



## **ICE™ Intensive Cooling Experience**

(Patents Pending)

An extremely high performance cooling system, known as the “Herrington Stack”, was developed and patented by Mobil Chemical back in the 1970’s. Over the years, these stackable cooling systems produced billions of pounds of product for Mobil, but unfortunately, with downsides...high frequency gauge variation, high noise levels and difficulty in stabilization. **ICE™** picks up where the Herrington Stack leaves off, and takes it way beyond. After a very intense R&D program here at Addex, we have solved the vibration and stability problems, and even added a stability and efficiency control capability!



*ICE™ – Nov 2015, Addex Pilot Line, Newark NY*

It begins with a completely new **ICE™ Element** design, arranged in a stackable configuration to achieve higher output rate, each with divergent air flow along the bubble, both upward and downward, to provide high film holding forces and peak cooling efficiency. The high performance divergent cooling elements are assembled using simple spacer pipes that also provide a common feed of cooling air to each cooling element level. The stack mounts directly to the top of the die, forming a Short Stack topped with an **ICE™** enhanced Adddex dual flow air ring.

Next, an **ICE™ Enclosure** is added to fully surround the stack, replacing the surrounding atmosphere with a very stable controllable ambient pressure. Each enclosure includes a very simple flapper style flow buffer and multiple low pressure, bladed fans to

operationally set the pressure differential between the inside and outside of the bubble. **ICE™** includes easy to interpret operator feedback and adjustment for optimizing the stability and cooling efficiency of this enclosed, stacked cooling system.

The very high performance of the **ICE™** stacked cooling system is assured by the multitude of divergent cooling elements, each providing a 10-15% increase in output rate over our conventional Adddex dual flow air ring. Four (4) elements are provided standard, yielding a 40-60% increase in output, with high film quality assured by the enhanced stability of the **ICE™** Enclosure and Cooling Element designs. Two (2) cooling elements are the minimum, but generally any number can be stacked to achieve the desired output.

Note: IBC output is considered separately and is added in addition to **ICE™/Dual Flow Air Ring** output.