



# ISOCOVERS

Insulation Systems



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ISOCOVER  
SYSTEMS:

## ENERGY IN BRIEF:

What are the major sources and users of energy in the United States?

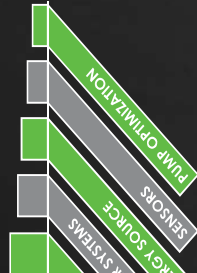
Process heating is vital to nearly all manufacturing processes. Process heating is the No. 1 energy drain for many United States industrial plants. The U.S. industry, process heating accounts for more dollars than any other processes in manufacturing. Industry uses energy for nearly 36% of the total energy used in industrial plants within the U.S.

use a significant amount of energy in this country. Yet, energy resources are the industry — and its energy — is greater than any other industry in the U.S.



## Significant Savings Application (TUs per year)\*

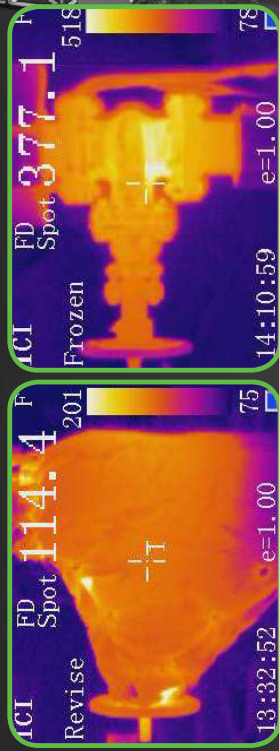
U.S. Department of Energy Study



improving operational efficiency and reuse of energy that is intrinsic to manufacturing. For example, thermal insulation and energy conservation are most effective in accomplishing this

## The Predicament:

In most manufacturing facilities today, more than half of the heat generated goes to waste. During these manufacturing processes, as much as 20% to 50% of the energy consumed is lost via waste heat. These discharges are the result of process inefficiencies and the inability of the existing process to recover and use the excess energy streams.



over 600 times more energy each year than all of the compact fluorescent lights (CFLs), ENERGY STAR Appliances and ENERGY STAR light bulbs combined. (U.S. Environmental Protection Agency, ENERGY STAR, October 2006.)

heat loss or gain, insulation can help maintain the process temperature

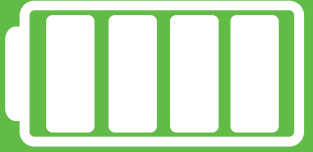
PROCESS	APPLICATION	EQUIPMENT
Agglomeration-Sintering	Metals Production	Various Furnace Types, Kilns, Microwaves
Calcining	Lime Calcining	Various Furnace Types
Curing and Forming	Coating, Polymer Production, Enameling	Various Furnace Types, Ovens, Kilns, Lehrs, Infrared, UV, Electron Beam, Induction
Drying	Water and Organic Compound Removal	Fuel-Based Dryers, Infrared Resistance
Forming	Extrusion, Molding	Various Ovens and Furnaces
Fluid Heating	Food Preparation, Chemical Production, Reforming, Distillation, Cracking, Hydrotreating, Visbreaking	Various Furnace Types, Reactors, Resistance Heaters, Microwave, Infrared, Fuel-Based Fluid Heaters, Immersion Heaters
Heating and Melting-High-Temperature	Casting, Steelmaking, Glass Production	Fuel-Based Furnaces, Kilns, Reactors, Direct Arc, Induction, Plasma, Resistance
Heating and Melting-Low-Temperature	Softening, Liquefying, Warming	Ovens, Infrared, Microwave, Resistance
Heat Treating	Hardening, Annealing, Tempering	Various Fuel-Based Furnaces, Ovens, Kilns, Lehrs, Laser, Resistance, Induction, Electron Beam
Incineration/Thermal Oxidation	Waste Handling/Disposal	Incinerators, Thermal Oxidizers, Resistance, Plasmas
Metals Reheating	Forging, Rolling, Extruding, Annealing, Galvanizing, Coating, Joining	Various Types of Furnace, Ovens, Kilns, Heaters, Reactors, Induction, Infrared
Separating	Air Separation, Refining, Chemical Cracking	Distillation, Membrane Filter Presses
Smelting	Steelmaking and Other Metals (e.g., Silver)	Various Types of Furnaces
Other Heating Processes	Food Production (including Baking, Roasting, and Frying), Chemical Production, Sterilization	Various Types of Furnaces, Oven, Reactors and Resistance Heaters, Microwave, Steam, Induction, Infrared

Courtesy the United States Department of Energy Office of Energy Efficiency and Renewable Technologies Program, in cooperation with the Industrial Heating Equipment Association

**NOTE:** Many process heating applications do not fall in the preceding categories and account for a significant amount of industrial energy use, collectively. The data presented here identifies the applications, equipment and industries where the data was collected.

