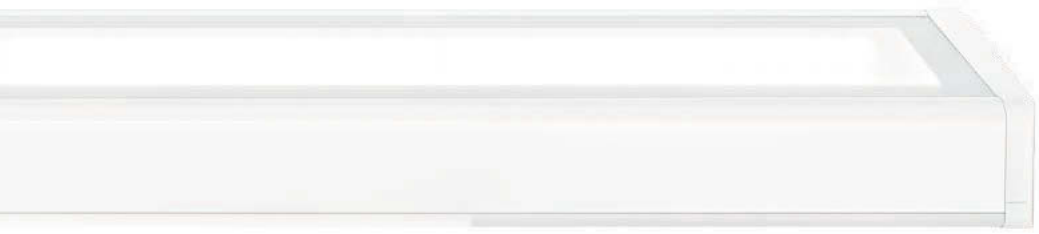
ZUMTOBEL

ELGADUCT

Lighting and medical supply systems for health and care.



ELGADUCT
Lighting and medical supply systems

Stunning good looks and functionality for hospitals and healthcare areas
New technologies and concepts are shaping the way in which modern hospitals operate and the facilities they offer. Treatment methods are changing, and high-tech equipment is improving diagnostic capabilities. The well-being of patients and staff is becoming just as important as contemporary styling.

The finger on the pulse ...
... Zumtobel has been working with renowned hospital designers and operators for many years. Their exciting ideas born from practical experience, combined with the technical lighting competence of one of the leading suppliers of professional lighting concepts are the driving force behind lighting and medical supply systems that offer forward-looking solutions to meet all the demands now being made on modern hospitals and healthcare settings.

Compatible with lighting management systems
All ELGADUCT systems are compatible with use of the LUXMATE lighting management system and the wide variety of application possibilities which LUXMATE opens up: dimming, decentralised control and monitoring, time-switch functions and the integration of other building services components such as blinds and air conditioning.

Pictograph index

General lighting
The directed indirect component provides general lighting of at least 100 lx. Sophisticated lighting technology ensures almost 100 % emanation of the light, and thereby provides particularly effective general lighting even in the depth of the room. Moreover, glare is avoided and a pleasant room impression is created, conveying calm and relaxation.

Reading light
The reading light provides an illuminance level of at least 300 lx. Precise direction of light makes sure that other patients in the room who need rest are not disturbed. This is ensured by sufficiently high illuminance levels and the removal of glare in areas susceptible to glare.

Examination lighting
For simple examinations at the bedside, for doctors' visits, setting of infusions and giving shots (but not for more extensive examinations and treatments), the reading light can be switched to fulfil a special examination function, or the reading light and the general lighting can be combined, depending on the model and version installed. In this case, the mean illuminance level along the longitudinal axis of the bed is 300 lx, at a uniformity level of at least $E_{min} : E_{max} = 1 : 2$.

Night/orientation lighting (indirect)
This lighting enables the nursing staff to look after patients and medical equipment during the night, without disturbing other patients. Minimum requirement: 5 lux at the level of the bed.

Guidance lighting (for orientation during the night)
The nightlight helps patients and care personnel to find their bearings during the night. It provides glare-free light.

Prismatic direction of light
Prismatic structures in the luminaire diffuser assist almost 100 % emanation in the case of indirect light. With direct lighting they ensure removal of glare in potentially affected areas.

Reflector direction of light
The light is directed and emanated via optimised reflector optics. They enable precise direction of light onto the useful plane, meeting highest requirements in terms of illuminance.

Micro-vane lighting technology
An innovative principle ensures lighting with excellent glare control that provides 300 lux at the reading level. With the micro-vane louvre, the optical system sets new standards in terms of glare control – in both longitudinal and lateral directions.

Waveguide direction of light
The light provided by the T16 light source is coupled into a tapering SLC® waveguide. Inside the side lighting coupler (SLC®), the light is emitted and directed downwards via a combination of precisely arranged linear prisms on the rounded upper side and microprisms on the underside, thereby achieving minimal glare and optimal direction of light.

Flexible lighting module
This lighting module is a movable reading light that can be moved without interfering with the electrical installation. The reading light can be easily adjusted, allowing flexible arrangement of beds for installing medical apparatus at the bedside. It is also possible to convert a multi-bed room into a single-bed room without major effort.

Light in Time
DIN SPEC 67600:2013-04 provides for design reliability and includes specific application recommendations for integral lighting concepts with biological effects.

Supply section
The supply section is made of extruded aluminium. All surface finishes are resistant to conventional disinfectants.

Communications equipment
Communications equipment complying with all current standards can be fitted into the medical supply unit. These include, for instance, system components for bedside operated devices, light and nurse-call systems, television, data and telephone outlets, which are completely wired and assembled in the factory.

Mains-power components
The system allows installation of mains-power components such as safety sockets, switches, momentary-action switches and dimmers as well as potential equalisation sockets which are wired to the central connection point ready for use.

Medical gases
The medical supply unit houses different media for medical gas supply. A gas duct integrated in the supply section contains the medical quality copper pipes from the respective outlet to the central connection point.

Design options
The design theme of the patient's room can be picked up by the colour of the medical supply system, thereby creating a harmonious atmosphere. Depending on the product used, surfaces may be either powder-coated in RAL colours or present a natural anodised finish, or wood veneer panels can be used to match the room design.

CE mark certifies
The CE mark certifies that a product has met all relevant European directives. Luminaires that bear this mark (without a code number) are not medical products according to currently applicable legislation. They meet all normative and legal requirements that are placed on a luminaire used in hospitals.
ELGADUCT medical supply units are medical devices (class IIa) and correspond to the legal requirements under Annex II of Directive 93/42/EEC, based on the quality management system and EN ISO 13485, as well as the provisions of the Medical Devices Act.

Content

Light in Time
Biological lighting effect

DIN SPEC 67600:2013-04 provides for design reliability and includes specific application recommendations for integral lighting concepts with biological effects.

- **During the dark winter months, no daylight is available in indoor areas to synchronise people's circadian rhythm.**
- **Biologically effective artificial lighting solutions based on daylight stabilise people's circadian rhythm.**
- **Artificial lighting with large bluish components is biologically effective at defined times of the day. However, every individual prefers different light colours, which have to be carefully taken into account in healthcare settings.**

The specific DIN SPEC design recommendations for biologically effective lighting combine innovative technological options and current research findings. The solution approach described here is based on the simulation of daylight, which stabilises people's circadian rhythm. Depending on the season, the geographical position, the weather situation and the distance from the window, this biologically effective light may be missing. Problems may arise above all in zones far away from windows, or during long stays in care facilities, where natural light is not available in sufficient amounts. In this case, biologically effective artificial lighting solutions are the key to stimulate activity during the day and ensure a sound sleep at night. For purposes of lighting design, not the traditional illuminance level in the task area is decisive, but spectral distribution and vertical illuminance at eye level, which have an impact on people, among other factors (see table). Apart from biological effectiveness, emotional lighting effects also play an important role. Although clearly bluish light colours, for instance, may create a stabilising and stimulating emotional effect at the right moment, they may not be accepted when the sun is shining, as various studies have shown. What is more is that, in healthcare settings, bluish light exceeding 6000 K is not very flattering to the complexion. Therefore the aim must be to harmonise the visual, emotional and biological effects of light.

5000 K

Stimulation in the morning
Colour temperature: 5000 K
E_h* (daylight and artificial lighting): more than 500 lx

Aim: synchronisation of people's circadian rhythm, complete suppression of melatonin release

4000 K

During the day at sunshine
Colour temperature: 4000 K
E_h* (daylight and artificial lighting): more than 1000 lx

Aim: enhancing well-being through well-matched colour temperature, accordingly warmer light colours during sunshine

* E_h = horizontal illuminance

A growing demand for biologically effective light results from the age distribution of those in need of care: vision deteriorates with age, and the effectiveness of light is additionally impaired by clouded lenses known as cataract. This affects mainly the transmission of the bluish, low-wave spectral component. The melanopsin-containing ganglion cells are not addressed to optimum effect, which has a negative effect on the stabilisation of the circadian rhythm. This deficit can be compensated for by a higher dose of biologically effective light. If no intensive outdoor stays are possible, light-in-time concepts may be helpful, as demonstrated in a study conducted by Zumtobel at the St. Katharina nursing home in Vienna. The biologically effective artificial lighting solution has a positive effect on those in need of care as well as on the nursing staff, resulting among others in improved sleep and more frequent participation in social activities. This concept is essentially based on tunableWhite technology using variable light colours and illuminance levels, supplemented by matching luminaires and the right time schedule.

