PULSE VTL
BIODYNAMIC LIGHT FOR THE MODERN OFFICE
BIODYNAMIC LIGHT FOR IMPROVED WORKING CONDITIONS: THE INNOVATIVE PULSE VTL LIGHT MANAGEMENT SYSTEM IS A MOTIVATING LIGHT PRESENCE IN THE OFFICE. THROUGHOUT THE ENTIRE DAY.

PULSE VTL (Visual Timing Light) brings the dynamic of natural daylight inside the building and enhances the emotional and ergonomic aspects of the lighting quality. The biodynamic light can promote the well-being of employees especially in offices that get little daylight as well as in winter months when the inner body clock is only weakly synchronized with the daylight.

The innovative light management system was closely developed together with Prof. Dr. med. Dipl. Ing. Herbert Plischke, Professor for Light and Health at the Ludwig Maximilian University of Munich and employee in the Generation Research Program in Bad Tölz, Germany. Equipped with PULSE VTL, a biologically effective luminaire adjusts brightness and light color to the natural daylight for the time of day. Dynamic light is at its most effective when it enters the eye from a large source area light (indirect lighting) at the right angle of incidence (from in front and above).

The dimensions of light: It allows us to perceive our surroundings (visual), it triggers moods through the interplay of light and color (emotional), and it positively impacts health and well-being (biological).

LIGHT IN COOPERATION WITH HORMONES

The same cycle happens each day in the human body. The “body clock” determines waking and sleeping phases, pulse rate, blood pressure, and mood – a rhythm of biological processes that is considerably controlled and supported by light. The hormones Cortisol and Melatonin are primarily at play here. When the body lacks light as a clock or timer, this can give rise to chronic tiredness, sleep disturbance or depression.

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“WE RESTORE DAYLIGHT TO PEOPLE THAT IS TAKEN FROM THEM IN THE OFFICE EVERY DAY.”

Prof. Dr. med. Dipl. Ing. Herbert Plischke
PULSE VTL simulates the natural light over the course of the day with the appropriate color temperature and illuminance. This positively impacts the production of hormones and supports the biological rhythm in a natural way.

The hormone Cortisol is produced in the body in the morning. It stimulates the metabolism and programs the body for day mode. The first light of the day suppresses production of the sleep hormone Melatonin. PULSE VTL supports the activity of the stress hormone Cortisol at the start of the working day through stimulating cold tone light and high illuminance.
Levels of Cortisol decrease over the course of the day. Good performance levels are still maintained around midday. For PULSE VTL this means continuing to primarily supply activating cold tone light.


Direct: Neutral task lighting, continuous 4,000 K. Quantity of light can be constant adjusted individually.
Cortisol production in the body has already slowed down considerably in the afternoon with the active work phase coming to a close. Production of the sleep hormone is not yet desirable at this time. PULSE VTL supports this transition phase with a neutral mixed light. The illuminance is reduced successively.
The hormone Melatonin makes you tired, slows the body functions and lowers activity in favor of sleep. If the body receives biodynamic light throughout the day, the Melatonin level at nighttime will also remain high. You sleep well, feel rested and are active and productive the next day. PULSE VTL supports the transition to the neutral phase through reduced brightness and relaxing warm tone light.

**IN THE EVENING**

Indirect: Warm tone light with color temperature of up to 2,700 K. Continuously reduced illuminance.

Direct: Neutral task lighting, constant 4,000 K. Quantity of light can be adjusted individually.
PULSE VTL is a self-sufficient light management system. As an intelligent component in biodynamic LED free-standing luminaires (e.g. LAVIGO VTL), PULSE VTL simulates the daylight pattern.

The intensity and light color of the indirectly dispersed light from the luminaire follow a set time-dependent control curve defined on the basis of a scientific approach.

The light color varies between 6,500 K (similar to daylight, activating) and 2,700 K (warm white, relaxing). This progression most closely approximates natural light and provides a pleasant sensation for the user. The control curve is adjusted ex works. Individual default settings, such as for weekends or individual months, can be programmed in expert mode.

The share of direct, neutral task lighting can be adjusted individually at a constant color temperature of 4,000 K to ensure the best possible degree of visual comfort.

Biodynamically effective, conveniently controlled: The LAVIGO free-standing LED luminaire combined with PULSE VTL and PULSE TALK creates a natural and healthy working atmosphere with optimal lighting efficiency.

PULSE VTL can be combined with other intelligent Waldmann light management systems. PULSE HFMD daylight and presence sensor technology reacts to people coming and going and adjusts the lighting according to the amount of daylight. Thanks to the innovative PULSE TALK wireless module, several luminaires can communicate with each other in groups. The indirect, dynamic share of light can be controlled homogeneously in groups, creating a uniform color mood. For efficiency reasons, the direct share of light remains off at unoccupied work stations and the indirect share is reduced. This creates a pleasant lighting scenario without islands of light, a better working atmosphere and, enhanced ability to perform on the part of employees.