QML / QMHL

Water, vibration and oil resistant LED work light, suitable for machine tools applications and high temperature water cleaning environments



QML QMHL

PRODUCT SPECIFICATION

QML I QMHL

Materials Housing-Al, Lens-Tempered glass
Bracket-K Type-STS430/MF Type-Al
Ambient operating temperature -30°C to +60°C
Protection rating IP67/IP69K
Certificates CE, UL, RU

- Excellent oil resistance with a special sealing structure with IP67 protection rating, suitable for machine tool applications with cutting fluids (completed a 30-day continuous immersion test for a total of 720 hours)
- Suitable for high pressure and high temperature water cleaning environment(IP69K)
- Tempered glass prevents damage from machine tool chips
- Flat glass bonding structure
- No external substances on the glass despite of long-term use
- Can select between QML model (Anti-glare type) and QMHL model (High luminance type) depending on your work conditions
- Can select from a variety of bracket options from direct mount, tilt mount, and pan/ tilt mount type to fit your work environment or lighting condition needs
- Wired type and M12 connector type allow for a customized model that M12 connector can be attached at the end of wires.
- Customized oil resistant cable attached type available

Oil Resistance Verified in Various Oil Environments

QML Series is designed for machine tools and industrial sites where products are continuously exposed to cutting fluids and oils.

An in-house oil resistance test was conducted by continuously immersing the product in 7 types of industrial oils at room temperature for 30 days, totaling 720 hours.

After the test, exterior damage, cracks, deformation, and functional abnormalities were comprehensively inspected to verify oil resistance and product reliability in water-soluble and non-water-soluble oil environments.

In addition, with an IP69K protection rating for high-pressure and high-temperature washdown environments, the product can be used reliably in harsh industrial environments exposed to oils, cutting fluids, and wash water.

Oils Used in the Test

No.	Manufacturer	Oil Used
1	Hangsterfer's Laboratories, Inc.	Hangsterfer's S-500
2	GS Caltex	Kixx CUT COOL 1200S
3	Castrol	Syntilo MR 9974 BF
4	Blaser Swisslube	B-Cool MC 610
5		Grindex 10
6		Grindex S 35
7		Blasocut BC 35 LF SW

Test Conditions/Regulations

Vibration Resistance Test	· Acceleration: 20m/s^2 · Duration: 1 octave/min · Range of frequency: 10-150Hz · Amplitude: 10 times maximum 7.5mm, direction: test 10times in 3 directions(X, Y, Z)
Shock Resistance Test	· Acceleration: 20g · Directions: ±X, ±Y, ±Z · Numbers: 3 times each directions · Time period: 11ms for each direction · Waveform: Half sine
Oil Resistance Test	· General test: Tested in water soluble and non-water soluble flooded environments for 500 hours. · High temperature oil resistance test: Place the object in a constant temperature water bath at 80°C for two hours and then submerge the object in the room temperature oil diluent for 24hours.
Solid Particle Protection Test(IP6X)	· After reducing the pressure inside the test object, spray talcum powder with a nominal diameter of 50um for 2 hours at 40-60meters/hour inside the dust chamber. · IEC60529
High-pressure, High-temperature Wash-down Test (IPX7)	· Test ingress by putting the object under 1000mm water with 2bar of pressure for 30 mins
High-pressure, High-temperature Wash-down Test (IP69K)	· Spray nozzle provides 80°C water with pressure of 80–100 bar and a flow rate of 14–16 L/min to the object · Distance between spray nozzle and the test object: 10-15cm · Water spray angle: 0˚, 30˚, 60˚, 90˚ · The nozzle is held at 4 of each angle for 30 seconds · DIN 40050 PART9

IP67 IP69K +60℃ -30℃

QML-150 / QML-250

· Equipped anti-glare filter
· Suitable for environments that require stable intensity illumination for improved visibility



QML-150-D



QML-250-D



QML-150-K



QML-250-K



QML-150-MF



QML-250-MF

QMHL-150 / QMHL-250

· High intensity illumination and condenser lens combination
· High intensity illumination allows for the environment both long distance and straightness are required



