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1. Description

High-quality LED's combined with the patented reflector technology creates the pre-condition of illuminating the operating field. The perfect arrangement of LED reflectors facilitates the maximum efficiency of the light emitting surface. The LED light sources mainly emit visible light without any infrared components.

The perfect arrangement of LED reflectors leads to a shadow-free illumination with simultaneous great illumination depth for deep body cavities.

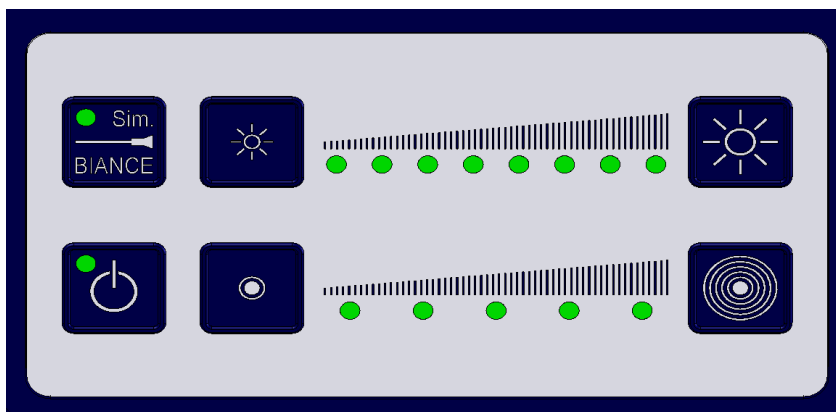
The SIMEON HighLine operating lights are made of high-end materials such as aluminum and safety glass. The housing made of aluminum favors a well-established heat management. This offers two important advantages. First, it avoids heat accumulation by direct heat sink function which leads to an extremely long lifetime of the LEDs. Second, the optimized heat management and the very low power consumption creates a perfect hygienic environment under laminar flow ceiling conditions.

The HighLine lights have a hygiene-optimized design, which is supported by the seamlessly closed construction and the use of ESG safety glass. In addition, the ESG safety glass offers the advantage of a consistently high illumination over the entire service life of the LED light.

The HighLine operating lights convince with the innovative antibacterial coating Anti.BAC[®]. Anti.BAC[®] reduces germs by 99.99% and is completely free of physiologically harmful nano-silver or free silver ions.

All operating functions are intuitively controllable via cardanic control panel:

- On/Off button with LED
- **Sim.BIANCE** button (background illumination for endoscopic procedures)
- Illumination intensity plus/minus (8 steps)
- Illuminated field size plus/minus (5 steps)



Further the **my.GRIP** function offers a sterile control of two operating functions in parallel and directly on the sterile handle with up to 12 freely selectable combination

2. Technical data

Photometrical data:		Sim.LED 7000 SC	Sim.LED 5000 SC	Sim.LED 5000 SC 160.000 Lux
Central illumination E_c (1m)	[lx]	160,000	140,000	160,000
Electrical dimming capability from/to	[lx]	48,000-160,000	42,000-140,000	48,000 - 160,000
Light field diameter d_{10} at a distance of 1m	[mm]	180-300	180-280	180-280
Light field diameter d_{50} at a distance of 1m	[mm]	100	100	100
Electrical field adjustment	[mm]	yes	yes	yes
Color temperature	[K]	4,500	4,500	4,500
Color rendering index	Ra (1-8)	96	96	96
Red rendering index	R ₉	96	96	96
Total irradiance	[W/m ²]	557	479	551
Luminosity factor of radiation	[lm/W]	269	264	286
Depth of illumination without additional focusing (L1+L2) at 20%	[mm]	1,100	1,200	1,200
Depth of illumination without additional focusing (L1+L2) at 60%	[mm]	500	600	600
Working area from/to	[mm]	550-1,650	500-1,700	500-1,700

