

# Накладные светильники LUMATRIS, FLAT, MACH, SPOT, HEAD, SLIM, ONE

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**Россия** +7(495)268-04-70

**Казахстан** +7(727)345-47-04

**Беларусь** +(375)257-127-884

**Узбекистан** +998(71)205-18-59

**Киргизия** +996(312)96-26-47

эл.почта: [wne@nt-rt.ru](mailto:wne@nt-rt.ru) || сайт: <https://waldmann.nt-rt.ru/>

## SURFACE-MOUNTED LUMINAIRES

Surface-mounted luminaires are designed to withstand the toughest stress and can also be retrofitted in machines and systems. The flexible positioning enables an individual adjustment to space and lighting conditions.



|              |                                                                                                                                                                         |                                                                                                                                                                     |                                                                                      |                        |         |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------|---------|
| LUMATRIS     |       |                                                                                    |    | IP68-1 m<br>&<br>IPX9K | 30 - 31 |
| FLATTEC      |                                                                                        |                                                                                    |     | IP68-1 m<br>&<br>IPX9K | 32 - 33 |
| MACH LED     |                                                                                        |   |    | IP67                   | 34 - 35 |
| MACH LED PRO |                                                                                        |   |    | IP67                   | 36 - 37 |
| FLAT LED     |                                                                                      |                                                                                  |  | IP67<br>&<br>IPX9K     | 38 - 39 |
| SPOT LED     |   |                                                                                  |  | IP67                   | 40 - 41 |
| HEAD LED     |                                                                                      |                                                                                  |  | IP67                   | 42 - 43 |
| SLIM LED     |                                                                                      |                                                                                  |  | IP67                   | 44 - 45 |
| ONE LED      |                                                                                      |                                                                                  |  | IP54<br>or<br>IP67     | 46 - 47 |

Integrated  
machine  
luminairesSurface-  
mounted  
luminaires

# LUMATRIS



## EVOLUTION IN MACHINE LIGHTING.



In mechanical engineering, competitive ability equals the sum of innovative components and functions.

LUMATRIS now makes the latest LED technology available to medium- and large-volume machines. It economically transforms the punctiform lighting characteristic of LEDs into extremely homogeneous area light.

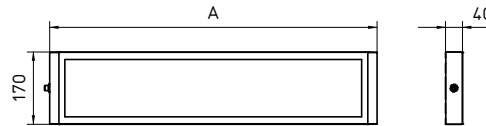
- Maintenance-free: LED life of up 50,000 hours and more
- Variants with Light Forming Technology for optimum light control and 30 % more efficiency
- Extremely resource-friendly operation thanks to eco mode
- Flicker-free light with no IR or UV content
- Unlimited functionality even after frequent switching
- Direct, reverse-polarity protected 24 VDC plug with no additional components
- Rear or side plug connection with an M12 plug connector
- For integration or mounting
- Versatile mounting options with thread channels and T-slots on the rear or accessories optimized for requirements
- Robust aluminum and safety glass housing for the toughest application conditions
- IP68-1m and IPX9K system of protection
- For ambient temperatures of up to 50° C
- No burning-in of cooling agents or lubricants thanks to low surface temperature
- Resistance-tested with many cooling agents and lubricants





LUMATRIS with side plug connection

efficient *light*



Tip: For the precise assembly dimensions, please request a detailed drawing.

Integrated  
machine  
luminaires

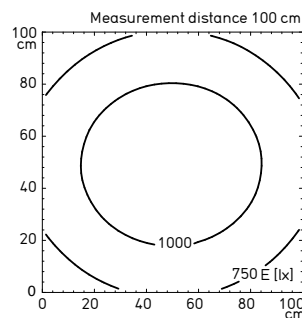


Surface-  
mounted  
luminaires

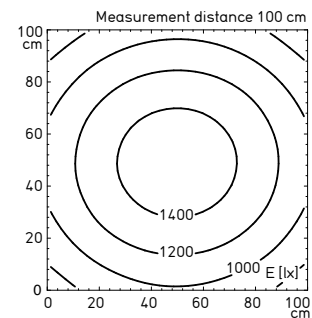


### Features at a glance

- 90 or 180 x LED
- Color temperature daylight white 5,800 K
- Glare-free with diffuser or Light Forming Technology
- Colorless anodized aluminum housing, silver-painted side parts made of die-cast zinc, 4 mm thick safety glass
- Screw-mounted (thread channels/T-slots) or various fastenings from the range of accessories
- Switchable in two stages (eco mode), without switch
- System of protection IP68-1m and IPX9K in accordance with DIN 40050-9; class of protection III
- Supplied without mains lead, side or rear connection via M12 plug connector
- Mounting frame, mounting brackets, jointed head, operating devices for connection to mains voltage and customizable M12 sleeves as accessories



Illuminance based on the example  
62 W without Light Forming Technology



Illuminance based on the example  
62 W with Light Forming Technology

| 22 – 26 VDC |                  |                  |                                             |                           |            |                          |
|-------------|------------------|------------------|---------------------------------------------|---------------------------|------------|--------------------------|
| CONSUMPTION | OPERATING DEVICE | DIMENSIONS       | SPECIAL FEATURE                             | $E_m/E_{max}^*$           | MODEL      | ORDER NUMBER             |
| 31 W        | –                | A = 420 x 170 mm | Rear connection<br>Light Forming Technology | 588/786 lx <sup>1</sup>   | MSAL 90 S  | 112 573 000 - 004 994 89 |
| 31 W        | –                | A = 420 x 170 mm | Side connection<br>Light Forming Technology | 588/786 lx <sup>1</sup>   | MSAL 90 S  | 112 573 001 - 005 142 71 |
| 31 W        | –                | A = 420 x 170 mm | Side connection                             | 501/665 lx <sup>1</sup>   | MSAL 90 S  | 112 573 002 - 005 142 74 |
| 31 W        | –                | A = 420 x 170 mm | Rear connection                             | 501/665 lx <sup>1</sup>   | MSAL 90 S  | 112 573 003 - 005 142 77 |
| 62 W        | –                | A = 770 x 170 mm | Rear connection<br>Light Forming Technology | 1156/1511 lx <sup>1</sup> | MSAL 180 S | 112 574 000 - 004 994 93 |
| 62 W        | –                | A = 770 x 170 mm | Side connection<br>Light Forming Technology | 1156/1511 lx <sup>1</sup> | MSAL 180 S | 112 574 001 - 005 111 40 |
| 62 W        | –                | A = 770 x 170 mm | Side connection                             | 964/1248 lx <sup>1</sup>  | MSAL 180 S | 112 574 002 - 005 111 44 |
| 62 W        | –                | A = 770 x 170 mm | Rear connection                             | 964/1248 lx <sup>1</sup>  | MSAL 180 S | 112 574 003 - 005 111 47 |

