Rated luminous flux	1070lm to 3145lm - L80/B10 for 100 000h
Light colour	4000K (neutral white), 3000K (warm white); >R _a 70
Rated input power	12W to 38W
Protection rating	I or II
Finish	DB 703, others on request

ELECTRICAL SPECIFICATION

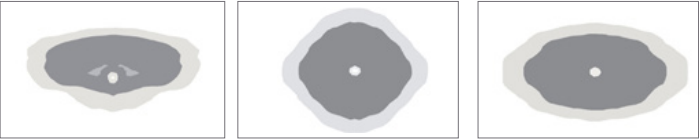
LED technology	Versions with two LED boards, each with 8 high-power-LEDs with up to 170 lm/W
	Aluminium core PCB for optimum thermal management
	Integrated thermal sensor to protect the LED unit against over-temperature
	The fully encapsulated electronic components, equipped with an LED driver, can be fully removed with few tools
Input voltage	230V in accordance with DIN IEC38
Overvoltage protection	Integrated; surge voltage resistance of 6kV (L-N) and 8kV (L/N earth), 10kV on request

ADDITIONAL SPECIFICATION

Housing	Dimensionally stable and corrosion resistant aluminium
Attachment	Structurally secure three-point pole attachment in pole top for pole spigot diameter of 76mm
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)



OPTICS AND APPLICATIONS



- Optics 07**
S-Class,
residential
streets, Parks
- Optics 08**
Open spaces
and public
area lighting,
Parking lots
- Optics 09**
pedestrian
zones, Parks

DECORATIVE TOP-MOUNTED LUMINAIRE WITH TIMELESS, ELEGANT DESIGN

V3454

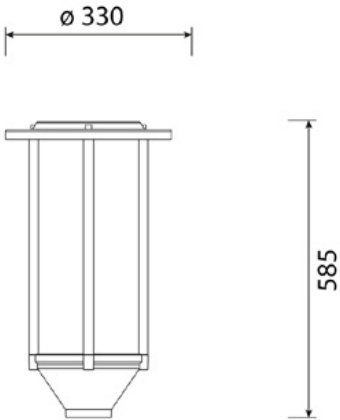
- Dimensionally stable and corrosion resistant aluminium
- Efficient thermal management thanks to built-in heat sink
- Interchangeable LED module with highly efficient high-power LEDs
- Little glare thanks to large optics surface



GENERAL SPECIFICATIONS

Enclosure	Acrylic (PMMA) cylinder glass, clear, satin-finished at top
Optics	4x4 arrangement with asymmetrical, wide-beam precision optics used to illuminate residential streets, pedestrian areas and for public area lighting
Rated luminous flux	1160lm to 3145lm - L80/B10 for 100.000h
Light colour	4000K (neutral white), 3000K (warm white); >R _a 70
Rated input power	12W to 38W
Protection rating	I or II
Finish	DB 703, others on request

DIMENSIONAL DRAWING IN MM



OPTICS AND APPLICATIONS



Optics 07
S-Class,
residential
streets, Parks

Optics 08
Open spaces
and public
area lighting,
Parking lots

Optics 09
pedestrian
zones, Parks

V5480

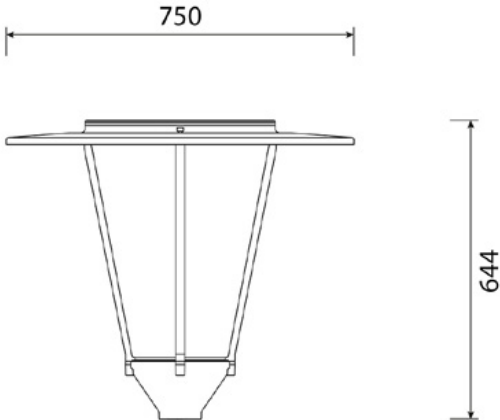
- Dimensionally stable and corrosion resistant aluminium
- Efficient thermal management thanks to built-in heat sink
- Interchangeable LED module with highly efficient high-power LEDs
- Little glare thanks to large optics surface



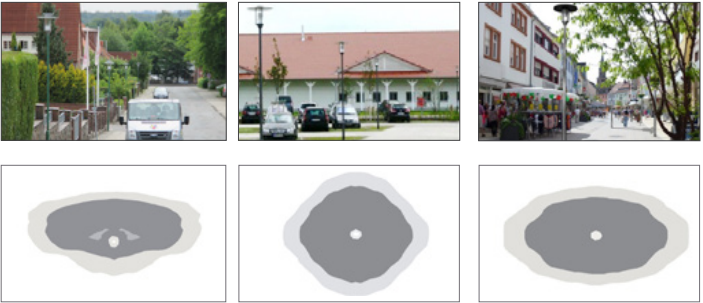
GENERAL SPECIFICATIONS

Enclosure	Acrylic (PMMA) glass, clear, optional in transopal
Optics	4x4 arrangement with asymmetrical, wide-beam precision optics used to illuminate residential streets, pedestrian areas and for public area lighting
Rated luminous flux	1500lm to 5220lm - L80/B10 for 100.000h
Light colour	4000K (neutral white), 3000K (warm white); >R _a 70
Rated input power	13W to 56W
Protection rating	II
Finish	DB 703, others on request

DIMENSIONAL DRAWING IN MM



OPTICS AND APPLICATIONS



Optics 07
S-Class,
residential
streets, Parks

Optics 08
Open spaces
and public
area lighting,
Parking lots

Optics 09
pedestrian
zones, Parks

REPRESENTATIVE ILLUMINATING COLUMNS FOR INDIVIDUAL URBAN DESIGN

V6220 / V6230

- All components are designed for a very long life of 100 000 hours
- Decorative illuminating column with timeless, elegant design
- Can be tailored to your needs, diameter of 200mm or 230mm
- Low glare thanks to large optics surface
- Vertical pipe is connected with luminaire head via patented adapter ring
- Different luminous intensity distributions

