Air Curtain Burners

THE GREEN WOOD PROCESSING MACHINES

Applications: *(Subject to permit) Demolition - Forestry - Construction - Agriculture - Waste Management - Manufacturing - Conservation - Disaster Relief - Disease Outbreak - Military - Noxious Plants - Remote Location Waste Disposal - Oil Exploration*

EUROPEAN & UK SPECIFIC MACHINES

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AIR BURNERS, LLC & KINGWELL HOLDINGS INFORMATION

Air Burners, LLC is the largest manufacturer of Air Curtain Burners in the world. The Company holds many patents on this system and for more than thirty years has been building the most efficient and durable machines in the industry.

Reducing waste wood volume in landfill sites eliminates methane production from decomposition, which is a major contributor to global warming. Landfill Tax is increasing year on year and all other processing, handling and transport costs are rising. Air Burners provide an affordable and environmentally sound alternative to disposal of wood waste into landfill.

Air Burner uses: (Subject to permit): Civil engineering & construction site clearance, Japanese Knotweed and Rhododendron destruction, demolition wood waste processing, forestry clearance, heathland creation, waste transfer & landfill sites. They are particularly suitable for timber that is heavily contaminated with foreign objects as they are impervious to damage from them.

They play an important role in many worldwide national contingency plans for dealing with bio-security and catastrophic emergencies, storm or flood damage and to dispose of diseased animal carcasses from outbreaks of BSE, FMD, H5N1 & CWD.

Our Air Curtain Systems have been engineered and manufactured to help reduce the environmental impact of all types of waste timber and vegetation by volume reduction without the need to shred, compost, chip or transport material to end-user or landfill.

They are environmentally friendly, have a low impact and low carbon footprint.

Air Burners are built to last, and incorporate state-of-the-art design and engineering concepts to achieve maximum performance, reliability and return on investment, with minimum running costs, maintenance, servicing and repair. They are over-engineered and all of the machines have a modular design with every component made to be easily repaired or replaced in the field if damaged during use. There are no expensive electronics and very few moving parts and they do not require specialist servicing or maintenance.

Air Burners have a design life of over 10 years and over 80% of all machines ever made are still at work.

The Air Burners, LLC manufacturing facility is located in Palm City, Florida. Our engineering staff use the latest 3D CAD software for our equipment designs and we constantly receive feedback from both customers and our dealers so that we can quickly accommodate changes to support our customers' particular requirements and new developments.

The employees of Air Burners, LLC and Kingwell Holdings Ltd. are dedicated to maintaining the high standard of customer service, design and manufacturing that has made us the recognised leader in air curtain burner equipment.

Our service quality, technical knowledge & customer support is your peace of mind.

UK SPECIFICATION S-SERIES FIRE BOXES

Designed for un-treated timber and vegetation, UK (European) Specification S-Series machines (S-10, S-20 Euroburner and S-40) are all rated at a maximum through-put of 950kg per hour or below.

Please contact our in-house waste consultant for further assistance or information regarding permits.

Customers should always work under the correct permit, license or consent, as applicable, prior to carrying out any operations.

Air Burners use very high temperatures that safely and efficiently reduce wood and other vegetation waste to a residual ash and dramatically reduce emissions from the burning process. This process generally reduces the waste material volume by approximately 95%.

The refractory-lined fire box is the central component of this equipment and enables the burning of wood at extremely high temperatures and prevents the machine from destroying itself. This lining is far stronger than a standard kiln or incinerator lining and has taken many years to develop. It is a unique feature and can only be found on machines manufactured by Air Burners, LLC and will withstand many years of use. Beware of un-tested cheap copies.

The system is a very simple means of controlling the emissions from an existing open fire and making it burn at a far higher temperature than if it were in the open. The area inside the refractory walls has no floor and the system needs no flue, cover or firebox lid.

The patented air manifold system is mounted on the top side of one of the firebox walls and the blower fan is powered by a small Diesel engine. The principle of the air curtain concept works when high velocity air is directed across the top and downwards at an angle into the firebox, creating a moving air curtain or invisible cover on top of the fire and a rotational turbulence within the fire itself. This also provides an oxygen-enriched environment within the combustion zone, which forces the fire on and accelerates the burning by raising the temperatures within the fire to approximately 1,000º C. It is this extreme heat and over-oxygenation that breaks down the chemical compounds and reduces the emissions.

The moving air curtain over the fire traps the smoke and continuously returns it into the combustion zone until it is virtually all destroyed. This achieves nearly 100% combustion with minimal particulate. The refractory walls also aid in the process by retaining and reflecting the high temperatures generated within the chamber, which then acts like an oven to raise temperature levels still further. The volume of material that can be processed per hour depends on the density, size and moisture content of the waste wood.