Extract from *DIN SPEC 67600:2013-04*

More intense biological effects of light are produced by	**Less intense biological effects of light are produced by**
Higher illuminance	Lower illuminance
Longer duration of exposure	Shorter duration of exposure
Higher level of blue components	Lower level of blue components
Wide-area lighting	Pinpoint lighting
Dynamic lighting changes	Constant light
Lower level of radiation before the light exposure under review*	
Morning light is most effective for synchronising the body clock	Light in the afternoon affects the body clock to a relatively low extent

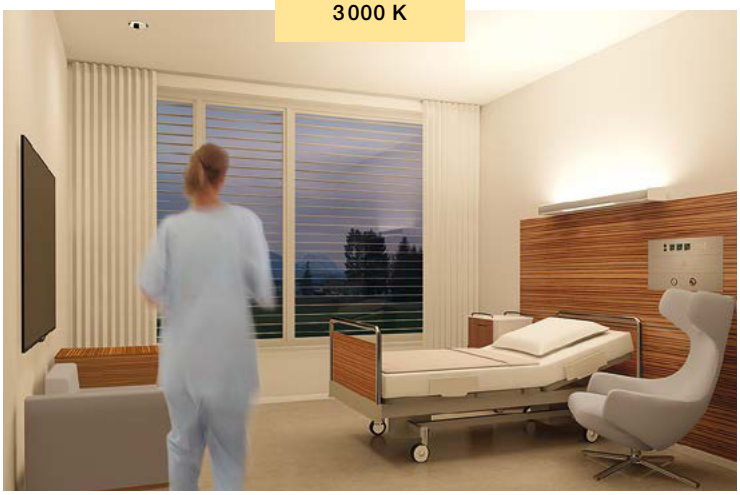
* Persons who were adapted to darkness for an extended period before being exposed to light will be more sensitive to light and show a stronger response

6000 K

During the day with cloudy sky
Colour temperature: 6000 K
E_h* (daylight and artificial lighting): more than 800 lx

Aim: enhancing well-being through well-matched colour temperature, accordingly cooler light colours with overcast sky

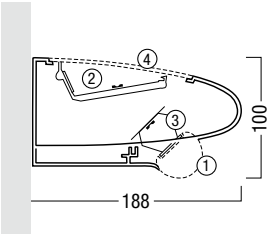
3000 K



Getting ready for sleep
Colour temperature: 3000 K
E_h* (daylight and artificial lighting): more than 500 lx

Aim: synchronisation of the circadian rhythm, no interference with melatonin release, restful sleep

BELIA
Succinct design, warm radiation



BELIA LED
1 Micro-vane lighting technology
2 Indirect light: T16 or LED
3 Direct light: T16 or LED
4 Prismatic diffuser

A luminaire without edges and corners, yet clear and noticeable: the lighting technology of the BELIA single-bed luminaire is incorporated within a particularly flowing design that satisfies requirements for more homeliness in care environments. The rounded forms appear warm and friendly and uniform curves provide peace of mind for the observer. And the form underlines the function: thanks to the distinct subdivision of the luminaire into two levels for indirect and direct light, a clear visual classification is assured. And with materials and colours, highest priority was given to an attractive, clean appearance. High-quality aluminium, powder-coated with a uniform colour (metallic grey) underlines BELIA's elegant character.

"The design of an aeroplane wing, streamlined and with all components arranged in a compact way, was the inspiration for a completely new type of single-bed luminaire. This created the basis for optimum integration of unique direct-lighting technology. Its clean, elegant character with rounded corners gives BELIA an appealing, patient-friendly appearance."

Design BELIA | npk industrial design

One luminaire – four lighting scenes
BELIA is adjustable


Room lighting


Examination lighting


Reading light


Night/orientation lighting

Room lighting
BELIA really creates lighting conditions for well-being. The room is fed with indirect light right into its corners, and longitudinal prisms within the diffuser are a clever detail with great effect. They restrict a direct view into the luminaire and instead create a feeling of well-being with optimum light distribution.

Examination lighting
Thanks to the interplay of room lighting and direct light, BELIA assures precise and focused examination lighting, thus guaranteeing doctors and care personnel good working conditions.

Reading light
When people must spend most of their time in bed, a high- quality, gentle light relieves the burden of a hospital stay and promotes recovery. BELIA provides a reading light for patients that conforms with relevant standards, disturbing neither the patients nor their neighbours and is always available within reach, independent of room lighting.

Night/orientation lighting
The night lighting integrated within the luminaire body gently penetrates the darkness. For this purpose, BELIA accommodates an LED solution with indirect light distribution.

Room lighting, reading light and examination lighting are available both as contemporary LED solution and with conventional light sources.

Compatible and extremely contact-friendly – optional supply elements for BELIA

BELIA has, at least on the outside, the dimensions of a classical single-bed luminaire and yet at a length of 580 mm offers space for several supply components. The infeed of these occurs centrally on the rear side.

1 One or two flush-fitted, integrated safety sockets
2 A nurse call system that allows a comfortable switching of reading light via an optionally integrated impulse switch
3 A flush-fitted, integrated telecommunications/data socket

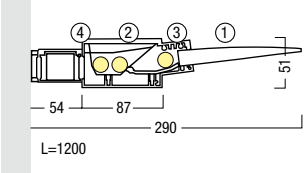
For medical purposes, BELIA is simply linked up to a medical supply unit such as CONBOARD or CONCAVE. The result is an attractive supply solution that provides both energy, communications and data systems as well as medical gases.

CUREA
Modern lighting culture

The CUREA housing is made of extruded aluminium section, the surface is powder-coated in RAL titanium colour.
We recommend using Incidur® or Aspesin® for cleaning the waveguide.

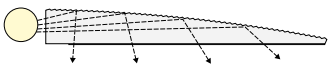
CUREA uses innovative waveguide technology for direction of light and harnesses it to provide a new lighting culture in hospitals and healthcare settings. CUREA features aesthetic, contemporary design and ensures a pleasant room atmosphere, glare-free lighting and also minimises reflections on display screens of diagnostic equipment and other technical medical apparatus. CUREA harmoniously complements horizontally and vertically installed medical supply systems building them into attractive supply solutions. CUREA also boasts every feature needed for perfect bedside lighting when looking after the elderly: the soft light produced by waveguide technology is gentle on both care personnel's and patients' eyes, and CUREA's plain language of form helps achieve a calm, discreet room impression.

Design CUREA | Bea Fröis



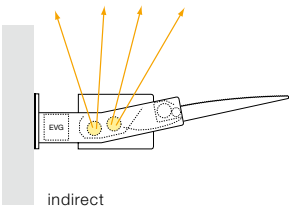
1 Waveguide
2 Indirect light: T16 2 x 54 W
3 Direct light: T16 1 x 39 W
4 Ballast (electronic ballast)

zumtobel.com/curea



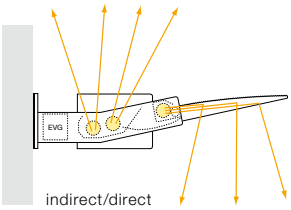
CUREA SLC® Waveguide

Waveguide technology is based on a light guide made of acrylic glass with an applied microprismatic structure, and ensures selective direction of light. It produces largely low-glare light and pleasant and uniform room lighting. Direct viewing of the light source is prevented and annoying reflections on smooth surfaces and LCD screens are minimised.
CUREA exploits the properties of the special SLC® linear waveguide which tapers outwards. The light provided by the T16 lamp is coupled into the tapering SLC® waveguide. Inside the linear waveguide the light is directed downwards via a combination of precisely arranged linear prisms on the rounded upper side and microprisms on the underside.



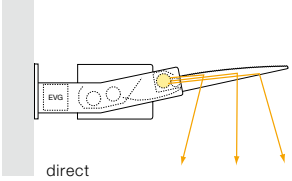
indirect

General lighting
As built-in indirect components, two T16/54 W lamps provide uniform general lighting introducing a living-room ambience. A small portion of the light gently illuminates the waveguide module.



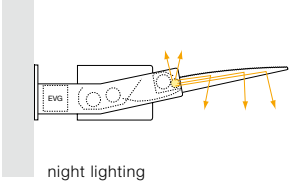
indirect/direct

Examination lighting
Examination lighting in conformity with standards is achieved by switching on the direct reading light and indirect room lighting simultaneously.



direct

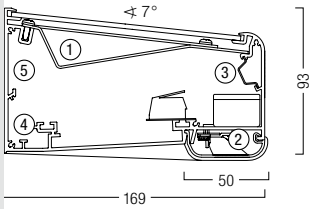
Reading light
A T16/39 W lamp provides the patient with glare-free reading light via the waveguide module.



night lighting

Night light
The indirect component is also fitted with an E14/10 W lamp. This ensures that both staff and patients can find their bearings during the night.

