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**WCDE-20-HLM100-20X1000W-MH**

# 100' Hydraulic Megatower™ Light Plant - 33' Trailer - (16) MH Lamps - 20KW Genset - Auto Retract

**Product ID: 224354**

**Please see last page for supporting documentation for this product(certificates, CAD files & drawings, IES files, wiring diagrams, etc).**



**Larson Electronics LLC manufactures a wide variety of products, including custom built to spec designs. The pictures displayed for this unit are a general representation of form factor for the product line and may not accurately represent this exact configuration in every detail due to custom builds and changes between similar products in our standard catalog. The specifics for this configuration are listed in the specification table and supporting documentation (CAD files, Dimensional Drawing, Name Plate Diagram, Wiring Diagram, etc.). This means that specific details (receptacles, plugs, wires, connections, mounting brackets, external finishes, etc.) may not be accurately represented in images vs specifications. Please review specifications and do not order based solely on images.**

**WCDE-20-HLM100-20X1000W-MH Trailer Mounted Metal Halide Megatower™**

**Genset Specs**

**Genset:** 20kw
**Engine: Perkins 28.9HP**
**Engine Type: Vertical, liquid-cooled, 4-cycle diesel engine, naturally aspirated**
**Engine Speed: 1800 RPM**
**No. of Cylinders: 4**
**Generator:** 20KW Stamford Brushless
**Voltage:** 120/240V 1PH
**Battery:** 12V @ 36aH
**Fuel Cell Capacity: 110 Gallons - External Tank w/ Anti-Splash Baffles**
**Fuel Delivery: Electric**
**Sound Level: 68 dB - Full load @ 23` away**
**Cold Weather Package:** Yes - Factory Included

**Light Mast Specs**

**Tower Length: 33.5` to 100`**
**Materials:** Carbon Steel
**Finish:** Galvanized
**Operation:** Hydraulic (Upright and Extension)
**Safety:** Wind Speed Monitoring System/Auto Retract

**Quick Summary**

11KW Kubota Brushless Genset
110 Gallon External Fuel Cell
Cold Weather Package Factory Installed
Continuous Operation
33.5` to 100` Light Mast
Hydraulic Aluminum Mast
Steel Construction Trailer
Hydraulic Mast Operation
Powered Boom Deployment
High Output Metal Halide Lamps
Extreme Area Coverage
1,760,000 Total Lumen Output
Independently Adjustable Light Heads
Auto Retract
Switched Breaker System per Lamp Head
All Equipment Mounted on a 33` x 8` Trailer
Steel Trailer w/ Industrial Grade Paint Finish
6-Point Outrigger System
7,000 lb Leveling Jacks
Powered Boom Deployment
External Oil Pump System-Change Oil Every 3,000 Hours

**Light Head Specs**

**Lamp Type:** Metal Halide

**MH Lamp Qty:** (16)

**Total Wattage:** 16,000W (1,000W per lamp)

**Total Lumens:** 1,760,000 (110,000 per lamp)

**Voltage:** 120/240V 1PH

**Ballast Location:** Trailer Mounted @ Base

**Lighting Configuration:** Flood Beam Pattern

**Materials:** Aluminum, Tempered Glass Lens

Wind Speed Monitoring System

**Trailer Specs**

**Materials:** Steel

**Trailer Dimensions:** 33`-L x 8`-W trailer bed
**Height (Mast Collapsed):** 33`-H
**Height (Mast Extended):** 100`-H
**Footprint (Outriggers Extended):** 36` x 19`-11"
**Hitch:** Gooseneck (12" I-beam Construction)
**Wiring:** 7-Pin Flat
**Axles:** (2) 10,000 lbs w/ Electric Brakes
**Suspension:** Tandem Dually
**Outriggers:** (6) 12` x 12" x 12" I-Beams Retractable w/ (6) 7,000 lbs Manual Leveling Jacks