\*  $E_m$  = Medium illuminance;  $E_{max}$  = Maximum illuminance; <sup>1</sup> Measuring range 100 cm x 100 cm/Measuring distance 100 cm

## FLAT TEC

### THE ULTIMATE IN LIGHTING AND HOUSING TECHNOLOGY.

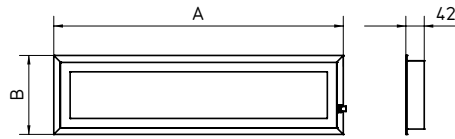
No light without energy. With this in mind, FLAT TEC skillfully uses as little energy as possible to generate the maximum amount of light. It does so with a housing shape that is so flat that it doesn't even appear obtrusive when positioned as a surface-mounted luminaire in the center of activity.

- Maximum light with minimum energy consumption
- Hardly any interference with the moving parts of the machine
- Extremely glare-free
- Optimum efficiency at high ambient temperatures
- High system of protection
- For the toughest application conditions
- Resistance-tested with many cooling agents and lubricants





efficient<sup>light</sup>



Tip: For the precise assembly dimensions, please request a detailed drawing.

Integrated machine luminaires

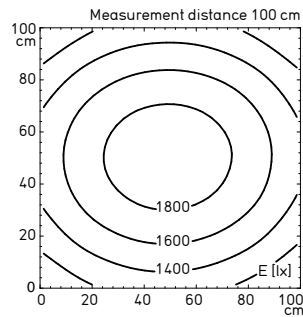


Surface-mounted luminaires



### Features at a glance

- TC-SEL compact fluorescent lamps or T16 fluorescent lamp(s)
- Color temperature daylight white 6,000 (TC-SEL) or 6,500 K (T16)
- Glare-free thanks to conical prismatic screen (CDP)
- Aluminum colored anodized housing, 3 mm thick safety glass
- Screw-mounted
- Without switch
- System of protection IP68-1m and IPX9K in accordance with DIN 40050-9; class of protection I
- Supplied without mains lead, connection via M12 plug connector
- Ready-made M12 plug socket as accessory



Illuminance based on the example 2 x 54 W

### 220 – 240 V, 50 HZ

| FITTED WITH    | OPERATING DEVICE              | DIMENSIONS              | SPECIAL FEATURE | $E_m / E_{max}^*$         | MODEL      | ORDER NO.                |
|----------------|-------------------------------|-------------------------|-----------------|---------------------------|------------|--------------------------|
| 2 x 11 WTC-SEL | Integrated electronic ballast | A = 340 mm x B = 300 mm | –               | 304/388 lx <sup>1</sup>   | MZAC 211 N | 112 997 000 - 005 555 12 |
| 3 x 24 WT16    | Integrated electronic ballast | A = 660 mm x B = 300 mm | –               | 1000/1274 lx <sup>1</sup> | MZA 324 N  | 112 999 000 - 005 555 19 |

### 100 – 250 V, 50/60 HZ

| FITTED WITH | OPERATING DEVICE              | DIMENSIONS               | SPECIAL FEATURE | $E_m / E_{max}^*$         | MODEL     | ORDER NO.                |
|-------------|-------------------------------|--------------------------|-----------------|---------------------------|-----------|--------------------------|
| 1 x 24 WT16 | Integrated electronic ballast | A = 660 mm x B = 180 mm  | –               | 363/466 lx <sup>1</sup>   | MZA 124 N | 113 006 000 - 005 556 00 |
| 1 x 39 WT16 | Integrated electronic ballast | A = 960 mm x B = 180 mm  | –               | 601/766 lx <sup>1</sup>   | MZA 139 N | 113 009 000 - 005 556 37 |
| 1 x 54 WT16 | Integrated electronic ballast | A = 1260 mm x B = 180 mm | –               | 874/1089 lx <sup>1</sup>  | MZA 154 N | 113 011 000 - 005 556 67 |
| 2 x 24 WT16 | Integrated electronic ballast | A = 660 mm x B = 220 mm  | –               | 669/863 lx <sup>1</sup>   | MZA 224 N | 113 002 000 - 005 555 48 |
| 2 x 39 WT16 | Integrated electronic ballast | A = 960 mm x B = 220 mm  | –               | 1096/1395 lx <sup>1</sup> | MZA 239 N | 113 004 000 - 005 555 61 |
| 2 x 54 WT16 | Integrated electronic ballast | A = 1260 mm x B = 220 mm | –               | 1546/1921 lx <sup>1</sup> | MZA 254 N | 113 013 000 - 005 556 85 |

### 100 – 277 V, 50/60 HZ

cETLus-variants (not CE-conform)

| FITTED WITH | OPERATING DEVICE              | DIMENSIONS               | SPECIAL FEATURE | $E_m / E_{max}^*$         | MODEL     | ORDER NO.                |
|-------------|-------------------------------|--------------------------|-----------------|---------------------------|-----------|--------------------------|
| 1 x 24 WT16 | Integrated electronic ballast | A = 660 mm x B = 180 mm  | –               | 363/466 lx <sup>1</sup>   | MZA 124 N | 113 007 000 - 005 556 06 |
| 1 x 39 WT16 | Integrated electronic ballast | A = 960 mm x B = 180 mm  | –               | 601/766 lx <sup>1</sup>   | MZA 139 N | 113 010 000 - 005 556 43 |
| 1 x 54 WT16 | Integrated electronic ballast | A = 1260 mm x B = 180 mm | –               | 874/1089 lx <sup>1</sup>  | MZA 154 N | 113 012 000 - 005 556 76 |
| 2 x 24 WT16 | Integrated electronic ballast | A = 660 mm x B = 220 mm  | –               | 669/863 lx <sup>1</sup>   | MZA 224 N | 113 003 000 - 005 555 58 |
| 2 x 39 WT16 | Integrated electronic ballast | A = 960 mm x B = 220 mm  | –               | 1096/1395 lx <sup>1</sup> | MZA 239 N | 113 005 000 - 005 555 73 |
| 2 x 54 WT16 | Integrated electronic ballast | A = 1260 mm x B = 220 mm | –               | 1546/1921 lx <sup>1</sup> | MZA 254 N | 113 014 000 - 005 556 91 |