GENERAL SPECIFICATIONS

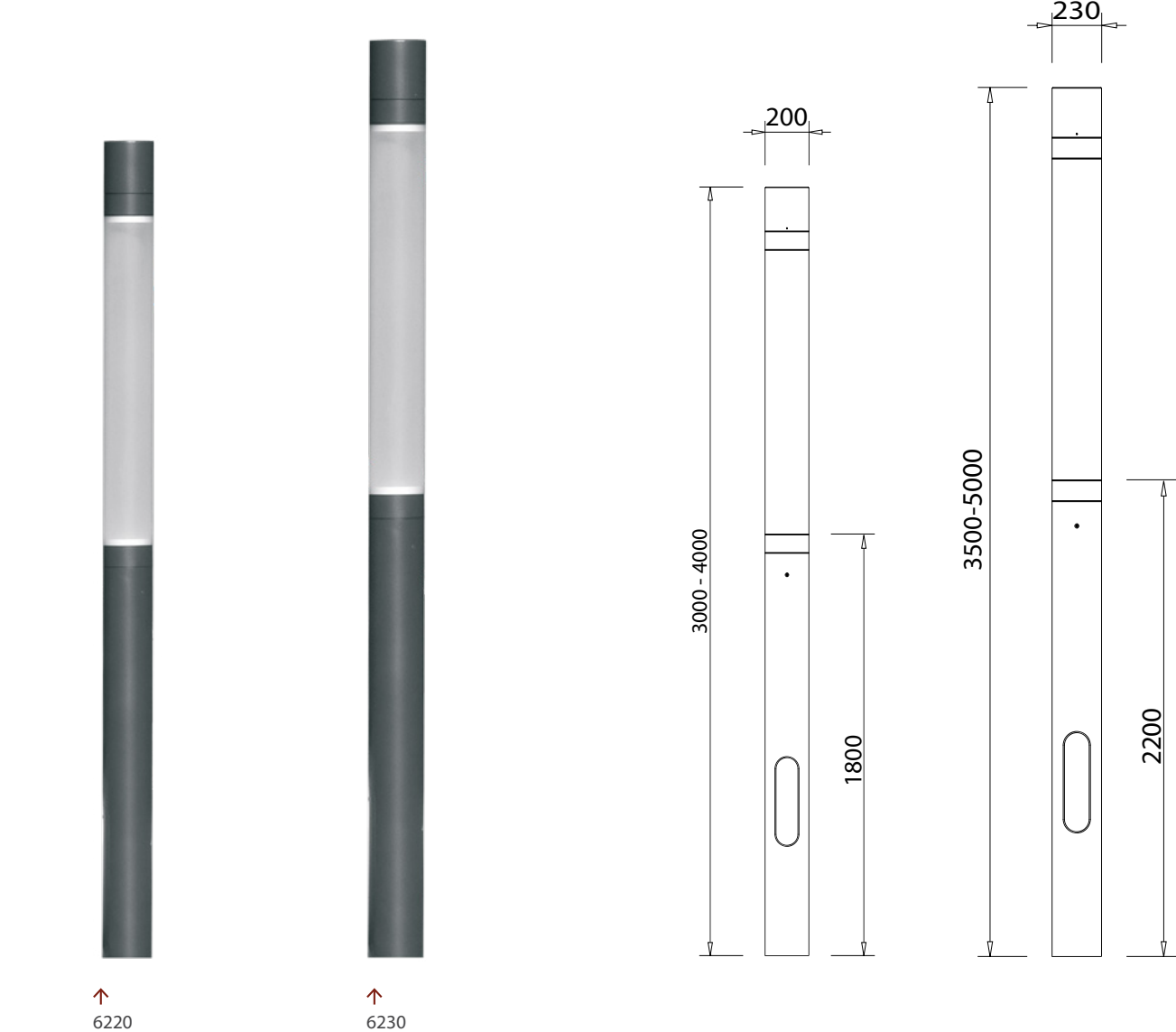
Enclosure	Luminaire glass made of acrylic, satin-finished or also available in crystal-clear version
Optics	Fitted with wide-beam, asymmetrical, all-round or linear luminous intensity distribution. Optional: an element can be installed to reduce the luminance within the optical system on the building side
Rated luminous flux	1160lm to 3145lm - L80/B10 for 100 000h
Light colour	4000K (neutral white), 3000K (warm white) >R _a 70
Rated input power	12W to 38W
Protection rating	I or II
Finish	DB 703 powder coated, other colours on request

ELECTRICAL SPECIFICATION

LED technology	Versions with two LED boards, each with 8 high-power-LEDs with up to 170 lm/W
	Aluminium core PCB for optimum thermal management
	Integrated thermal sensor to protect the LED unit against over-temperature
	Electronic LED driver on carrier plate with plug connection for electrical isolation, if required can be interchanged with ease
Overvoltage protection	Integrated; surge voltage resistance of 6kV (L-N) and 8kV (L/N earth), 10kV on request

ADDITIONAL SPECIFICATION

Housing	Dimensionally stable and corrosion resistant Aluminium, powder coated
Attachment	Round flange plate for attaching to foundations or available with extended vertical pipe as buried base
Light regulation (on request)	As option can be supplied 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



OPTICS AND APPLICATIONS

Optics 07
S-Class,
residential
streets, Parks

Optics 08
Open spaces
and public
area lighting,
Parking lots

Optics 09
pedestrian
zones, Parks

DECORATIVE BELL-SHAPED LUMINAIRES WITH TRADITIONAL DESIGN

V8446 / -47 / -48 / -50 / -66

- All components are designed for a very long life of 100 000 hours
- 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

GENERAL SPECIFICATIONS

Enclosure	Acrylic outer casing (PMMA), clear or structured version
Optics	Available with asymmetrical light distribution for residential streets and pedestrian areas; developed for lighting of streets, pathways and squares that complies with EN 13201
Rated luminous flux	See specifications of respective luminaire (listed on right-hand side)
Light colour	4000K (neutral white), 3000K (warm white); >R _a 70
Rated input power	LED equipment see specifications of respective luminaire (listed on the right-hand side)
Protection rating	I or II
Finish	Standard finish in RAL colours and DB 703, other colours on request

ELECTRICAL SPECIFICATION

LED technology	Versions with several LED boards with high-power LEDs
	Aluminium core PCB for optimum thermal management
	Integrated thermal sensor to protect the LED unit against over-temperature
	If required or for maintenance purposes, the electrical unit can be fully removed
Input voltage	230V in accordance with DIN IEC38
Overvoltage protection	Integrated; surge voltage resistance of 6kV (L-N) and 8kV (L/N earth), 10kV on request

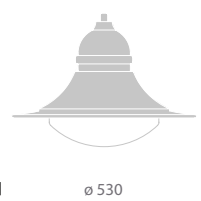
ADDITIONAL SPECIFICATION

Housing	Single-part luminaire housing constructed from dimensionally stable and corrosion-resistant aluminium
Attachment	Pole attachment with VPS quick mounting system, with adapter also for 1/2" external threads; rosetten nut available for differing diameters of pole bracket mounted luminaires
Light regulation	As option can be supplied 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

V8446
Weight: 6.0 kg
SCx: 0.09m²



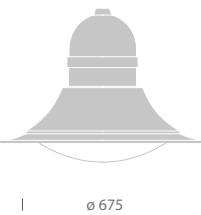
Rated luminous flux	1315lm to 2960lm
Rated input power	12 W to 29 W



V8447
Weight: 9.0 kg
SCx: 0.14m



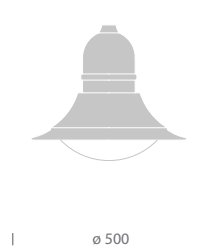
Rated luminous flux	1445lm to 8065lm
Rated input power	13 W to 72 W



V8448
Weight: 6.0 kg
SCx: 0.09m²



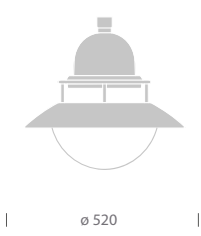
Rated luminous flux	1415lm to 5900lm
Rated input power	13 W to 56 W



