

LEDSPOTS CC

EVO 75 AND EVO 90
VCA2-128



EVO 75 / EVO 90

These light spots are ideal for integration in luminaires like tracks or downlights. The light engines are ideal for applications like retail, halls and public buildings.

The aluminium reflectors offer an homogeneous light distribution spot and it is possible to interchange the reflector easily. Four different beam angles for each versions (4+4).

EVO series

- Interchangeable aluminium reflector for homogeneous light distribution
- Efficiency up to 140 lm/W (CRI 92)

Typical applications

- Integration in luminaires
- Retail lighting
- Downlights
- Light advertising
- Entertainment

EVO 75 / EVO 90

- **MODULAR SYSTEM: ENGINE + OPTICS**
- **ROBUST COB WITH ALUMINIUM PCB**
- **NARROW COLOUR TOLERANCES:
3 STEP MACADAM**
- **EFFICIENCY UP TO 140 LM/W (CRI 92)**
- **FOUR DIFFERENT BEAM ANGLES
FOR EACH DIMENSION**
- **COLOUR RENDERING INDEX: CRI 92
(CRI 82, PEARL WHITE, CLEAR WHITE
AND FOOD ON REQUEST)**
- **LUMINOUS FLUX UP TO 3600 LM**

EVO 75 / EVO 90

Built-in LEDSpot equipped with a reflector, heat sink and leads

Technical notes

Interchangeable reflector: Ø 75 (EVO 75) or Ø 90 mm (EVO 90), aluminium, bayonet fixing (possible to use Ø 90 reflector on EVO 75 and viceversa)

Holder: PC, white

Heat sink material: aluminium

Lumen maintenance:

L80/B10; 50,000 hrs. at 65 °C

Temperature depends on installation situation and has to be checked by the luminaire manufacturer.

Colour accuracy initially: 3 SDCM

Use of external LED constant-current drivers

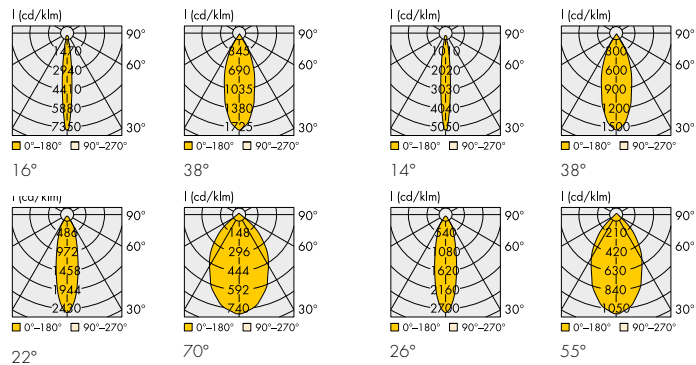
Fixation

heat sink: lateral fixation with M4 screws for EVO 75 or M5 screws for EVO 90 and nuts or rear side fixation with self-tapping screws ST2.9

Leads: Cu tinned, stranded conductors AWG22,

FEP-insulation and PVC sleeve, length: 600 mm

With integrated cord grip



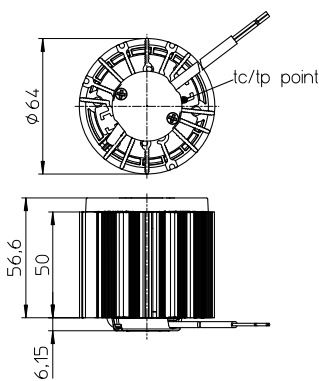
Maximum ratings

Exceeding the maximum ratings can lead to deuction of service life or destruction of the modules.

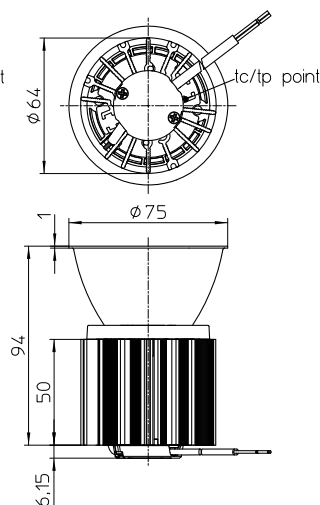
Type	Ambient temperature range (t _a)		Operation temperature range at t _c -Point		Storage temperature range		Max. allowed repetitive peak current mA
	°C min.	°C max.	°C min.	°C max.	°C min.	°C max.	
All types	-25	+45	-25	+80	-40	+90	1400

Temperatures depend on installation situation and has to be checked by the luminaire manufacturer.