# OF THE FOLLOWING FUNCTIONS:

FACILITATE TEMPERATURE CONTROL OF A PROCESS



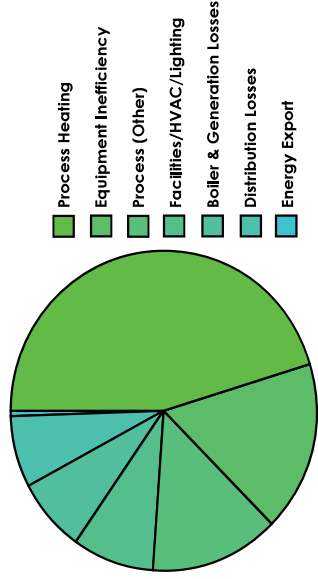
CONTROL SURFACE TEMPERATURES FOR PERSONNEL PROTECTION AND COMFORT

CONSERVE ENERGY BY REDUCING HEAT LOSS OR GAIN

## Insulation Systems IN ...

with attractiveness for waste heat recovery include:

Insulation Systems ON ... sources of waste heat include:



Piping in most buildings is ge... However in some sites there fittings and valve bodies that uninsulated valves and fitting of heat that can significantly and create unnecessary heat can be avoided by simply insu... uninsulated or under-insulate

**ISOCOVERS Insulation Systems** offer a broad base of superior, energy conserve energy, preserve process temperatures and improve workplace Insulation Systems are used on various applications within the process conservation and process temperature are concerns.

Unlike most removable insulation systems, ISOCOVERS Insulation Systems come in standard, universal sizes that are available for "off-the-shelf" delivery. ISOCOVERS Insulation Systems are designed to fit an array of fittings and sizes – and can be used on almost any application that requires thermal processing.



ISOCOVERS Insulation Systems will generally pay for themselves in less than one year. No other energy project will pay for itself as quickly – and with as little investment as ISOCOVERS Insulation Systems.

But let's take a look at the Department of Energy. According to the DOE, a single 6-inch gap in insulation can cost \$100,000 in energy operation at 400° F. If you can reduce each insulation gap by the number of gaps, ISOCOVERS Insulation Systems you install can reduce the savings can r...



Insulation covers for use on piping and equipment in commercial / industrial process applications can sometimes be a challenge. While straight piping are straightforward, many components have either complex geometrical protrusions and supports, which need to be accounted for.

ISOCOVERS Insulation Systems product line is designed to insulate not only piping, but also complex surfaces such as valve bodies and other multifaceted

Insulation Systems create a **SAFER WORKING ENVIRONMENT** for your equipment lifespan by protecting key components from high

Insulation Systems are made with **STANDARD, READILY AVAILABLE, OFF-THE-SHELF** components that can be easily configured for almost any application requirement.

Insulation Systems are **COMPLIANT WITH OSHA SAFE-TOUCH STANDARDS** for piping (if there is a potential for injury).

Insulation Systems deliver an **INCREASED CONTROL OF PROCESS**

to enhance production capacity by reducing the amount of energy needed to maintain piping at high temperatures.

Insulation Systems are constructed in three layers:

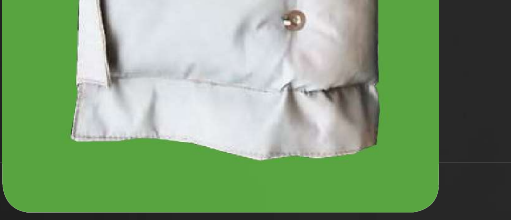
1. The inner layer (hot face) is made of Fiber 2025 1022°F (550°C).  
 2. The middle layer is made of IceRock and Needle Mat 1000°F (538°C).  
 3. The outer layer (cold face) is made of Grey Silicone 536°F (280°C).



**ISOCOVERS ISO-WRAP** Insulation Jackets are suitable for straight piping and involve complex shapes, such as flanges, couplings, or the like.