V8450
Weight: 9.0 kg
SCx: 0.14m²



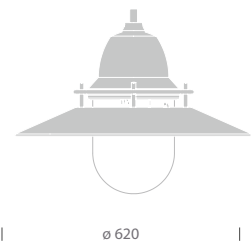
Rated luminous flux	1415lm to 3820lm
Rated input power	12 W to 37 W



V8466
Weight: 11 kg
SCx: 0.14m²



Rated luminous flux	1415lm to 3820lm
Rated input power	12 W to 37 W



HERITAGE LUMINAIRES - LUMINAIRE DESIGN CLASSICS

V7410 / V7420

- All components are designed for a very long life of 100 000 hours
- Low glare thanks to large optics surface
- Luminaire housing and pole top constructed from high-quality cast aluminium
- Historic design for old city areas

GENERAL SPECIFICATIONS

Enclosure	Enclosure glass made from acrylic (PMMA), structured, as an option also clear, interchangeable if necessary
Optics	Available with asymmetrical light distribution for residential streets and pedestrian areas or with symmetrical light distribution for public area lighting or pedestrian areas; developed for lighting of streets, pathways and squares that complies with EN 13201
Rated luminous flux	1875lm to 3300lm - L80/B10 for 100 000h
Light colour	4000K (neutral white), 3000K (warm white); >R _a 70
Rated input power	19W to 37W
Protection rating	I or II
Finish	Standard finish in RAL colours and DB 703, other colours on request

ELECTRICAL SPECIFICATION

LED technology	Versions with two LED boards, each with 8 high-power-LEDs with up to 170 lm/W
	Aluminium core PCB for optimum thermal management
	Integrated thermal sensor to protect the LED unit against over-temperature
	The fully encapsulated electronic components, equipped with an LED driver, can be fully removed with few tools
Input voltage	230V in accordance with DIN IEC38
Overvoltage protection	Integrated; surge voltage resistance of 6kV (L-N) and 8kV (L/N earth), 10kV on request

ADDITIONAL SPECIFICATION

Housing	Luminaire housing and pole top constructed from high-quality cast aluminium
	Roof with attractive, classic palmettes, can also be supplied without palmettes
Attachment	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 76mm
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)

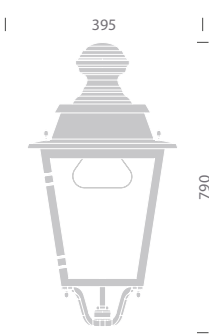


↑
V7410

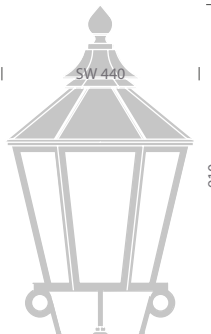


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V7420

DIMENSIONAL DRAWING IN MM

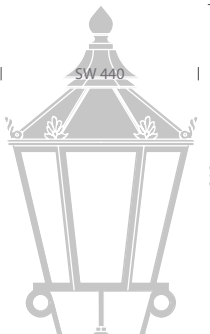


↑
V7410



↑

V7420 without palmettes



↑

V7420 with palmettes

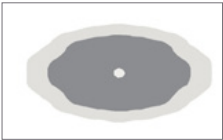
OPTICS AND APPLICATIONS



Optics O7
S-Class, residential streets, Parks



Optics O8
Open spaces and public area lighting, Parking lots



Optics O9
pedestrian zones, Parks



IP54 IK06



100.000 h
L80/B10

FAÇADE AND WALL LIGHTS WITH MINIMALIST DESIGN

V9010

- All components are designed for a very long life of 100 000 hours
- 12W LED as substitute for a TL58W moisture-proof lamp
- Directed light for high efficiency
- Discreet, slimline and minimalist design
- Spring attachment for optics and LED that doesn't damage the material



GENERAL SPECIFICATIONS

Enclosure	Enclosure made from flat single-pane tempered safety glass, inserted flush in the housing and glued from the inside; weather-resistant EPDM gasket
Optics	Choice of various light distributions for various applications to light roads, loading ramps, pathways, underpasses etc.; lens optics made from PMMA in multi-layer technology; spring attachment for optics and LED that doesn't damage the material
Rated luminous flux	1430lm to 3430lm - L80/B10 for 100 000h
Light colour	4000K (neutral white), 3000K (warm white) >R _a 70
Rated input power	14W to 37W
Protection rating	I or II
Weight	approx. 1.6 kg
Finish	DB 703, others on request

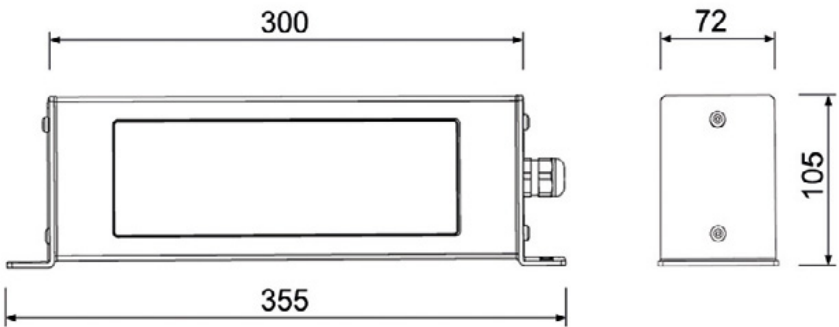
ELECTRICAL SPECIFICATION

LED technology	LED board versions with 16 high-power LEDs with up to 160 lm/W
	Aluminium core PCB for optimum thermal management
	Integrated, electronically controlled temperature monitoring
Monitoring	Thermal monitoring of LED unit and operating device
Overvoltage protection	Integrated; surge voltage resistance of 6kV (L-N) and 8kV (L/N earth), 10kV on request
Electrical connection	Connecting lead pre-installed in the factory, 2m H07 RNF

ADDITIONAL SPECIFICATION

Housing	High-quality extruded aluminium section, which serves as heat sink and ensures optimum and efficient thermal managment. Powder coated, DB 703
Attachment	Wall attachment using slots for screws with a diameter of 8mm
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); digital communication using DALI interface for integration in external DALI controllers

DIMENSIONAL DRAWING IN MM



IP65 IK10



100.000 h
L80/B10

ROBUST 3-IN-1 FLOODLIGHT FOR FLEXIBLE LIGHTING

V9510

- All components are designed for a very long life of 100 000 hours
- Spotlight for use on the ground, wall or ceiling
- Small LED spotlight for lighting signs, logos or similar applications
- Directed light for high efficiency
- Discreet, slimline and minimalist design



GENERAL SPECIFICATIONS

Enclosure	Enclosure made from flat single-pane tempered safety glass, inserted flush in the housing and glued from the inside; weather-resistant EPDM gasket
Optics	Choice of various asymmetrical, wide-beam precision optics for optimum illumination of the relevant application, e.g. signs, logos, pathways, ramps, etc.; lens optics made from PMMA in multi-layer technology
Rated luminous flux	1430lm to 3430lm - L80/B10 for 100 000h
Light colour	4000K (neutral white) >R _a 70, 3000K (warm white) >R _a 80
Rated input power	14W to 37W
Protection rating	I or II
Surface vulnerable to wind	Side: A = 0.05 m²
Weight	approx. 2 kg
Finish	DB 703, others on request