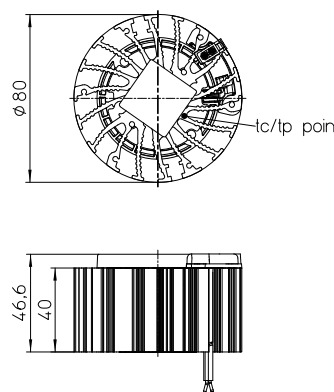
Engine EVO 75



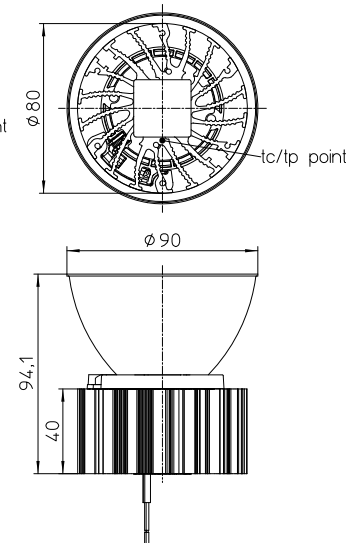
EVO 75



Engine EVO 90



EVO 90



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EVO 75

Type	Ref. No.	Colour	Correlated colour temperature K	Typ. luminous flux and efficiency, typ. voltage (V _f) and power consumption (P _{el})*				Light intensity at max. current Candela	Beam angle °	CRI R _a
				350 mA		500 mA				
				lm	lm/W	lm	lm/W			
EVO 75 VCA2-128				P _{el} = 11.3 W V _f = 32.4 V		P _{el} = 16.5 W V _f = 33.1 V				
EVO 75 VCA2-128_930	572088	warm white	3000	1610	142	2205	134	14420	16°	92
EVO 75 VCA2-128_940	572092	neutral white	4000	1655	146	2270	138	14840	16°	92
EVO 75 VCA2-128_930	572089	warm white	3000	1630	144	2230	135	9710	22°	92
EVO 75 VCA2-128_940	572093	neutral white	4000	1675	148	2295	139	10000	22°	92
EVO 75 VCA2-128_930	572090	warm white	3000	1610	142	2205	134	4230	38°	92
EVO 75 VCA2-128_940	572094	neutral white	4000	1655	146	2270	138	4350	38°	92
EVO 75 VCA2-128_930	572091	warm white	3000	1630	144	2230	135	1890	70°	92
EVO 75 VCA2-128_940	572095	neutral white	4000	1675	148	2295	139	1940	70°	92

Versions with other colour temperature, different CRI or special spectrum on request

* Production tolerance of luminous flux, efficiency, voltage and power consumption: ±10%

EVO 90

Type	Ref. No.	Colour	Correlated colour temperature K	Typ. luminous flux and efficiency, typ. voltage (V _f) and power consumption (P _{el})*						Light intensity at max. current Candela	Beam angle °	CRI R _a
				500 mA		600 mA		700 mA				
				lm	lm/W	lm	lm/W	lm	lm/W			
EVO 90 VCA2-128				P _{el} = 16.5 W V _f = 31.1 V		P _{el} = 20.1 W V _f = 33.4 V		P _{el} = 23.6 W V _f = 33.8 V				
EVO 90 VCA2-128_930	572130	warm white	3000	2205	134	2590	129	2950	125	17990	14°	92
EVO 90 VCA2-128_940	572134	neutral white	4000	2270	138	2665	133	3035	129	18500	14°	92
EVO 90 VCA2-128_930	572131	warm white	3000	2230	135	2615	130	2980	126	7540	26°	92
EVO 90 VCA2-128_940	572135	neutral white	4000	2295	139	2695	134	3065	130	7760	26°	92
EVO 90 VCA2-128_930	572132	warm white	3000	2205	134	2590	129	2950	125	4560	38°	92
EVO 90 VCA2-128_940	572136	neutral white	4000	2270	138	2665	133	3035	129	4700	38°	92
EVO 90 VCA2-128_930	572133	warm white	3000	2205	134	2590	129	2950	125	3140	55°	92
EVO 90 VCA2-128_940	572137	neutral white	4000	2270	138	2665	133	3035	129	3230	55°	92

Versions with other colour temperature, different CRI or special spectrum on request

* Production tolerance of luminous flux, efficiency, voltage and power consumption: ±10%

LED Engine EVO 75

Type	Ref. No.	Colour	Correlated colour temperature K	Typ. luminous flux and efficiency, typ. voltage (V _f) and power consumption (P _{el})*				CRI R _a
				350 mA		500 mA		
				lm	lm/W	lm	lm/W	
EVO 75 VCA2-128				P _{el} = 11.3 W V _f = 32.4 V		P _{el} = 16.5 W V _f = 33.1 V		
E.EVO 75 VCA2-128_930	572086	warm white	3000	1770	157	2425	147	92
E.EVO 75 VCA2-128_940	572087	neutral white	4000	1820	161	2495	151	92

