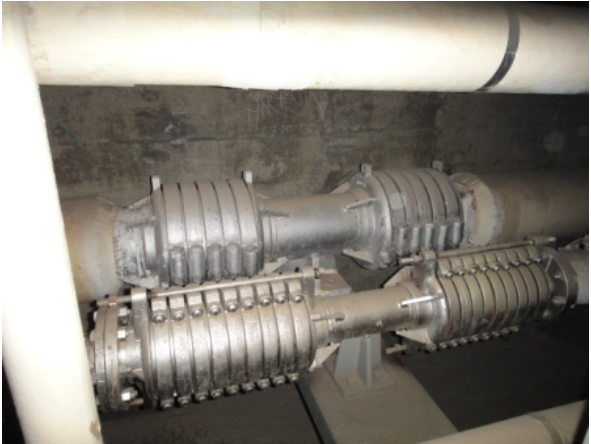
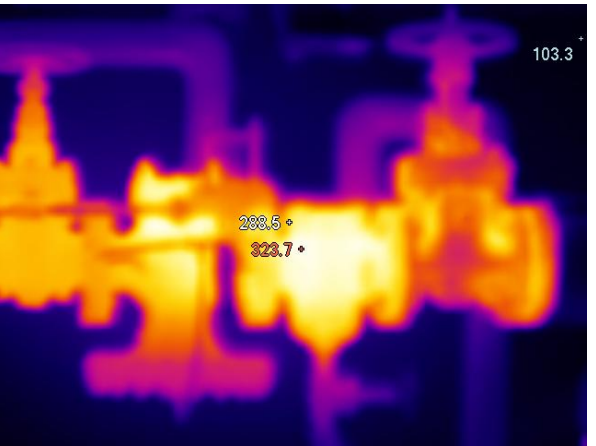
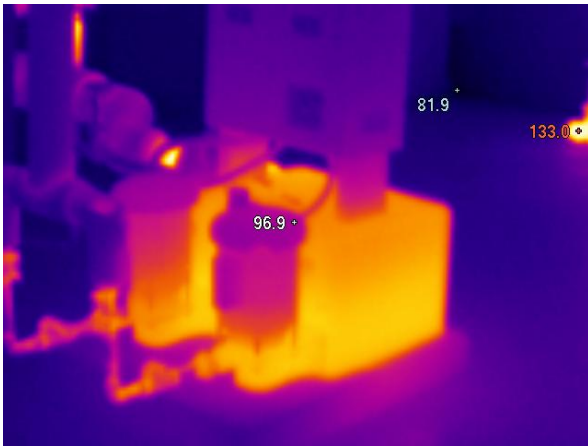
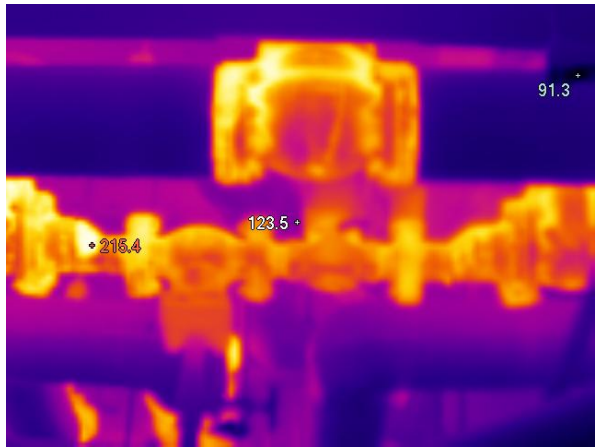
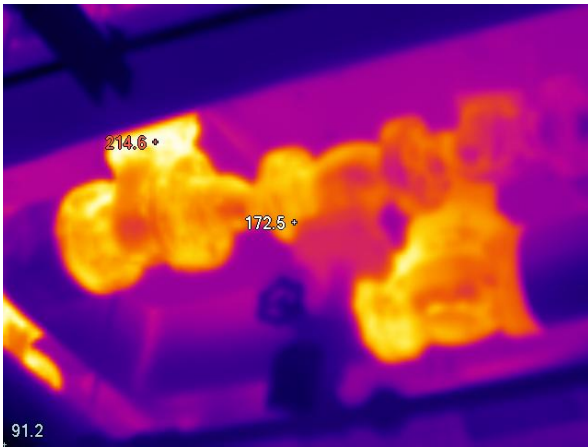
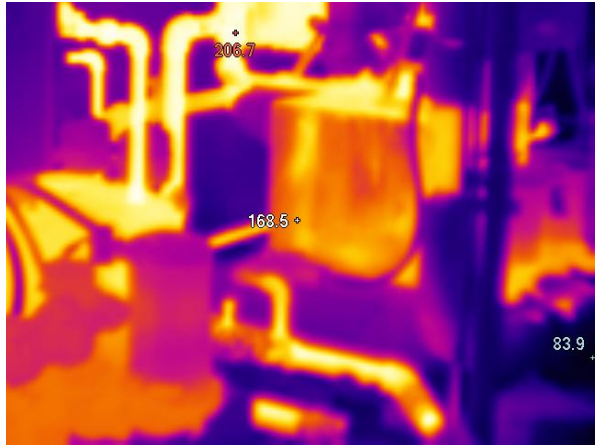
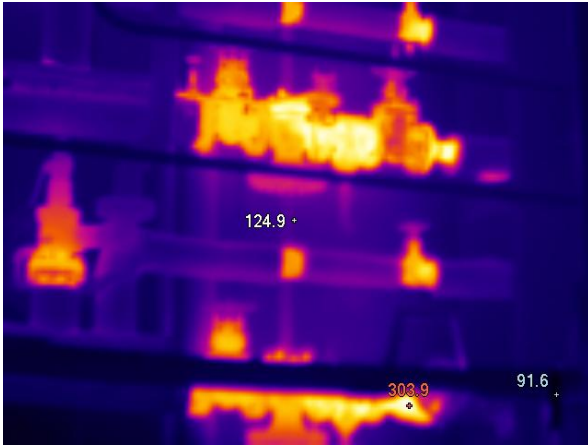