### Applications:

- Fittings
- Pipes
- Manifolds
- Flanges
- Strainers
- Valve & pipeline strainers
- Ball reducers
- Industrial HVAC equipment
- Reducing sockets
- Sockets parallel & taper
- Hex nipples
- Bronze screw valves
- Flange strainers
- Steam traps:
  - Thermo-dynamic steam traps
  - Float & thermostatic steam traps
  - Balanced pressure steam traps
  - Inverted bucket steam traps
  - Bimetallic steam traps

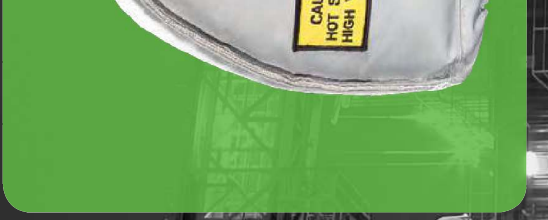


### ISOCOVERS ISO-ELBOW:

**ISOCOVERS ISO-ELBOW** Insulation Jackets are suitable for bends in piping at 45 and 90-degree pipe elbow fittings, or the like.

### Applications:

- Elbows
- Male pipe elbows & female pipe elbows
- Bends without socket, threaded
- 45° pipe elbow
- 90° pipe elbow
- 45° street elbow
- 90° street elbow
- Elbows 45°, socket weld
- Elbows 90°, socket weld
- Elbows, NPT-threaded
- Elbows 45°, butt weld fittings
- Elbows 90°, butt weld fittings
- Bends 45°, butt weld fittings
- Bends 90°, butt weld fittings



**ISOVE** Insulation Jackets are designed to fit closely with tight joints on valves, gate valves, ball valves, butterfly valves, or the like.

Pressure — globe, needle valve, gate valve, ball, plug, butterfly diaphragm

Angle and double plate

Valves

Equipment

Motors

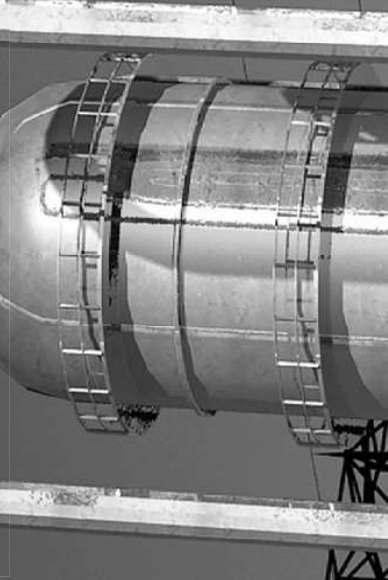
**ISOVE HUB:**

ISOVE Insulation Jackets are used in piping systems, including blind flanges, or the like.

Fittings

Threaded fittings

Steam traps



**SIMPLICITY**  
**BREEDS**  
**USABILITY**



ISOCOVERS ISO-WRAP for your equipment is a lot easier than you might think. It's a simple tape measure, and you are ready to go!

**Video Tutorial: How to Measure ISOCOVERS ISO-WRAP**

Whether the (1) CIRCUMFERENCE OR (2) DIAMETER:



**DIAMETER**

Which method of measurement you use depends on the equipment that you only need to find your diameter or circumference. Here are the two ways mentioned above.

**OR**

**MEASURING THE DESIRED WIDTH:**



**WIDTH**

When measuring for the circumference or diameter, use the desired width to determine the length of the ISO-WRAP you want to insulate.

When measuring for ISO-WRAP, please follow all safety precautions and use proper tools such as: protective gloves and suitable protective clothing. Never use a metal tape

**NOTE:** Now that you have your measurements, you can use the graph below to determine the appropriate ISOCOVERS ISO-WRAP part number. Diameter and circumference measurements are listed in the table below vertically and width measurements are listed in the table below horizontally.

**WIDTH**

**CIRCUMFERENCE**

**DIAMETER**

CIRCUMFERENCE	DIAMETER	6in (152mm)	12in (305mm)
0in - 6in (0mm-152mm)	0in-2in (0mm-51mm)	IW 1206	IW 1212
6in-13in (152mm-330mm)	2in-4in (51mm-102mm)	IW 1806	IW 1812
13in-19in (330mm-483mm)	4in-6in (102mm-152mm)	IW 2406	IW 2412
19in-25in (483mm-635mm)	6in-8in (152mm-203mm)	IW 3006	IW 3012
25in-31in (635mm-787mm)	8in-10in (203mm-254mm)	IW 3606	IW 3612
31in-38in (787mm-965mm)	10in-12in (254mm-305mm)	IW 4206	IW 4212
38in-44in (965mm-1118mm)	12in-14in (305mm-356mm)	IW 4806	IW 4812
44in-53in (1118mm-1346mm)	14in-17in (356mm-432mm)	IW 6006	IW 6012

The **CIRCUMFERENCE** (length) is 20in and the desired width is 12in.