SINUS SL
Slimline design with great potential



SINUS SL single-bed luminaire
1 Room lighting
2 Reading light/examination lighting
3 Data cables
4 Low-voltage cable duct
5 Power current cable duct

With its understated, slimline stylistic idiom, the SINUS SL single-bed LED luminaire presents itself as a flexible technological supply system and design element in one unit. Equipped with top-quality LED technology, the luminaire is available in a standard length of 1150 mm for single beds and is suitable for configurations of up to 6 m for multi-bed rooms. Individual switching and dimming is possible just as well as calling up individual lighting scenes. Optionally available in two colour temperatures, the flexible SINUS SL luminaire is able to comply with all requirements in patients' rooms or care facilities as needed. As regards room lighting with indirect light component for low-shadow lighting, there is a choice of combinations from 4000 K with 6440 lm and 3000 K with 6020 lm. The reading light with direct light distribution (1010 lm at 4000 K or 940 lm at 3000 K) creates pleasant reading conditions. The combination of room lighting and reading light ensures perfect lighting for examinations, without causing glare for the person lying in bed.

Light colour and dynamic lighting scenes have a positive influence on the biological well-being of patients and staff in hospitals and nursing homes. This has been shown by international studies as well as research conducted by Zumtobel. This aspect of promoting convalescence is taken into account by the SINUS SL bedside LED luminaire featuring tunableWhite technology. Its colour temperature can be continuously adjusted between 3000 K and 6000 K, without any changes in the colour rendering index of Ra > 80. This also allows gentle waking using light.

The optional night light offers adequate safety during the night. The slimline SINUS SL luminaires are made of extruded aluminium section with die-cast aluminium end pieces and dispose of a slanted top cover and rounded corners for easy cleaning. Optionally, form-fit electrical components such as socket outlets, data outlets or nurse call combinations can be added.

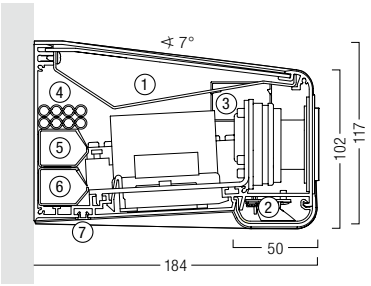
SINUS SL single-bed luminaires and CONBOARD

SINUS SL with consistent indirect light component and CONBOARD supply

Design SINUS | ARCODE_A. Ciotti – E. Molinaro

SINUS

Minimalist design. Maximum functionality.

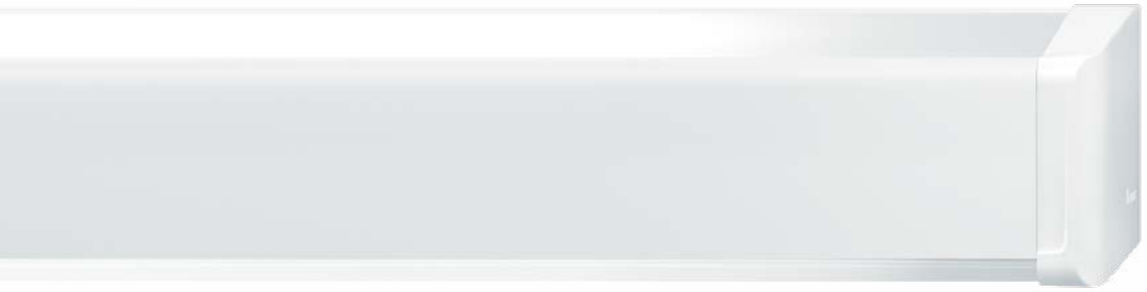


SINUS supply unit
1 Room light
2 Reading/examination light
3 Medical gases
4 Data cables
5 Low-voltage cable duct
6 Mains power cable duct
7 Bracket for accessories

The patient's well-being greatly influences the progress of recovery. Optimal lighting of the room essentially contributes to the patient feeling safe and snug even in an unfamiliar environment. At the same time, perfect lighting conditions need to be created in patient rooms for nursing staff and doctors. These are differing requirements easily met by SINUS: depending on whether LED modules are switched individually or jointly, SINUS assumes the task of reading, ambient or examination lighting.

The electrically movable LED boards inside the horizontal supply unit allow for maximum flexibility when determining room layouts: the lighting can be adjusted to the arrangement and number of beds using a selector switch. In addition, SINUS featuring tunableWhite technology allows implementation of biologically effective lighting concepts that synchronise the patients' circadian rhythm with the natural course of daylight. To preserve the uncluttered appearance of SINUS, all supply components except for the gas outlets are recessed into the underside.

zumtobel.com/sinus



“SINUS is a technological supply system for nursing areas. Owing to its plain design as well as the flexibility of its functions, the system will adapt to the most varied of interiors. The carefully manufactured details and the surface finish provide for top comfort.”

SINUS flex

a comfortable 2-bed room …

… turns into a 3-bed room without compromising on functionality

SINUS
Systematic flexibility

SINUS basic

Thanks to individually switchable LED modules inside the supply unit, SINUS basic effortlessly copes with various lighting tasks: two centrally placed LED modules with direct light distribution for reading light provide for high-quality illumination of the bed and reading area. An LED insert, extendable at will and emanating indirect light in an upward direction, allows for pleasantly diffuse room lighting. The combined switching of reading light and room light creates perfect lighting conditions for examinations.

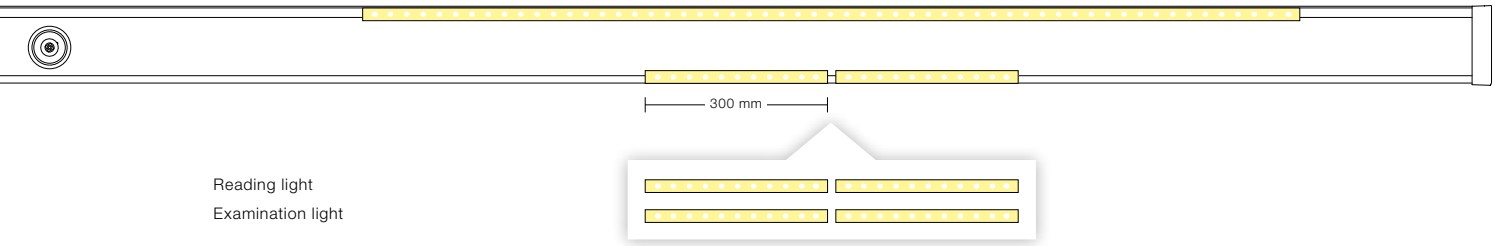
SINUS move

Just like SINUS basic, SINUS move assumes various lighting tasks according to the switching mode of the direct and indirect LED modules. In doing so, the horizontal supply unit provides perfect lighting conditions for patients and staff. The lighting solution owes its name “move” to the four integrated LED modules for reading light: the LED modules with a length of 300 mm may be switched at will along the supply unit through a selector switch. This allows for better illumination of the patient’s bed and flexible arrangement of the beds.

SINUS flex

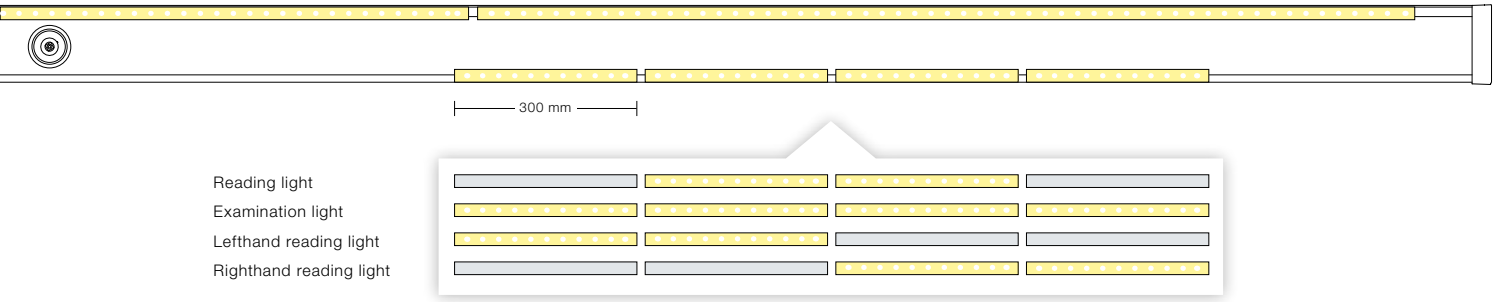
SINUS flex opens up totally new freedom with respect to room design. LED modules with indirect light distribution that extend along the entire length of SINUS flex provide for perfect illumination of the room down to the last corner. Generously fitted with several LED modules with direct light distribution, almost completely free arrangement of the beds in the room is possible. Thanks to this flexibility, SINUS flex also assumes, for instance, the lighting and medical supply of a third bed in two-bed rooms. Depending on the switching of the direct and indirect LED modules, the system will always supply the perfect lighting scene for the respective situation.

