

INTEGRATED MACHINE LUMINAIRES

Integrated machine luminaires are particularly suitable for wide-range lighting of workpieces and processing areas. They are very resistant under extreme conditions. The compact integration offers no surface for dirt or chips to settle and provides more space in the processing area.



FLATTEC		   <p>IP68-1 m & IPX9K</p>	20 - 21	
MACH LED PRO		   <p>LED</p> <p>IP67</p>	22 - 23	
FLAT LED		  <p>LED</p> <p>IP67 & IPX9K</p>	24 - 25	
SPOT LED			  <p>LED</p> <p>IP67</p>	26 - 27

Integrated machine luminaires

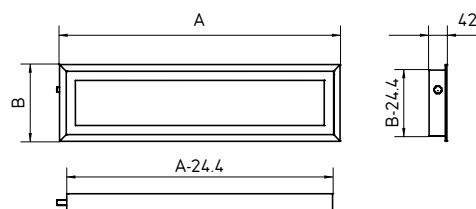


FLAT TEC

BUILT-IN PEAK PERFORMANCE.

Ideally, a luminaire should take up as little space as possible and offer a high efficiency. FLAT TEC not only provides the right illuminance for every machine. It also impressively demonstrates how much light you can generate with the minimum energy.

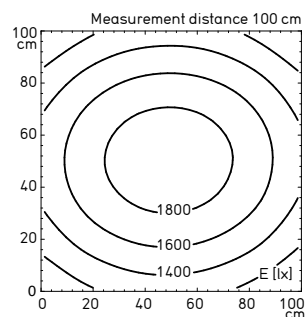
- Optimum efficiency at high ambient temperatures
- No interference with the moving parts of the machine
- No settlement of chips
- Extremely glare-free
- High system of protection
- For the toughest application conditions
- Resistance-tested with many cooling agents and lubricants



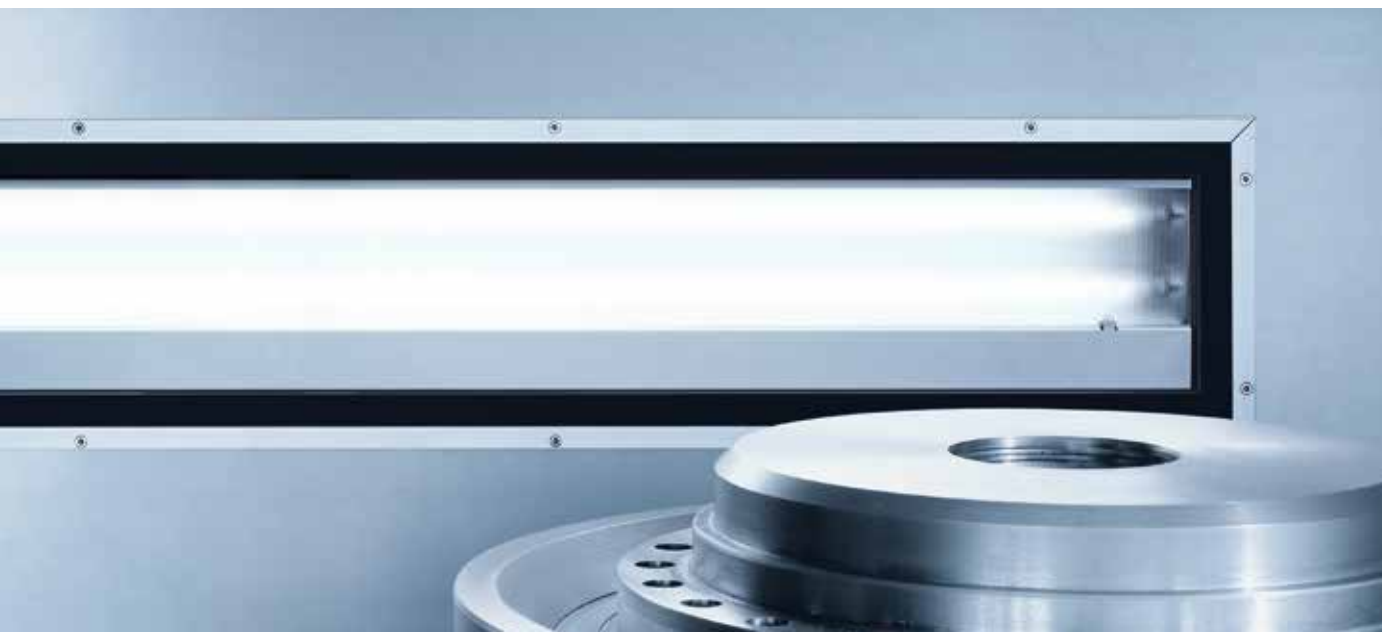
Tip: For the precise assembly dimensions, please request a detailed drawing.