**FOR EXAMPLE:**

**OR**

The **DIAMETER** (length) is 6in and the desired width is 12in.

ISOCOVERS ISO-ELBOW for your equipment is a lot easier than you would be with a tape measure, and you are ready to go!

**Video Tutorial: How to Measure ISOCOVERS ISO-ELBOW**

Whether the (1) CIRCUMFERENCE OR (2) DIAMETER:



**DIAMETER**

Which method of measurement you use is up to you, but you only need to find your pipe's diameter or circumference using one of the two ways mentioned above.

**OR**

**DEGREE ANGLE:**



**90°**

**DEGREE ANGLE**

Whether you use the circumference or diameter, you can use the graph below to determine the degree angle you need to determine the size of the ISO-elbow you want to insulate.

When measuring for ISO-ELBOW, please follow all safety precautions and use proper and suitable protective clothing. Never use a metal tape measure on the ISO-elbow. Always use a metal tape measure to determine the diameter of the ISO-elbow.

**NOTE:** Now that you have your measurements, you can use the graph below to determine the appropriate ISOCOVERS ISO-ELBOW part number. Diameter and circumference measurements are listed in the table below.

**DEGREE ANGLE**

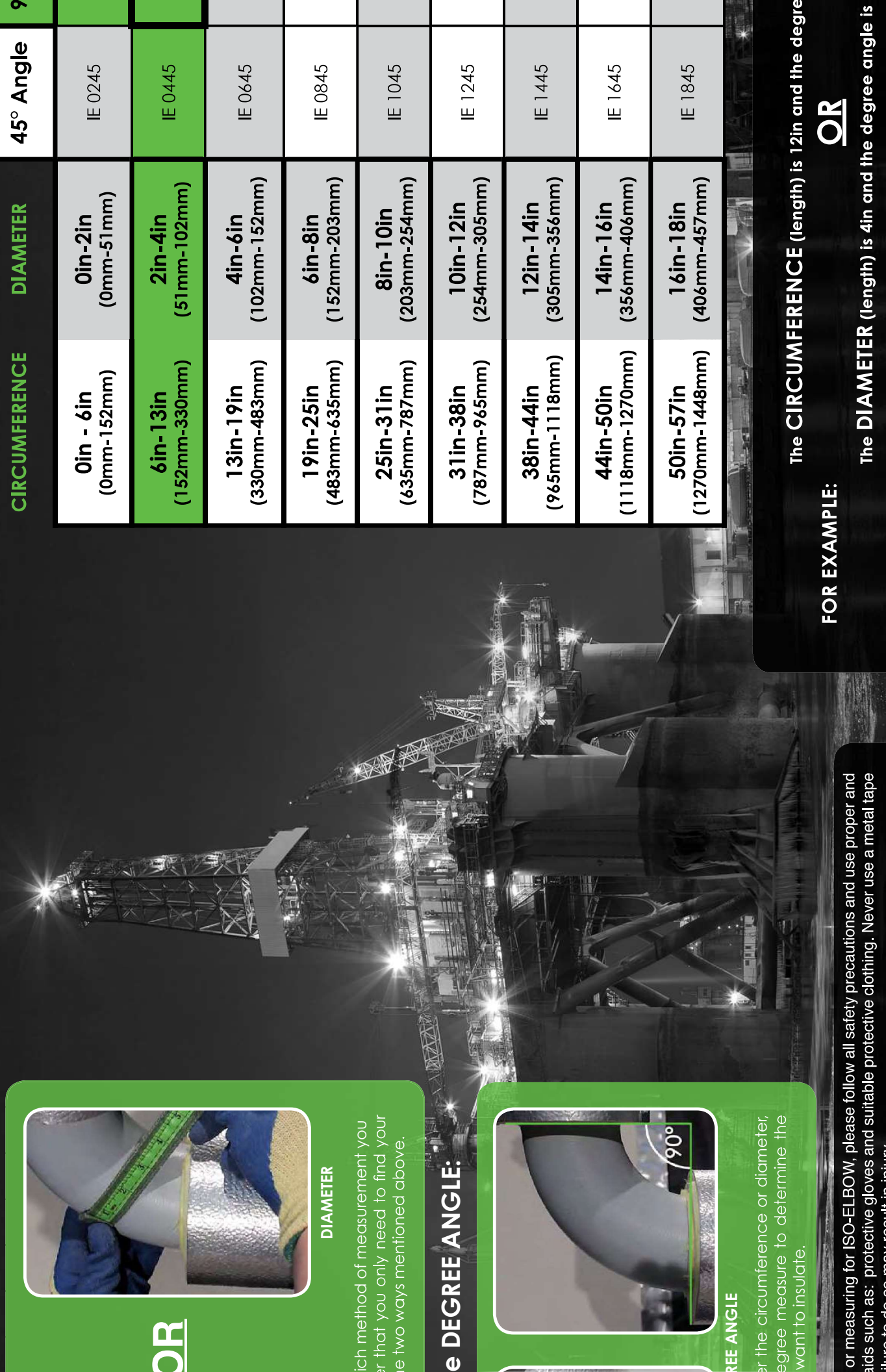
CIRCUMFERENCE	DIAMETER	45° Angle
0in - 6in (0mm-152mm)	0in-2in (0mm-51mm)	IE 0245
6in-13in (152mm-330mm)	2in-4in (51mm-102mm)	IE 0445
13in-19in (330mm-483mm)	4in-6in (102mm-152mm)	IE 0645
19in-25in (483mm-635mm)	6in-8in (152mm-203mm)	IE 0845
25in-31in (635mm-787mm)	8in-10in (203mm-254mm)	IE 1045
31in-38in (787mm-965mm)	10in-12in (254mm-305mm)	IE 1245
38in-44in (965mm-1118mm)	12in-14in (305mm-356mm)	IE 1445
44in-50in (1118mm-1270mm)	14in-16in (356mm-406mm)	IE 1645
50in-57in (1270mm-1448mm)	16in-18in (406mm-457mm)	IE 1845