**Wheels:** (8) 16" 5x4.5" Steel Rims

**Tires:** (8) P235/80R16

**Special Orders - Special Requirements**

Contact us for special requirements

**Weight: -**

**Shipping:** Common Freight

**Shipping Weight: -**

**Intl:** 1-903-270-1187

**Toll Free:** 1-800-369-6671

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## Made in the USA

**The WCDE-20-HLM100-20X1000W-MH from Larson Electronics is a Trailer Mounted Hydraulic Metal Halide Megatower™ Light Plant that offers high output illumination and can withstand the extreme abuse found within heavy-duty industrial applications. This trailer mounted fold over 7-stage hydraulic light plant provides a safe and effective way for operators to quickly deploy sixteen 1,000-watt metal halide light heads to heights above 100` (with 12` of light head assembly) for any heavy-duty industrial application.**
**This mining grade light tower folds over for easy transportation, features a hydraulic ram upright assist, hydraulic mast and high output metal halide fixtures. The light tower is powered by a 20KW Kubota diesel generator with a 110-gallon fuel tank. The entire assembly is mounted onto a 33` by 8` tandem axle trailer, allowing operators to transport this fold over boom from location to location. A wind speed monitoring system automatically adjusts the height of the mast, upon sensing the presence of strong winds.**
***PLEASE NOTE: ANY FREE SHIPPING OFFERS DO NOT APPLY TO LIGHT MASTS OR LIGHT TOWERS***
The WCDE-20-HLM100-20X1000W-MH Metal Halide Light Plant is a self contained, towable, high power light tower package. This unit contains a water cooled diesel engine powering a 20KW Kubota generator, which supplies the current for sixteen 1,000-watt metal halide lights producing 110,000 lumens each, for a combined total of 1,760,000 lumens of light. This unit includes a hydraulic telescoping light mast which can elevate all lamps up to 100`.
The hydraulic tower is capable of reaching heights up to 100` with the light head assembly, which measures 12` in height, and an overall transport height of 8` 6". This light plant features an external oil pump system. Oil must be changed every 3,000

hours. This heavy-duty Megatower has been specifically made for extremely rough applications and can be transported over almost any kind of rough terrain. This mobile floodlight package is ideal for large-scale event illumination, construction, mining, industrial operations, and anywhere a mobile full power, durable lighting system capable of extended operation and rough abuse is needed.
This telescoping seven stage hydraulic light mast from Larson Electronics is designed to allow operators to quickly and safely deploy up to 16,000 watts of high intensity metal halide lighting in locations where illumination must be elevated to heights above 65` (from ground to mast head; 100` in total height with 12` light head assembly) for effective coverage. This light boom can be collapsed to 33.5` for applications where a footprint smaller is required. The tower is constructed of carbon steel tubing with 2` foot of overlap per section. The mast is elevated using an included hydraulic ram and extended to its full height using a second hydraulic system.

Click Image to Enlarge



A 90" wide by 109.5" tall and 2" by 2" by 1/4" thick steel mast head is attached to the upper section of the mast which provides a strong and stable platform for the sixteen metal halide light heads.
**Lights:** The Hydraulic Megatower™ from Larson Electronics features sixteen 1,000-watt metal halide fixtures. Each module produces 110,000 lumens for an impressive 1,760,000 lumens of total output, which provides operators with a superior lighting solution for even the most challenging areas to illuminate. To ensure even coverage of wide areas, the modules used on this hydraulic light plant are configured in Larson Electronics for even distribution pattern. Trailer-mounted remote ballasts for the metal halide lights are located away from the fixtures and can be found at the base of the tower.
The fixtures produce exceptional illumination using a 19” aluminum reflector housing that spreads a powerful flood pattern of high quality light over large areas. The metal halide lamps are secured within a separate die cast housing for strength and durability while a clear tempered glass lens provides protection for the lamp. The 19” reflector on this lamp is constructed of aluminum with a clear tempered glass lens which is hinged onto the reflector and secured into place with a four-point latching system. The lamp socket is die cast aluminum and separate from the reflector for added durability. The reflector and lamp socket assembly are secured together as one unit which makes installation simple and straightforward. Vertical and horizontal aiming guides are included in the lamps` design which makes aiming the metal halide units during operation easier and safer, protecting users from the potential burns associated with handling the fixtures. A stainless steel hinge provides durable adjustability and corrosion resistance.



