



# TWIN-C REPORT

INDUSTRIAL | WFL

CURRENT INFORMATION ABOUT INTELLIGENT LIGHTING SOLUTIONS FROM WALDMANN



# STATE-OF-THE-ART TECHNOLOGY IN A FAVORABLE LIGHT.

NEW STANDARDS AS A RESULT OF THE USE OF INNOVATIVE TECHNOLOGIES.



## Why use different machines if one can do everything?

WFL (Werkzeugmaschinenfabrik Linz) is the only manufacturer worldwide to focus on multifunctional Millturn technology. 'Millturn' is composed of the terms "milling" and "turning". The integration of a wide variety of machining technologies in one CNC machine offers considerable advantages. While previously several individual machines were required for the production of workpieces, this can now be carried out with one Millturn machine from WFL in a single operation. The complex transfer from one machine to the next, and the associated chucking errors and wait times, are therefore eliminated. As a result, one WFL Millturn machine saves up to 70% throughput time and one quarter of manufacturing costs.

With arguments such as these, WFL convinces buyers around the world. Renowned companies from the aerospace, automotive, and shipping industries rely on the Millturn technology just as much as manufacturers of printing machines, molding machines, and machine tools. In the hope of gaining a few seconds at the World Championship, the development centers of several Formula 1 teams also apply the Millturn technology.

## High precision requires highly precise lighting.

For basic illumination purposes, WFL uses Waldmann RL 70 protective tube luminaires with an integrated ballast. The advantage is that the luminaires can be consecutively connected to each other – cable spaghetti farewell! Previously, halogen spotlights provided the additional illumination of

the machining area.

Halogens however have flaws - such as short service lives of the lamps and a shape that often is in the way of optimum positioning. In addition, they develop high temperatures, which can result in undesirable heating of the workpiece.

Waldmann and WFL came together in search of an optimal lighting solution to illuminate machining areas.

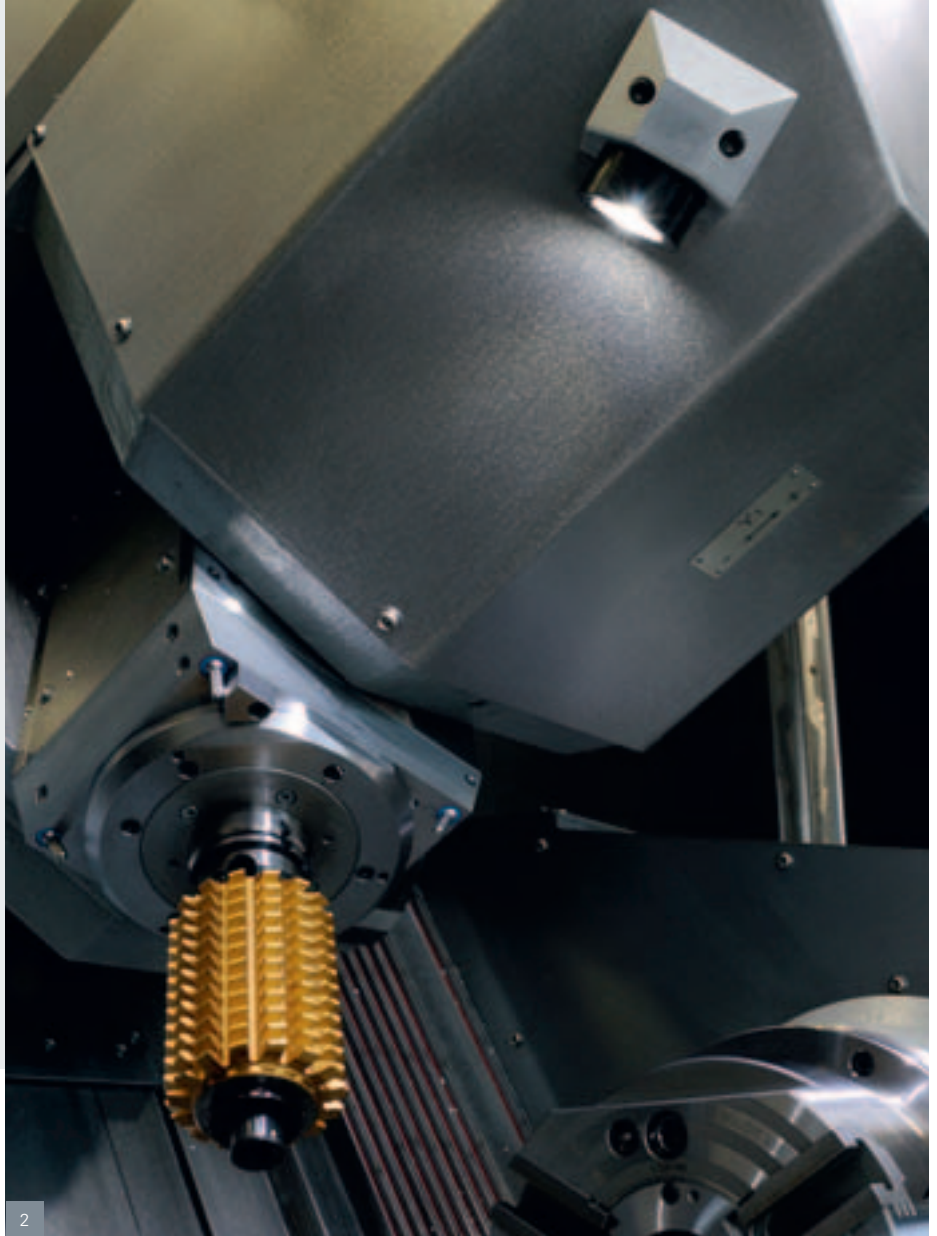
**The challenge: Compact size - marginal heat build-up. The solution: HEAD LED.**

