

# ISOjag - ECO<sub>2</sub>FLOW Venturi Orifice steam trap removable Insulation jackets



The new EBE ECO<sub>2</sub>FLOW ISOjag Removable Insulation Jackets are designed to fit the ECOFLOW Venturi Orifice Steam Traps sizes ranging from DN15 to DN50. Cutting heat losses by a typical 90%, it is extremely easy to remove and replace, so that steam trap maintenance can be carried out quickly and efficiently, saving time and money.



*The value of insulating steam plant is well documented. All responsible and proactive steam users are aware of the tremendous energy savings possible through good insulation of pipework.*

## FEATURES

- Exactly fits the ECO<sub>2</sub>FLOW Venturi Orifice Steam Traps sizes DN15 – DN50
- Self-contained insulation system, independent from any pipework insulation
- Rugged Velcro fastener strips
- I.D. Tagging with part number, Nozzle sizing and location identification.
- Double sewn construction with bond edging
- Jackets are fabricated from DuPont™ Nomex® 455 (NOMEX III), a patented blend of NOMEX and KEVLAR brand fibers. The outer layer has a weight of 160gm/m<sup>2</sup>, with a silicone coated glass fibre cloth encapsulated in up to ten further Nomex insulation layers.
- Pullcords are Kevlar for maximum performance in high temperature environments
- ISOjag jackets are suitable for use on applications up to 200 degrees centigrade

## Heat losses from uninsulated pipework\*

(W/m)	Temperature Difference between Steam and Surrounding air °C													
	60	70	80	90	100	110	120	130	140	150	160	170	180	190
15	54	68	83	99	116	134	151	167	184	201	220	241	274	309
20	65	82	100	120	140	164	182	202	224	245	267	292	329	372
25	79	100	122	146	169	198	221	246	272	299	327	357	408	461
32	103	122	149	179	208	241	270	301	333	366	400	437	494	566
40	108	136	166	205	234	271	304	338	373	410	449	489	556	634
50	132	168	203	246	285	334	374	415	458	505	553	602	676	758
65	155	198	241	289	337	392	440	489	540	595	653	713	808	909
80	188	236	298	346	400	469	526	577	622	705	777	838	959	1080
100	233	296	360	434	501	598	665	737	815	898	990	1093	1190	1303
150	324	410	500	601	696	816	918	1024	1133	1248	1367	1492	1660	1852

\*Losses per meter of bare pipe

For example the losses from bare steam pipes at 140 degC differential temperature, range from 184 W/m for a 15mm N.B. pipe, to over 800 W/m for 100mm N.B. pipes. Insulation typically cuts the heat losses by 90% of the values stated above. Savings in fuel typically pay for the cost of insulating within a year.

In addition insulating pipework will reduce discomfort from overheating in summer and hot, bare steam and condensate pipes are also a health and safety hazard to personnel.

## BENEFITS

- Convenient, ISOjag insulation jackets are extremely easy to remove and replace so that maintenance personal can easily and quickly inspect the steam traps
- High quality durable construction
- Is truly "REMOVABLE & REUSABLE" (remember...all insulation is removable)
- Guaranteed fit for ECO<sub>2</sub>FLOW Venturi Orifice Steam traps
- Designed for use in ATEXcategory2 zones
- -90% reduction in heat losses
- -90% productivity gains in maintenance activity (assembly/disassembly) compared to the traditional solution
- Return on investment between 3 and 18 months (for non-insulated surface temperatures between 200°C and 60°C respectively).
- Can help you meet health and safety requirements by keeping the workplace safer

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## DIMENSIONS



Part No.	Description	A	B	To fit flange diameter
1170	ISOjag Small	500 mm	290 mm	DN15 - DN25
1180	ISOjag Large	570 mm	310 mm	DN40 - DN50

## The advantages of an ISOjag insulation jacket

Although insulation is widespread on industrial steam plant, steam traps and flanges are often overlooked during the insulation process. However, it is estimated that a single uninsulated steam trap has thermal radiation losses equal to one meter of straight pipework (based upon the nominal diameter of the steam trap).

The ISOjag insulation jacket can reduce thermal radiation losses by up to 90%.

It is designed for speed and ease of installation and can be retrofitted to existing plant without any special training or equipment.

Planned maintenance can mean removal and installation many times, with the ISOjag insulation jacket there is no degradation of insulation performance.

The distinctive colouring of ISOjag insulation jacket easily identifies where the venturi Steam traps are installed and the external tag can be coded with the location number specific to your site.

Removable Insulation Jackets have become widely accepted as a speedy and economic way of reducing heat loss and providing protection against hot surfaces.

## Energy loss example

Based upon a 3 bar system, a single DN25 bimetallic mechanical steam trap operating throughout the year could radiate in excess of 1400 kWh of heat loss. The cost of lost energy from steam systems vary enormously depending upon many factors. Using typical industrial boiler efficiencies this equates to an annual energy loss based upon this example of between £55 - £60 per steam trap. These losses are compounded with larger traps or float type traps which have a larger radiating surface.

## Heat losses through uninsulated plant

Good practice dictates that steam operating plant be insulated as much as possible to reduce thermal radiation energy losses. All competent plant managers need to determine the optimum point at which insulation cost are balanced against thermal radiation losses. This is typically shown as a cost vs insulation thickness graph.

See figure 1

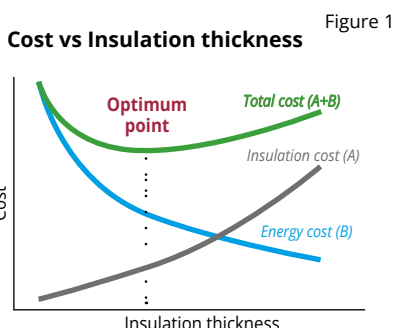
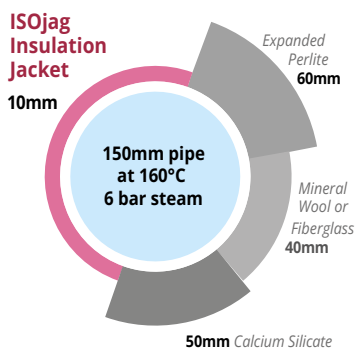


Figure 1

## Insulation thickness performance comparison

Figure 2



Decisions on insulation thickness are further complicated by the wide range of insulation materials available. The most common forms of insulation are designed for static pipework with simple geometry. Where complex geometry, valves and steam traps for example, are incorporated, it becomes difficult to choose a suitable insulation material. The ISOjag removable insulation jacket primarily uses the air encapsulated inside the jacket as the insulating medium. This offers excellent thermal performance for a minimum of insulation thickness. See figure 2

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