Indirect room light with lighting insert 1500 mm



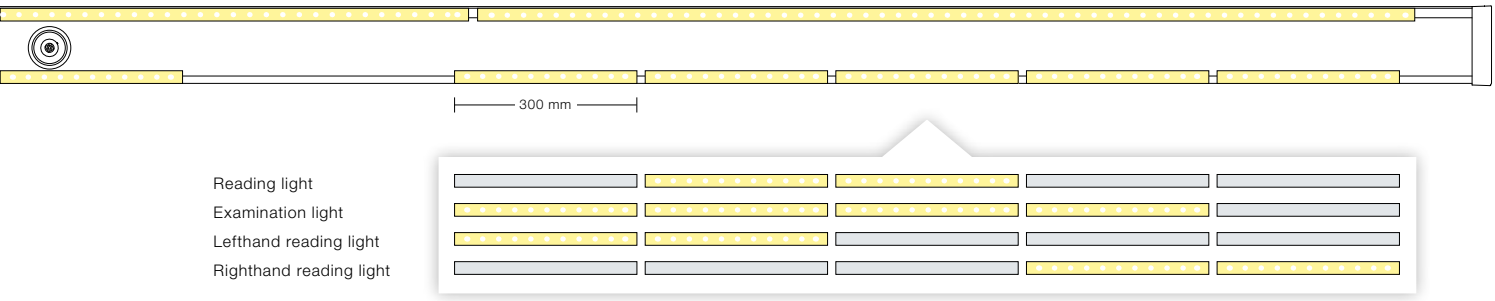
Reading light
Examination light

Indirect room light along the entire length of the section (e.g. 3900 mm: lighting inserts with 1 x 1500 mm / 1 x 1250 mm / 1 x 1000 mm)



Reading light
Examination light
Lefthand reading light
Righthand reading light

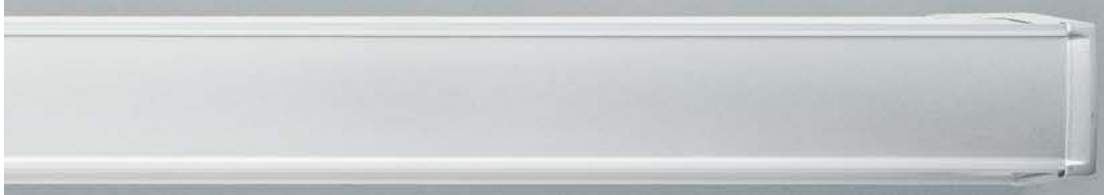
Indirect room light along the entire length of the section (e.g. 5400 mm: lighting inserts with 2 x 1500 mm / 1 x 1250 mm / 1 x 1000 mm)



Reading light
Examination light
Lefthand reading light
Righthand reading light

PURELINE single-bed luminaire

Freedom of design all the way down the line



Harmonised in terms of design, the luminaire and channel are mutually independent units. The fact that the system channel is available in two versions – for either horizontal or vertical installation – makes the PURELINE lighting and medical supply unit both flexible and extremely attractive to designers.

Single-bed luminaire

As a visually attractive single-bed luminaire, PURELINE is bound to impress thanks to its plain lines, unruffled elegance and healthful light. For the patient, it brings a note of homeliness into the often unfamiliar environment of the hospital. Even as a single-bed luminaire, PURELINE easily meets the requirements placed on perfect general, reading, examination and night lighting. A choice can be made between versions fitted with contemporary LED technology or with T16 fluorescent tubes.

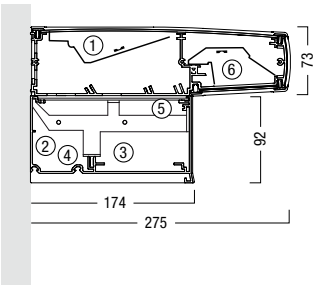
Vertical supply unit

As a vertically installed medical supply unit, PURELINE cuts quite a dash. Installed alongside or between patients' beds, the required supply connections converge in a central location, making them easily accessible. This enables the vertical supply unit to work as either a single-bed or two-bed solution.

Vertical supply section:
Combined with individual luminaire, suitable for requirements up to intermediate care level.

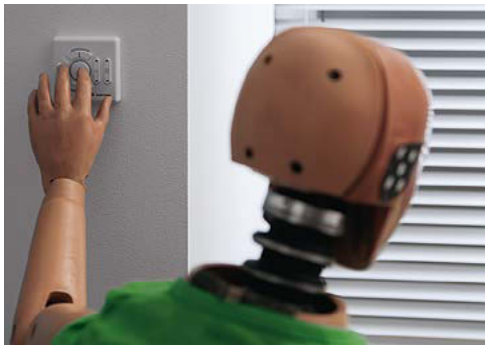
Integrated orientation lighting:
Where PURELINE is installed vertically, a night light can be unobtrusively integrated – inconspicuous during the day, showing the way at night.

PURELINE
Design with innate values



PURELINE II LED
1 Room lighting
2 Low-voltage wiring
3 Built-in electrical components
4 Mains-voltage wiring
5 Copper tubes for medical gases and vacuum
6 Reading light

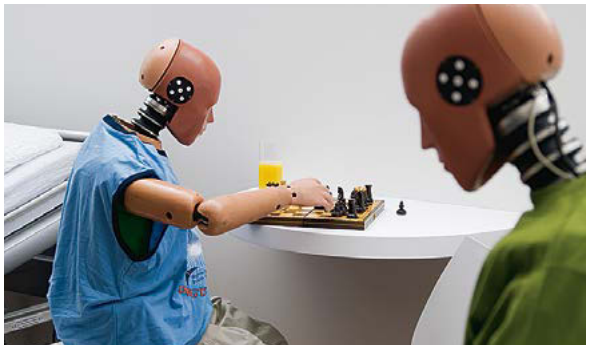
The lighting concept can lend a room a cosy feel, especially in medically used areas where architecture and equipment have to fulfil a large number of functional tasks.
PURELINE integrates the lighting and medical supply unit into the architecture as a horizontal axis, producing a lighting effect that does everyone involved good – a lighting effect that can be adjusted to an extremely wide variety of situations and tasks, creates pools of light, provides accent lighting and never overlooks one important factor: the need for economy through maximum energy efficiency. PURELINE meets the most exacting human, economic and ecological requirements.

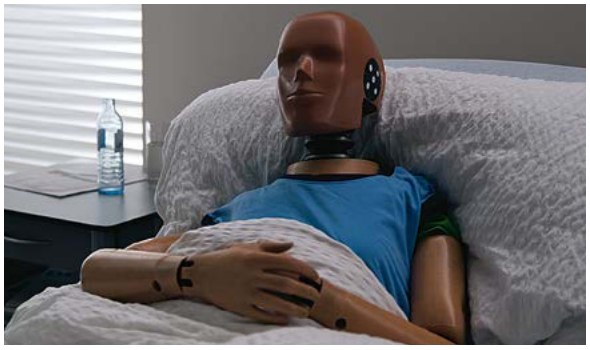


zumtobel.com/pureline_power_supply_unit

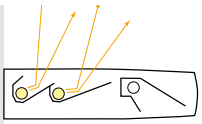
“PURELINE – reduced in its dimensions and form to a minimum, yet in its function extended far beyond what is usual – builds a bridge to a space-creating design element, which in its purity and formal elegance opens up new possibilities of interior design.”

Design PURELINE | Torsten Fritze & Matthias Burhenne

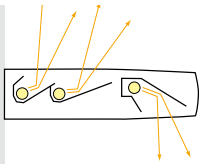




Top marks for lighting quality
A beneficial combination of several light sources



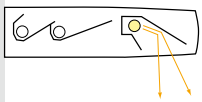
General lighting
Two slimline T16 lamps or state-of-the-art LED technology are the frugal energy sources for pleasant ambient lighting providing high visual comfort. Specially designed reflectors guarantee excellent light distribution, besides an outstanding light output ratio.