QMHL-150-D



QMHL-250-D



QMHL-150-K



QMHL-250-K



QMHL-150-MF



QMHL-250-MF

QML / QMHL Water, Vibration and Oil Resistant LED Work Lights

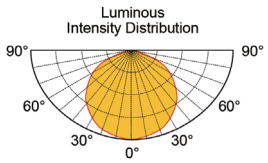
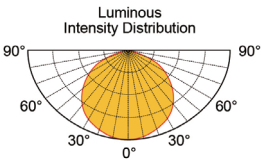
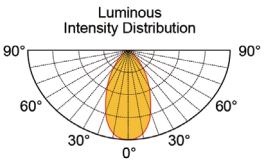
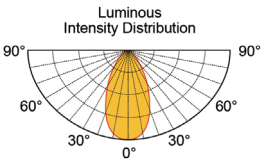
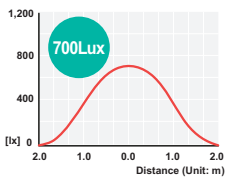
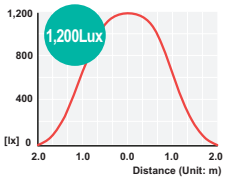
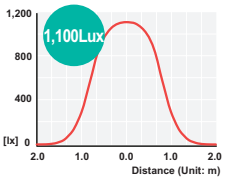
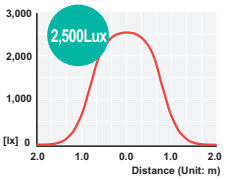
Optics Specifications				
Model number	QML-150-D QML-150-K QML-150-MF	QML-250-D QML-250-K QML-250-MF	QMHL-150-D QMHL-150-K QMHL-150-MF	QMHL-250-D QMHL-250-K QMHL-250-MF
Lens color	Translucent	Translucent	Transparent	Transparent
Light color	Cooldaylight			
Color temperature	6,000-7,000K			
Luminous flux	850lm	1,900lm	900lm	1,800lm
Illumination(at 1m)	700Lux	1,200Lux	1,100Lux	2,500Lux

Specifications				
Model number	QML-150-D QML-150-K QML-150-MF	QML-250-D QML-250-K QML-250-MF	QMHL-150-D QMHL-150-K QMHL-150-MF	QMHL-250-D QMHL-250-K QMHL-250-MF
Voltage	DC24V	DC24V	DC24V	DC24V
Range for operation voltage	DC21.5V-26.5V			
Power consumption	15W	32.4W	15W	25W
Insulation resistance	Min. 100MΩ(500V DC mega ohm meter)			
Withstanding voltage	DC: 500VAC, 60Hz, 1 minute			
Operating temperature	-30°C to +60°C			
Protection rating	IP67/IP69K			
Materials	Housing-Al, Lens-Tempered glass, Bracket-K Type-STS430/MF Type-Al			
Certifications	CE UL cUL			
Weight(Approx.)	QML-150-D: 0.82kg QML-150-K: 0.88kg QML-150-MF: 1.09kg	QML-250-D: 1.31kg QML-250-K: 1.37kg QML-250-MF: 1.58kg	QMHL-150-D: 0.84kg QMHL-150-K: 0.99kg QMHL-150-MF: 1.11kg	QMHL-250-D: 1.32kg QMHL-250-K: 1.39kg QMHL-250-MF: 1.60kg

※ UL Listed (Cable Type), UL Recognized Component (RU/UR, Cable & M12 Type): QML Series only

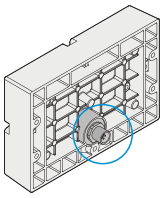
QML / QMHL

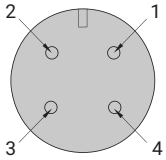
Light Distribution and Illuminance

Model number	QML-150-D QML-150-K QML-150-MF	QML-250-D QML-250-K QML-250-MF	QMHL-150-D QMHL-150-K QMHL-150-MF	QMHL-250-D QMHL-250-K QMHL-250-MF
Light Distribution Curve				
Illumination Feature				

M12 connector equipped

· Applicable model: QML-150-D, QML-150-K, QML-250-D, QML-250-K, QMHL-150-D, QMHL-150-K, QMHL-250-D, QMHL-250-K