**FOR EXAMPLE:**

The **CIRCUMFERENCE** (length) is 12in and the degree angle is 45°

**OR**

The **DIAMETER** (length) is 4in and the degree angle is 45°





ISOCOVERS ISO-VALVE for your equipment is a lot easier than you might think. It's a simple tape measure, and you are ready to go!

### Video Tutorial: How to Measure ISOCOVERS ISO-VALVE

Measure the circumference of the neck and measure for the CIRCUMFERENCE:



CIRCUMFERENCE



DESIRED WIDTH:



WIDTH

measures past the outer edges of rigid

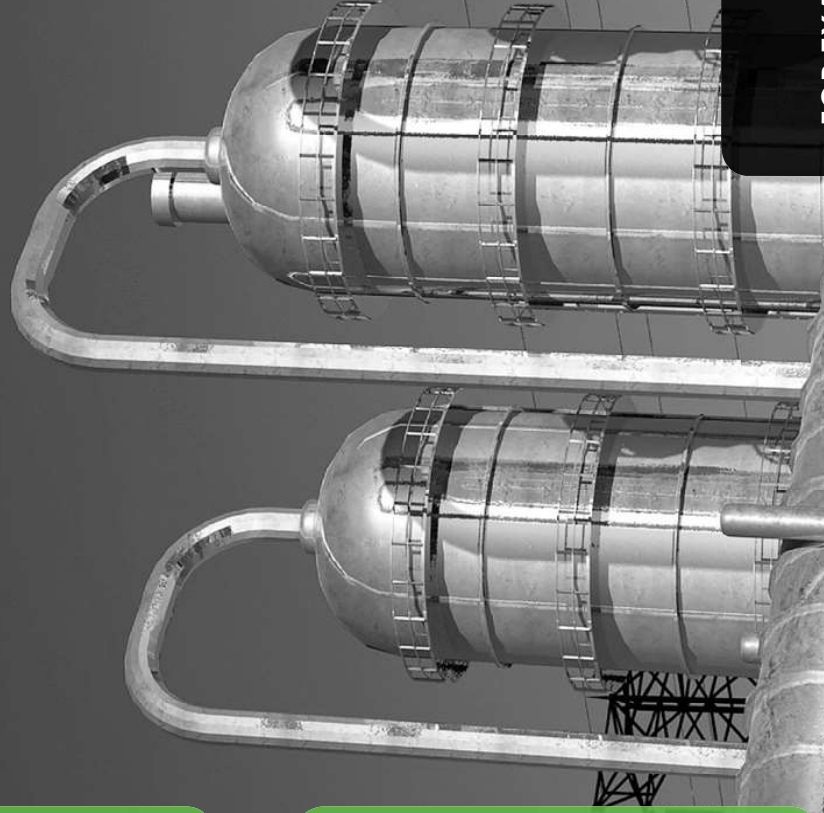
When measuring for ISO-VALVE, please follow all safety precautions and use proper and suitable protective clothing. Never use a metal tape measure to do so, as this may result in injury.