### 24 VDC

| FITTED WITH    | OPERATING DEVICE              | DIMENSIONS              | SPECIAL FEATURE | $E_m / E_{max}^*$       | MODEL      | ORDER NO.                |
|----------------|-------------------------------|-------------------------|-----------------|-------------------------|------------|--------------------------|
| 2 x 11 WTC-SEL | Integrated electronic ballast | A = 340 mm x B = 300 mm | –               | 304/388 lx <sup>1</sup> | MZAC 211 S | 112 997 000 - 005 555 06 |
| 1 x 24 WT16    | Integrated electronic ballast | A = 660 mm x B = 180 mm | –               | 363/466 lx <sup>1</sup> | MZA 124 S  | 112 995 000 - 005 554 69 |
| 1 x 36 WT16    | Integrated electronic ballast | A = 960 mm x B = 180 mm | –               | 601/766 lx <sup>1</sup> | MZA 139 S  | 112 996 000 - 005 554 84 |

\*  $E_m$  = medium illuminance;  $E_{max}$  = maximum illuminance; <sup>1</sup>Measuring range 100 cm x 100 cm/Measuring distance 100 cm

Also available as an integrated machine luminaire

# MACH LED

TRIED AND TESTED IN DAILY APPLICATIONS.



Technical progress makes everything more compact – including the inside of systems and machines. Often, there is not much space left to integrate the lighting. Thanks to its flexibility and its slimline housing that is available in various lengths with 1, 2, 3 and 4 LEDs, the new MACH LED is the perfect solution for such situations. Thanks to the individually adjustable beam direction by the use of side part A, the light is always where you need it – even if the LED luminaire cannot be directly mounted in the working area.

- Variants with narrow and wide angles of illumination
- Standard-compliant lighting for every lighting and room situation
- Variants with clear and satined screen
- Constantly high lighting quality in the long term
- Direct connection to 24 V without additional components
- Connection via M12 plug connector
- Ideal for high stress
- High system of protection
- Maintenance-free: LED life of up to 50,000 hours and more
- Unlimited functionality irrespective of frequent switching or fluctuations of mains voltage
- Resistance-tested with many cooling agents and lubricants



MACH LED with side part A

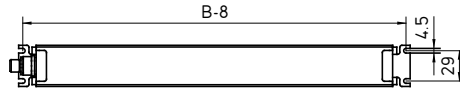
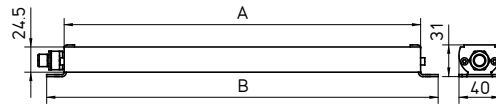
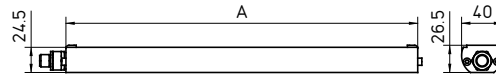


MACH LED with side part B (screw-down flange)

efficient *light*

### Features

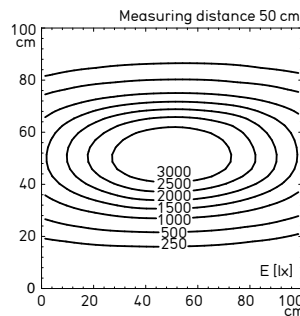
- 1, 2, 3 or 4 x HIGH POWER LED
- Color temperature neutral white 5,000 K
- Angle of illumination 30° (lens) with clear or 50° (reflector) with clear or satined screen
- Colorless anodized aluminum housing, 4 mm thick safety glass
- Screw-mounted (side part B) or mounted with various brackets from the accessories (side part A)
- Without switch
- System of protection IP67; class of protection III
- Supplied without mains lead, connection via M12-plug connector
- Various brackets, pre-assembled connection cables, customizable M12 sleeves, and operating devices to connect to the mains voltage as an accessory