Features at a glance

- TC-SEL compact fluorescent lamps or T16 fluorescent lamp(s)
- Color temperature daylight white 6,000 K (TC-SEL) or 6,500 K (T16)
- Glare-free thanks to conical prismatic screen (CDP)
- Colorless anodized aluminum housing, 3 mm thick safety glass
- Integration in recess with screws
- 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


 Integrated
machine
luminaires

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 ¹	MZEC 211 N	112 997 000 - 005 555 09
3 x 24 WT16	Integrated electronic ballast	A = 660 mm x B = 300 mm	–	1000/1274 lx ¹	MZE 324 N	112 999 000 - 005 555 16

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 ¹	MZE 124 N	113 006 000 - 005 555 94
1 x 39 WT16	Integrated electronic ballast	A = 960 mm x B = 180 mm	–	601/766 lx ¹	MZE 139 N	113 009 000 - 005 556 34
1 x 54 WT16	Integrated electronic ballast	A = 1260 mm x B = 180 mm	–	874/1089 lx ¹	MZE 154 N	113 011 000 - 005 556 64
2 x 24 WT16	Integrated electronic ballast	A = 660 mm x B = 220 mm	–	669/863 lx ¹	MZE 224 N	113 002 000 - 005 555 45
2 x 39 WT16	Integrated electronic ballast	A = 960 mm x B = 220 mm	–	1096/1395 lx ¹	MZE 239 N	113 004 000 - 005 555 67
2 x 54 WT16	Integrated electronic ballast	A = 1260 mm x B = 220 mm	–	1546/1921 lx ¹	MZE 254 N	113 013 000 - 005 556 82

100 – 277 V, 50/60 HZ

cETLus-variantes (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 ¹	MZE 124 N	113 007 000 - 005 556 03
1 x 39 WT16	Integrated electronic ballast	A = 960 mm x B = 180 mm	–	601/766 lx ¹	MZE 139 N	113 010 000 - 005 556 40
1 x 54 WT16	Integrated electronic ballast	A = 1260 mm x B = 180 mm	–	874/1089 lx ¹	MZE 154 N	113 012 000 - 005 556 73
2 x 24 WT16	Integrated electronic ballast	A = 660 mm x B = 220 mm	–	669/863 lx ¹	MZE 224 N	113 003 000 - 005 555 54
2 x 39 WT16	Integrated electronic ballast	A = 960 mm x B = 220 mm	–	1096/1395 lx ¹	MZE 239 N	113 005 000 - 005 555 70
2 x 54 WT16	Integrated electronic ballast	A = 1260 mm x B = 220 mm	–	1546/1921 lx ¹	MZE 254 N	113 014 000 - 005 556 88

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 ¹	MZEC 211 S	112 997 000 - 005 555 03
1 x 24 WT16	Integrated electronic ballast	A = 660 mm x B = 180 mm	–	363/466 lx ¹	MZE 124 S	112 995 000 - 005 554 56
1 x 39 WT16	Integrated electronic ballast	A = 960 mm x B = 180 mm	–	601/766 lx ¹	MZE 139 S	112 996 000 - 005 554 81

* E_m = medium illuminance; E_{max} = maximum illuminance; ¹ Measuring range 100 cm x 100 cm/Measuring distance 100 cm

Also available as a surface-mounted luminaire

MACH LED PRO

INCREDIBLY VARIABLE, CAN BE UNOBTRUSIVELY INTEGRATED.