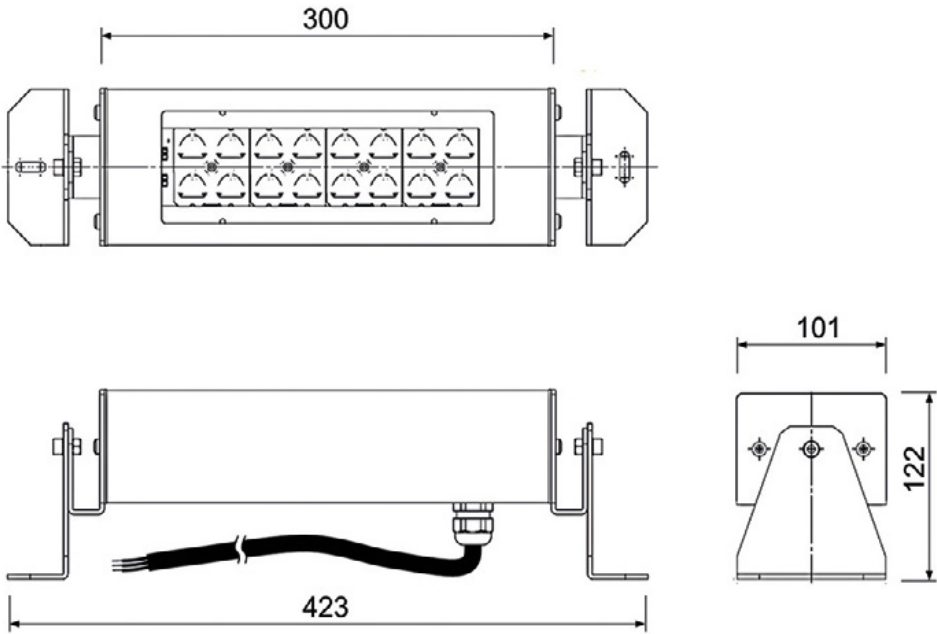
ELECTRICAL SPECIFICATION

LED technology	Versions with two LED boards, each with 16 high-power-LEDs with up to 160 lm/W
	Aluminium core PCB for optimum thermal management
	Integrated, electronically controlled temperature monitoring
Monitoring	Thermal monitoring of LED unit and operating device
Overvoltage protection	Integrated; surge voltage resistance of 6kV (L-N) and 8kV (L/N earth), 10kV on request

ADDITIONAL SPECIFICATION

Housing	High-quality extruded aluminium section, which serves as heat sink and ensures optimum and efficient thermal management. Powder coated, DB 703
Attachment	Ground, wall or ceiling attachment using swivel-mounted brackets with slots for 6mm screws; with H07 RN-F, 2m connecting lead pre-installed in the factory
Light regulation	Available with various dimming functions as options: "Constant Lumen Management" (CLM); digital communication using DALI interface for integration in external DALI controllers

DIMENSIONAL DRAWING IN MM



POLES AND BRACKETS

CYLINDRICAL

The cylindrical stepped poles are high-quality products from experts. They are manufactured in a flexible production process and can therefore be adapted to your needs. Manufactured from steel pipe according to EN 10220 / DIN 1626, hot-dip galvanised in accordance with DIN EN ISO 1461 and manufactured in accordance

with DIN EN 40, you are guaranteed lasting quality for your lighting systems. Poles up to a length of 14m can be coated using an environmentally-friendly method to provide appropriate colours. We hold selected standard poles in stock for a rapid delivery service.

Cylindrical stepped pole (STZ) diameter 76 mm, wall thickness 2.9 mm

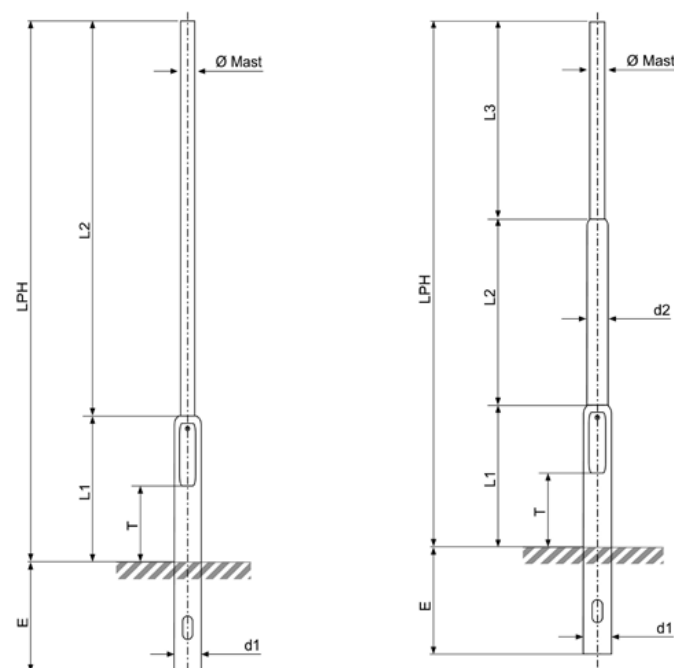


Fig. 1 - Pole with one step

Fig. 2 - Pole with several steps

- Standard dimensions of pole door: 85 x 400mm
- Triangular door look made from V2A, 10 mm
- Plain earthing link with two M6 sliding nuts and M8 earth connection
- Buried base with a 150 x 50 mm cable in-feed
- Without cable junction box and other accessories – please order separately

LPH	E	L1	L2	L3	d1(E+L1)	d2	T	Fig.
3000	700	1000	2000	-	114 x 3.2	-	500	1
3500	700	1000	2500	-	114 x 3.2	-	500	1
4000	700	1000	3000	-	114 x 3.2	-	500	1
4500	800	1200	3300	-	114 x 3.2	-	600	1
5000	800	1500	3500	-	114 x 3.2	-	600	1
5500	800	1500	4000	-	114 x 3.2	-	600	1
6000	1000	2000	4000	-	114 x 3.6	-	600	1
6500	1000	1500	2000	3000	114 x 3.6	89 x 3.2	600	2
7000	1000	1500	3000	2500	114 x 3.6	89 x 3.2	600	2
8000	1200	1800	3000	3200	133 x 3.6	89 x 3.2	600	2

All dimensions in mm

CONICAL

The conical poles are also high-quality products from experts. They are manufactured in a flexible production process and can be precisely adapted to your needs. Manufactured from steel pipe according to DIN EN 10025, hot-dip galvanised in accordance with DIN EN ISO 1461 and manufactured in accordance with DIN EN 40, you are

guaranteed lasting quality for your lighting systems. Poles up to a length of 14m can be coated using an environmentally-friendly method to provide appropriate colours. We hold selected standard poles in stock for a rapid delivery service.