Click Photo to Enlarge

**Telescoping Boom:** The hydraulic telescoping boom is constructed of carbon steel with a galvanized finish and extends to 65` in height from the ground to the mast head and 100` of total height with the light assembly (measures 12` in height). This boom is raised from and lowered to the folded position by a single hydraulic ram and extended or retracted by a second hydraulic system.
**Auto Retract:** To prevent damage and shaking from strong winds during operation, this light tower is equipped with a robust wind monitoring system. When exposed to strong winds, such as 40 mph, the system automatically retracts the mast for safe operation. In a retracted state, operators must re-adjust the height of the mast back to its original height (or another preferred height). This cutting-edge feature is designed to improve safety at industrial work sites.
**Wiring/Controls:** The metal halide light heads are grouped into banks of four. Each bank in wired into the NEMA 3R breaker control box at the base of the mast. Operators control the light heads via an on/off switched breaker per bank of four light heads. The hydraulics are also powered from within this breaker box. Power is provided to the control box via an integrated 20KW genset. The mast elevation is controlled by a push button switch to operate the hydraulic ram allowing operators to raise the mast to the upright position. The vertical deployment is operated by a second push button switch allowing operators to extend it to its full 100` height or retract it to the collapsed height.

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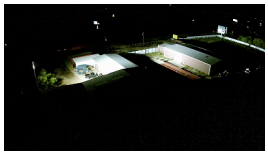
**Genset:** The WCDE-20-HLM100-20X1000W-MH mobile hydraulic Megatower™ includes a specialized genset that houses a Perkins diesel engine that powers the 20KW Stamford 120/240V brushless generator. This genset is liquid cooled and features a single phase generator with electric start ignition. The diesel generator runs at 3600 RPM and is equipped with an EPA/CARB Tier 4 emissions system. A 110 gallon fuel cell sits beside the genset and is equipped with an electric fuel delivery system. The fuel cell is constructed of single a heavy gauge steel single wall frame with internal anti-splash baffles. This genset features key operated electric starting, a twelve volt electrical system, liquid cooling, replaceable dry element air cleaner, and a full enclosure for safe operation and protection against the elements. This engine also features cold weather options to improve performance under cold weather conditions.

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Click Images to enlarge.
The above images show a side by side comparison of the light output between our LED light plant and a traditional four lamp metal halide light plant. The left image shows the metal halide light plant raised to 30` and illuminating a 50,000 sq ft work area with four 1000 watt metal halide light fixtures. The right image shows the WCDE-20-HLM65-20X500LTL-LED-WSM light plant raised to 50`, illuminating the same 50,000 square foot work area with twenty 480 watt LED fixtures. Notice how the color and intensity of the work area is greatly improved when lit up by the LED fixtures.






Click Images to enlarge.
The left image above shows the light mast illuminating a 300,000+ square foot area. The yellow billboard in the image reaches 40 lux, while the fence at the tree line (480`+ away from the tower) reaches 35 lux. This image was taken from 50` behind the mast and at 100` above ground level. The image to the right shows the work space 75` in front of the mast, with the entire area work area reaching over 100 lux. The mast was extended to 35`.

The left image above shows the same 300,000+ square foot area being illuminated. In the background you can see a vehicle with their headlights on, barely able to be seen in comparison to the WCDE-20-HLM65-20X500LTL-LED-WSM light plant. This image was taken at 80` to the right of the mast and 175` above ground level. The mast was extended to 35`. The image on the right is a Google Earth export of the physical area being illuminated, for scale purposes.

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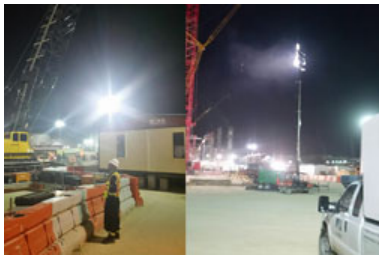
**Trailer:** The entire unit is mounted onto a four wheel, dual tandem axle trailer with 12"

I-beam construction. Each axle is rated at 10,000 lbs and equipped with P235/80R16 tubeless tires and wheels. The rear axle is equipped with electric brakes. A gooseneck hitch system that extends to the truck bed, above the rear axle and the trailer, is available for secure hauling. Standard heavy duty safety chains are included. Overall length of the trailer is 33`.

