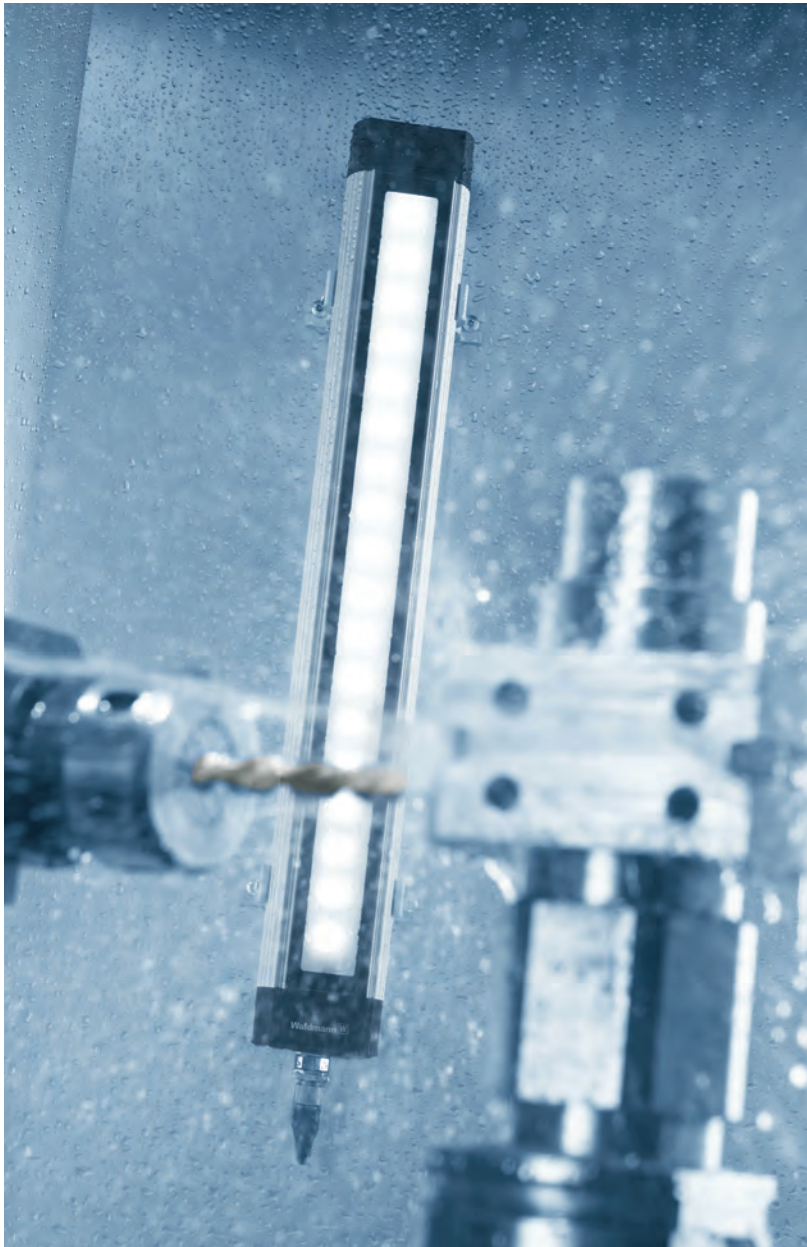




MACH LED PLUS linear LED machine light is available in two diameters: 70mm and 40mm



MACH LED PLUS. seventy

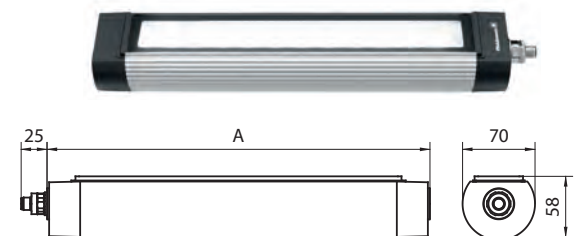
70MM LINEAR LED MACHINE LIGHT

FEATURES:

- Compatible with standard 70mm tube lights for easy retrofit of existing fluorescent tubes to LED
- Up to 70% energy savings compared to fluorescent lamp fixtures
- Six lengths to fit any machine configuration
- Two lumen packages available, Eco or High-Output
- 50,000 hours of maintenance-free operation with high-performance, high-output LED technology
- Anodized aluminum housing and 4mm thick safety glass insures trouble-free operation in harsh environments
- Easy connection via M12 connector with cord (included)
- Available in both line voltage or low voltage
- Designed for use with coolants and lubricants

SPECIFICATIONS:

Voltage	24V DC or 120-277V; 50/60Hz
Lamping	LED
Color Temperature	5000K
Color Rendering Index (CRI)	85
Luminaire Material	anodized aluminum
Lens Material	borosilicate safety glass
Dimension	6 lengths, 2.75" (70mm) diameter
Protection Rating	IP67
Certification	CE, ETL/cETL approved
Connection	M12 connector with 16' cord included
Mounting and accessories	See page 65