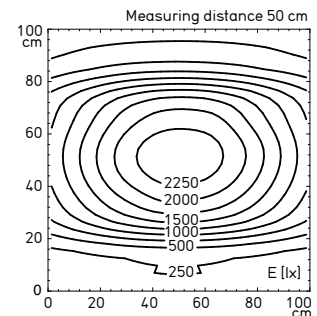
Integrated machine luminaires



Surface-mounted luminaires



Illuminance based on the example  
24 W with 30° lens



Illuminance based on the example  
24 W with 50° reflector

| 20 – 28 VDC |                  |                       |                                  |                           | cETLus   |                          |  |
|-------------|------------------|-----------------------|----------------------------------|---------------------------|----------|--------------------------|--|
| CONSUMPTION | OPERATING DEVICE | DIMENSIONS            | SPECIAL FEATURE                  | $E_m/E_{max}^*$           | MODEL    | ORDER NUMBER             |  |
| 6 W         | –                | A = 182 mm            | 30° lens                         | 295/1153 lx <sup>1</sup>  | MTAL 1 S | 112 567 041 - 004 886 06 |  |
| 6 W         | –                | A = 182 mm B = 216 mm | 30° lens, screw-down flange      | 295/1153 lx <sup>1</sup>  | MTAL 1 S | 112 567 000 - 005 482 48 |  |
| 6 W         | –                | A = 182 mm            | 50° reflector                    | 297/782 lx <sup>1</sup>   | MTAL 1 S | 112 567 044 - 004 636 93 |  |
| 6 W         | –                | A = 182 mm B = 216 mm | 50° reflector, screw-down flange | 297/782 lx <sup>1</sup>   | MTAL 1 S | 112 567 045 - 005 218 32 |  |
| NEW 6 W     | –                | A = 182 mm            | 50° reflector, satined screen    | 214/580 lx <sup>1</sup>   | MTAL 1 S | 112 567 000 - 005 701 17 |  |
| 12 W        | –                | A = 357 mm            | 30° lens                         | 530/1938 lx <sup>1</sup>  | MTAL 2 S | 112 567 055 - 004 760 03 |  |
| 12 W        | –                | A = 357 mm B = 391 mm | 30° lens, screw-down flange      | 530/1938 lx <sup>1</sup>  | MTAL 2 S | 112 567 000 - 005 482 51 |  |
| 12 W        | –                | A = 357 mm            | 50° reflector                    | 579/1458 lx <sup>1</sup>  | MTAL 2 S | 112 567 054 - 004 636 98 |  |
| 12 W        | –                | A = 357 mm B = 391 mm | 50° reflector, screw-down flange | 579/1458 lx <sup>1</sup>  | MTAL 2 S | 112 567 056 - 005 209 31 |  |
| NEW 12 W    | –                | A = 357 mm            | 50° reflector, satined screen    | 439/1135 lx <sup>1</sup>  | MTAL 2 S | 112 567 000 - 005 701 20 |  |
| 18 W        | –                | A = 532 mm            | 30° lens                         | 805/2776 lx <sup>1</sup>  | MTAL 3 S | 112 567 065 - 005 051 96 |  |
| 18 W        | –                | A = 532 mm B = 566 mm | 30° lens, screw-down flange      | 805/2776 lx <sup>1</sup>  | MTAL 3 S | 112 567 000 - 005 482 54 |  |
| 18 W        | –                | A = 532 mm            | 50° reflector                    | 869/2090 lx <sup>1</sup>  | MTAL 3 S | 112 567 064 - 004 637 01 |  |
| 18 W        | –                | A = 532 mm B = 566 mm | 50° reflector, screw-down flange | 869/2090 lx <sup>1</sup>  | MTAL 3 S | 112 567 066 - 005 209 42 |  |
| NEW 18 W    | –                | A = 532 mm            | 50° reflector, satined screen    | 628/1514 lx <sup>1</sup>  | MTAL 3 S | 112 567 000 - 005 701 24 |  |
| 24 W        | –                | A = 707 mm            | 30° lens                         | 1107/3477 lx <sup>1</sup> | MTAL 4 S | 112 567 075 - 004 783 81 |  |
| 24 W        | –                | A = 707 mm B = 741 mm | 30° lens, screw-down flange      | 1107/3477 lx <sup>1</sup> | MTAL 4 S | 112 567 000 - 005 482 57 |  |
| 24 W        | –                | A = 707 mm            | 50° reflector                    | 1077/2419 lx <sup>1</sup> | MTAL 4 S | 112 567 074 - 004 644 16 |  |
| 24 W        | –                | A = 707 mm B = 741 mm | 50° reflector, screw-down flange | 1077/2419 lx <sup>1</sup> | MTAL 4 S | 112 567 076 - 004 637 06 |  |
| NEW 24 W    | –                | A = 707 mm            | 50° reflector, satined screen    | 852/1912 lx <sup>1</sup>  | MTAL 4 S | 112 567 000 - 005 701 27 |  |

\*  $E_m$  = Medium illuminance;  $E_{max}$  = Maximum illuminance; <sup>1</sup> Measuring range 100 cm x 100 cm / Measuring distance 50 cm

# MACH LED PRO

SUPERIOR LIGHTING THANKS TO LED: INCREDIBLY POWERFUL, INCREDIBLY FLAT.

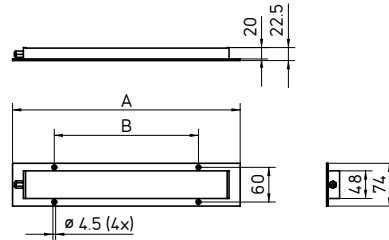


The fact is: In the workrooms of almost all modern machines, there is hardly any space left. This is why Waldmann has developed MACH LED PRO, an extremely flat, variable machine luminaire that conforms to all standards thanks to the use of the latest LED technology. It was inspired by the established MACH LED platform. Once you have selected the right length, it is the perfect solution for many lighting tasks – irrespective of whether you need to light up a whole area or merely require focused lighting.

- Standard-compliant lighting for every lighting and room situation
- Variants with narrow and wide angles of illumination
- Constantly high lighting quality in the long term
- Direct connection to 24 V without additional components
- Ideal for high mechanical and thermal stress
- High system of protection
- Maintenance-free: LED life of up to 50,000 hours and more
- Unlimited functionality irrespective of frequent switching or fluctuations of mains voltage
- Resistance-tested with many cooling agents and lubricants



efficient<sup>light</sup>



Integrated  
machine  
luminaires

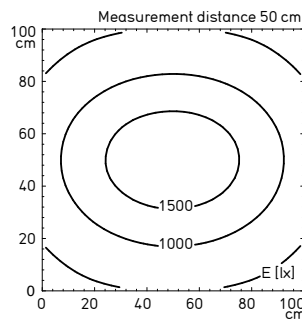


Surface-  
mounted  
luminaires

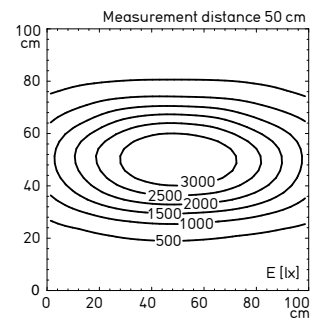


### Features at a glance

- 1, 2, 3 or 4 x HIGH POWER LED
- Color temperature neutral white 5,000 K
- Direct illumination or 30° angle of illumination (lens)
- Aluminum colored anodized housing, 4 mm thick safety glass
- Screw-mounted
- Without switch
- System of protection IP67; class of protection III
- Supplied with 3 m mains lead and free stranded wires
- Driver to connect to the mains voltage as an accessory



Illuminance based on the example of 24 W without lens (95°)



Illuminance based on the example of 24 W with 30° lens

### 20 – 28 VDC

| CONSUMPTION | OPERATING DEVICE | DIMENSIONS                      | SPECIAL FEATURE | $E_m/E_{max}^*$           | MODEL    | ORDER NO.                |
|-------------|------------------|---------------------------------|-----------------|---------------------------|----------|--------------------------|
| 6 W         | –                | A = 220 x 74 mm B = 125 mm (1x) | –               | 261/560 lx <sup>1</sup>   | MUAL 1 S | 112 571 022 - 000 821 86 |
| 6 W         | –                | A = 220 x 74 mm B = 125 mm (1x) | 30° lens        | 333/1224 lx <sup>1</sup>  | MUAL 1 S | 112 571 020 - 000 790 42 |
| 12 W        | –                | A = 395 x 74 mm B = 250 mm (1x) | –               | 527/1065 lx <sup>1</sup>  | MUAL 2 S | 112 571 026 - 000 825 11 |
| 12 W        | –                | A = 395 x 74 mm B = 250 mm (1x) | 30° lens        | 612/2186 lx <sup>1</sup>  | MUAL 2 S | 112 571 024 - 000 824 56 |
| 18 W        | –                | A = 570 x 74 mm B = 200 mm (2x) | –               | 758/1459 lx <sup>1</sup>  | MUAL 3 S | 112 571 032 - 000 828 20 |
| 18 W        | –                | A = 570 x 74 mm B = 200 mm (2x) | 30° lens        | 922/3061 lx <sup>1</sup>  | MUAL 3 S | 112 571 030 - 000 827 88 |
| 24 W        | –                | A = 745 x 74 mm B = 250 mm (2x) | –               | 1001/1820 lx <sup>1</sup> | MUAL 4 S | 112 571 036 - 000 828 46 |
| 24 W        | –                | A = 745 x 74 mm B = 250 mm (2x) | 30° lens        | 1122/3429 lx <sup>1</sup> | MUAL 4 S | 112 571 034 - 000 828 44 |