“The right amount of the right light at the right time.”
Le Corbusier

Whether at the patient’s instigation, brought about by the staff or unexpectedly quickly – as soon as the situation in the care room changes, PURELINE can respond by changing its appearance. Extremely diverse lighting requirements ranging from daily ward rounds through to everyday activities such as reading, eating or communicating can be catered for by finely coordinated combinations of indirect room light and direct lighting. At the same time, its unique compact system channel means that PURELINE is a medical supply unit, almost without anyone noticing.

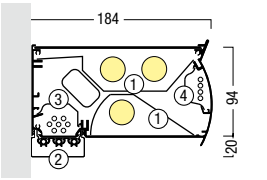
Examination lighting
In the case of doctors' visits, examinations and medical treatment, glare-free light with high illuminance and excellent colour rendition is indispensable. Through a well-balanced combination of indirect room lighting and dimmable direct light, PURELINE offers ideal visual conditions for doctors and nursing staff.



Reading lighting
The reading light, which can be adjusted as a standard feature of the luminaire module, can be perfectly arranged to suit the patient's bed, enabling the designer to make fine adjustments during the installation phase. Lighting scenes can be personalised without disturbing the occupants of adjacent beds. Even the reading light is available with innovative LED technology.

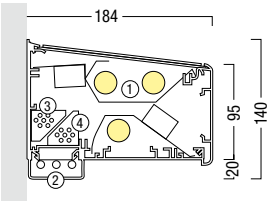
Gentle night/orientation lighting
In order to make it easier for both nursing staff and patients to find their way during the night, PURELINE can be fitted with an additional LED solution.

VE-L, VE-F
Tastefully integrated



VE-L fixed reading light
1 Reflectors for direct/indirect room lighting
2 Copper pipes for medical gases and vacuum
3 Low-voltage wiring
4 Mains voltage wiring

Professional technology – taste fully integrated into VE-L
VE-L boasts an elegant design. The different types of surface finishes available can be used to help determine the look of the care setting: the natural “light beech” finish lends an air of cosiness whereas the aluminium finish with a fine pinstripe texture creates an impression of marked practicality. The pleasantly elegant external appearance of VE-L is enhanced by inconspicuously integrated functionality. Electrical and communication outlets remain concealed at first glance but are nevertheless easily accessible and user-friendly, and outlets for medical gases and the reading light merge seamlessly into the design of the basic system. Lighting is provided by models featuring state-of-the-art LED technology or tried-and-tested T16 fluorescent tubes.



VE-F maximum supply
1 Reflectors for direct/indirect room lighting
2 Copper pipes for medical gases and vacuum
3 Low-voltage wiring
4 Mains voltage wiring

VE-F medical supply unit
With its elegant, linear character, the VE-F medical supply unit blends into the room’s existing architecture unobtrusively, quietly and matter-of-factly, setting new standards in flexibility when it comes to the lamps to be fitted. Thus, flexible medical supply system components can be incorporated on the front and bottom sides, corresponding to their medical application. The gas outlets are integrated on the bottom side at an easy-to-reach operation height and covered by caps. All typical technical lighting features (with LED or T16) such as room lighting, reading light, examination lighting and night light are accommodated in an attractive, easy-to-clean housing, in addition to the supply outlets for power current and communications systems.

In VE-L, the well-protected, easy-to-clean reading light has been integrated into the underside of the section.

CONBOARD
Multifunctional medical supply system

The CONBOARD front-panel system stands out because of the sophisticated way it coordinates lighting and medical supply components.

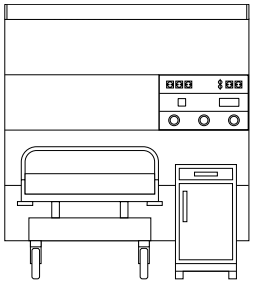
In practical terms, CONBOARD is an extremely flexible supply system providing mains power components, telecommunications and data technology as well as medical gases. Very straight-line, top quality, highly functional.
Integrating light and designing CONBOARD as a front panel lends CONBOARD an additional emotional dimension. The innovative front-panel system with its flush-fitted medical supply unit clearly delineates the patient's personal space. Its width of 1.6 m neatly takes up the same space as a bed with a bedside table. Its high-pressure coated surface made of natural wood blends into any architectural setting, clearing the way for a diverse range of creative design looks.

**"Design schemes for patients' rooms are moving closer and closer to hotel rooms rather than rooms on a hospital ward. This is why we wanted a medical supply unit that would perform several functions simultaneously.
Concentrating the medical modules in a confined space and bringing them together at a central functional level was just as important to us as deliberately ensuring that the technical components remained visually unobtrusive."**

Design CONBOARD | Sander.Hofrichter Architekten

Hubertus Sander

Linus Hofrichter



The CONBOARD front-panel system stands out because of the sophisticated way it coordinates lighting and medical supply components.

zumtobel.com/conboard

The right light for every situation
CONBOARD moves with the times

Light for a pleasant room effect
Indirect light fills the room with a friendly atmosphere. The ceiling is brightly lit and light is reflected uniformly throughout the entire room.

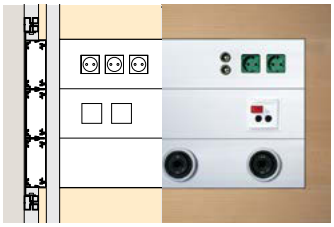
Light for examinations
Glare-free light with high illuminance and good colour rendition is indispensable for doctors and care staff. CONBOARD makes even difficult visual tasks easier with its balanced combination of indirect and direct examination light.

Light for reading
Direct light optimised using the very latest computer technology pleasantly illuminates the head of the patient's bed. As a reading light, it is totally glare-free and does not disturb the patient in the adjacent bed.

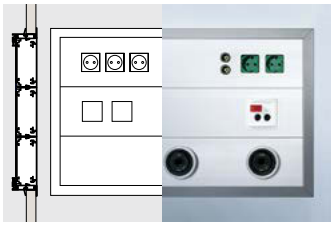
Light for orientation
A maintenance-free LED slipper light built into the underside of the medical supply system illuminates the floor immediately beside the patient's bed. Together with an optional night light, it ensures safety and makes it easier to find one's way around during the night.

CONBOARD embodies experience and knowledge accumulated during 30 years of researching, developing and manufacturing medical supply units and lighting solutions for hospitals and healthcare settings.

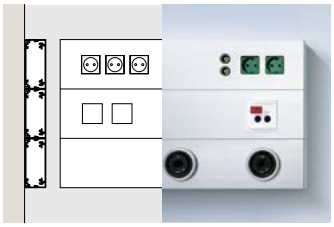
A lighting module specially developed by Zumtobel tops the multifunctional front-panel system. With its straight lines and uncluttered look, it is the logical continuation of an overall concept that is architecturally restrained. It is a reading, examination, room and night light all in one, and has been optimised for all application areas using the very latest CAD methods and manufacturing techniques. CONBOARD lighting modules are ideally equipped for use in medically used rooms. The fully enclosed luminaires meet, among other requirements, the standard for lighting in clinical areas and are very easy to clean.



Front-panel system
- Just 55 mm deep*
- High-pressure coated surface, impact-resistant and scratchproof, resists cleaning agents and disinfectants
- Easy to clean thanks to flush-mounted design without exposed joints
- Also provides ramming protection



Recessed into wall
- Recessed depth only 60 mm* (plus space required for rear cable entry)
- Easy-to-install mounting frame (flange width 25 mm)
- Suitable for cavity walls with wall thickness from 10 mm to 35 mm
- Mounting frame in RAL colours, powder-coated or natural anodised finish



Surface-mounted on wall
- Just 50 mm deep*
- Form-fit top pieces in same colour as section (exception: titanium-colour powder coating in case of anodised sections)

* Overall depths vary due to different installation methods. The section used for all versions has a 50 x 120 mm cross section.

Combine as you please – CONBOARD can cope with individual connections

The neutral design of the CONBOARD medical supply unit gives designers and lighting designers maximum freedom to combine elements as they choose. All CONBOARD models are characterised by their exceptionally shallow overall depth. The resulting space saving is a major advantage in both new building and refurbishment projects. The medical supply unit sits unobtrusively on the wall and blends inconspicuously into an extremely wide variety of architectural settings.