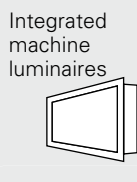
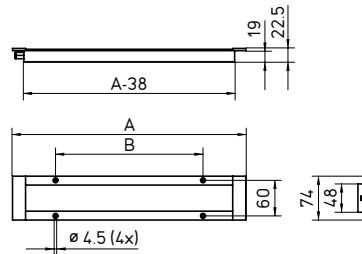


Even though the requirements for a machine design tend to be individual, they have one thing in common: they are not necessarily tailored to the luminaire. It is for precisely this reason that the model series MACH LED PRO embodies absolute variability in terms of area lighting. This is thanks to designs of different lengths with 1, 2, 3 or 4 LEDs and possibilities to control the light with the latest LED technology. That means that this luminaire practically disappears within the machine wall thanks to the unique construction principle that is based on the established MACH LED platform.

- Standard-compliant lighting for every lighting and room situation
- Constantly high lighting quality in the long term
- Direct connection to 24 V without additional components
- Variants with narrow and wide angles of illumination
- 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

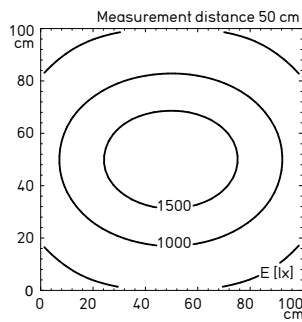


efficient *light*

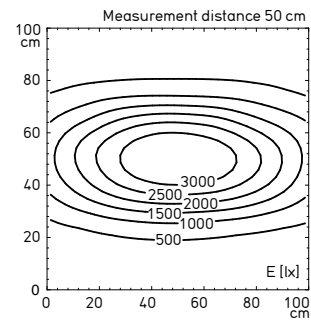


Features at a glance

- 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
- Integration in recess with screws
- 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 ¹	MUEL 1 S	112 571 002 - 000 852 16
6 W	–	A = 220 x 74 mm B = 125 mm (1x)	30° lens	333/1224 lx ¹	MUEL 1 S	112 571 000 - 000 845 79
12 W	–	A = 395 x 74 mm B = 250 mm (1x)	–	527/1065 lx ¹	MUEL 2 S	112 571 006 - 000 852 24
12 W	–	A = 395 x 74 mm B = 250 mm (1x)	30° lens	612/2186 lx ¹	MUEL 2 S	112 571 004 - 000 852 20
18 W	–	A = 570 x 74 mm B = 200 mm (2x)	–	758/1459 lx ¹	MUEL 3 S	112 571 012 - 000 852 28
18 W	–	A = 570 x 74 mm B = 200 mm (2x)	30° lens	922/3061 lx ¹	MUEL 3 S	112 571 010 - 000 852 27
24 W	–	A = 745 x 74 mm B = 250 mm (2x)	–	1001/1820 lx ¹	MUEL 4 S	112 571 016 - 000 852 76
24 W	–	A = 745 x 74 mm B = 250 mm (2x)	30° lens	1122/3429 lx ¹	MUEL 4 S	112 571 014 - 000 852 75

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 ¹	MUEL 1 S	112 571 003 - 000 851 94
6 W	–	A = 220 x 74 mm B = 125 mm (1x)	30° lens	333/1224 lx ¹	MUEL 1 S	112 571 001 - 000 851 27
12 W	–	A = 395 x 74 mm B = 250 mm (1x)	–	527/1065 lx ¹	MUEL 2 S	112 571 007 - 000 852 26
12 W	–	A = 395 x 74 mm B = 250 mm (1x)	30° lens	612/2186 lx ¹	MUEL 2 S	112 571 005 - 000 852 25
18 W	–	A = 570 x 74 mm B = 200 mm (2x)	–	758/1459 lx ¹	MUEL 3 S	112 571 013 - 000 852 57
18 W	–	A = 570 x 74 mm B = 200 mm (2x)	30° lens	922/3061 lx ¹	MUEL 3 S	112 571 011 - 000 852 56
24 W	–	A = 745 x 74 mm B = 250 mm (2x)	–	1001/1820 lx ¹	MUEL 4 S	112 571 017 - 000 853 11
24 W	–	A = 745 x 74 mm B = 250 mm (2x)	30° lens	1122/3429 lx ¹	MUEL 4 S	112 571 015 - 000 852 78

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

Also available as a surface-mounted luminaire

FLAT LED

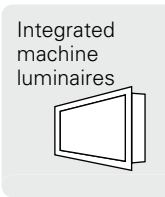
INGENIOUSLY INTEGRATED LED TECHNOLOGY.