### 20 – 28 VAC

| CONSUMPTION | OPERATING DEVICE | DIMENSIONS                      | SPECIAL FEATURE | $E_m/E_{max}^*$           | MODEL    | ORDER NO.                |
|-------------|------------------|---------------------------------|-----------------|---------------------------|----------|--------------------------|
| 6 W         | –                | A = 220 x 74 mm B = 125 mm (1x) | –               | 261/560 lx <sup>1</sup>   | MUAL 1 S | 112 571 023 - 000 822 50 |
| 6 W         | –                | A = 220 x 74 mm B = 125 mm (1x) | 30° lens        | 333/1224 lx <sup>1</sup>  | MUAL 1 S | 112 571 021 - 000 822 49 |
| 12 W        | –                | A = 395 x 74 mm B = 250 mm (1x) | –               | 527/1065 lx <sup>1</sup>  | MUAL 2 S | 112 571 027 - 000 826 35 |
| 12 W        | –                | A = 395 x 74 mm B = 250 mm (1x) | 30° lens        | 612/2186 lx <sup>1</sup>  | MUAL 2 S | 112 571 025 - 000 826 32 |
| 18 W        | –                | A = 570 x 74 mm B = 200 mm (2x) | –               | 758/1459 lx <sup>1</sup>  | MUAL 3 S | 112 571 033 - 000 828 42 |
| 18 W        | –                | A = 570 x 74 mm B = 200 mm (2x) | 30° lens        | 922/3061 lx <sup>1</sup>  | MUAL 3 S | 112 571 031 - 000 828 40 |
| 24 W        | –                | A = 745 x 74 mm B = 250 mm (2x) | –               | 1001/1820 lx <sup>1</sup> | MUAL 4 S | 112 571 037 - 000 828 66 |
| 24 W        | –                | A = 745 x 74 mm B = 250 mm (2x) | 30° lens        | 1122/3429 lx <sup>1</sup> | MUAL 4 S | 112 571 035 - 000 828 63 |

\*  $E_m$  = medium illuminance;  $E_{max}$  = maximum illuminance; <sup>1</sup> Measuring range 100 cm x 100 cm/Measuring distance 50 cm

Also available as an integrated machine luminaire

# FLAT LED

LED MEETS THE ART OF ENGINEERING.

LED

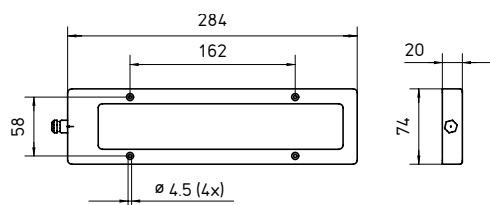


It's not possible to integrate a luminaire in the machine wall? In such cases, FLAT LED provides a convincing solution. To avoid significantly changing the interference contour, even in compact workrooms, this luminaire compresses the maximum luminous power in the flattest possible space: With a combination of six HIGH POWER LEDs and Waldmann's special lens technology, which evenly disperses the beam over an entire area.

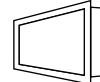
- Constantly high lighting quality in the long term
- For strong, wide-range and even lighting
- Excellent glare-free features
- Direct connection to 24 V without additional components
- For tough application conditions
- High system of protection
- Resistance-tested with many cooling agents and lubricants
- Maintenance-free: LED life of up to 50,000 hours and more



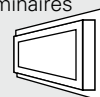
efficient<sup>light</sup>



Integrated  
machine  
luminaires

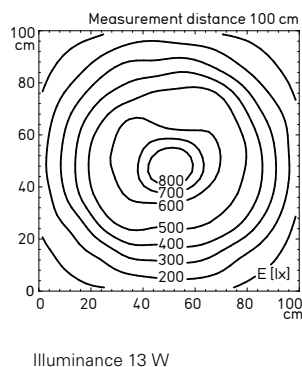


Surface-  
mounted  
luminaires



### Features at a glance

- 6 x HIGH POWER LED
- Color temperature daylight white 6,500 K
- 60° angle of illumination
- Black aluminum anodized housing, 4 mm thick safety glass
- Screw-mounted
- Without switch
- System of protection IP67 and IPX9K in accordance with DIN 40050-9; class of protection III
- Supplied with 3 m mains lead and free stranded wires
- Bracket angle to adjust the luminaire and driver to connect to the mains voltage as accessories



| 10 – 40 VDC |                  |             |                 |                         |          | cETLus                   |
|-------------|------------------|-------------|-----------------|-------------------------|----------|--------------------------|
| CONSUMPTION | OPERATING DEVICE | DIMENSIONS  | SPECIAL FEATURE | $E_m/E_{max}^*$         | MODEL    | ORDER NUMBER             |
| 13 W        | –                | 284 x 74 mm | –               | 347/869 lx <sup>1</sup> | MYAL 6 S | 112 560 000 - 000 030 69 |

| 10 – 30 VAC |                  |             |                 |                         |          |                          |
|-------------|------------------|-------------|-----------------|-------------------------|----------|--------------------------|
| CONSUMPTION | OPERATING DEVICE | DIMENSIONS  | SPECIAL FEATURE | $E_m/E_{max}^*$         | MODEL    | ORDER NUMBER             |
| 13 W        | –                | 284 x 74 mm | –               | 347/869 lx <sup>1</sup> | MYAL 6 S | 112 560 002 - 000 062 72 |

\*  $E_m$  = Medium illuminance;  $E_{max}$  = Maximum illuminance; <sup>1</sup> Measuring range 100 cm x 100 cm/Measuring distance 100 cm  
Also available as an integrated machine luminaire

# SPOT LED

POWERFUL LIGHT IN MINI FORMAT.

