

THERMA-KLEEN®

INDUSTRIAL DRY VAPOR CLEANERS

Agriculture and Processing Facilities

Reducing the time and effort needed to provide a clean, safe and sanitary workplace
Therma-Kleen Wet Steam Machines are Either Propane or Electric Fired

Cleaning agricultural equipment can be done with Hot Wet Steam Washers or Cold High-Pressure Washers.

- Hot Wet Steam is a much superior method of cleaning than using a pressure washer.
 - Hot Steam breaks dirt's bond with the surface
 - Hot Steam uses a balanced heat to water flow ratio to efficiently remove oils, grease, and other gummy materials
 - Lower pressure will not damage surfaces or sensitive components
 - Cost Effective:
 - Uses only water
 - No Costly cleaning chemicals
 - A faster deep clean
 - Eco-friendly:
 - Uses only clean water
 - Lower water flow than pressure washers, less runoff to contend with
 - No Costly and Toxic chemical cleaning agents
 - No Chemical cleaning agents which bring their own set of health hazards



WHY USE THERMA-KLEEN ULTRA INDUSTRIAL WET STEAM SYSTEMS:



- Reduce Material & Labor Cost while Improving Cleaning Effectiveness.
- The basic principal behind why Therma-Kleen Industrial Hot Water Steam systems any why they are so efficient, is the very high temperature (up to 340° F and low water flow rate of 1.5 gpm) allows for efficient cleaning and killing of microorganisms such as, Salmonella, Listeria, E-coli, and other pathogenic microorganism's, obliterate fats, oils, dirt and kill mold bacteria, while causing little contamination caused by runoff.
- Only clean water is used – No harsh and costly chemical cleaning agents which bring there-own set of health concerns.
- Reduction in containment and toxic chemical disposal cost.
- Cleaning and Sanitizing becomes a one step process – Eliminates the multiple step process of cleaning than sanitizing with chemicals.

- Ability to reach down into the smallest cracks and openings and dislodge debris which conventional chemical cleaning can leave behind for infectious microorganisms to grow and leaving the potential for cross contamination.
- Clean-in-place – No need to completely dismantle equipment since steam can reach down into tiny spaces.
- Ability to adjust operating temperatures to the application.
- Therma-Kleen Industrial units can accommodate up to four (4) nozzles while maintaining pressure and temperature.
- High heat melts oils & greases making them easy to wipe up and remove.
- Has the ability to rapidly eliminate difficult-to-remove sticky & oily materials from surfaces and equipment.
- The common and most labor-intensive way to clean sticky residues is to stop the line, disassemble and remove contact surfaces to clean in a wash-down room. This can take many hours of costly downtime. The next step, hand wiping sticky residues can also take a long time and creates the potential for repetitive movement injuries. The most efficient way to clean sticky residues.
- Manufactured in America.



GREENHOUSES:



- Problems with diseases such as *Pythium* root rot or insects such as fungus gnats, in greenhouse and potting areas can be easily addressed with Therma-Kleen Ultra Hot Steam Machines. Over the course of growing season, infectious microbes accumulate, algae flourish, harboring fungus gnats and shore flies Etc.
- To provide a vibrant product, the area must be free of harmful organisms.
- Therma-Kleen ULTRA Steam equipment effectively disinfect benches, cabinets, floors, pots, flats, trays, benches & tables. Special attention must be directed to items constructed of wood, as it is a natural environment for unwanted pathogens such as *Pythium*, fungus gnats and flies, etc.

ANIMAL PENS:

- Disease can be easily transmitted from animal to animal through unhygienic boarding conditions.
- Stand-alone pens or the inside a building, need to be kept clean for the safety of the animals.
- It is high heat which kills infectious organisms.
- Using a Therma-Kleen ULTRA Hot Wet Steamer which produces 340° steam, will clean & disinfect floors, walls, pens, holding areas, and stalls.
- With a Therma-Kleen ULTRA unit, you will be able to clean faster, better and more efficiently than ever. Therma-Kleen ULTRA Hot Wet Steam units are designed for maneuverability in tight spaces.

DAIRY MILKING PARLORS:

- It is imperative that milking parlors be sanitary and cleaned daily in a manner which rids them of infectious organisms. The Therma-Kleen ULTRA line of Wet Steam machines are ready to clean and disinfect sorting gates, holding areas, floors, equipment and anything else in the milking parlor.
- Hot 340° F steam effective kills microorganism's, mold, mildew, etc. providing a sanitary and clean milking area.
- Therma-Kleen ULTRA come in either Propane and Electric fired units' which can easily clean/disinfect equipment both indoor and outdoor areas.

