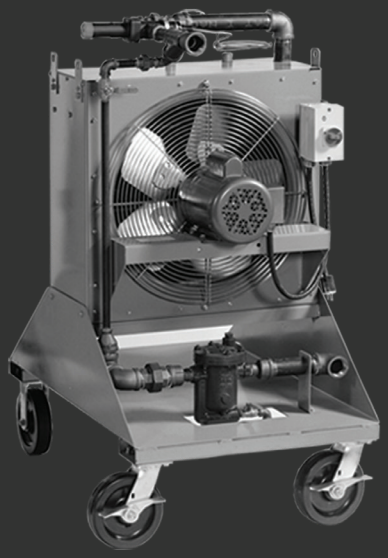
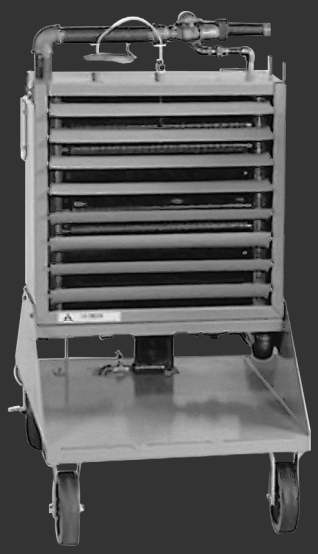
Armstrong®

INSECT HEAT TREATMENT





All insect heat treatment options are NOT the same

Although heat treatment is a commonly accepted method of integrated pest management - successfully performed by major food and grain-processing companies for the past 40 years - not all heat-generating options offer the same proven benefits. Of the three primary heat-generating options - electric-resistance, natural gas/liquid propane, and steam - only steam offers the safety, reliability, flexibility and control you demand.

Electric-Resistance

Electric-resistance may be a viable alternative when treating smaller spaces with very targeted treatment areas, however, in larger, more complex applications, electric resistance requires prohibitive wiring and power demands. Additionally, electric-resistance heat generation presents an increased risk of fire or explosion.

Natural Gas and Liquid Propane

Natural gas and liquid propane direct fired heaters also present increased risks for fire and explosion. In addition natural gas and propane carry effects of carbon monoxide and moisture, which can limit the effectiveness of this method, since elevated temperature and low humidity are required to kill insects.

Armstrong Unit Heater Installation

Armstrong Steam Heat Treat Solution

An Armstrong steam-generated heat treatment solution is not only a safer heat generating option, it also provides greater temperature control during the heat-up and cooldown periods, and it is a very dry heat source, which provides an optimal environment for insect eradication.

There's more to implementing an effective insect heat treatment solution than simply raising the building temperature. Armstrong's insect heat treat system delivers controlled heat-up and cool-down cycles, and provides a consistent, low-humidity heat source during the cook phase.

This improves efficacy, helps eliminate the risk of structural damage to your storage and processing areas, and the potential for damage to sensitive equipment or electronic components in the treatment area.

What's more, properly locating and mounting heaters for wall or ceiling installations, as well as selecting locations for portable heaters, is critical to a successful heat treatment program. If a heat treatment system is not properly designed and configured, some areas may not reach the critical sustained heating level of 125-140-degrees Fahrenheit. When a consistent, desired temperature is not achieved insects are allowed to survive -- requiring the process be repeated or alternative pest control methods deployed.

With a wide selection of heater sizes and configurations available, and the know-how to ensure they are properly configured, Armstrong's insect heat treatment system ensures maximum coverage in bins, silos, and hard-to-access storage and processing areas.

	Able to Control Heat-up & Cool Down Cycles	Risk of Fire Due to High Element Temperature and/or Combustion	Low Humidity Heat Source	Variable Size Heat Sources Available for Maximum Coverage	Ability to Remotely Control and Monitor Heater
Electric Resistance		X			
Natural Gas and Liquid Propane		X			
Steam Generated Heat Treatment	X		X	X	X

Armstrong Heat Transfer Group – 648 Moeller Street, Granby, Quebec, J2G 8N1, Canada Phone: 450-378-2655 Fax: 450-375-3787
armstronginternational.com

From a Leader in Steam Solutions

Whether you're looking for a portable or stationary system; or whether you're looking to buy and install; lease; or rent, Armstrong has the system configuration, knowledge and terms to make switching to a steam-generated heat treatment solution easy. Our trained representatives will help determine the best option for your plant environment, and our large North American network is always available to support on-going needs, should they arise.

HotBin Heaters

Heavy-duty, portable Armstrong HotBin Heaters provide an effective way to heat bins, silos and other hard-to-access areas inside your facility. These cost-effective heaters are ideal for heat treatment for insect control, and can also be used for temporary comfort heat and freeze protection. And because the heat is ducted, HotBin Heaters can distribute heat to multiple areas from a single heater.