Photos of typical steam system components that are part of this project are shown below.







Supporting documentation from Department of Energy

Energy Tips – Steam

Steam Tip Sheet #17 • April 2004

Industrial Technologies Program



Availability

Insulation supply companies are located regionally; this expedites delivery and helps meet site-specific job requirements. Most supply companies can take measurements on-site to ensure the best fit on irregular surfaces. For customized applications, manufacturers can provide instructions regarding the installation and removal of insulating pads.

Noise Control Benefits

Specify insulating pads that contain built-in barriers for noise control.

Install Removable Insulation on Valves and Fittings

During maintenance, the insulation that covers pipes, valves, and fittings is often damaged or removed and not replaced. Pipes, valves, and fittings that are not insulated can be safety hazards and sources of heat loss. Removable and reusable insulating pads are available to cover almost any surface. The pads are made of a noncombustible inside cover, insulation material, and a noncombustible outside cover that resists tears and abrasion. Material used in the pads resists oil and water and has been designed for temperatures of up to 1600°F. Wire laced through grommets or straps with buckles hold the pads in place.

Applications

Reusable insulating pads are commonly used in industrial facilities for insulating flanges, valves, expansion joints, heat exchangers, pumps, turbines, tanks, and other irregular surfaces. The pads are flexible and vibration resistant and can be used with equipment that is horizontally or vertically mounted or that is difficult to access. Any high-temperature piping or equipment should be insulated to reduce heat loss, reduce emissions, and improve safety. As a general rule, any surface that reaches temperatures greater than 120°F should be insulated to protect personnel. Insulating pads can be easily removed for periodic inspection or maintenance, and replaced as needed. Insulating pads can also contain built-in acoustical barriers to help control noise.

Energy Savings

The table below summarizes energy savings due to the use of insulating valve covers for a range of valve sizes and operating temperatures. These values were calculated using a computer program that meets the requirements of *ASTM C 680—Heat Loss and Surface Temperature Calculations*. The energy savings is defined as the difference in heat loss between the uninsulated valve and the insulated valve operating at the same temperature.

Energy Savings ^a from Installing Removable Insulated Valve Covers (Btu/hour)						
Operating Temperature, °F	Valve Size (inches)					
	3	4	6	8	10	12
200	800	1,090	1,560	2,200	2,900	3,300
300	1,710	2,300	3,300	4,800	6,200	7,200
400	2,900	3,400	5,800	8,300	10,800	12,500
500	4,500	6,200	9,000	13,000	16,900	19,700
600	6,700	9,100	13,300	19,200	25,200	29,300

^a Based on installation of a 1-inch thick insulating pad on an ANSI 150-pound class flanged valve with an ambient temperature of 65°F and zero wind speed.