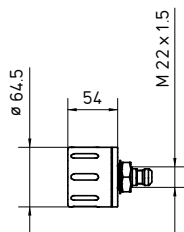


You could hardly imagine a more compact light with this much power: The round, robust aluminum housing of the SPOT LED combines three LEDs, which provide either spot or area lighting, depending on the particular variant. And they're absolutely flicker-free. This means that it is not just the design of the integrated LED spotlight that is a feast for the eyes.

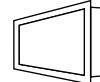
- Permanently high lighting quality
- Variants with narrow and wide angles of illumination
- Maintenance-free: LED life of up to 50,000 hours and more
- Direct connection to 24 V without additional components
- For tough applications
- Resistance-tested with many cooling agents and lubricants
- High system of protection
- Unlimited functionality irrespective of frequent switching or fluctuations of mains voltage



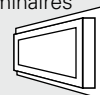
efficient<sup>light</sup>



Integrated  
machine  
luminaires

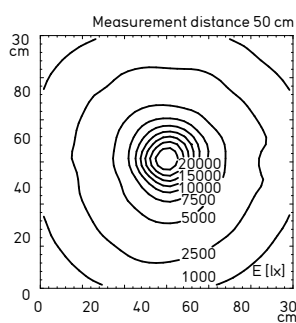


Surface-  
mounted  
luminaires

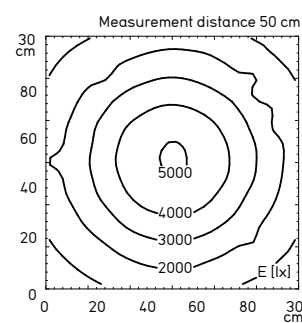


### Features at a glance

- 3 x HIGH POWER LED
- Color temperature daylight white 5,700 K
- 10° or 40° angle of illumination
- Black aluminum anodized housing, 3 mm thick safety glass
- Screw-mounted
- Without switch
- System of protection IP67; class of protection III
- Supplied with 3 m mains lead and free stranded wires
- Driver to connect to the mains voltage as an accessory



Illuminance with 10° lens



Illuminance with 40° lens

16 – 30 VAC / 16 – 40 VDC

| CONSUMPTION | OPERATING DEVICE | DIMENSIONS | SPECIAL FEATURE | $E_m / E_{max}^*$          | MODEL     | ORDER NUMBER             |
|-------------|------------------|------------|-----------------|----------------------------|-----------|--------------------------|
| 6 W         | –                | ø 64.5 mm  | 10° lens        | 3358/22350 lx <sup>1</sup> | MCAYL 3 S | 112 461 001 - 000 830 05 |
| 6 W         | –                | ø 64.5 mm  | 40° lens        | 2539/5095 lx <sup>1</sup>  | MCAYL 3 S | 112 461 003 - 000 878 71 |

\*  $E_m$  = Medium illuminance;  $E_{max}$  = Maximum illuminance; <sup>1</sup> Measuring range 30 cm x 30 cm / Measuring distance 50 cm

Also available as an arm-mounted luminaire, flexible tube luminaire, pivoting-head luminaire and integrated machine luminaire

## HEAD LED

### GOOD THINGS COME IN SMALL PACKAGES.

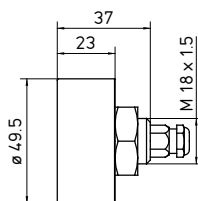
The working area is the heart of every machine tool and thus deserves a special spotlight: Waldmann's smallest light ever. Thanks to its compact dimensions, HEAD LED always fits into the tool area and generates a powerful, precise LED spot light thanks to Waldmann's cleverly devised lens.

- Maximum power from an impressively small light
- Ideal for high mechanical stress
- Variants with narrow and wide angles of illumination
- Maintenance-free: LED life of up to 50,000 hours and more
- High system of protection
- Resistance-tested with many cooling agents and lubricants





efficient<sup>light</sup>



Integrated  
machine  
luminaires

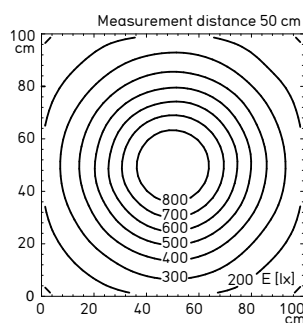


Surface-  
mounted  
luminaires

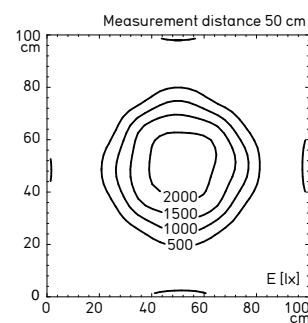


### Features at a glance

- 1 x HIGH POWER LED
- Color temperature daylight white 5,600 K
- Direct illumination or 70° angle of illumination
- Black aluminum anodized housing, 4 mm thick safety glass
- Screw-mounted
- Without switch
- System of protection IP67; class of protection III
- Supplied with 0.15 m mains lead and M12 connection
- Driver to connect to the mains voltage and ready-made M12 plug socket as an accessory



Illuminance based on the example without lens (100°)



Illuminance based on the example with 70° lens

### CONNECTION TO A CONSTANT POWER SOURCE WITH 700 MA

| CONSUMPTION | OPERATING DEVICE | DIMENSIONS | SPECIAL FEATURE | $E_m / E_{max}^*$        | MODEL     | ORDER NO.                |
|-------------|------------------|------------|-----------------|--------------------------|-----------|--------------------------|
| 11 W        | –                | ø 49.5 mm  | –               | 398/889 lx <sup>1</sup>  | MCAYL 4 S | 112 554 000 - 000 031 65 |
| 11 W        | –                | ø 49.5 mm  | 70° lens        | 459/2304 lx <sup>1</sup> | MCAYL 4 S | 112 554 001 - 000 057 58 |

\*  $E_m$  = medium illuminance;  $E_{max}$  = maximum illuminance; <sup>1</sup> Measuring range 100 cm x 100 cm / Measuring distance 50 cm

For cooling purposes, the luminaire must be attached to a metal surface.