Conical pole (STK) diameter 76 mm, wall thickness 3 mm

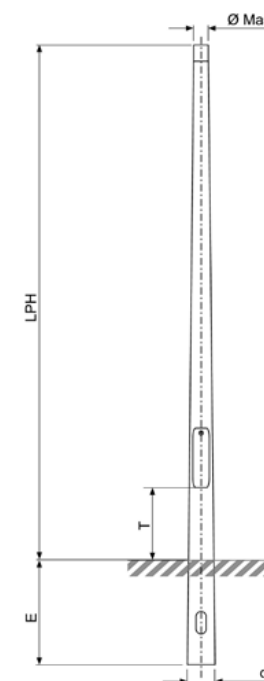


Fig. of conical pole

- Standard dimensions of pole door: 84 x 400 mm
- Triangular door look made from V2A, 10 mm
- Plain earthing link with two M6 sliding nuts and M8 earth connection
- Buried base with a 150 x 50 mm cable in-feed
- Without cable junction box and other accessories – please order separately

LPH	E	d1(E+L1)	T	Pole door
3000	700	128	600	85 x 400
3500	700	135	600	85 x 400
4000	800	129	600	85 x 400
4500	800	134	600	85 x 400
5000	800	140	600	85 x 400
5500	900	146	600	85 x 400
6000	1000	153	600	85 x 400
6500	1000	159	600	85 x 400
7000	1000	164	600	100 x 400
8000	1200	177	600	100 x 400

All dimensions in mm

We are happy to provide further models to suit your requirements. For example, we could cater for a different length, an aluminium pole, a pole with a spigot diameter of 60mm, 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.

ACCESSORIES AND 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
- Captive, transparent protection against contact
- Suitable for pole installation as of 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.

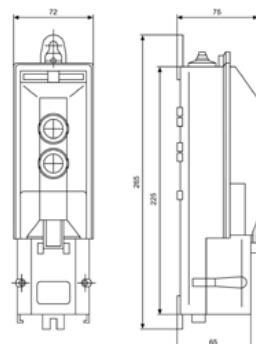
CABLE CONNECTION AND JUNCTION BOX

For light pole with compact design as of 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

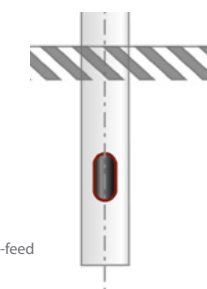


Fig. of edge protection for cable in-feed

BASE PLATES FOR CONICAL AND CYLINDRICAL POLES

Available in the following dimensions:

250 x 250 mm

300 x 300 mm

400 x 400 mm

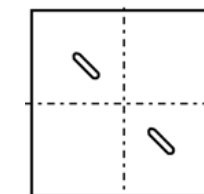


Fig. of base plate

WALL BRACKET WITH FLANGE PLATE

Made out of 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°

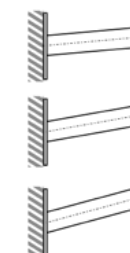
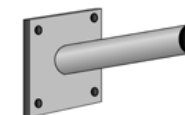


Fig. of 5° setting

Fig. of 10° setting

Fig. of 15° setting

UNIVERSAL BRACKET FOR WALL AND CORNER MOUNTING

Made out of steel, welded and hot-dip galvanised.

Support: diam. 60 x 100 mm

Length: 300 mm or 500 mm

Setting angle: 15°

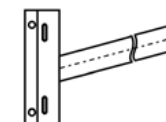


Fig. of corner mounting, view from above

Fig. of wall mounting, view from above

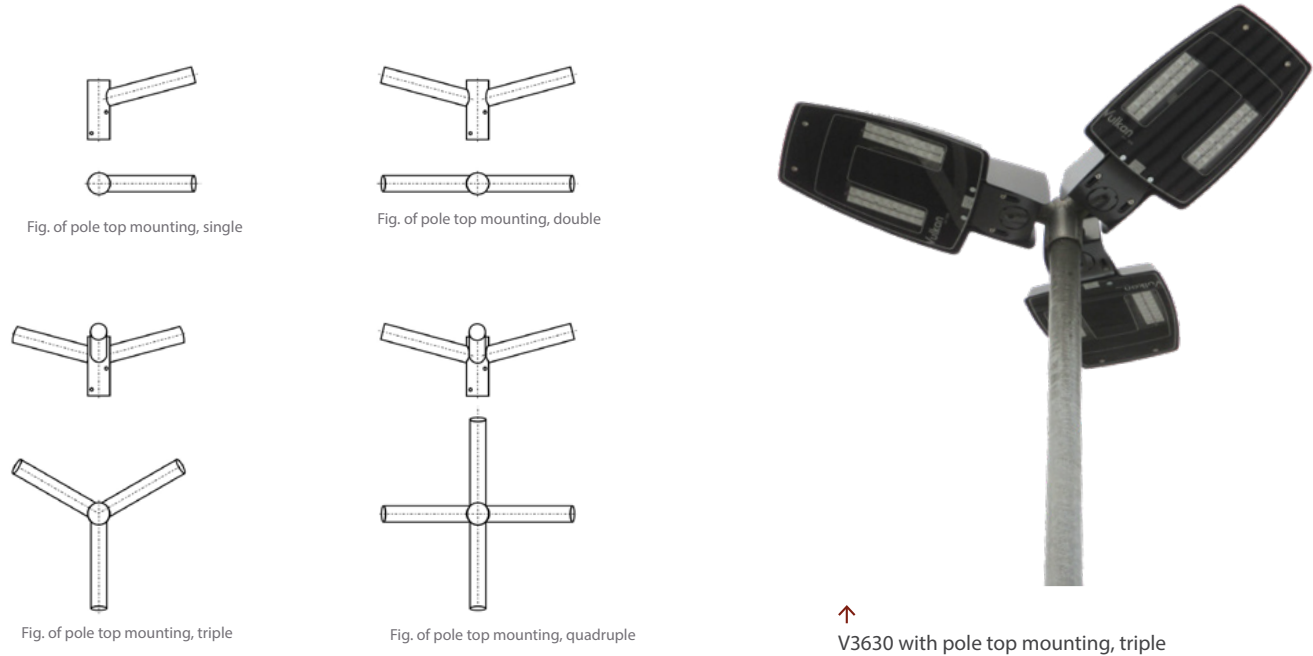
POLE TOP MOUNTINGS

INDIVIDUAL AND MULTIPLE POLE TOP MOUNTINGS

Made out of steel, welded and hot-dip galvanised.