POULTRY FARMS:

- It seems like we are constantly hearing about recalls.
- The better way to clean poultry farms is with Therma-Kleen ULTRA Wet Steam Machines. The high level of heat (340° F) produced will efficiently sanitize and kill microorganisms, mold and mildew.
- This method will take less time while efficiently remove dirt & debris providing a safe and clean environment in a single operation.
- To prevent disease from spreading from one crop to the next It is essential that you clean and disinfect every surface, including the equipment, floors, walls, etc. of the brooder house before the first chickens arrive.
- It is much more cost effective to prevent infectious outbreaks than to weed out a virus after it has infected the flock.
- Poultry farms must meet certain sanitary and cleanliness levels keeping the birds & eggs free from any disease, so that the consumer is confident with the health aspects of the product.
- It is mandatory that every surface, including the equipment, floors, walls, etc. be sanitized and clean in order to keep the animals vibrant and in good health.



FRUIT:

- Washing of fruit with the proper pressure and temperature steam as they pass down a conveyor can rid them of Pesticides, as well as infectious organisms such as E-coli, Salmonella, Listeria, etc. more effectively than using existing washes and costly chemical disinfectant treatments, which bring their own collection of health concerns.
- Different fruits have their own set of temperatures and pressures to avoid damage.
- Therma-Kleen ULTRA Industrial Steam machines with their low pressure and the ability to control temperature will provide the most effective sanitizing and cleaning for different types of fruits without doing harm.
- Different fruits must be washed/sanitized at their own specific temperature to ensure proper killing without doing damage to the product.
- This technology could reduce the number of cases of foodborne outbreaks from contaminated produce, which each year cause an estimated 1.2 million illnesses, 7,100 hospitalizations, and 134 deaths. They also generate \$1.4 billion in illness-related costs, according to the U.S. Centers for Disease Control and Prevention.



FARM EQUIPMENT:

- Farm machinery, by the nature of their purpose, are constantly subject to abusive conditions which causes wear and tear. To reduce premature failure, they must be kept in a clean and well-maintained condition.
- To maintain equipment properly, they must not be covered with mud, grease, etc.
- Keeping farm equipment clean will:
 - Reduce maintenance cost
 - Reduce costly mechanical break downs
 - Prevent cross contamination between fields
 - And they just look better
- The most effective and easiest method of keeping machinery clean of abrasive debris is with Therma-Kleen ULTRA Steam Cleaner. It is the high heat produced (up to 340° F) which does the cleaning.
- The high temperatures produced by Therma-Kleen ULTRA Steam Equipment will easily soften and effectively and easily break up dried on debris like mud, bugs, greasy film, diesel fuel, and lubricants from tractors, harvester's, plows, combines, hay balers, livestock trailers, trucks, and everything else that gets exceptionally dirty.
- Clean equipment prevents cross contamination between fields.
- It is safe to use Therma-Kleen ULTRA Steam washer on polished aluminum, stainless steel, glass, plastic, and paint.
- The high heat and lower pressure of the Therma-Kleen ULTRA units reduces the chances of dirt and debris being forced into bearings, seals and areas where it can cause premature damage and failure.
- Therma-Kleen ULTRA Steam Equipment is portable and easily moved from location to location.
- Lastly, the hot steam produced by our ULTRA steam units breaks up stubborn stains, grease, oil, and thick mud. So, whether you're cleaning mud and manure off your tractor tires, droppings from a chicken coop, or oil stains from your driveway, you've got a tool capable of getting the job done right.



STORAGE BINS:

- A clean and sanitary storage system is a necessity for all bulk storage around farms.
- If the storage and product conveying equipment is not clean and sanitary, disease, insects, infectious organisms and mold spores can remain behind to contaminate future products.
- Additionally, with certified seeds for specific applications cross contamination is always a problem.
- Therma-Kleen ULTRA hot steam equipment is the ideal method of ridding & sterilizing equipment, buildings, conveyors, etc. of germs, insects and contaminated products.
- A thorough cleaning can rid the area of material which can attract rodents, flies and other insects.
- A good cleaning procedure for preparing conveyors, bins, augers and other equipment from season to season or between products is:
 - Thoroughly sweep/brush away all loose materials in the bin and on material handling equipment.
 - This material will probably contain disease organisms, insects and their eggs and may infest the next batch of grain/seeds, so it must be completely removed from the area and disposed of in a manner which will kill whatever may reside within.
 - Using Therma-Kleen ULTRA hot steam unit, thoroughly spray every surface. The hot steam will reach into cracks, crevasses and tight corners dislodging what may reside there.
 - The high heat (340°) of the steam produced will kill any remaining insects, their larva or pupae as well as disease organisms which remain to infect future commodities.
 - This process must be carried over to all equipment since insects, molds and diseases can invade new grain from infested harvesting and handling equipment (combines, augers, etc.), it's essential that this equipment be well cleaned before harvest. Carefully remove all traces of old grain from combines, truck beds, grain carts, augers, and any other equipment used for harvesting, transporting and handling grain. Even small amounts of moldy or insect infested grain left in equipment can contaminate a bin of new grain.
- The Therma-Kleen line of equipment will make this process easier, safer, more effective and leave a clean, safe and sanitary surface.



**Therma-Kleen Industrial Equipment
United States of America**



is manufactured in the