See chart for individual lengths (A)
Measurements in millimeters

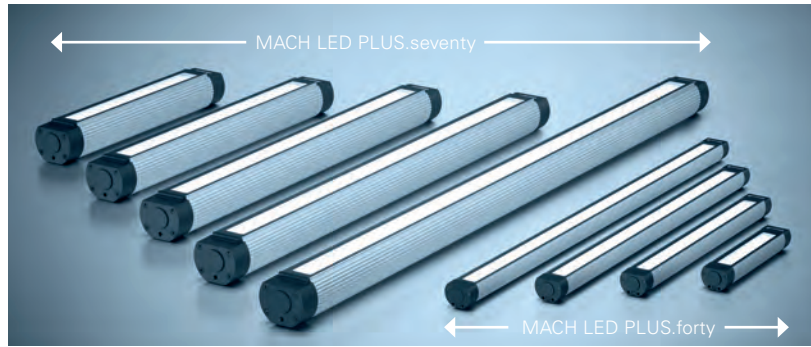
MACH LED PLUS.seventy is the ideal LED solution for linear machine lighting applications. It produces intense illumination for the most demanding industrial applications: impervious to mechanical vibration, and resistant to coolants and lubricants. Designed for high temperature environments, MACH LED PLUS.seventy is a direct replacement for standard 70mm tube lights used in many machines, allowing them to use existing mounting brackets. Thanks to well-engineered design, superior craftsmanship and highest quality materials, MACH LED PLUS.seventy withstands the toughest conditions found in manufacturing and machining environments.