Pole top mounting	Pole spigot	Support	Projection	Angle
single	diam. 76	diam. 60x100	250	15°
single	diam. 76	diam. 60x100	500	15°
double	diam. 76	diam. 60x100	250	15°
double	diam. 76	diam. 60x100	500	15°
triple	diam. 76	diam. 60x100	250	15°
triple	diam. 76	diam. 60x100	500	15°
quadruple	diam. 76	diam. 60x100	250	15°
quadruple	diam. 89	diam. 60x100	250	15°
quadruple	diam. 76	diam. 60x100	500	15°
quadruple	diam. 89	diam. 60x100	500	15°

All dimensions in mm



↑
V3630 with pole top mounting, triple



↑
V3456 with multiple top mounting

POLE TOP MOUNTINGS WITH VERTICAL SUPPORT

Made out of steel, welded and hot-dip galvanised.

Pole top mounting	Pole spigot	Support	Projection	Angle
double	diam. 76	diam. 60x100	200	0°
double	diam. 76	diam. 60x100	250	0°
double	diam. 76	diam. 60x100	400	0°

All dimensions in mm

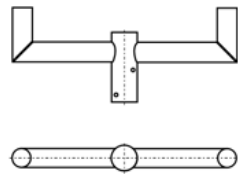


Fig. of pole top mounting, double

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

CURVED POLE BRACKETS

WESTERBURG-MN CURVED POLE TOP MOUNTING BRACKET

Made out of steel, welded, hot-dip galvanised and finished as requested by the customer to match the luminaire colour.

Connection to luminaire	Curved bracket radius	Pole spigot
VPS	R260	diam. 76
VPS	R360	diam. 76
I-1/2	R260	diam. 76
E-3/4	R260	diam. 76

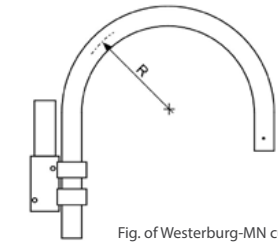


Fig. of Westerburg-MN curved pole bracket

WESTERBURG-MF CURVED POLE TOP MOUNTING BRACKET

Made out of steel, welded, hot-dip galvanised and finished as requested by the customer to match the luminaire colour.

Connection to luminaire	Curved bracket radius	Pole spigot
VPS	R260	diam. 76
VPS	R360	diam. 76
I-1/2	R260	diam. 76
E-3/4	R260	diam. 76

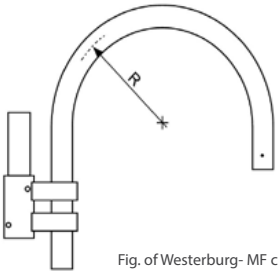


Fig. of Westerburg- MF curved pole bracket

HÖHN CURVED POLE TOP MOUNTING BRACKET

Made out of steel, welded, hot-dip galvanised and finished as requested by the customer to match the luminaire colour.

Connection to luminaire	Curved bracket radius	Pole spigot
VPS	R260	diam. 76
VPS	R360	diam. 76
I-1/2	R260	diam. 76
E-3/4	R260	diam. 76

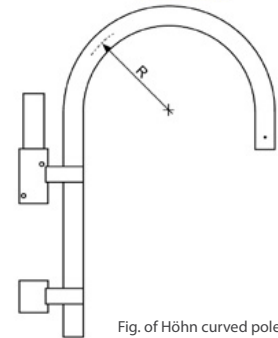


Fig. of Höhn curved pole bracket

V1 CURVED POLE TOP MOUNTING BRACKET

Made out of steel, welded, hot-dip galvanised and finished as requested by the customer to match the luminaire colour.

Connection to luminaire	Curved bracket radius	Pole spigot
VPS	R260	diam. 76
VPS	R360	diam. 76
I-1/2	R260	diam. 76
E-3/4	R260	diam. 76

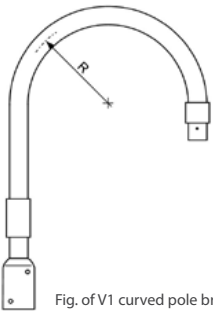


Fig. of V1 curved pole bracket

V3 CURVED POLE TOP MOUNTING BRACKETS

Made out of steel, welded, hot-dip galvanised and finished as requested by the customer to match the luminaire colour.

Connection to luminaire	Curved bracket radius	Pole spigot
VPS	R260	diam. 76
VPS	R360	diam. 76
I-1/2	R260	diam. 76
E-3/4	R260	diam. 76

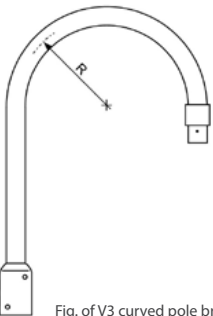


Fig. of V3 curved pole bracket

VPS = Vulkan Patent System
I-1/2 = 1/2 inch internal thread
E-3/4 = 3/4 inch external thread

Other curved top mounting brackets with other pole spigots, curved bracket radii and special shapes or colours are available on request.

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 buried base for the installation. The luminaires are mounted in groups of one, two or three with a 3/4 thread. Brackets suitable for wall mounting are available.

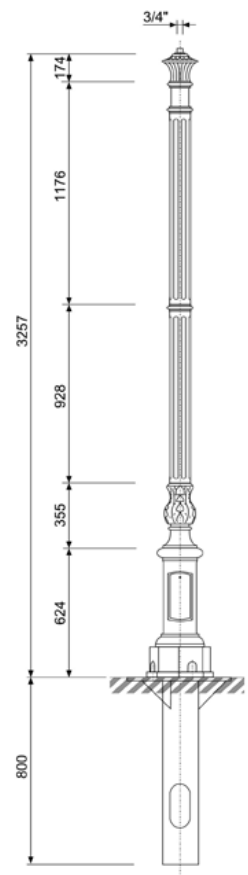


Fig. of heritage pole group 15101 with buried base

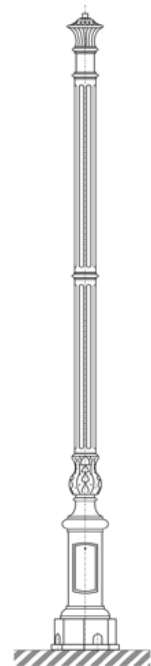


Fig. of heritage pole group 15101 with base plate or foundations

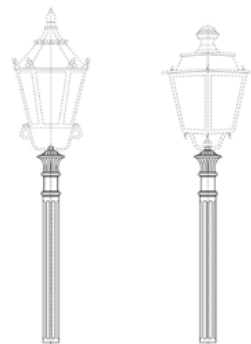


Fig. of heritage pole group 15101 for mounting one luminaire



Fig. of heritage pole group 15102 for mounting two luminaires

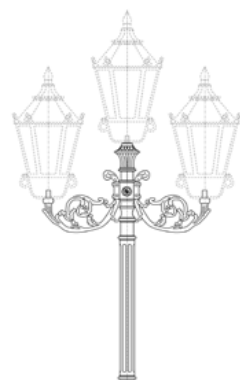


Fig. of heritage pole group 15103 for mounting three luminaires

WALL BRACKETS FOR HERITAGE LUMINAIRES

Decorative heritage bracket W3000

Made from cast aluminium, with integrated cable guide for hidden cable routing, finished as requested to match the luminaire colour.