Timeless: CONBOARD with classic CUREA bedside luminaire.

Minimalist: CONBOARD with PURELINE surface-mounted luminaire.

CONBOARD NP
Media panel

CONBOARD NP with PURELINE II

CONBOARD NP combines technology and design as well as safety and good looks. The supply unit provides plenty of freedom, in technical as well as creative design terms. The CONBOARD NP lighting modules have been perfectly fitted for use in medical areas. With the ZBOX lighting management system, patients, doctors and visitors can adjust all luminaires in the room to provide harmonious, gentle lighting.

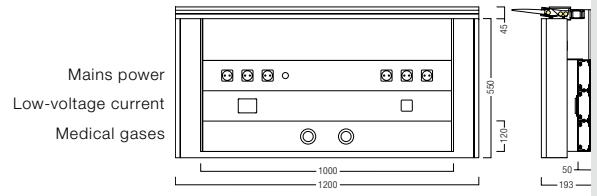
In modern hospitals and healthcare settings, a living-room ambience helps to enhance the patient's sense of well-being and stimulate the recovery process. Accordingly, the interior design of the patient's room is of major importance, making new demands on the design of contemporary lighting and supply systems. In terms of form, colour and materials, they should harmonise with the room's fittings and
furniture.

On the occasion of the competition "Architecture & Health" organised by the journals AIT and XIA, the new product received an award of distinction in the sphere of health, social welfare and living. The Jury's argumentation:
"The product shows great respect for a humane atmosphere in health care settings. Space and technology are integrated into one serial product, combining medical as well as design functions. Applicability, maintenance and variety in spite of serial production are being taken into account in an exemplary manner. The interaction between designers and industrial manufacturers during product development is of a trend-setting dimension."

Design CONBOARD NP | Nickl & Partner Architects

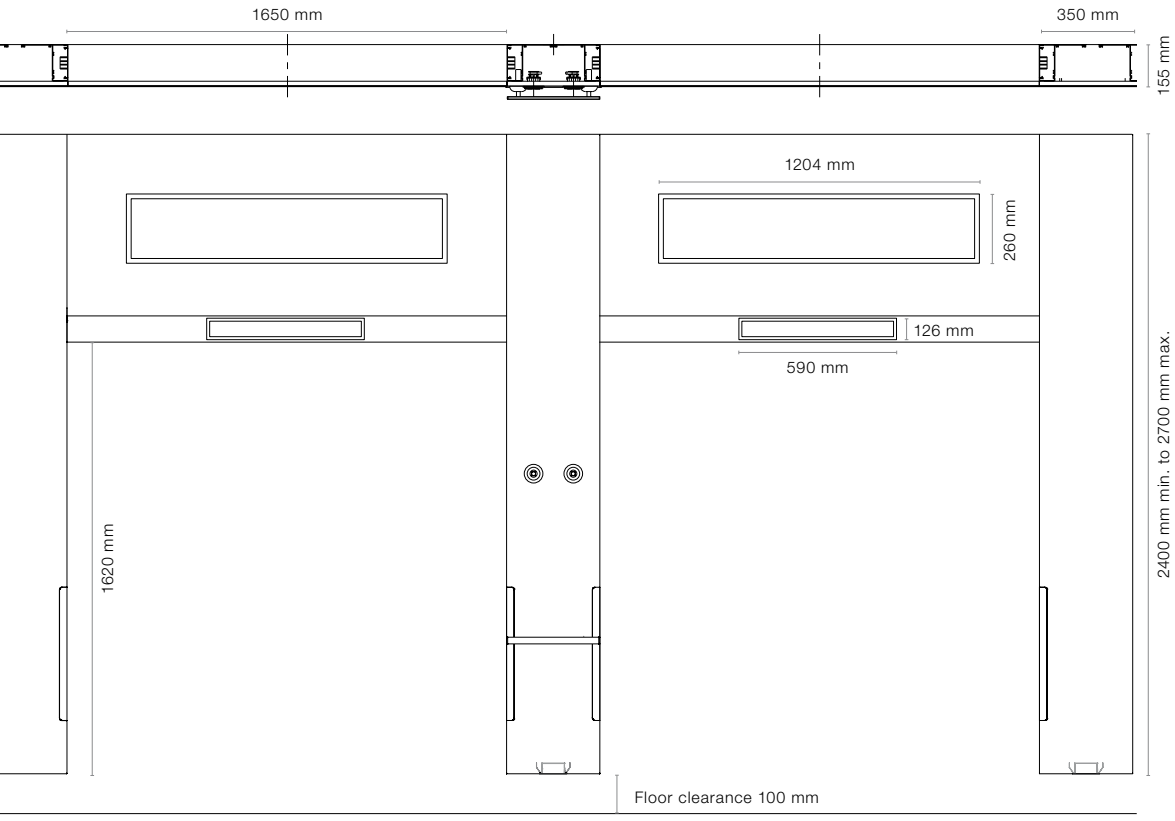
CONBOARD NP with CUREA

ZBOX | Lighting management system



IMWS
Integrated medical wall system

Clinics and care homes are no longer sterile, impersonal environments – instead they are becoming places to stay that have to cater for growing demands for greater comfort and more ambience. Achieving a “patient hotel” feel calls for homely fixtures and fittings, sympathetic lighting in rooms and medical supply units that are not visually overpowering. This makes spaces more comfortable to live and work in, in functional as well as emotional terms.
Zumtobel offers a modular design solution for a greater sense of well-being in patients’ rooms in the shape of its innovative and functional IMWS lighting and supply unit. This wall system was developed as part of the Green Hospital Program. This international alliance of clinics, doctors and experts is committed to sustainable medical supply and using resources in an ecologically responsible manner.
IMWS is a homely looking unit that hides its inner workings; it fits elegantly against the wall and combines medical supply with optimum lighting. All the necessary connections are close beside the patient’s bed where they are actually needed. Various lighting scenes are available at the push of a button: for patients who want the flexibility to liven up their daily routine with agreeable lighting scenes as well as for care staff and doctors who need to accomplish their tasks with great care.
The wall system has no sharp edges or surfaces where dust can accumulate. Sterility and good looks go hand in hand here.
IMWS has achieved certification as a medical device.



Even though IMWS is a complete, integrated wall system that combines homely lighting and supply units, many of its details can be varied. The system can be built in widths that are suitable for single, twin or multi-bed structures. The height of the system can vary from 2.5 m to 2.8 m to suit specific customer requirements.
The type, number and position of the supply connections are flexible and the terminal block can be positioned on the right, in the middle or on the left. The customer chooses the decorative finish and materials. An equipment rail is available for attaching various accessories.

Lighting technology
The right light in the right place

This modular IMWS wall system is breaking new ground in terms of lighting technology. The luminaire that provides general lighting in the patient's room is not surface-mounted on the wall, as usual, but is flush-mounted into the wall system. The room light virtually disappears into the wall. Nevertheless, intelligent direction of light ensures that the room is uniformly and brightly lit. To achieve this, wide-angle light distribution directs light onto the ceiling, which indirectly provides the room with uniform brightness. This accentuates the homely lighting feel. The room can be given an even more homely feel by using other luminaires to brighten up vertical surfaces. Another benefit: when dimmed, the room light can also fulfil the legally required night-light function. It does this in conformity with applicable standards regardless whether the luminaire is fitted with T16 fluorescent lamps or LEDs.

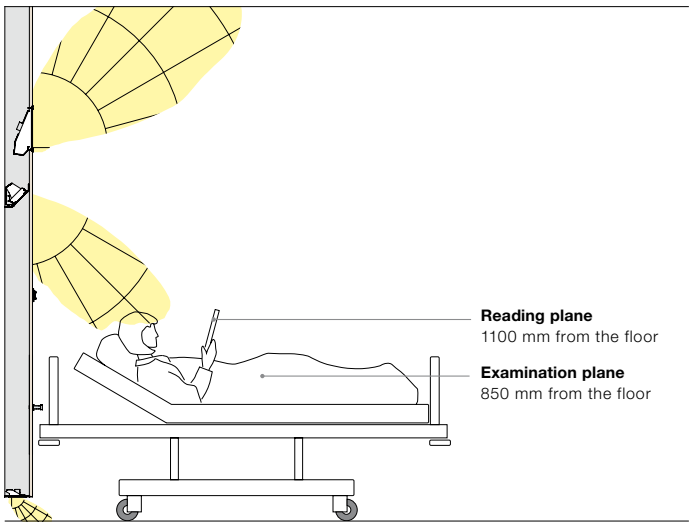
The reading light is set up so that it only illuminates the reading plane of the patient in the bed where the light is located. It delivers light that is perfectly matched to suit the particular visual task (300 lux and uniform luminance levels). Micro-prismatic optics ensure that patients and care staff are well protected against glare. The light is directed precisely to ensure that it does not disturb patients in adjacent beds or visitors either.