Six 7,000 lbs hand crank jacks are used for raising the trailer up off the ground, and four 7,000 lbs hand crank jacks mounted on extending outriggers are used for leveling and stabilizing the trailer assembly. Each of the four jacks are attached to a pivoting outrigger constructed of 6` by 6" by 6.3" steel I-beams. The jacks can be leveled by hand crank or attachment provided for power drills. These outriggers can be extended 6` out from the side of the trailer for added stability. This light plant can withstand 35 mph winds when fully extended. When lowered to 30`, the mast can withstand 50 mph winds. When lowered to 33.5`, the mast can withstand wind speeds up to 95 mph with gusts of 125 mph. Custom builds can be provided for higher wind speed resistance when fully raised.

**Runtime:** The sixteen 1,000-watt metal halide light heads are capable of continuous use on a single tank of gas when only operating the light heads and air compressor. When running 24 hours a day and 7 days a week, this light plant will run for nearly 2 days straight without refueling. When the genset is running for 12 hours a day, this tower will provide on-site illumination for up to 4 days before needing more fuel. This self contained light plant provides operators with a worry free and energy efficient alternative to metal halide light plants.

We offer a choice of finishing, equipped light heads, and with or without gensets. These towers can be fitted with Larson Electronics line of high output light heads, or customize the mast head to meet the mounting requirements for your equipment. Optional diesel generators and fuel cells can be equipped from factory, or retrofitted after purchase.



Click Photos to Enlarge

**Cold Weather Package:** The WCDE-20-HLM100-20X1000W-MH is designed to withstand extreme cold environments and harsh winters. The hydraulic system is equipped with a de-icing system to prevent the hydraulic lines and system from freezing from moisture building within system. This de-icing system uses an environmentally friendly (non-toxic) fluid. All hydraulic lines are equipped with cold weather rated hydraulic hoses rated for -65°C and fitted with metallic hardware. All the hydraulic controls are housed within an insulated and weather tight enclosure. This hydraulic control box features 1/2" thick polystyrene foam insulation and heat trace. The hydraulic system features -65°C cold weather rated rubber hydraulic hoses with metallic fittings and a cold weather rated high viscosity hydraulic fluid. All electrical components are wired using cold weather rated SOOW cable with rated to -50°C that features high flexibility, and extreme abrasion, acid, oil, and water resistance even in sub-zero climates.

The genset is retrofitted with a coolant heater to keep engine temperatures at optimum levels. The fuel system is equipped with an in-tank fuel heater to prevent gelling in arctic environments. The genset is equipped with 0W-40 synthetic oil. The genset`s electric battery is equipped with a battery blanket.

**Suggested Applications:** Temporary lighting, construction site illumination, outdoor event lighting, job site lighting and any other application that requires a self-contained source of illumination capable of covering a very large area effectively.

At Larson Electronics, we do more than meet your lighting needs. We also provide

replacement, retrofit, and upgrade parts as well as industrial grade power accessories. Our craftsmen can custom build any lighting system and/or accessories to fit the unique demands of your operation. A commitment to honesty, quality, and dependability has made Larson Electronics a leader in the lighting and electronics business since 1973. Contact us today at 800-369-6671 or message sales@larsonelectronics.com for more information about our custom options tailored to meet your specific industry needs.

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# Frequently Asked Questions (FAQ)

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**Product ID: 224354**

**Export Control Classification Number (ECCN):** EAR99

Links (Click on the below items to view):

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- **Photometric Flood Report**
- **Photometric Indoor Report**
- **Photometric Polar Graph**
- **Photometric Road Report**
- **HigResPic1**
- **HigResPic2**
- **HigResPic3**
- **ISO 9001 Certification**
- **Business Certificate**
- **Shipping Time Map**