

Mining News Issue 3

AS500FF® Work Lamp



Made for Mining



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The new Hella AS500FF® is a compact, ultra heavy-duty work lamp, available in Xenon and Halogen versions, for use on mining machinery for 24V DC and 12V DC electrical systems.

The AS500FF® creates a safe and productive work area where both machine operator and others can clearly see their work environment and identify hazards. The AS500FF® provides excellent lighting under the extreme environmental conditions encountered in mining applications in a very compact and highly flexible format.

Modular design enables AS500FF® users to re-use and recycle their lights into new applications, upgrade from Halogen to Xenon light source, or change between mounting options according to need.

Cast alloy body

The AS500FF® range shares a heavy-duty cast aluminium body finished in a multi stage coating for optimal corrosion protection. Rapid service access for routine service and effective sealing is ensured through captive Allen screws and high temperature O-ring seals. The body features an integral non-snag, ergonomic handle.

Multi-adjustable trunnion bracket

Accurate and stable aiming in a high vibration environment is ensured in all assembly positions. The standard trunnion bracket locates the axis of rotation in the centre of gravity while arced slots lock the aiming angle and four M6 Allen bolts secure the lamp. It is also possible to mount the AS500FF® directly onto a rigid surface, and optional pedestal mount brackets are available. The supplied heavy gauge stainless steel AS500FF® mounting hardware is non-resonant and highly corrosion resistant.

DRACO® shock and vibration isolation system

Our multi-element DRACO® isolator system between the lamp and bracket eliminates all metal-to-metal contact to reduce the intensity of shock and vibration communicated to the lamp (see back page for more information).

High precision optics

Hella Free Form precision optics in the AS500FF® deliver a homogenous spread of light, enabling operators to see comfortably for long periods of time. The absence of sharp transitions from light to dark in the visual field reduces adaptation related eye fatigue and stress significantly.

Both the The AS500FF® Xenon GDL and Halogen versions provide wide and narrow beam options to suit various mounting and illumination requirements. The optical modules can also be rotated inside the housing to ensure optimum light distribution. Additional optical modules to expand the range will be added to meet future needs.

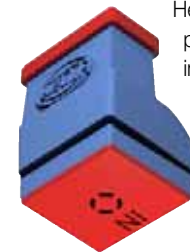
AS500FF® Xenon

The 35W Xenon lighting systems pioneered by Hella have set the standard across the world for delivering excellent visual acuity and comfort to professional users. The integral electronic ballast fitted to the AS500FF® range is designed specifically for continuous operation in mining applications. The ballast is user replaceable and fully encapsulated in halogen-free flame-retardant material for

maximum protection against shock, vibration and environmental contaminants to ensure safety and reliability.

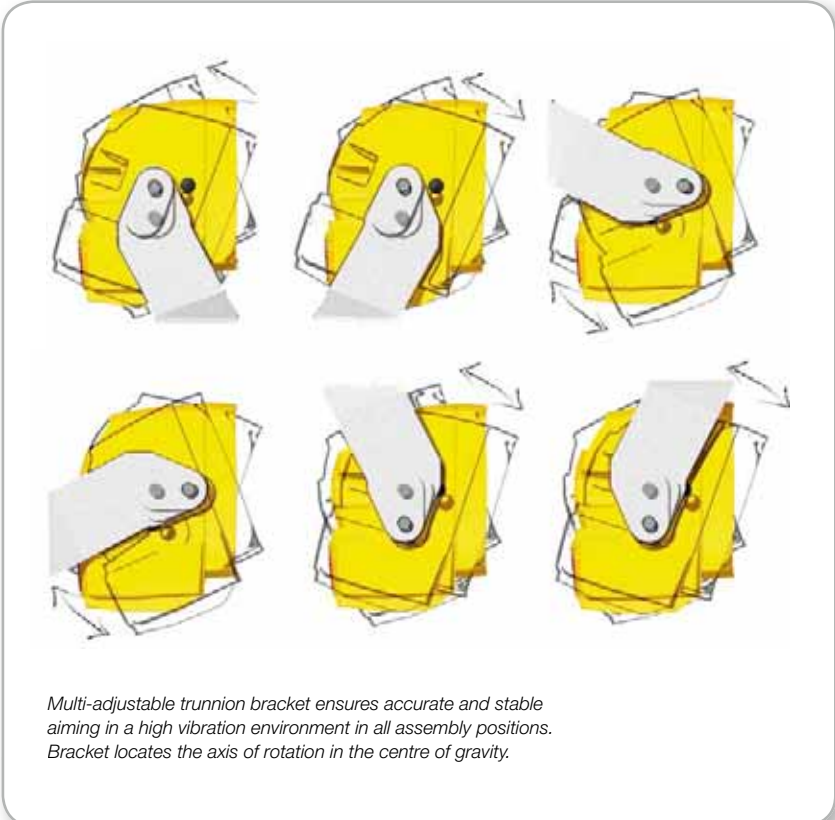
MustADD® filter system

Hella integrated the patented MustADD® filter into the AS500FF® to ensure optimum optical system performance is maintained over product life in the adverse atmospheres typically encountered in mining. This technology practically eliminates light loss due to corrosive damage to the optical surfaces (see back page for more information).



