

Blown Film Internals

D.R. Joseph, Inc. Blown Film Process Systems & Consulting

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Budget Time!

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At the end of each year, many of you participate in developing a plan that will better enable your company to respond to customer needs. By the time you read this, the holiday season will be rapidly approaching, but you may still be jockeying for ways to justify new equipment in the upcoming budget. For some, the major objective is more capacity. For others, the goal is improved quality and flexibility. For everyone, the overall goal is to efficiently produce quality goods at a profit.

In this issue of Blown Film Internals, we want to help you in that process. From financial justification to equipment explanations and spare parts, we want to provide you with a good grasp of how our IBC can help you tackle your customer's requirements. We want to take this opportunity to thank all of our customers for their continued patronage this year and, from all of us at D.R. Joseph, we want to wish you a peaceful holiday season and a prosperous new year. ♦

Equipment Approval

Plant, Maintenance, and Production Managers all know the difficulties of getting new capital equipment expenditures approved. Changes are made so rapidly in this new technological age that equipment can seem to be out of date before it is even installed and run-



ning. There must be proven justification in order to buy new equipment and the purchase must be rationalized against your company's bottom line. The purpose of this article is to give you the ammunition needed to get approval for a D.R. Joseph IS-IBC1[®] Internal Bubble Cooling system.

Can my company afford this equipment, you ask? D.R. Joseph would like to ask: Can your company afford to be without it? There are several different ways the IS-IBC1[®] control system will make your company money: your production rates will increase, you will get tighter layflat control, your investment will be protected, and you will be able to receive technical help when you need it.

Increased production rates are usually the best argument for getting a system approved. You can expect anywhere from 15-40% increased pro-

(See *Equipment Approval* on page 2)

IS-IBC1[®] Makes a Difference

The D.R. Joseph IS-IBC1[®] system has run on a large variety of blown film machines and has helped to produce a very wide range of structures for our customers. Because of the volatility of new products film producers need to produce, any of the installed IS-IBC1[®] systems have a good chance of running a structure that has never been run before. While you might think the risk of problems could be high when running new structures, the optimized cooling and control approach used by D.R. Joseph provides the film producer with the greatest chance of success, regardless of the structure.

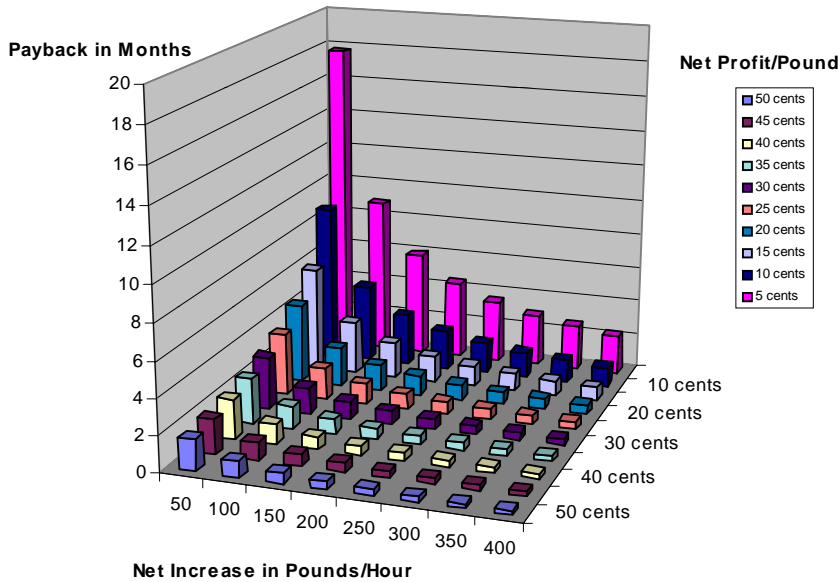
While bubble instabilities can be caused by the structure itself, there are ways to prove a structure is inherently stable. For instance, if there are instabilities with IBC, then a good

(See *IS-IBC1[®] Difference* on page 2)

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IBC payoff in months (30 days/month) . Based on a payoff amount of \$30,000, running at 85% uptime, 7 days/week.



(Equipment Approval - cont. from pg 1)

duction rates for dies with IS-IBC1® systems versus dies without IBC systems. This number is directly correlated with the size die you currently have. The bigger the die, the greater percentage production increase you will obtain. Also, the IS-IBC1® system gets anywhere from 8-15% higher production rates compared to competing IBC systems.