ORDERING INFORMATION

Version	Wattage	Length (A)	Lumens	Model	Part #
24V Versions (For AC voltage operation, see external operating devices below)					
Eco	7W	14.6" (370mm)	500	MQAL 12 S	113 045 000 - 005 807 02
Eco, thru-wire	7W	14.6" (370mm)	500	MQAL 12 SD	113 046 000 - 005 806 96
High-output	12W	14.6" (370mm)	900	MQAL 24 S	113 047 000 - 005 806 93
High-output, thru-wire	12W	14.6" (370mm)	900	MQAL 24 SD	113 048 000 - 005 805 73
Eco	10W	20.1" (510mm)	750	MQAL 18 S	113 053 000 - 005 805 88
Eco, thru-wire	10W	20.1" (510mm)	750	MQAL 18 SD	113 054 000 - 005 805 91
High-output	18W	20.1" (510mm)	1350	MQAL 36 S	113 055 000 - 005 805 94
High-output, thru-wire	18W	20.1" (510mm)	1350	MQAL 36 SD	113 056 000 - 005 805 97
Eco	10W	22.2" (565mm)	750	MQAL 18 S	113 061 000 - 005 806 12
Eco, thru-wire	10W	22.2" (565mm)	750	MQAL 18 SD	113 062 000 - 005 806 15
High-output	18W	22.2" (565mm)	1350	MQAL 36 S	113 063 000 - 005 806 18
High-output, thru-wire	18W	22.2" (565mm)	1350	MQAL 36 SD	113 064 000 - 005 806 21
Eco	13W	25.6" (650mm)	1000	MQAL 24 S	113 069 000 - 005 806 39
Eco, thru-wire	13W	25.6" (650mm)	1000	MQAL 24 SD	113 070 000 - 005 806 42
High-output	24W	25.6" (650mm)	1800	MQAL 48 S	113 071 000 - 005 806 45
High-output, thru-wire	24W	25.6" (650mm)	1800	MQAL 48 SD	113 072 000 - 005 806 48
Eco	16W	31.1" (790mm)	1250	MQAL 30 S	113 077 000 - 005 806 63
Eco, thru-wire	16W	31.1" (790mm)	1250	MQAL 30 SD	113 078 000 - 005 806 66
High-output	30W	31.1" (790mm)	2300	MQAL 60 S	113 124 000 - 006 118 55
High-output, thru-wire	30W	31.1" (790mm)	2300	MQAL 60 SD	113 125 000 - 006 128 44
Eco	22W	42.1" (1070mm)	1750	MQAL 42 S	113 081 000 - 005 806 75
Eco, thru-wire	22W	42.1" (1070mm)	1750	MQAL 42 SD	113 082 000 - 005 806 81
High-output	42W	42.1" (1070mm)	3200	MQAL 84 S	113 126 000 - 006 129 73
High-output, thru-wire	42W	42.1" (1070mm)	3200	MQAL 84 SD	113 122 000 - 006 098 07
100-240V Versions					
Eco	9W	14.6" (370mm)	500	MQAL 12 N	113 049 000 - 005 805 76
Eco, thru-wire	9W	14.6" (370mm)	500	MQAL 12 ND	113 050 000 - 005 805 79
High-output	15W	14.6" (370mm)	900	MQAL 24 N	113 051 000 - 005 805 82
High-output, thru-wire	15W	14.6" (370mm)	900	MQAL 24 ND	113 052 000 - 005 805 85
Eco	12W	20.1" (510mm)	750	MQAL 18 N	113 057 000 - 005 806 00
Eco, thru-wire	12W	20.1" (510mm)	750	MQAL 18 ND	113 058 000 - 005 806 03
High-output	21W	20.1" (510mm)	1350	MQAL 36 N	113 059 000 - 005 806 06
High-output, thru-wire	21W	20.1" (510mm)	1350	MQAL 36 ND	113 060 000 - 005 806 09
Eco	12W	22.2" (565mm)	750	MQAL 18 N	113 065 000 - 005 806 24
Eco, thru-wire	12W	22.2" (565mm)	750	MQAL 18 ND	113 066 000 - 005 806 30
High-output	21W	22.2" (565mm)	1350	MQAL 36 N	113 067 000 - 005 806 33
High-output, thru-wire	21W	22.2" (565mm)	1350	MQAL 36 ND	113 068 000 - 005 806 36
Eco	15W	25.6" (650mm)	1000	MQAL 24 N	113 073 000 - 005 806 51
Eco, thru-wire	15W	25.6" (650mm)	1000	MQAL 24 ND	113 074 000 - 005 806 54
High-output	27W	25.6" (650mm)	1800	MQAL 48 N	113 075 000 - 005 806 57
High-output, thru-wire	27W	25.6" (650mm)	1800	MQAL 48 ND	113 076 000 - 005 806 60
Eco	20W	31.1" (790mm)	1250	MQAL 30 N	113 079 000 - 005 806 69
Eco, thru-wire	20W	31.1" (790mm)	1250	MQAL 30 ND	113 080 000 - 005 806 72
Eco	26W	42.1" (1070mm)	1750	MQAL 42 N	113 083 000 - 005 806 84
Eco, thru-wire	26W	42.1" (1070mm)	1750	MQAL 42 ND	113 084 000 - 005 806 90
External Operating Devices					
	Max. Wattage		Input	Output	Part #
	17W		120-277V, 50/60Hz	24V DC	209 585 028
	20W		120-240V, 50/60Hz	24V DC	309 537 010 - 006 704 53
Required for 120-277V operation with 24V versions	50W		120V, 50/60Hz	24V DC	209 585 030
	75W		120-277V, 50/60Hz	24V DC	209 585 031
	100W		120-277V, 50/60Hz	24V DC	309 538 010 - 006 704 56
Mounting Options					
	Item			Unit	Part #
	End bracket set, adjustable, +/- 65°			Sold as pair	408 001 876 - 005 820 65
	Clip bracket, adjustable, +/- 30°			Sold individually	408 001 878 - 005 855 35
	Protective cap set (not for use with end brackets)			Sold as pair	408 001 875 - 005 820 72
Accessories*					
	Item		Type	Voltage	Part #
	M12 connector with 16' cord (included), straight		A-coded	24V DC	US0 009 001
	M12 connector with 16' cord (included), straight		S-coded	120V AC	US0 009 201
	M12 connector with 16' cord (included), angled		A-coded	24V DC	US0 009 011
	M12 connector with 16' cord (included), angled		S-coded	120V AC	US0 009 211

*M12 connector for thru-wire versions available upon request only

FOR DETAILED SPECIFICATIONS, PLEASE VISIT WALDMANNLIGHTING.COM



MACH LED PLUS linear LED machine light is available in two diameters: 70mm and 40mm



MACH LED PLUS.forty

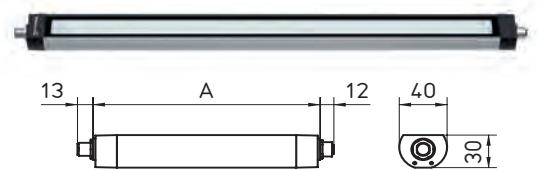
40MM LINEAR LED MACHINE LIGHT

FEATURES:

- Four lengths: 7.5" (190mm), 14.4" (365mm), 21.3" (540mm), 28.2" (715mm)
- Beam angle option: 40° (optics) or 90° (reflector)
- Rugged anodized aluminum housing and 4mm thick safety glass
- Various bracket options for simple installation
- Able to withstand extreme ambient heat up to 122°F
- 60,000 hours of maintenance-free LED service life
- Vibration resistant up to 55Hz (amplitude 0.35mm); Shock resistant up to .11 lb
- Protection rating IP67
- Easy connection via M12 connector with cord, A-coded
- Designed for use with coolants and lubricants