The orientation light makes it easier to find one's way around in the room in the night. Fitted on the underside of the wall system, it brightens up the manoeuvring area alongside the bed. Ground-level lighting ensures that sleeping patients are not disturbed, nevertheless providing a greater sense of security.

Room lighting
Indirect light produces an agreeable room atmosphere.

Examination light
Supports the meticulous work performed by doctors and care staff.

Reading light / orientation light
Both luminaires are optimally placed in the aluminium section.



Shapes and materials
Anything that is easy to care for stays looking good for longer

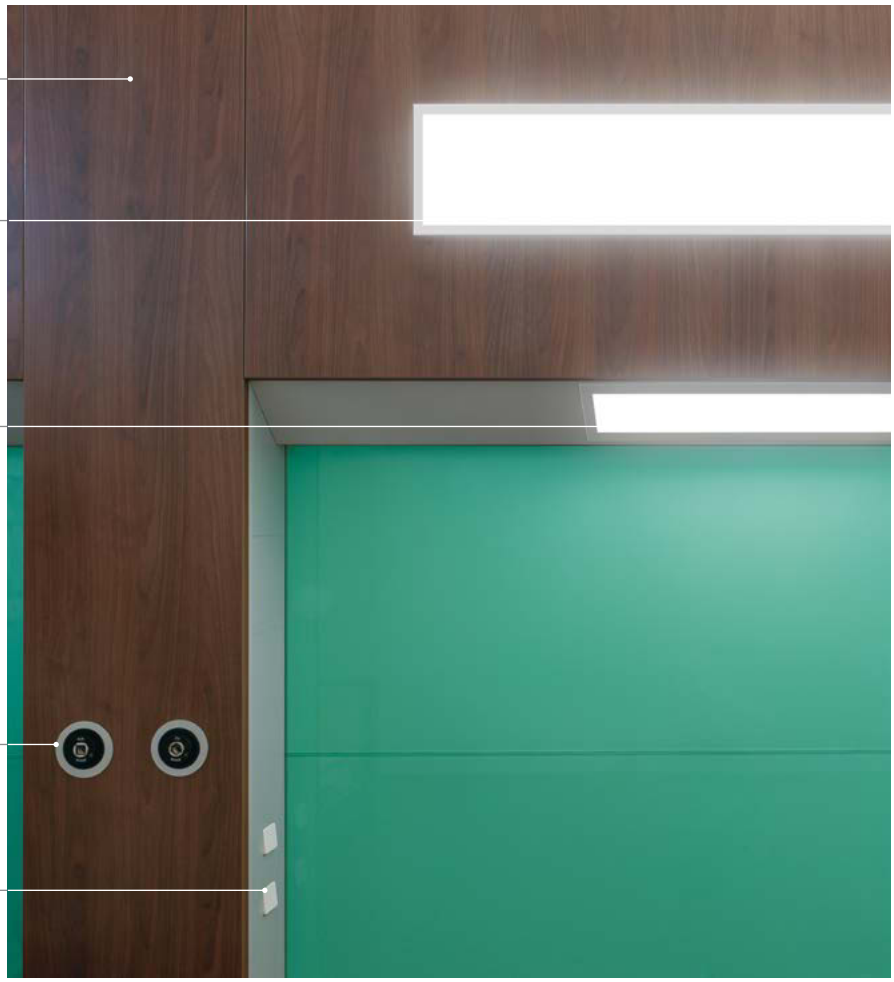
Wall panel
A choice of surface finishes. Flush-mounted, therefore easy to clean.

Room lighting
Built-in, dust-protected luminaire for intense, glare-free indirect light.

Reading light
Optimum direction of light thanks to bevelled section, which allows reading without disturbing patients in adjacent beds. In combination with the room lighting, it ensures sufficient brightness for examinations.

Medical gases
Easily accessible, front-mounted.

Electrical components
Aluminium section with integral supply elements.



System
The support structure of the modular wall system consists of vertical aluminium sections. These securely attach the supply elements and the decorative elements. The power supply, terminal block and high- and low-voltage current connections are accommodated in the vertical supply units. The connections and their position (right, middle or left) are variable. Ports for medical gases are fitted on the front and therefore easily accessible. The luminaires are flush-mounted in the horizontal elements between the vertical units. The system's appearance and finish are also flexible. Customers can choose their own design and materials. We are always happy to cater for special preferences.

All the luminaires feature premium lighting quality and easy cleaning. Special optics ensure good glare control and a PMMA top coat makes the luminaires especially easy to look after. The luminaires are flush-mounted in the wall with a narrow aluminium frame.

Hygiene
Special attention was paid to hygiene during development of the module wall system. Examples of specific precautions taken to ensure easy cleaning and disinfecting include flush-mounted socket outlets and the smooth surfaces of the luminaires and walls. The decorative elements fit seamlessly into the sections and are therefore easy to keep clean. IMWS is positioned away from the floor and makes floor cleaning easier because it does not create any additional edges. The bright examination light makes actual cleaning work simpler.

Compliance with standards
IMWS is a (Class IIa) medical device and meets the legal requirements according to Appendix II of European Directive 93/42/EEC. This is based on the Quality Management System used by Zumtobel and a comprehensive management system for designing and manufacturing medical devices in accordance with EN ISO 13485. The product thus meets the requirements of the Medical Devices Act.

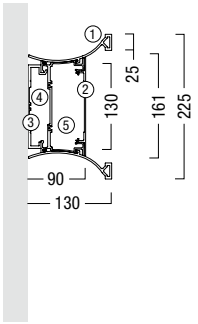
CE
0366

CONCAVE

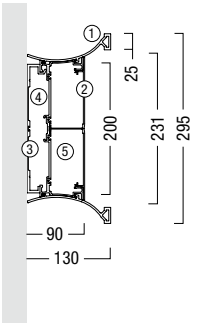
Perfect all-round medical supply system

Intensive nursing wards, recovery stations, pre-operative and post-operative departments, and accident and emergency treatment areas rely heavily on technology: they need medical gases, sensitive high-tech monitoring and diagnostic equipment, communications equipment and lighting systems.
CONCAVE provides a tidy, space-saving medical supply system for all the media needed in intensive care locations. All outlets are easily accessible and ergonomically arranged, regardless of whether the system is installed vertically or horizontally. This is vital for professionals working in critical areas. The product will also smoothly adjust to the depth of supply required. In case of exacting equipment requirements, the dual system (CONCAVE 400) will display all its strengths.

CONCAVE 100
(two pipes)



CONCAVE 200
(three pipes)

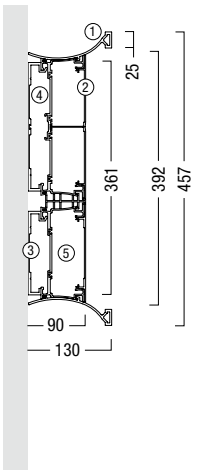


1 Cover section with mounting track (anodised)
2 Front panel
3 Wall-mounting plate
4 Copper pipe for medical gas and vacuum
5 Space for installing mains-power and communications equipment, gas outlet valves

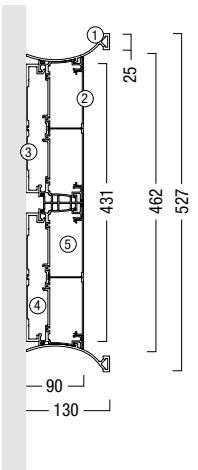
Design CONCAVE | Olaf Barski

“When we designed this new medical supply unit, we attached great importance to giving the product a plain, calm look. What really brings this modular unit to life is the simple way its straight and concave components fit together.”