Compact and sealed in accordance with IP 67, chip resistant and marginal heat build-up - these were the requirements. The solution was the HEAD LED from Waldmann, featuring a casing diameter of 49.5 mm and a height of 23 mm. At Waldmann, WFL not only found the right product, but also a partner that specifically merged an innovative product with the customer requirements. Together, they defined the optimal installation position and beam angle. Special feature: One HEAD LED is attached on either side of the Millturn head, which enables the light to move with the machine to perfectly illuminate the tool and workpieces.

**Proper lighting promotes quality.**

It offers safety to customers and machine operators, helps eliminate errors, and provides a good feeling. And - according to WFL - it supports the aim for innovation and technology leadership: "We want to provide our customers with a leading edge through innovative solutions. This includes LED technology!"

WFL is already considering the use of the next Waldmann LED product: the new FLAT LED is scheduled to be used to illuminate the tool magazines.



1 Basic illumination of the machine compartment with the RL 70 tube luminaire.

2 Precise illumination of the machining area with the HEAD LED.

3 The right lighting combination: Spot and flood light (HEAD LED, RL 40 tube luminaire) perfectly matched to every machine type.

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# FOCUSING ON THE BASICS.

HEAD LED IS LIGHT IN ITS MOST COMPACT FORM –  
THE 'SMALLEST' AMONG MACHINE LUMINAIRES.

It is an art in itself to generate maximum light with minimum size. Waldmann developed a special lens that makes this possible. The lens is based on the Fresnel lens principle, which was originally developed for lighthouses. The protective glass and casing are resistant to sharp metal chips and corrosive coolants and lubricants, and are absolutely tight in accordance with IP 67. The special feature of the LEDs is that the heat is dissipated not toward the front, but the back. Due to the extremely compact design, the heat developed in the HEAD LED must be removed via a metal surface connected at the back of the luminaire.

The protective glass remains lukewarm, so no lubricants nor coolants can burn.

## TECHNICAL DETAILS:

### Casing:

Aluminum, hard anodized, 49.5 mm diameter, 23 mm height.

### Lamp cover:

4 mm tempered protective glass.

### Power consumption:

11 Watt or 16 Watt.

Protection class: IP 67



## MORE ABOUT TWIN-C:



### TWIN-C brochure

Find out, in our new TWIN-C brochure, how industrial workplaces can become even more productive through lighting. EN 1837 defines the requirements of machine-integrated luminaires. Machine manufacturers are obligated to comply with this standard and document their compliance. This is not a problem with a TWIN-C lighting solution from Waldmann. Waldmann goes even one step further than is required by EN 124641: It focuses not only on complying with the standard from a technical aspect, but also on the

financial benefit for the customer.

Request our brochure to learn more about the applicable standards. We will show you, based on the different TWIN-C lighting concepts, how the 'right lighting combination' can increase your company's success.

[www.waldmann.com](http://www.waldmann.com)