



## Cleaning Solutions: Printing Industry

### The Cleaning Challenges

The traditional method of cleaning printing press involved taking a press off-line, disassembling and cleaning parts by hand with solvents. There are several significant negatives to this method including:

- **Labor intensive** Since cleaning is typically done by hand, the process is very slow requiring countless man hours.
- **Downtime** The extensive time required to effectively disassemble, clean and then reassemble results in costly production losses. Poorly cleaned machines or ink drips resulted in breakdowns and unplanned stoppages.
- **Poor Results** Very often, areas of the machines cannot be reached and go uncleaned potentially limiting performance, potential breakdowns and ink drips.
- **Safety Concerns** Hand cleaning with solvents exposes workers to hazardous chemicals.
- **Cost** The labor to clean machines, planned and unplanned downtime wasted paper supplies from ink drips all are major cost issues.

### The Dry Ice Blasting Process

Dry ice blasting is a relatively new cleaning process using solid CO<sub>2</sub> pellets (known as dry ice). It is primarily used for industrial use in a variety of applications. The pellets sublimate or convert directly from a solid blast pellet to CO<sub>2</sub> gas leaving no residue.

The process involves propelling dry ice particles from a blasting gun at a hyper-velocity to impact and clean a surface. The particles are accelerated by compressed air, similar to other blasting systems.

The micro-thermal shock (caused by the dry ice temperature of -79° C), the kinetic energy of dry ice pellets and the air pressure break the bond between the coating and the substrate. The dry ice sublimates to a CO<sub>2</sub> gas and expands 400 times its original volume. The coating then pops off from inside out and the air stream removing it from the surface yet creating no secondary waste stream. Dry ice blasting is a far better alternative to traditional cleaning methods.

### Dry Ice Blasting: The Perfect Solution

Dry ice blasting effectively removes wet and dry ink, spray powder, paper dust and coatings from web presses and sheet feed presses. In sum, benefits include:

- **Benefit #1 Reduced labor hours.** The dynamics of cleaning with dry ice dramatically reduces maintenance time requirements. Also, there is no need for disassembly/reassembly of equipment.
- **Benefit #2 Reduced downtime.** Dry ice blasting can prevent web breaks. Also, the time required to clean presses is tremendously less than with hand cleaning. In sum, production gains can be extremely significant.
- **Benefit #3 More thorough cleaning.** Dry ice blasting cleans in crevices unreachable by hand.
- **Benefit #4 Improved performance.** The quality of the printing is better since the presses are cleaner. Plus, they run more smoothly
- **Benefit #5 Extended press life.** Improved performance and cleaner parts results in longer lasting equipment.
- **Benefit #6 Improved safety.** Chemical solvents can be eliminated removing the dangers they pose to workers.
- **Benefit #7 Reduced costs.** Collectively, the reduced labor hours, reduced downtime, longer press life and decreased waste disposal expenses result in making dry ice blasting extremely cost effective. Frequently, the cost savings pay for the dry ice systems in a very short period of time.



#### ICEsonic Dry Ice Blasters

The ICEsonic brand is the most economical on the market, both in initial cost and in continued use. You can expect to save 50% or more over competitor's models. In addition, ICEsonic Systems are designed for everyday industrial applications. The units are made from all stainless steel construction and superior components to insure many years of trouble-free operation. RSG Technologies, Inc. is the exclusive agent for ICEsonic Systems in the Americas.