Connectors

Safe and reliable electrical connection is facilitated via a short length of highly flexible double insulated cable terminated as standard in DT or AMP connectors.



Multi-adjustable trunnion bracket ensures accurate and stable aiming in a high vibration environment in all assembly positions. Bracket locates the axis of rotation in the centre of gravity.

AS500FF® Heavy Duty Work Lamps



Product Features

- Die cast aluminium body
- Multi position stainless steel trunnion bracket with quad fastening
- Pedestal bracket or direct mounting options
- DRACO® suspension with no metal-to-metal contact
- Captive Allen bolts for rapid globe changes
- Double insulated silicone supply cable with DT or AMP plug
- Integral non-slag handle
- O-ring seals
- Components certified over a -40°C to +105°C temperature range
- MustADD® filter to keep optics clean
- Free Form wide and narrow beam optics
- 35W Xenon 12V DC & 24V DC or Halogen 55W (12V) and 70W (24V)
- Halogen versions can be upgraded to Xenon 12V DC and 24V DC
- Replaceable 200G shock resistant encapsulated ballast (Xenon models)
- Principal spares interchangeable with Hella AS200FF range
- IP6K7



Specifications

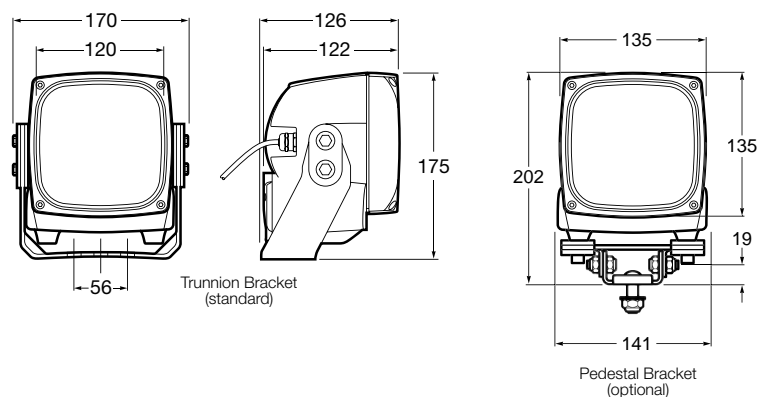
	Xenon	Halogen
Voltage	12/24V DC	24V
Power consumption	ca. 41W	70W
Peak current	10A	2.9A
Housing temperature range	-40°C to +105°C	-40°C to +105°C
Mass	2.75kg	2.15kg
Lamp type	D2S	H3
Protection code	IP6K7	IP6K7

AS500FF® Xenon

Description	Part No.
24V DC Wide Beam DT plug	HMADX35WBD
24V DC Narrow Beam DT plug	HMADX35NBD
24V DC Wide Beam	HMADX35WBA
24V DC Narrow Beam	HMADX35NBA
12V DC Wide Beam DT plug	HMAKX35WBD
12V DC Narrow Beam DT plug	HMAKX35NBD
12V DC Wide Beam	HMAKX35WBA
12V DC Narrow Beam	HMAKX35NBA

AS500FF® Halogen H3

Description	Part No.
24V Wide Beam DT plug	HMADH70WBD
24V Narrow Beam DT plug	HMADH70NBD
24V Wide Beam	HMADH70WBA
24V Narrow Beam	HMADH70NBA



AS500FF® Xenon



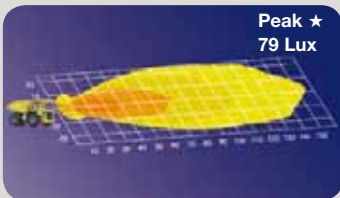
AS500FF® Xenon
Exploded View - with
Trunnion Bracket



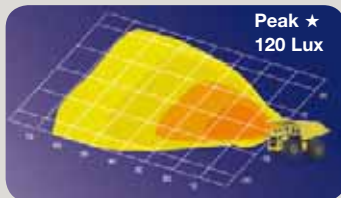
Optional
Pedestal
Bracket



AS500FF® Xenon Heavy Duty Work Lamps



Peak ★
79 Lux



Peak ★
120 Lux

Narrow Beam

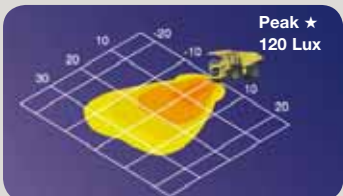
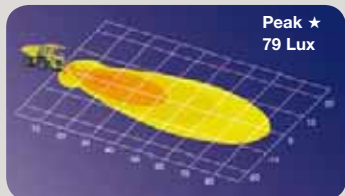
Wide Beam