Armstrong HotBin Heaters are pre-piped and available in a variety of configurations, Btu outputs and material options to meet most site requirements. Other product features include:

- Temperature regulator
- Inlet strainer
- Outlet steam trap
- Dial thermometer
- Manual motor starter
- Easy-rolling locking wheels

HotBreath™ Heaters

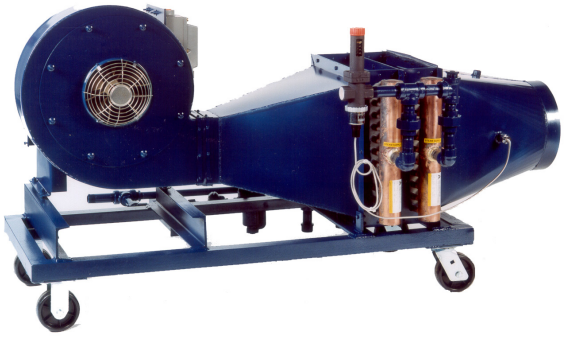
With the Heavy-duty Armstrong HotBreath™ Heaters you have the option for a permanent wall or ceiling mount or you can mount the HotBreath™ on a sturdy cart, providing portable on-demand spot heating in any area within a food processing facility. These cost-effective heaters are ideal for heat treatment for insect control and cal also be utilized for temporary comfort heat and freeze protection. Armstrong HotBreath™ Heaters are pre-piped and available in a wide variety of sizes, output capacities, voltages and materials options. Other product features include:

- Inlet strainer
- Steam trap
- Temperature regulator
- Heavy-duty steel cart with easy-rolling locking wheels

Standard & Optional Features

All Armstrong HotBin & HotBreath™ Heaters feature:

- Pre-piped units with controls, traps and heavy-duty steam hoses
- Permanent, in-place, options for structural heat treatment
- Portable options for structural heat treatment
- Portable options for bin and silo heat treatment
- Technical steam and condensate system support for integration of heat treat into existing plant steams systems
- Heat loss estimation, analysis, equipment, placement suggestions
- Explosion-proof options
- Engineering services can be estimated and arranged if necessary



Armstrong Portable HotBin Heaters

Armstrong Portable HotBreath™ Heaters

Additional Armstrong Products

Washdown Equipment

Steamix® hose stations from Armstrong offer a maximum temperature rise set point and cold water failure shutdown for ultimate user safety. Armstrong hot and cold water hose stations include a thermostatic mixing valve for optimum flexibility, control and safety for applications where there is a central hot water supply.

Tank Heaters

Armstrong tank heaters are built to withstand the rigorous demands encountered in industrial installations. The heavy-duty features of our units were developed in response to a need for tank heaters that could provide efficient heat transfer without sacrificing structural integrity.

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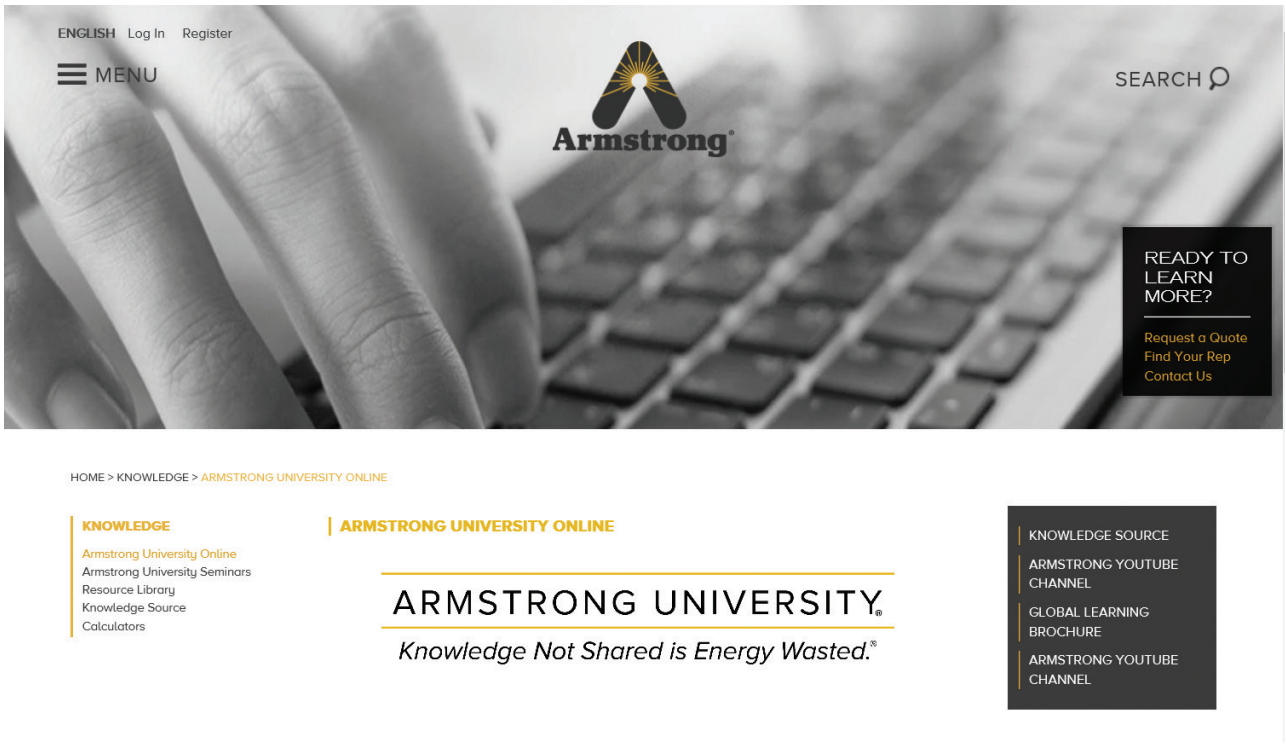