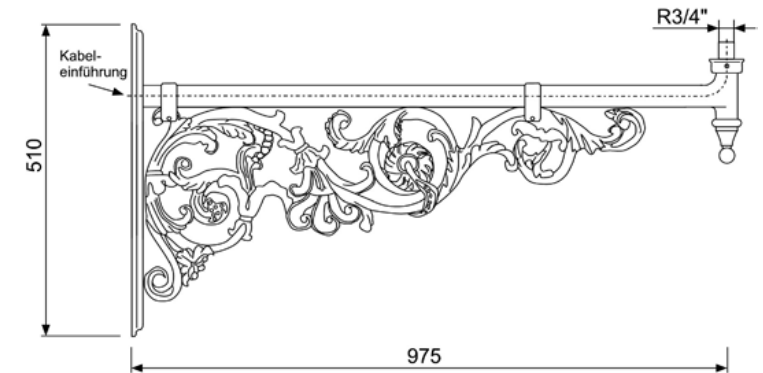


Fig. of W3000 wall bracket

HERITAGE BRACKETS W4000 AND W5000

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

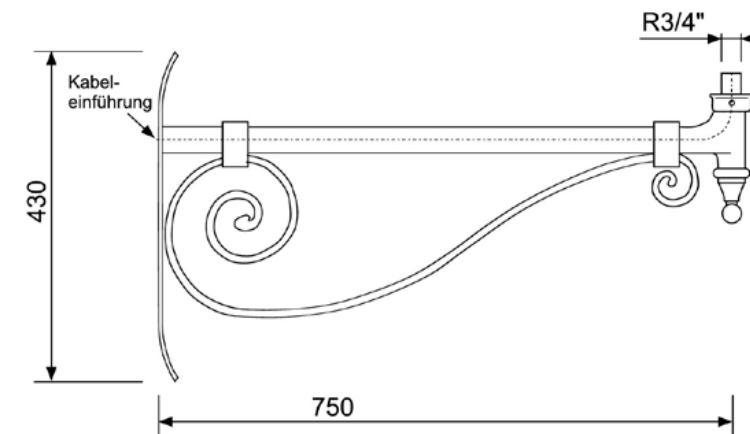


Fig. of W4000 wall bracket

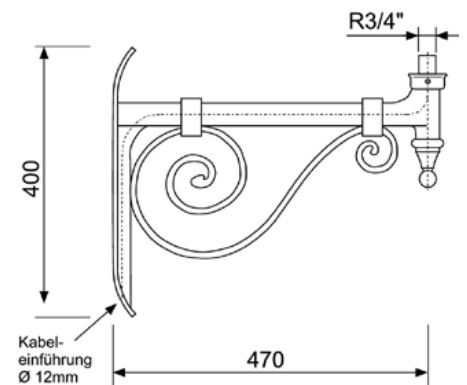


Fig. of W5000 wall bracket



PROVIDING LIGHTING WHEN AND WHERE IT IS NEEDED

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.

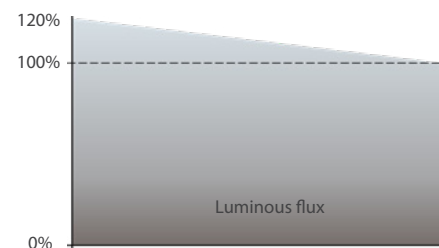
The right controller for your application depends on your requirements and also the prevailing conditions. Intelligent light controllers in our luminaires make our lighting systems even more efficient. They minimise annual energy consumption and therefore associated costs too. We are happy to explain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

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.

WITHOUT CONSTANT LUMINOUS FLUX

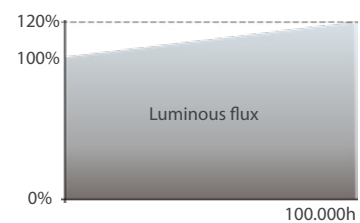
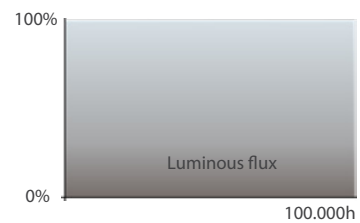
Over the course of an light sources life, its luminous flux falls by say 20% (L80B10), but the system output remains unchanged. The drop in luminous flux must be taken into account when planning through use of the lamp luminous flux maintenance factor (LLWF). This means that from the outset the lighting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



WITH CONSTANT LUMINOUS FLUX

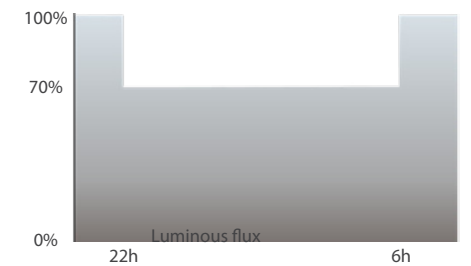
The integrated electronics increase the flux over the illuminant's life and thereby keep the luminous flux constant. This does increase the system output over the illuminant's life, but you save energy right from the start because you don't have to oversize your lighting system.

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.



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).

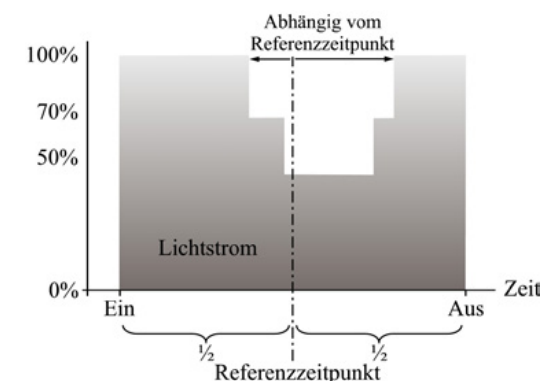


With the classic «LRT», it is reduced to 50% (the familiar half-night setup). The duration and times can be freely determined by the user and adapted to suit. This controller can be easily integrated into networks with an existing control phase and in new systems too.

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.

PROVIDING LIGHTING WHEN AND WHERE IT IS NEEDED

INTELLIGENT LIGHTING

LMS – LIGHT MANAGEMENT SYSTEM

A light management system can of course do much more than simply reduce energy consumption. It's a forward-looking technology, which can vastly improve the well-being, safety and therefore also the quality of life of citizens. Needs-based and individual light control, monitoring, error messages and logging simplify administration and maintenance of lighting systems. This also involves linking the lighting with other systems or integrating external signals.

SMART CITY

«SmartCity» is synonymous with all-encompassing development concepts, networking of various systems and collecting data to optimise urban spaces. Lighting and its light management systems, forms part of the SmartCity approach.