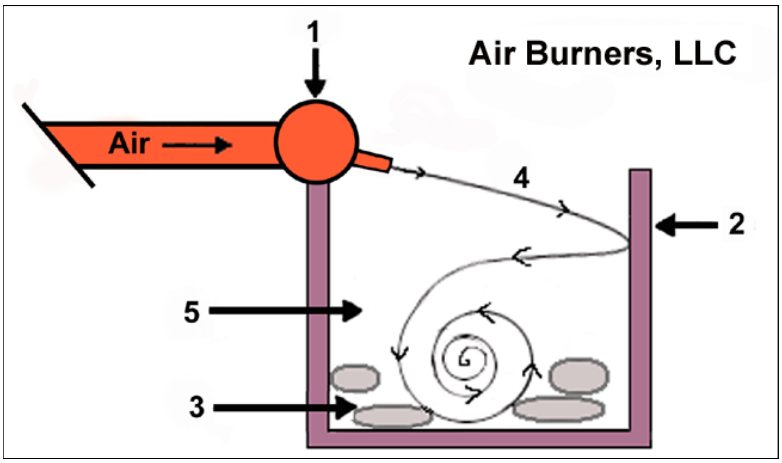
The burners are skid-mounted, self-contained, fully assembled and require no set-up. They can either be used in a semi-permanent position or dragged around a site. The machines are loaded over the top, by dropping material through the curtain of air that stops the emissions, usually by an excavator and grapple. Ash removal is from the rear doors of the firebox, usually by excavator and bucket and is carried out daily.

Once cooled, metal and aggregate can be recovered from the ash and recycled to reduce the volume still further and bring additional value to the recycling operation.

AIR BURNER ADVANTAGES & WORKING DIAGRAM

- Low purchase and running costs and a long working lifespan + high resale value.
- Safe to use, quick to set up and very reliable.
- Very strong construction for continuous site use and impervious to foreign objects.
- Easy to move for mobile operation - such as demolition or site clearance.
- Low fuel consumption and very quiet when operating.
- Low carbon emissions & low environmental impact. **No** methane emissions.
- Prevent waste wood from going to landfill.
- Reduce wood waste by 95% to inert ash.
- Recover and recycle metal from waste wood with little mechanical effort.
- Aggregate from the ash can be recovered and recycled.
- Ash from the burner can be recycled or tipped.
- Trucks used on wood transport to tip are now freed up for other work.
- Free up yard space - no need to stockpile waste timber.
- Scavenge free heat from the burner to heat water, dry waste, aggregate & soils.
- No need to shred or compact wood before processing.
- (Air Burners are Not suitable for woodchip, mulch or sawdust).

HOW DOES AN AIR BURNER WORK?



1. Air curtain manifold directs high velocity air across and into the firebox.
2. Hard refractory lined wall to contain fire and increase burn temperature.
3. Material being burned is agitated by the airflow.
4. Continuous airflow forms a high velocity “curtain” or “cover” over fire.
5. Continued air flow over-oxygenates fire to maintain high temperatures.

UK (EUROPEAN) SERIES AIR BURNER SPECIFICATIONS

1.	Fan Engine	Kubota V2003-TE Tier 2 (56 HP) or equivalent diesel engine. Full enclosure with lockable control panel. 400 Hour service intervals
2.	Safety Features	Low oil pressure and low coolant shutdown. Over temperature shutdown. Anti-slip deck floor. Lockable control panel
3.	Fan Drive Train	Engine mounted PTO with direct coupling drive and manual clutch to engage
4.	Fire Box	102 mm thick walls. Refractory panels with hard thermal ceramic lining
5.	Electric System	12 V DC with engine mounted alternator and battery isolation switch
6.	Instrument Panel	Key switch, tachometer, hour meter, fuel gauge, oil pressure and water temperature indicators with safety shutdown features and adjustable locking throttle
7.	Air Fan	Custom fan. Solid metal blades and guarded air intake
8.	Manifold	Minimum 3.2 mm steel, solid-weld assembly, with bash plate protection
9.	Skid Deck	12.7 mm steel plate, all solid-weld construction
10.	Fuel Tank	265 liters capacity
11.	Transportation & Set-up	Ready for immediate use. Skid mounted for site movement and has no floor. 2 doors at rear for ash removal. Lifting points provided for crane lifting
12.	Options	Firebox safety mesh screen. Engine deck security enclosure. Transport skid for hook-lift equipment. Heat recovery.
13.	Maximum Through-put	**S-10**: 650kg per hr. **S-20 Euroburner**: 650kg per hr. **S-40**: 950kg per hr
14.	Overall Weight	**S-10**: 9,300 kg. **S-20 Euroburner** 11,800 kg. **S-40**: 13,600kg
15.	Dimensions - Overall L × W × H	**S-10**: 5.7m × 2.2m × 2.3m. **S-20 Euroburner**: 8.3m × 2.2m × 2.3m. **S-40**: 8.2m x 2.6m x 2.6m
16.	Dimensions - Fire Box L × W × H	**S-10**: 3.3m × 1.5m × 1.8m. **S-20 Euroburner**: 4.9m × 1.5m × 1.8m. **S-40**: 5m x 1.9m x 2.2m

Note: All weights and dimensions are approximate. Subject to change without notice.

Purchase or Hire an Air Burner - UK Operations

Please contact us if you wish to hire a burner on long or short term contract or if you wish to purchase.

We can advise you on the correct model and application to exactly suit your needs.

With many Air Burner, LLC machines operating in the UK, our strength and experience is un-rivaled.

- We have our own in-house waste consultant who can advise or take on permit applications on behalf of clients and organisations where required.
- We can provide loading equipment and highly trained staff to carry out operations.
- Flexible transport systems are available - hook-lift, low-loader or crane to flat-bed.
- Full training for your operators is always provided for purchase and hire.
- Multiple machines are available on our hire fleet.
- We usually have a selection of used equipment available for immediate sale.
- Repairs, servicing and major overhaul work can always be undertaken.

For customers from outside the UK or concerning other issues such as emergency relief or disease outbreak, we offer a confidential and rapid response to your enquiry.