Versions with other colour temperature, different CRI or special spectrum on request

* Production tolerance of luminous flux, efficiency, voltage and power consumption: ±10%

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LED Engine EVO 90

Type	Ref. No.	Colour	Correlated colour temperature K	Typ. luminous flux and efficiency, typ. voltage (V _f) and power consumption (P _{el})*						CRI
				500 mA		600 mA		700 mA		
				lm	lm/W	lm	lm/W	lm	lm/W	R _a
EVO 90 VCA2-128				P _{el} = 16.5 W V _f = 33.1 V		P _{el} = 20.1 W V _f = 33.4 V		P _{el} = 23.6 W V _f = 33.8 V		
E.EVO 90 VCA2-128_930	572128	warm white	3000	2425	147	2845	142	3240	137	92
E.EVO 90 VCA2-128_940	572129	neutral white	4000	2495	151	2930	146	3335	141	92

Versions with other colour temperature, different CRI or special spectrum on request

* Production tolerance of luminous flux, efficiency, voltage and power consumption: ±10%

Reflectors for EVO

Exchangeable aluminum reflectors for the EVO series

Technical notes

Reflectors made of aluminium with bayonet fixation

Surface: anodised

Weight: 17/27 g (D75/D90)

Packaging unit: 18 pcs.

Usage and maintenance

If necessary clean reflectors with mild soap, water and soft cloth.

Never use any commercial cleaning solvents on reflectors, like alcohol.

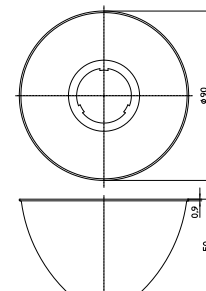
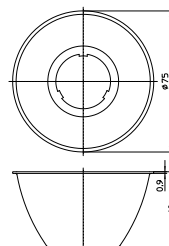
Please handle or install reflectors with wearing gloves, skin oils may damage reflector or its optical characteristic.



D75



D90



Ref. No.	Beam characteristic	Beam angle (°) VCA2-128
Reflector D75 – H = 40		
557152	narrow	16
557153	medium	22
557154	wide	38
562157	extra wide	70
Reflector D90 – H = 50		
557359	narrow	14
557360	medium	26
557361	wide	38
563446	extra wide	55

It's possible to use all the reflectors on the same holder.

LES protection

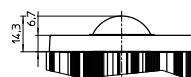
Material: PC, transparent

Fixation: click-in

Optical efficiency: 96%

Ref. No.: 604044 For EVO 75

For EVO 75



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LED Constant Current Drivers

Please visit our homepage for details suitable LED constant current drivers: www.vossloh-schwabe.com

LEDspot EVO 75 / EVO 90

General information

Performance acc. to IEC 62717: $t_p = 75\text{ °C}$; 100,000 hrs.

Packaging unit

Type	Packaging unit pcs.	Box dimensions (LxWxH) mm	Weight single (g)	Gross weight packaging unit (g)
E.EVO 75	28	600x400x80	170	5180
E.EVO 90	18	600x400x80	240	6960
EVO 75	6	380x260x220	190	1350
EVO 90	6	380x260x220	265	1800
Reflector 75	18	118x118x160	20	360
Reflector 90	18	118x118x160	25	540

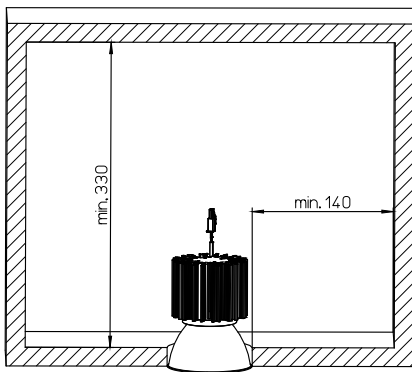
Product guarantee

- 5 years
- The conditions for the Product Guarantee of the Vossloh-Schwabe Group shall apply as published on our homepage (www.vossloh-schwabe.com). We will be happy to send you these conditions upon request.