# SLIM LED

## A CUSTOMIZED AREA LIGHT.



In the realm of peripheral machine equipment, beyond the influence of coolants and lubricants, there's often little space available for strong lighting. The slimline profile of the SLIM LED is a convincing solution when you need to integrate a light in a tight space. And in case the LED light doesn't have the ideal angle of incidence: the adjustable variant can help.

- Variants with an adjustable beam direction
- Direct connection to 24 V without additional components
- Maintenance-free: LED life of up to 50,000 hours and more
- Unlimited functionality irrespective of frequent switching

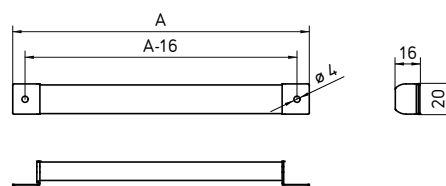
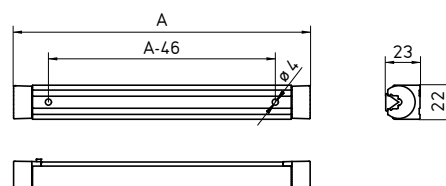


SLIM LED +/- 45° adjustable



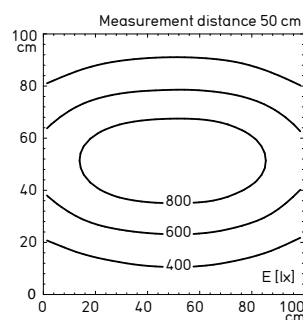
SLIM LED with fixed brackets

efficient<sup>light</sup>

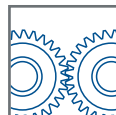


### Features at a glance

- 6, 12, 24, 36 or 48 x LED
- Color temperature daylight white 5,400 K
- Direct beam without/with clear screen or glare-free with satine screen
- Aluminum colored anodized housing/ acrylic screen
- Screw-mounted to fixed brackets or +/-45° adjustable mounting profile
- Without switch
- System of protection IP67; class of protection III
- Supplied with 3 m mains lead and free stranded wires
- Ballasts to connect to the mains voltage as an accessory



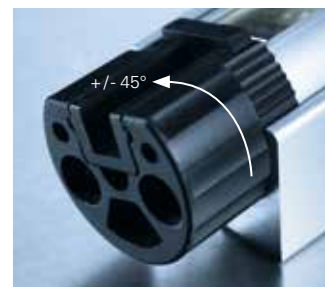
Illuminance based on the example of 29 W with clear screen



Integrated  
machine  
luminaires



Surface-  
mounted  
luminaires



| 23 – 25 VDC |                  |                  |                           |                         | cETLus |                          |
|-------------|------------------|------------------|---------------------------|-------------------------|--------|--------------------------|
| CONSUMPTION | OPERATING DEVICE | DIMENSIONS       | SPECIAL FEATURE           | $E_m/E_{max}^*$         | MODEL  | ORDER NO.                |
| 4 W         | –                | A = 196 x 22 mm  | Clear screen, adjustable  | 95/206 lx <sup>1</sup>  | LIQ 6  | 112 544 000 - 000 013 28 |
| 4 W         | –                | A = 196 x 22 mm  | Satine screen, adjustable | 89/206 lx <sup>1</sup>  | LIQ 6  | 112 544 005 - 000 111 00 |
| 4 W         | –                | A = 196 x 22 mm  | Adjustable                | 98/212 lx <sup>1</sup>  | LIQ 6  | 112 544 010 - 000 111 01 |
| 4 W         | –                | A = 196 x 20 mm  | Clear screen              | 95/206 lx <sup>1</sup>  | LIQ 6  | 112 545 000 - 000 013 51 |
| 4 W         | –                | A = 196 x 20 mm  | Satine screen             | 89/206 lx <sup>1</sup>  | LIQ 6  | 112 545 005 - 000 111 20 |
| 4 W         | –                | A = 196 x 20 mm  | –                         | 98/212 lx <sup>1</sup>  | LIQ 6  | 112 545 010 - 000 111 21 |
| 8 W         | –                | A = 336 x 22 mm  | Clear screen, adjustable  | 184/401 lx <sup>1</sup> | LIQ 12 | 112 544 001 - 000 110 81 |
| 8 W         | –                | A = 336 x 22 mm  | Satine screen, adjustable | 169/391 lx <sup>1</sup> | LIQ 12 | 112 544 006 - 000 110 88 |
| 8 W         | –                | A = 336 x 22 mm  | Adjustable                | 191/411 lx <sup>1</sup> | LIQ 12 | 112 544 011 - 000 111 02 |
| 8 W         | –                | A = 336 x 20 mm  | Clear screen              | 184/401 lx <sup>1</sup> | LIQ 12 | 112 545 001 - 000 111 25 |
| 8 W         | –                | A = 336 x 20 mm  | Satine screen             | 169/391 lx <sup>1</sup> | LIQ 12 | 112 545 006 - 000 111 28 |
| 8 W         | –                | A = 336 x 20 mm  | –                         | 191/411 lx <sup>1</sup> | LIQ 12 | 112 545 011 - 000 111 29 |
| 15 W        | –                | A = 616 x 22 mm  | Clear screen, adjustable  | 360/699 lx <sup>1</sup> | LIQ 24 | 112 544 002 - 000 110 82 |
| 15 W        | –                | A = 616 x 22 mm  | Satine screen, adjustable | 336/691 lx <sup>1</sup> | LIQ 24 | 112 544 007 - 000 110 85 |
| 15 W        | –                | A = 616 x 22 mm  | Adjustable                | 377/726 lx <sup>1</sup> | LIQ 24 | 112 544 012 - 000 111 03 |
| 15 W        | –                | A = 616 x 20 mm  | Clear screen              | 360/699 lx <sup>1</sup> | LIQ 24 | 112 545 002 - 000 111 30 |
| 15 W        | –                | A = 616 x 20 mm  | Satine screen             | 336/691 lx <sup>1</sup> | LIQ 24 | 112 545 007 - 000 111 31 |
| 15 W        | –                | A = 616 x 20 mm  | –                         | 377/726 lx <sup>1</sup> | LIQ 24 | 112 545 012 - 000 111 32 |
| 22 W        | –                | A = 896 x 22 mm  | Clear screen, adjustable  | 491/872 lx <sup>1</sup> | LIQ 36 | 112 544 003 - 000 110 83 |
| 22 W        | –                | A = 896 x 22 mm  | Satine screen, adjustable | 449/833 lx <sup>1</sup> | LIQ 36 | 112 544 008 - 000 110 86 |
| 22 W        | –                | A = 896 x 22 mm  | Adjustable                | 507/900 lx <sup>1</sup> | LIQ 36 | 112 544 013 - 000 111 04 |
| 22 W        | –                | A = 896 x 20 mm  | Clear screen              | 491/872 lx <sup>1</sup> | LIQ 36 | 112 545 003 - 000 111 33 |
| 22 W        | –                | A = 896 x 20 mm  | Satine screen             | 449/833 lx <sup>1</sup> | LIQ 36 | 112 545 008 - 000 111 34 |
| 22 W        | –                | A = 896 x 20 mm  | –                         | 507/900 lx <sup>1</sup> | LIQ 36 | 112 545 013 - 000 111 35 |
| 29 W        | –                | A = 1176 x 22 mm | Clear screen, adjustable  | 578/946 lx <sup>1</sup> | LIQ 48 | 112 544 004 - 000 110 84 |
| 29 W        | –                | A = 1176 x 22 mm | Satine screen, adjustable | 535/908 lx <sup>1</sup> | LIQ 48 | 112 544 009 - 000 110 87 |
| 29 W        | –                | A = 1176 x 22 mm | Adjustable                | 604/973 lx <sup>1</sup> | LIQ 48 | 112 544 014 - 000 111 05 |
| 29 W        | –                | A = 1176 x 20 mm | Clear screen              | 578/946 lx <sup>1</sup> | LIQ 48 | 112 545 004 - 000 111 36 |
| 29 W        | –                | A = 1176 x 20 mm | Satine screen             | 535/908 lx <sup>1</sup> | LIQ 48 | 112 545 009 - 000 111 37 |
| 29 W        | –                | A = 1176 x 20 mm | –                         | 604/973 lx <sup>1</sup> | LIQ 48 | 112 545 014 - 000 111 38 |