FOR EXAMPLE: The CIRCUMFERENCE (length) is 30in and the desired

**NOTE:** Now that you have your measurements, you can use the graph below to determine the appropriate ISOCOVERS ISO-VALVE part number. Diameter and circumference measurements are listed in the table rows vertically and width measurements are listed in the table columns horizontally.

## WIDTH

CIRCUMFERENCE	6in (152mm)	12in (305mm)	18in (457mm)
0in - 7in (0mm-178mm)	IV 1206	IV 1212	IV 1218
7in- 13in (178mm-330mm)	IV 1806	IV 1812	IV 1818
13in-19in (330mm-483mm)	IV 2406	IV 2412	IV 2418
19in-25in (483mm-635mm)	IV 3006	IV 3012	IV 3018
25in-31in (635mm-787mm)	IV 3606	IV 3612	IV 3618
31in-37in (787mm-940mm)	IV 4206	IV 4212	IV 4218
37in-42in (940mm-1067mm)	IV 4806	IV 4812	IV 4818
42in-49in (1067mm-1245mm)	IV 5406	IV 5412	IV 5418
49in-55in (1245mm-1397mm)	IV 6006	IV 6012	IV 6018



ISOCOVERS ISO-HUB for your equipment is a lot easier than you might think. It's a simple tape measure, and you are ready to go!

**Video Tutorial: [How to Measure ISOCOVERS ISO-HUB](#)**

Whether the (1) CIRCUMFERENCE OR (2) DIAMETER:



**DIAMETER**

Which method of measurement you use is up to you. The only thing you need to find your desired width is the two ways mentioned above.

**OR**

**THE DESIRED WIDTH**



**WIDTH**

Whether you use the circumference or diameter, you can determine the desired width to determine the width of the ISO-HUB you want to insulate.

When measuring for ISO-HUB, please follow all safety precautions and use proper and suitable protective clothing such as: protective gloves and suitable protective clothing. Never use a metal tape measure to do so. Always use a non-conductive measuring tool.

**NOTE:** Now that you have your measurements, you can use the graph below to determine the appropriate ISOCOVERS ISO-HUB part number. Diameter and circumference (length) are listed in the table rows vertically and width measurements are listed in the table columns horizontally.

**WID**

**CIRCUMFERENCE**

**DIAMETER**

CIRCUMFERENCE	DIAMETER	6in (152mm)
0in - 6in (0mm-152mm)	0in-2in (0mm-51mm)	IH 0206
6in - 13in (152mm-330mm)	2in-4in (51mm-102mm)	IH 0406
13in - 19in (330mm-483mm)	4in-6in (102mm-152mm)	IH 0606
19in - 25in (483mm-635mm)	6in-8in (152mm-203mm)	IH 0806
25in - 31in (635mm-787mm)	8in-10in (203mm-254mm)	IH 1006
31in - 38in (787mm-965mm)	10in-12in (254mm-305mm)	IH 1206
38in - 44in (965mm-1118mm)	12in-14in (305mm-356mm)	IH 1406
44in - 50in (1118mm-1270mm)	14in-16in (356mm-406mm)	IH 1606
50in - 57in (1270mm-1448mm)	16in-18in (406mm-457mm)	IH 1806

**FOR EXAMPLE:**

The **CIRCUMFERENCE** (length) is 23in and the desired width is 10in.

**OR**

The **DIAMETER** (length) is 8in and the desired width is 10in.



SS WIRE, PLIERS & SAFETY GEAR.