It has practically become essential for the luminaires integrated in the increasingly compact machines to be small and powerful. This is precisely why Waldmann developed the FLAT LED: Its 6 LEDs provide optimum area light in spite of their compressed construction and low integration depth.

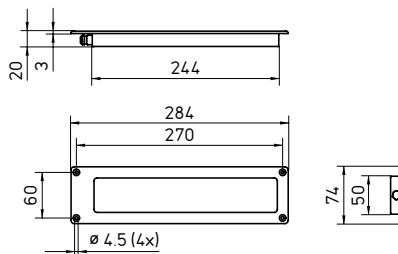
- Compact
- Constantly high lighting quality in the long term
- For strong, wide-range and even lighting
- Direct connection to 24 V without additional components
- No surface that is subject to the bombardment of chips
- Resistance-tested with many cooling agents and lubricants
- High system of protection
- Maintenance-free: LED life of up to 50,000 hours and more
- For tough application conditions

•••••
LED



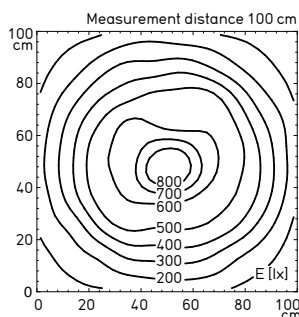


efficient^{light}



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
- Integration in recess with screws
- 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
- Driver to connect to the mains voltage as an accessory



Illuminance 13 W

10 – 40 VDC

CONSUMPTION	OPERATING DEVICE	DIMENSIONS	SPECIAL FEATURE	E_m / E_{max}^*	MODEL	ORDER NO.
13 W	–	284 x 74 mm	–	347/869 lx ¹	MYEL 6 S	112 560 001 - 000 031 66

10 – 30 VAC

CONSUMPTION	OPERATING DEVICE	DIMENSIONS	SPECIAL FEATURE	E_m / E_{max}^*	MODEL	ORDER NO.
13 W	–	284 x 74 mm	–	347/869 lx ¹	MYEL 6 S	112 560 003 - 000 062 73

* E_m = medium illuminance; E_{max} = maximum illuminance; ¹ Measuring range 100 cm x 100 cm/Measuring distance 100 cm
 Also available as a surface-mounted luminaire

SPOT LED



CONCENTRATED LIGHT WITH LOW SPACE REQUIREMENTS.

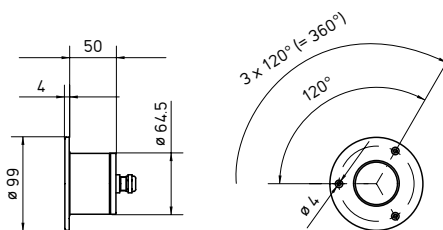


The SPOT LED for permanent integration in the machine combines 3 LEDs in such compact housing that you could hardly imagine a smaller luminaire.

- Permanently high lighting quality
- Particularly space-saving integration
- No surface that is subject to the accumulation of chips
- Variants with narrow and wide angles of illumination
- Direct connection to 24 V without additional components
- Resistance-tested with many cooling agents and lubricants
- 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



efficient *light*

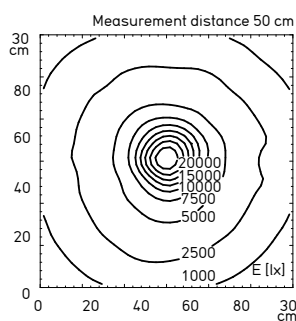


Integrated machine luminaires

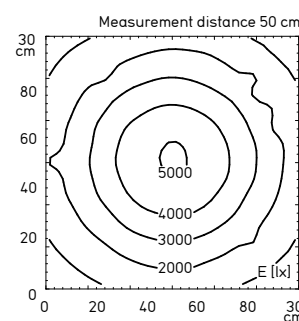


Features at a glance

- 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
- Integration in recess with screws
- Without switch
- System of protection IP67; class of protection III
- Supplied with 3 m mains lead and free stranded wires
- Ballast 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 99 mm	10° lens	3358/22350 lx ¹	MCEYL 3 S	112 460 001 - 000 829 95
6 W	–	ø 99 mm	40° lens	2539/5095 lx ¹	MCEYL 3 S	112 460 003 - 000 878 91

* E_m = Medium illuminance; E_{max} = Maximum illuminance; ¹ 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 surface-mounted luminaire