AS500FF® Halogen H3



AS500FF® Halogen Heavy Duty Work Lamps



Narrow Beam

Wide Beam



MustADD® Air Filter Technology

Hella's patented MustADD® breathing system chemically cleans and dehydrates the air drawn into the lamp every time it is switched off for significantly extended product life. The combined particulate, chemical and dehydrating barrier effectively reduces corrosive damage and allows AS500FF® work lamps to operate repeatedly in harsh environments for extended periods. MustADD® air filters remove dust particles to sub-micron level from air and minimise airborne moisture, and ensure optimum light performance is maintained in corrosive environments.

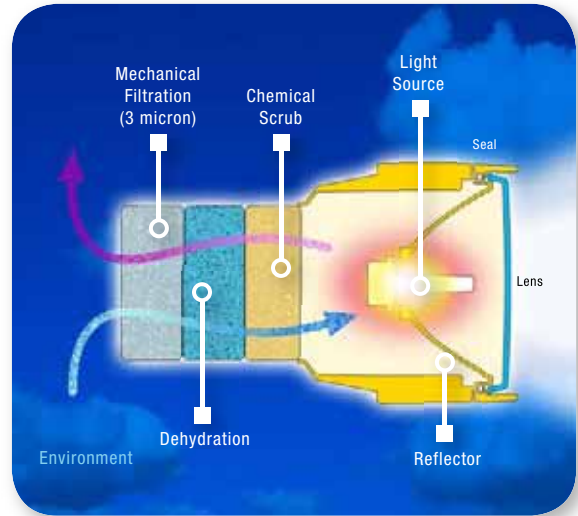
Heavily contaminated air typical in mining environments rapidly deteriorates the operational performance of most air filter systems. The MustADD® system is designed to substantially regenerate itself through the normal operational cycle of the work lamp through two actions.

Action 1

When switched on, the active components in the system rapidly heat up and impart some heat to the air inside the assembly. This heating action increases the internal air pressure and lower the relative humidity simultaneously; thereby forcing the vented air to re-absorb moisture from the desiccant as it is expelled.

Action 2

The vigorous vibration of the equipment to which the work lamp is mounted mechanically cleans accumulated particulate matter from the membrane. The physical structure of micro-porous membrane is specified so that the particulates are stopped on the surface and not trapped within the filter.



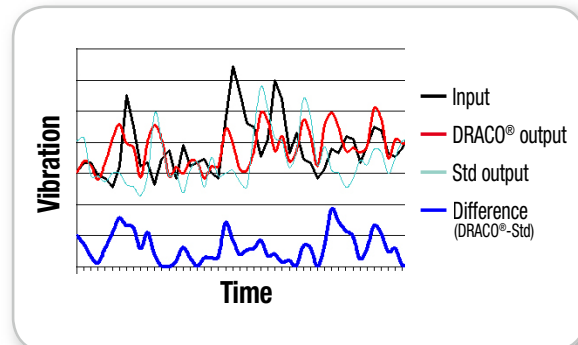
DRACO® Vibration Damping Mount

Many types of mine lighting equipment require single point mounting to allow for azimuth and elevation adjustments. The same equipment is also often subject to high levels of shock and vibration in multiple axes from various sources. Hella's unique DRACO® vibration damping mount limits the vibration passing from mounting surface to the lighting equipment.

The damping mount consists of two rigid mounting plates separated by two (or more) flexible compounds of differing hardness and damping properties arranged in parallel in one damper, providing a non-rigid mounting arrangement between the vibration source and load. Vibration signals are delayed in time and reduced in amplitude as they pass through the compounds. The difference in

flexibility and damping between the two compounds creates a relative phase shift, which causes the energy to spread over time. As a result, a new vibration signal is created with a compressed dynamic range and lower peak vibration levels, reducing the stress in the load significantly.

The DRACO® dampening system effectively eliminates resonant behaviour and is specifically designed for systems subject to random vibration with a large dynamic range.



Special Note: The illustrations, information and specifications presented and referred to in this leaflet were correct at the date of printing. However, Hella reserves the right, subject to all applicable laws, at any time, at its discretion and without notice, to discontinue or change the specifications or the design of any product referred to herein. The data and suggested applications are given as a general guide only and users should independently evaluate the suitability of each product for any particular application.

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