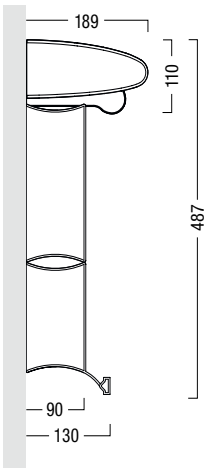
CONCAVE 300
(five pipes)



CONCAVE 400
(six pipes)



BELIA bedside luminaire
combined with
CONCAVE 200/100



zumtobel.com/concave

CONCAVE
Design and technical features

CONCAVE's extruded aluminium section is flush-mounted on the wall using wall fixing components. Screwless cover trims that are available in a natural anodised finish or RAL colours 9006 and 9002 as standard (other RAL colours available on request) emphasise the consistent, harmonious surface structure of the medical supply unit. Section covers in a natural anodised finish are available with or without integral mounting track. This enables monitors and compact medical equipment to be arranged as required.
The load carrying capacity of the mounting track is 50 kg per running metre. CONCAVE is supplied ready for connection as an individually tested medical supply unit. Like the pipes from the gas outlet valves, the electrical wiring for mains-power and communications equipment is routed to a central connection point that can be fed either from the rear or from the front.

Mains-power components
All common mains-power components such as safety sockets for standard supply systems as well as SV and ZSV, switches, momentary-action switches, dimmers, equipotential bonding pins (flush-mounted) and CEE outlets can be integrated into the system and are ready for connection to the medical supply unit's central connection point. In compliance with IEC standard 60364-7-710, safety plugs are to be fitted with a function indicator (e.g. LED).

Mains power supply
At the central feed point, the individual connections for mains-power and communications equipment and medical gases are grouped together and kept separate in accordance with relevant standards. All connections for all types of energy can be individually disconnected from the building's wiring system. Connections for mains-power and communications are arranged on separate, individually tagged and numbered spring-type terminals. All incoming protective conductor connections are grouped together on a PE bus and bonded to the basic section of the medical supply system using a 16 mm² bus. This is internally used as a bus for individual connections of protective conductors throughout the entire system. Potential equalisation sockets are also connected in conformity with standards. Connections for medical gas supply are unmistakably identified by locating outlets in different positions.

Medical gases
Gas outlets for medical gases and vacuum are installed and tested at the factory ready for connection. CONCAVE 200 can accommodate up to six gas pipes (8–12 mm Ø + 1 x 15 mm Ø for anasthetic gas extraction). The CU pipes used are of medical device quality and in line with relevant standards.

Communications equipment
System components of light call and nurse emergency call systems as well as outlets for telecommunications equipment and patient monitoring apparatus can be fitted.

CONCAVE
Accessories

Twinport 1000 equipment holder
- 2 carriages
- 4 horizontal bearings in upper part
- 2 angular bearings in upper part
- 2 vertical bearings in lower part
- 1000 mm stainless steel pipe (Ø 38 mm) with plastic caps
- Covering caps on screws
- Locking lever brake on upper part
- Colour of coated elements: RAL 9006
- 2 sliding stoppers
- Load-bearing capacity: 75 kg; deadweight: approx. 4.2 kg

Order no. 24156221

Twinport 1000 equipment holder with infusion stand
- 2 carriages
- 4 horizontal bearings in upper part
- 2 angular bearings in upper part
- 2 vertical bearings in lower part
- Stainless-steel single-hand stand (Ø 38/25 mm)
- 4-hook bottle holder (stainless steel)
- Covering caps on screws
- Locking lever brake on upper part
- Colour of coated elements: RAL 9006
- 2 sliding stoppers
- Load-bearing capacity: 75 kg; deadweight: approx. 8 kg

Order no. 24156289

Infusion stand
- 25 x 1800 mm
- Made of polished stainless steel
- 2 clamps for trunking (25 x 10 mm)
- 4-hook bottle holder
- Load-bearing capacity: 4 x 2 kg; deadweight: approx. 2.5 kg

Order no. 24145036

V2A gear trunking
- 25 x 10 x 558 mm
- 38 mm clutch
- Colour of coated elements: RAL 9006
- Trunking material: stainless steel
- Load-bearing capacity: 30 kg; deadweight: 0.7 kg

Order no. 24156291

Screen support
- Dimensions: 300 x 200 mm
- Edge protection
- To be fastened directly on 38 mm supporting tube
- Colour of coated elements: RAL 9006
- Load-bearing capacity: 8 kg; deadweight: 1.8 kg

Order no. 24156292

Gear tray
- Dimensions: 540 x 360 mm
- Two 38 mm clutches (for fastening on Twinport 1000)
- Colour of coated elements: RAL 9006
- Gear tray material: stainless steel
- Load-bearing capacity: 40 kg; deadweight: approx. 8.5 kg

Order no. 24156293

Gear tray with drawer
- Dimensions: 540 x 360 mm
- Two 38 mm clutches (for fastening on Twinport 1000)
- Colour of coated elements: RAL 9006
- Gear tray material: stainless steel
- Load-bearing capacity: 40 kg; deadweight: approx. 14 kg
- Fully extendable drawer

Order no. 24156290

Screen support without drawer
- Dimensions: 540 x 360 mm
- To be fastened on CONCAVE trunking
- Distance of lower supports according to central position
- Load-bearing capacity: up to 40 kg, deadweight: approx. 8.5 kg
- Colour of coated elements: RAL 9006
- Gear tray material: stainless steel

Order no. 70394758

Screen support with drawer
- Dimensions: 540 x 360 mm
- To be fastened on CONCAVE trunking
- Distance of lower supports according to central position
- Load-bearing capacity: up to 40 kg, deadweight: approx. 13 kg
- Colour of coated elements: RAL 9006
- Gear tray material: stainless steel

Order no. 24145034

TWINPORT 1200 equipment holder with accessories
- 3 carriages
- 1 locking lever brake
- 2 sliding stoppers
- Single-hand stand, stainless steel (Ø 38/25 mm)
- 4-hook bottle holder, curved (stainless steel)
- 1 V2A screen support (300 x 200 mm)
- 1 screen support with glass tray (540 x 360 mm) and drawer (RAL 9006)
- 1 V2A gear trunking (25 x 10 x 558 mm)
- 1 wire basket, 250 x 90 x 200 mm (RAL 9006)
- Colour of coated elements: RAL 9006
- Covering caps on screws
- Load-bearing capacity: 75 kg deadweight: approx. 30 kg

Order no. 24160313

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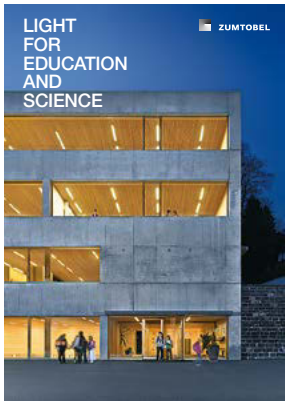

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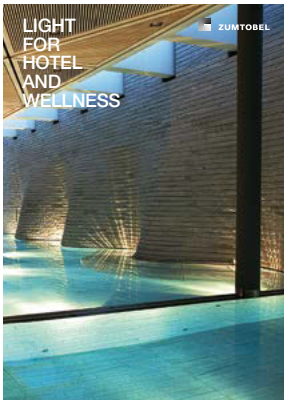

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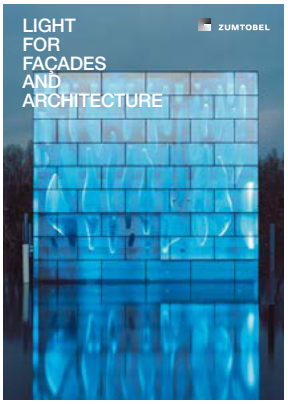

zumtobel.com/facade

Zumtobel, a company of the Zumtobel Group, is an internationally leading supplier of integral lighting solutions for professional indoor and outdoor building lighting applications.

- Offices and Communication
- Education and Science
- Presentation and Retail
- Hotel and Wellness
- Art and Culture
- Health and Care
- Industry and Engineering
- Façades and Architecture

We provide unique customer benefits by integrating technology, design, emotion and energy efficiency. Under the Humanergy Balance concept, we combine the best possible ergonomic lighting quality for an individual's well-being with the responsible use of energy resources. The company's own sales organisations in twenty countries, as well as commercial agencies in fifty other countries, form an international network of experts and design partners providing professional lighting consulting, design assistance and comprehensive services.

Lighting and sustainability

In line with our corporate philosophy *"We want to use light to create worlds of experience, make work easier and improve communications and safety while remaining fully aware of our responsibility to the environment"*, Zumtobel offers energy-efficient high-quality products, while at the same time making sure that our production processes based on the considerate use of resources are environmentally compatible.

zumtobel.com/sustainability

5
YEAR GUARANTEE

Top quality – with a five-year guarantee.
As a globally leading luminaire manufacturer, Zumtobel provides a five year manufacturer's guarantee on all Zumtobel branded products subject to registration within 90 days from the invoice date and in accordance with the terms of guarantee at **zumtobel.com/guarantee**.

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Lighting and medical supply systems for health and care.