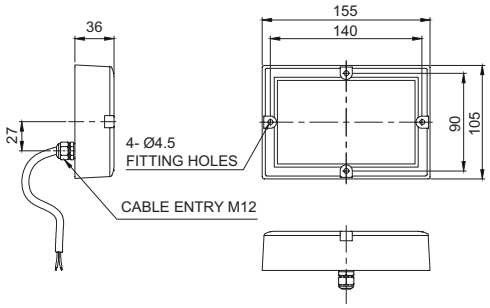


PIN	DESCRIPTION
1	DC (-)
2	N/A
3	DC (+)
4	N/A

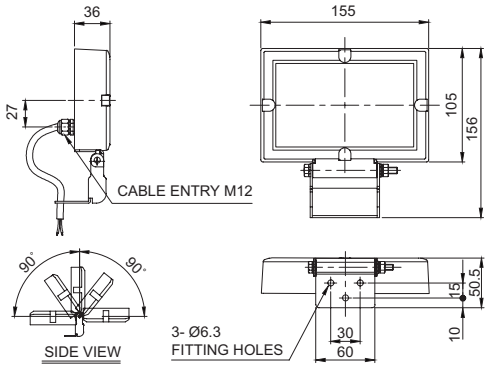
Technical Diagram

Units: mm

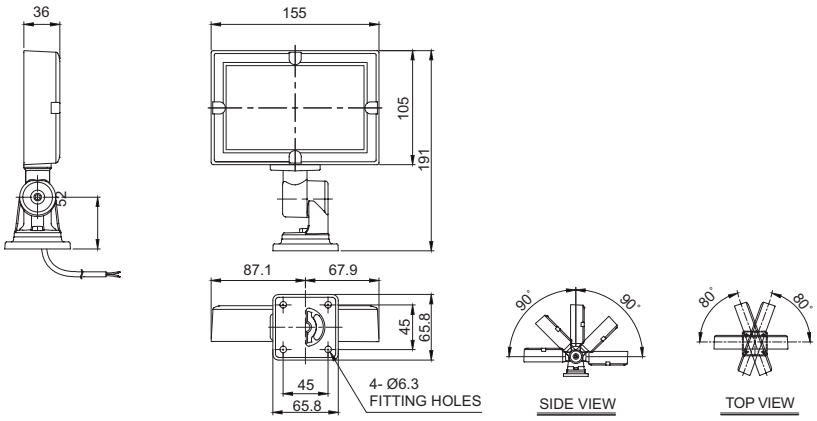
·QML-150-D / QMHL-150-D



·QML-150-K / QMHL-150-K



·QML-150-MF / QMHL-150-MF



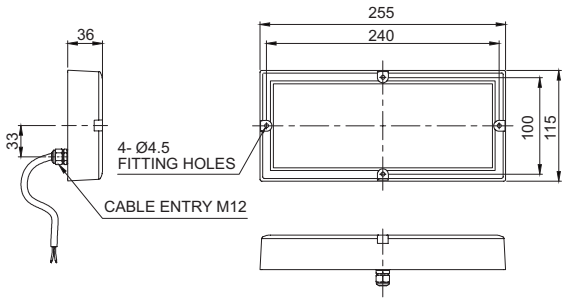
· External power line - Dura & Flex-F VU(0.5sq) x 2C 450mm

IP67 IP69K +60℃ -30℃

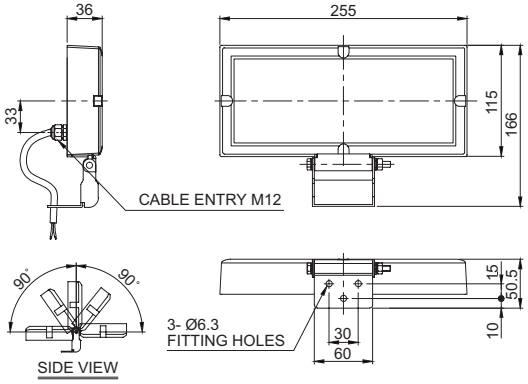
Technical Diagram

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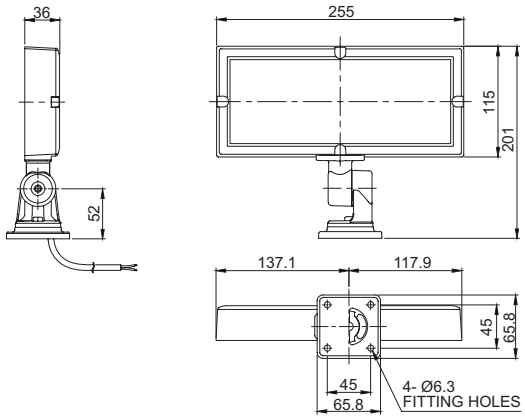
·QML-250-D / QMHL-250-D

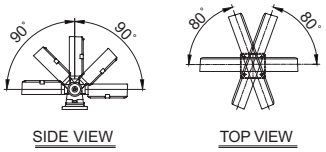


·QML-250-K / QMHL-250-K



·QML-250-MF / QMHL-250-MF



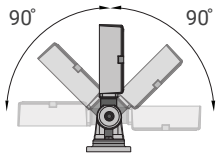


· External power line - Dura & Flex-F VU(0.5sq) x 2C 450mm

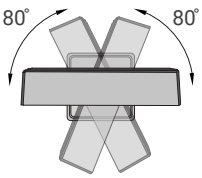
Tilt/Pan Type MF Bracket, Water and Oil Resistant

·MF type bracket

SIDE VIEW



TOP VIEW

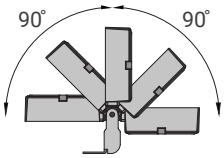




· Water and oil resistant MF type brackets protect output cable from cutting fluid and chips
· Has a tilt adjustment angle of 180° and a pan angle of 160°

·K type bracket

SIDE VIEW



· Has tilt adjustment with wide angle of 180°

Ordering Specification

QML	-	150	-	D	-	24	-	M12
[Model number]		[Product length]		[Mount bracket]		[Voltage]		[Connector]
QML-Anti-Glare QMHL-High illumination		150-155mm 250-255mm		D: Self stand K: Vertical angle adjustment MF: Vertical, horizontality angle adjustment		24-DC24V		(None) - power cable withdrawal type M12 - M12 connector type

Cautions in use

· Please check the safety manual before use, accidents such as fire or electric shock can occur if the safety manual is not followed.
· This product can be changed without any notification. Latest information is on the website.