\*  $E_m$  = medium illuminance;  $E_{max}$  = maximum illuminance; <sup>1</sup> Measuring range 100 cm x 100 cm / Measuring distance 50 cm

# ONE LED

ALWAYS KEEPS ITS COOL.

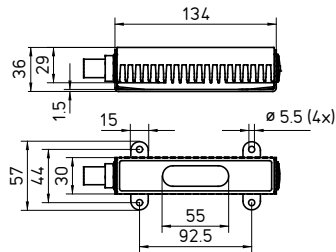


Less space and high temperatures – in some machines, you are faced with a lot of problems. Where most lights often fail, ONE LED shows its true capabilities: Thanks to its minimalist, but very robust construction, the corresponding design is even resistant to very high temperatures. It is precisely because of this that ONE LED can be compactly integrated in the tool area and illuminates it with high-power LED technology.

- Maximum power from an impressively small light
- Precise positioning of the beam
- Maintenance-free: LED life of up to 50,000 hours and more
- Direct connection to 24 V without additional components
- Safe, fast and easy integration
- Variants for ambient temperatures up to 50° C (variant with safety glass)
- High system of protection
- Safe functionality irrespective of frequent switching or fluctuations of mains voltage
- Resistance-tested with many cooling agents and lubricants (variant with safety glass)



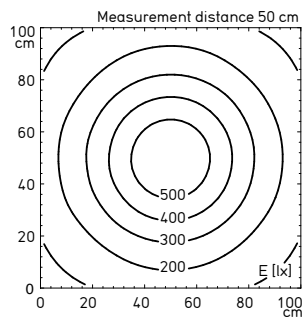
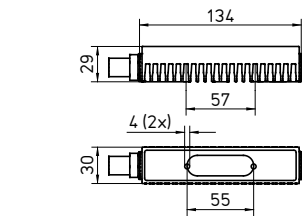
ONE LED with +/- 90° adjustable bracket sheet



ONE LED for fixed assembly

efficient<sup>light</sup>**Features at a glance**

- 1 x HIGH POWER LED
- Color temperature neutral white 5,000 K
- Direct beam
- Aluminum housing, 4 mm thick safety glass or acrylic screen
- Screw-mounted to the housing or +/- 90° adjustable bracket sheet
- Without switch
- System of protection IP54 (acrylic screen) or IP67 (safety glass); class of protection III
- Supplied without mains lead, tool-free connection via express connector
- Driver to connect to the mains voltage as an accessory



Illuminance 6 W

Integrated machine  
luminairesSurface-mounted  
luminaires

| 20 – 28 VDC |                  |               |                          |                         |          | cETLus                   |
|-------------|------------------|---------------|--------------------------|-------------------------|----------|--------------------------|
| CONSUMPTION | OPERATING DEVICE | DIMENSIONS    | SPECIAL FEATURE          | $E_m / E_{max}^*$       | MODEL    | ORDER NO.                |
| 6 W         | –                | 162.5 x 57 mm | PMMA screen, adjustable  | 261/571 lx <sup>1</sup> | MVAL 1 S | 112 887 027 - 000 760 50 |
| 6 W         | –                | 162.5 x 57 mm | Glass screen, adjustable | 261/571 lx <sup>1</sup> | MVAL 1 S | 112 887 037 - 000 760 65 |
| 6 W         | –                | 162.5 x 30 mm | PMMA screen              | 261/571 lx <sup>1</sup> | MVAL 1 S | 112 887 024 - 000 760 49 |
| 6 W         | –                | 162.5 x 30 mm | Glass screen             | 261/571 lx <sup>1</sup> | MVAL 1 S | 112 887 034 - 000 760 59 |

\*  $E_m$  = medium illuminance;  $E_{max}$  = maximum illuminance; <sup>1</sup> Measuring range 100 cm x 100 cm/Measuring distance 50 cm

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Псков (8112)59-10-37  
Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15  
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Самара (846)206-03-16  
Санкт-Петербург (812)309-46-40  
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Череповец (8202)49-02-64  
Чита (3022)38-34-83  
Якутск (4112)23-90-97  
Ярославль (4852)69-52-93

**Россия** +7(495)268-04-70

**Казахстан** +7(727)345-47-04

**Беларусь** +(375)257-127-884

**Узбекистан** +998(71)205-18-59

**Киргизия** +996(312)96-26-47

эл.почта: [wne@nt-rt.ru](mailto:wne@nt-rt.ru) || сайт: <https://waldmann.nt-rt.ru/>