Slide the SS insulation jacket around the application and pull the draw cords tight:



Twist the ends together to give it a secure fit:

EN



Slide the SS insulation jacket between the SS Lacing Hooks by lacing the SS wire at the base of the cylinder and twist the end of it through the hook on the ISOCOVERS insulation



Slide the SS insulation jacket by lacing the SS wire between the SS Lacing Hooks:



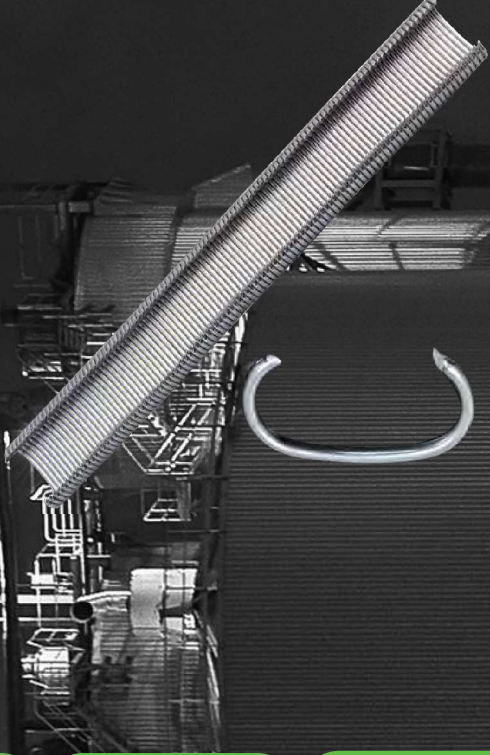
Slide the SS Wire using the wire-cutting pliers and lacing it around the ISOCOVERS

When finished, you are ready to start insulating!



3/4" SS SHARP POINT HOG RING is ideal for industrial applications where fastening or tie-downs are desired. It features sharp tips for piercing capabilities and is resistant to rust.

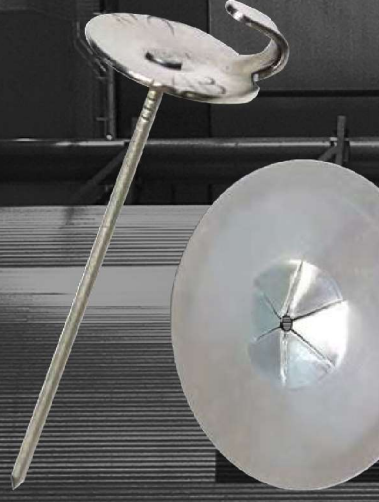
Part # CR



SS LACING ANCHORS & WASHERS

SS LACING ANCHORS & WASHERS are used in the manufacturing of removable insulation blankets. The anchor is pressed through the insulation material and locked in place with a lacing washer. Lacing wire is used to secure the blanket by lacing the wire through the hook.

Part # LHW



302/304 SS SAFETY

TYPE 302/304 SS SAFETY is used as a method of fastening and other parts for structural applications. .051" diameter safety wire is ideal for use with ISOCOVERS for enhanced installation.

Part # SSLW304



45-DEGREE HOG RING is loaded to hold the ring in place. The unique 45-degree tilt allows the handle to move in tight spaces. The handle makes this product easy to keep your hands cool.

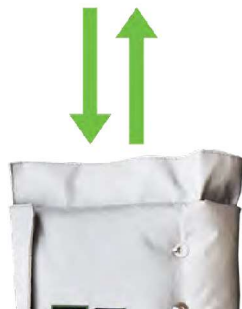
Part # CRP-45



IN THE UNITED STATES, INDUSTRIAL, COMMERCIAL, INSTITUTIONAL AND MILITARY SPEN ABOUT \$45 BILLION EACH YEAR TO MAKE STEAM

THE VERSITILITY OF ISOCOVERS LETS YOU INSULATE NEARLY ANY APPLICATION

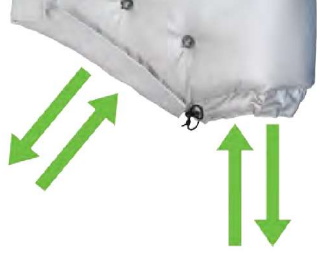
ISO-WRAP



ISO-HUB



ISOCOVER



ISOCOVER





**UniVest® Insulation Systems:**

Specifically designed to meet heat and process requirements for high-temperature applications.



**FirePro® Fire Protection Systems:**

Specifically designed for passive fire protection and fireproof applications compliant with the UL 1709 testing standard.



**FreezePro® Frost Protection Systems:**

Specifically designed to safeguard applications that are vulnerable to freezing or subjected to harsh environmental conditions.