Sharing our unique legacy of in-depth knowledge and experience is one of our core philosophies at Armstrong International. We understand that efficiency, teamwork, communication and technology, as well as a healthier bottom line, are all driven by education and knowledge and we are uniquely qualified to share these with you. Through **Armstrong University**®, we give you easy access to comprehensive online training and educational opportunities, all from the convenience of a computer, tablet or smartphone.

The coursework found in Armstrong University® has been carefully developed by energy and thermal utility system specialists and leading technical experts with 2,000 years of collective, practical experience. The result is an extensive curriculum that spans nine colleges of learning and over 100 courses of study, including free introductory courses, intermediate and advanced courses, and courses that qualify for Continuing Education Units (CEUs).

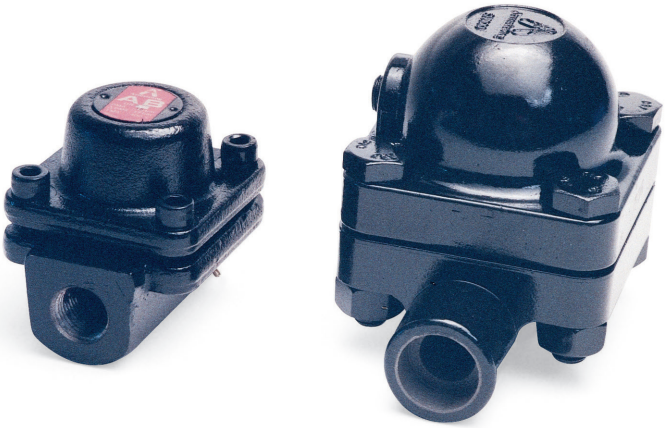
INTRO COURSES

Take full advantage of the educational opportunities available at Armstrong University, beginning with a variety of free introductory courses.

Additional Armstrong Products

Liquid Drainers

Armstrong float type drain traps are designed for draining heavy liquids from gases or light liquids (dual gravity drainers). These liquid drainers can operate to 3,700 psig or specific gravity down to 0.40.



BiMetallic Superheat Steam Traps

SH Series Bimetallic Steam Traps adjust automatically to changing conditions. The SH Series can operate at pressures to 1800 psig and is capable of operation on low load applications. Available in carbon steel

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Steam-A-ware™

Three Rivers, MI – Armstrong has just introduced the next generation of its Steam-A-ware sizing and selection software. Steam-A-ware™ does everything the industry's first steam trap selection did – plus even more. You are now also able to not only size steam traps, pressure/temperature controls and water heaters, but you can now size and select condensate recovery pumps.

Pick from specific applications or use "Select a Product Using Known Parameters", either way, you will be lead through an easy-to-use interface to the right product for the right application using either IP or SI units. You can create Schedules that can be saved and modified at a later date. Additionally, print/save your selected product specification which details all operating conditions required along with materials, specifications and options.

Steam-A-ware™ also includes the complete Armstrong Solution Source handbook and links to an individual page when a specific product model has been selected. In addition, Submittal Drawings, Installation, Operation and Maintenance manuals, and typical application drawings are just a click away.

For a free copy of Steam-A-ware™, please visit our website at **armstrong**international.com or contact the Marketing Department, Armstrong International, Inc. 816 Maple St. Three Rivers, MI 49093 Phone: (269) 273-1415 ◆ Fax: (269) 273-9057.

INTELLIGENT SOLUTIONS IN STEAM, AIR AND HOT WATER

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