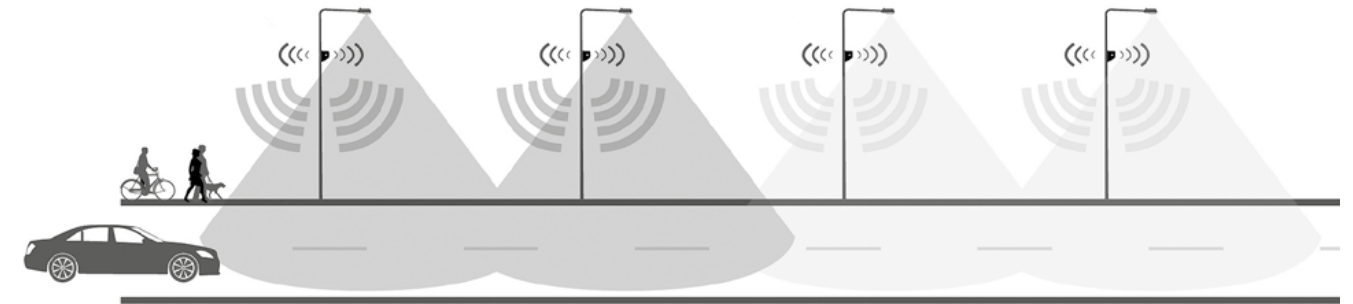
AN OVERVIEW OF LIGHTING

The light management system is based on a software, which can control all the lighting in a city. The individual light points are clearly represented on a map and can be read out or adapted individually or in groups at any time. The lighting hours and consumption levels are logged and can be exported and documented as reports. The system detects errors and generates appropriate error messages. Managing the software on a central server also spares the operator from network updates and an elaborate IT infrastructure. The 128-bit encryption and an additional password protect the network from access by third parties.



WIRELESS COMMUNICATION

Connections and/or communication are ensured by a wireless mesh network and require no additional underground control cables. The light controller can therefore also be easily integrated in existing networks. Given the range, the signal is sent not just to one participant but several at the same time (the number depends on local circumstances). For example, the signal may not be interrupted by a separate earth connection. If a participant doesn't respond, the signal in the wireless network instantly looks for a «way round».



Practical example page 11

PROVIDING LIGHT WHEN AND WHERE IT IS NEEDED

Integrating sensors helps to optimise the lighting without having to compromise on convenience or safety. For example, integrated motion sensors can be used to minimise illumination. If one of these sensors detects movement from say a pedestrian, cyclist or car driver, the illumination level is increased to a defined value. At the same time, the command to do the same is sent to previously defined adjoining luminaires to ensure even lighting in the streets. Another option is to integrate external sensors, such as twilight switches, clocks, weather sensors, induction loops or traffic systems. These adapt the lighting even better to the changing conditions.

Modern light management systems are indeed formed from these many different options and great flexibility.

We are happy to advise you on your SmartCity solution.

Vulkan
seit 1898

***ADDITIONAL
INFORMATION***

LIST OF ABBREVIATIONS

LUMINAIRES

1x	1 LED module
2x	2 LED modules
30W	System output per LED module
730	Ra> 70; 3000K
740	Ra> 70; 4000K
750	Ra> 70; 5000K
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)
O1	Optics for major thoroughfares
O2	Optics for thoroughfares
O3	Optics for residential streets
O4	Optics for cycle paths and walkways
O5	Optics for open spaces
O6	Optics for pedestrian crossings, beam to the right
O7	Optics for main streets and side streets, S classes (previously also along with QVS, QVM, QEM)
O8	Symmetrical optics, all-round
O9	Optics, linear distribution
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

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

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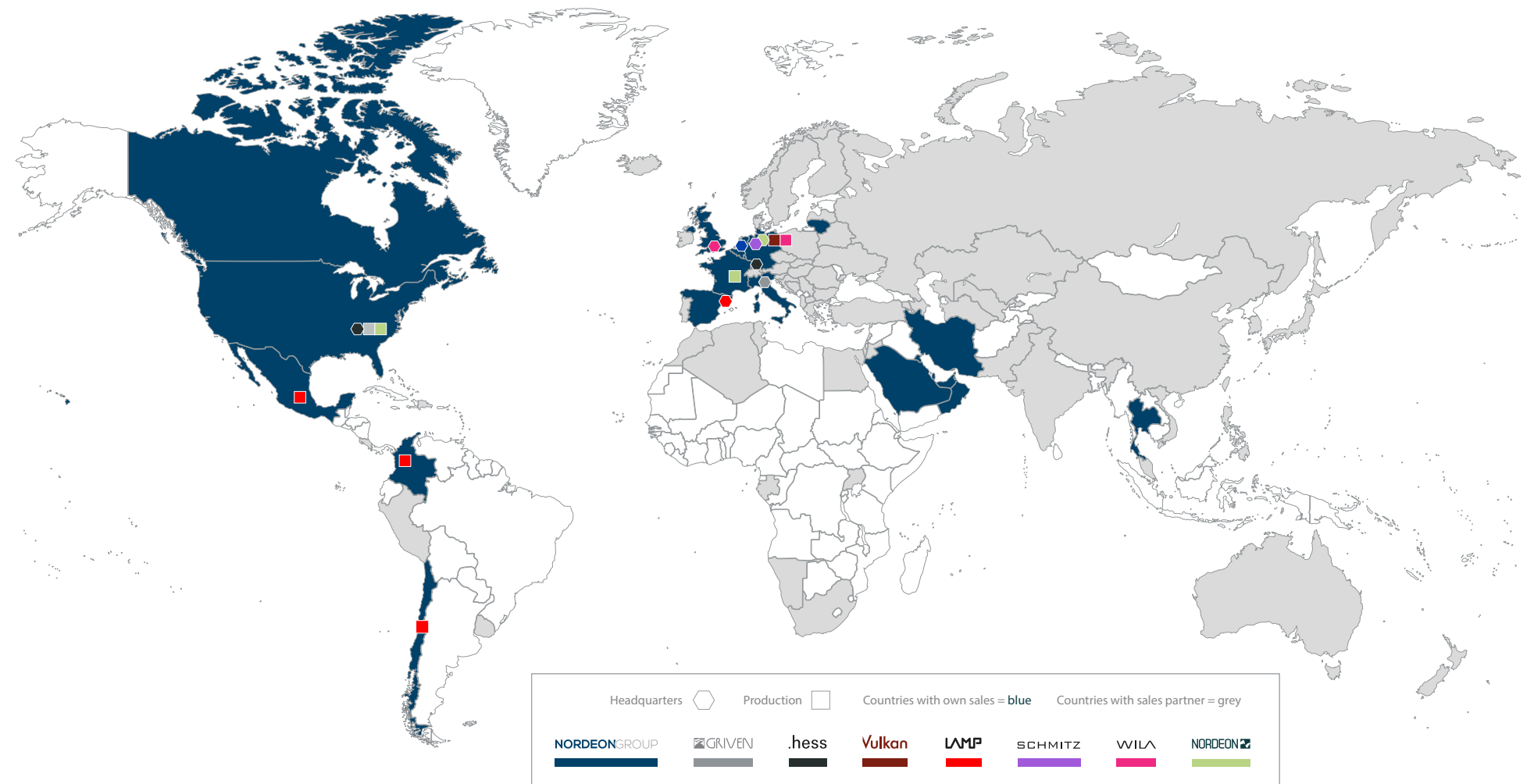
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