Technical data sheet
OR light Sim.LED 5000/7000 SC

Laminar flow index (measurement for intensity of turbulence)	[%]	27	18	22,6
Laminar flow index (measurement of particles)	[class]	4.1	3.6	3.9
Light emitting surface	[cm ²]	2,940	2,040	2,040
Temperature increase at surgeon´s head	[°C]	< 1	< 1	< 1
Temperature increase at operation area	[°C]	< 10	< 10	< 10
LED – light source	[pieces]	36 x 3 = 108	24 x 3 = 72	24 x 3 = 72
Radiant energy	[mW/m ² lx]	3.6	3.8	3.5
Sim.BIANCE ambient light for MIS	[lx]	1,000-3,000	1,000-3,000	1,000-3,000
Residual illumination with 1 shadow-caster	[%]	81	66	66
Residual illumination with 2 shadow-caster	[%]	65	60	60
Residual illumination with 1 tube	[%]	100	100	100
Residual illumination with 1 tube and 1 shadow-caster	[%]	80	65	65
Residual Illumination With 1 tube and 2 shadow-caster	[%]	64	61	61
Efficiency of max. light intensity to max. power consumption	[lx/W]	3,018	2,745	2,758

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Technical data sheet
OR light Sim.LED 5000/7000 SC

Electrical data:		Sim.LED 7000 SC	Sim.LED 5000 SC	Sim.LED 5000 SC 160.000 Lux
Power supply incl. mounting plate (LxWxH)	[mm]	322x145x90	322x145x90	322x145x90
Power supply – primary voltage AC	[V]	100-240	100-240	100-240
Input voltage at light head DC	[V]	20-33	20-33	20-33
Typical input voltage DC	[V]	24	24	24
Maximum current consumption	[A]	5,4	5,4	5,4
Typical current consumption	[A]	2,5	2,5	2,5
Power consumption with 24 V	[W]	53	51	58
Life time of light source	[h]	> 60,000	> 60,000	> 60,000
Classification according MDD		I	I	I
Protection class according IEC 60601		I	I	I
Suspension protection class	IP	IP 30	IP 30	IP 30
Light housing protection class	IP	IP 44	IP 44	IP 44
Certificate		CE	CE	CE
Mechanical data:		Sim.LED 7000 SC	Sim.LED 5000 SC	Sim.LED 5000 SC 160.000 Lux
Minimum room height with full cardanic suspension (power supply at the ceiling tube, pass line height 2,25 m)	[mm]	2,730	2,730	2,730
Operating range	[mm]	1,757	1,757	1,757
Adjustment of the spring arm	[mm]	1,339	1,339	1,339
Approx. weight of a standard ceiling tube	[kg]	10.5	10.5	10.5

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Technical data sheet
OR light Sim.LED 5000/7000 SC

Approx. weight of the suspension	[kg]	9.5	9.5	9.5
Approx. weight of the spring arm SA 2075	[kg]	9,0	9,0	9,0
Approx. weight of the power supply	[kg]	2.2	2.2	2.2
Approx. weight of the light head	[kg]	18	15	15
Total weight	[kg]	49,1	46,1	46,1
Vertical force	[N]	approx. 530	approx. 530	approx. 530
Moment of torque	[Nm]	approx. 350	approx. 350	approx. 350
Ceiling cover dimensions	[mm]	Ø620x180 (90)	Ø620x180 (90)	Ø620x180 (90)
Height of the light head without sterile handle	[mm]	68	68	68
Light head dimensions	[mm]	795x704	695x611	695x611

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Technical data sheet
 OR light Sim.LED 5000/7000 SC

Mobile stand with battery:		Sim.LED 7000 SC	Sim.LED 5000 SC	Sim.LED 5000 SC 160.000 Lux
Single Battery runtime at maximum intensity	[h]	4.1	4.3	3.8
Double Battery runtime at maximum intensity	[h]	8.3	8.6	7.6
Battery charging time	[h]	2.5	2.5	2.5
Estimated amount of charging cycles		1000	1000	1000
Optional power supply:				
Primary Voltage AC	[V]	100-240	100-240	100-240
Power frequency	[Hz]	47-63	47-63	47-63
Current Consumption	[A]	2.5-1.2	2.5-1.2	2.5-1.2

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3. Technical drawing