SPECIFICATIONS:

Voltage	24V DC
Lamping	LED
Color Temperature	5000K
Color Rendering Index (CRI)	85
Beam Angle	40° or 90°
Luminaire Material	anodized aluminum
Lens Material	borosilicate safety glass
Dimension	4 lengths, 1.6" (40mm) diameter
Protection Rating	IP67
Certification	CE, ETL/cETL approved
Connection	M12 connector with 16' cord included
Mounting and accessories	See page 66



See chart for individual lengths (A)
Measurements in millimeters

Waldmann has combined the positive attributes of MACH LED PLUS with the small form factor of the very popular MACH LED to develop MACH LED PLUS.forty – 1.5" in diameter with light output extending the full length of the fixture. Available with a choice of beam angle, with more lumens per watt than MACH LED and an even longer LED life – 60,000 hours of maintenance-free operation.

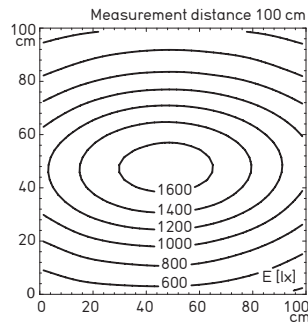
MACH LED PLUS.forty is available with either 40° or 90° angle of illumination to enable optimum lighting for many visual tasks. MACH LED PLUS.forty reflects state-of-the-art technology: the latest LED technology, specially developed optics system and the most modern housing concept by Waldmann Lighting.



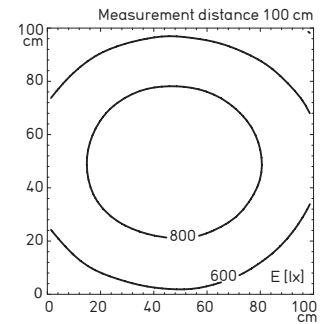
MACH LED PLUS.forty with angle of illumination 40°



MACH LED PLUS.forty with angle of illumination 90°



Illuminance taking MLAL 57 S with 40° optics as an example



Illuminance taking MLAL 57 S with 90° reflector as an example

ORDERING INFORMATION (No operating device included, which is only required for 120-277V operation)

Version	Wattage	Length (A)	Lumens	Model	Part #
24V Versions					
90° beam angle	5W	7.5" (190mm)	480	MLAL 12 S	113 161 000 - 006 625 75
40° beam angle	5W	7.5" (190mm)	490	MLAL 12 S	113 161 000 - 006 600 33
90° beam, thru-wire	5W	7.5" (190mm)	480	MLAL 12 SD	113 161 000 - 006 626 00
90° beam angle	10.5W	14.4" (365mm)	1080	MLAL 27 S	113 162 000 - 006 626 85
40° beam angle	10.5W	14.4" (365mm)	1120	MLAL 27 S	113 162 000 - 006 606 81
90° beam, thru-wire	10.5W	14.4" (365mm)	1080	MLAL 27 SD	113 162 000 - 006 627 06
90° beam angle	16W	21.3" (540mm)	1680	MLAL 42 S	113 163 000 - 006 627 17
40° beam angle	16W	21.3" (540mm)	1720	MLAL 42 S	113 163 000 - 006 606 84
90° beam, thru-wire	16W	21.3" (540mm)	1680	MLAL 42 SD	113 163 000 - 006 627 35
90° beam angle	21.5W	28.2" (715mm)	2280	MLAL 57 S	113 164 000 - 006 628 06
40° beam angle	21.5W	28.2" (715mm)	2330	MLAL 57 S	113 164 000 - 006 606 87
90° beam, thru-wire	21.5W	28.2" (715mm)	2280	MLAL 57 SD	113 164 000 - 006 628 33
External Operating Devices					
	Max. Wattage		Input	Output	Part #
	17W		120-277V, 50/60Hz	24V DC	209 585 028
	20W		120-240V, 50/60Hz	24V DC	309 537 010 - 006 704 53
Required for 120-277V operation	50W		120V, 50/60Hz	24V DC	209 585 030
	75W		120-277V, 50/60Hz	24V DC	209 585 031
	100W		120-277V, 50/60Hz	24V DC	309 538 010 - 006 704 56
Mounting Options					
	Item		Unit		Part #
	End bracket set, +/- 90°		Sold as pair		408 001 403 - 006 716 26
	Clip bracket, adjustable, +/- 20°		Sold separately		408 001 402 - 006 716 23
Accessories*					
	Item		Type	Voltage	Part #
	M12 connector with 16' cord (included), straight		A-coded	24V DC	US0 009 001
	M12 connector with 16' cord (included), angled		A-coded	24V DC	US0 009 011

*M12 connector for thru-wire versions available upon request only