General safety and installation instructions

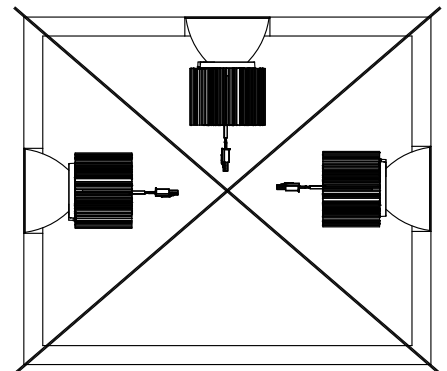
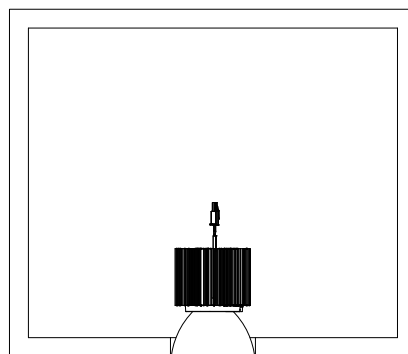
- VS product may only be installed and commissioned by authorised and fully qualified staff.
- These instructions must be carefully read before installing and commissioning the system, as this is the only way to ensure safe and correct handling.
- An external constant-current driver is required.
- Before any work is carried out on the equipment, it must be disconnected from the mains.
- All valid safety and accident-prevention regulations must be observed.
- The products should never be inexpertly opened. Repairs may only be undertaken by the manufacturer

Built-in



Correct position

OK



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Assembly and Safety Information

Installation must be carried out under observation of the relevant regulations and standards. The LED modules are designed for operation within a casing or luminaire. Safety regulations acc. to EN 60598 has to be observed. Installation must be carried out in a voltage-free state (i.e. disconnection from the mains).

- Mains frequency: 0 Hz
- LED built-in modules must not be subjected to any undue mechanical stress, e. g.:
 - handle LED modules carefully
 - avoid shear and compressive forces onto the optics during handling and installation
 - do not carry or move the LED engines by using the wires
- When installing/screwing the module into a luminaire, please ensure that the cables are not squeezed between luminaire and LED engine.
- The LED engine must not be used in hermetically sealed casings.
- Safe operation only possible by the use of external constant current sources (I_{max} , see table "Electrical Characteristics").
- Operation is dependent on constant current drivers that should provide the following protective measures:
 - short-circuit protection
 - overload protection
 - overheating protection
 - SELV; $U_{max} \leq 60$ V
 - I_{max} must not be exceeded
- Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- The maximum output of the power supply must be observed.
- For optimal load of used constant current driver the modules can only be connected in series. The quantity of LED modules is limited by the sum of forward voltage and the capacity of used constant current driver. Safety regulations acc. to EN 60598 has to be observed if the sum of forward voltage exceed the permitted touchable value.
- A parallel connection of the LED engines is not allowed.
- Measurement tolerances:
 - luminous flux: ± 10 %
 - voltage: ± 3 %
 - CRI: ± 1 %
- Maximum allowed number of switching cycles: 15,000
- Please ensure standard ESD (electrostatic discharge) protection measures are employed when handling and installing LED modules. Electrostatic discharge can damage LEDs.
- To ensure problem-free operation, the specified maximum temperature at the t_c and t_p point (see "Operating Life") must be observed (measured in accordance with EN 60598-1). To satisfy this point, it is necessary to put measures in place to ensure any heat is dissipated from the LED engine to the environment.

- To ensure good thermal behaviour take care about "general safety and installation instructions".
- In the event of outdoor applications or applications in damp locations, care must be taken to protect LED assembly modules against humidity, splashes and jets of water. Any corrosion damage resulting from humidity or contact with condensation will not be recognised as a defect or manufacturing fault. LED assembly modules are not specially protected against foreign bodies or dust. Depending on the type of application, further protection must be ensured to prevent dust and foreign bodies from entering.
- Operating LED modules in the presence of certain chemical substances or in chemically enriched (aggressive) environments can impair module functionality or even cause total module failure. Detailed information can be found in our "Chemical Incompatibility" PDF on our website www.vossloh-schwabe.com
- The photobiological safety of the LED modules must be classified into risk groups in accordance with EN 62471 Rating in accordance with IEC / TR 62778

The following LED modules are in risk group 1:

Up to 4000 K

LED module type	Max. allowed luminous flux per module (lm)	For higher luminous flux: E threshold to RG1 (lx)
VCA2-128	4512	1464

Applied Standards

EN 62031
LED modules for general lighting – Safety specifications

EN 62471-2
Photobiological safety of lamps and lamp systems

EPREL information

Containing product Evo 75/ Evo 90 Types	Light Source Type	EPREL Reg.No.	EE Class
E.Evo 75 VCA2-128_930	VCA2-128-930	857352	E
Evo 75 VCA2-128_930	VCA2-128-930	857352	E
E.Evo 90 VCA2-128_930	VCA2-128-930	857352	E
Evo 90 VCA2-128_930	VCA2-128-930	857352	E
E.Evo 75 VCA2-128_940	VCA2-128-940	856367	E
Evo 75 VCA2-128_940	VCA2-128-940	856367	E
E.Evo 90 VCA2-128_940	VCA2-128-940	856367	E
Evo 90 VCA2-128_940	VCA2-128-940	856367	E

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