Layflat control is another good reason to get a system approved. Many blown film applications require the IBC system to maintain very tight layflat control. The IS-IBC1® has earned a great reputation for running tubing on small BUR applications. These types of applications are extremely difficult for competing IBC systems. For applications running trim, reducing the size of trim can substantially save your company money, especially when resin costs are at a premium.

Another concern most companies have is protecting their investment. They do not want a product that will be obsolete in a short period of time. This is why D.R. Joseph has developed all of our systems to be field upgradeable as new enhancements are brought to the market place. Even our

oldest systems can be upgraded with the latest technology.

Providing top quality service is one of our main goals at D.R. Joseph. We have qualified technicians ready to provide solutions when you experience a problem. Each IS-IBC1® comes with a phone modem, so technicians can log into your system and diagnose problems in a timely and efficient manner. Most inquiries can be solved over the phone. Your company can save a substantial amount on transportation costs, on-site service, per diem, and downtime. Also, if we log into your system while it is still under warranty, there are no in-house service charges.

It is usually easier to obtain approval for equipment with payback periods of 12 months or less. Because of the significant increase in production rates, the payback period for the IS-IBC1® is usually less than 12 months. (See the chart above.)

How will this decision affect your company's bottom line? Since the bottom line is how much money your company will make from this equipment, our answer is simple: Tons! Call today and let us help you get a system approved. ♦

(IS-IBC1® Difference- cont. from pg 1)

test is to run a new structure without IBC. If the structure or the process conditions are unstable, the problems will be evident even without the IBC. However, if the bubble is stable without IBC, then it will be possible to run with the right IBC control system and air distribution system.

Not all IBC systems are created equal. The IS-IBC1® system is uniquely designed with a two phase approach. The first phase requires us to individually select every component for the ability to provide optimum performance over a wide range of operating conditions. D.R. Joseph periodically reviews the component choices in light of new customer requirements and upgrades various parts of the system. The second phase requires us to analyze the entire airflow delivery system to make sure cooling air is delivered to the die and heated air is removed from the die in an efficient manner. This approach provides our customers with the most flexible IBC system on the market.

What does this mean for you? It means the IS-IBC1® has already been proven on: lines that swing from high-stalk high density to convention low density, lines that have 2, 3, 4, 5, 6, 7, 8, and 9 layers, lines with dies that range from 4 inches (100 mm) to 84 inches in diameter (2135 mm) running layflat as low as 12 inches (305 mm) and as high as 300 inches (7620 mm), lines with film thickness as little as 0.0004 inches (10 microns) to as much as 0.100 inches (2500microns), and blow up ratios from 1.0:1 to 5.4:1. Just knowing the range of successful operation reduces the risk your company takes. Give us a call and let us help you achieve consistent layflat control and higher production rates with the IS-IBC1®. ♦

TECH TIP

Sizing Cages Support the Need for Speed and Quality

Why do you need a sizing cage if a blown film bubble runs without one? Why does a car have front and often rear stabilizer bars if it can operate without them? The objective for both of these devices is the same – stability at speed. The stabilizer bar on a car does very little at low speeds. Likewise, at low production rates, the need for a sizing cage is questionable. As the speeds increase for both, the stabilizer arms and the sizing cage do the same thing – maintain stability so that higher speeds can be achieved. Maintaining stability at a higher production rate translates directly to sustaining quality.

That seems straight forward enough, but there are still people who believe that a sizing cage is more trouble than it is worth. The cage clutters their line, the arms make marks in the film, and the operators do not know how to position the cage in order to provide optimum results. On the other hand, people who run high performance lines with internal bubble cooling (IBC), understand the importance of the sizing cage. They know that there are many styles of cages available to meet a variety of needs, they realize that the high performance benefits of the IBC are downgraded without the support of a sizing cage, and they recognize that automatic cage sizing systems are available to help the operators position the cage properly.

Those who have had negative cage experiences or who simply do not like change, should take comfort in the fact that there are many different styles of cages and good control systems that make using a cage quite simple. Those trying to achieve an uncluttered look

need to think again. Proper use of sizing cages translates directly to a better bottom line. If you are not using a sizing cage, your bottom line will not be as good as your competitor who is using a cage.

In the last five years, sizing cages have improved dramatically. New features such as low friction and roller-less support arms are now available and can be upgraded to existing cages. These arms can even come with a water jacket so arm temperature can be controlled. Positioning mechanisms have been improved and designed with IBC systems in mind. Cages with significantly large adjustable size ranges are also available from some manufacturers.

The following are common suggestions regarding the selection and use of sizing cages. If you are running tacky film, consider using very low friction, ceramic-coated, or roller-less arms. If the cage has nylon rollers, change them to teflon. The teflon rollers are less likely to stick to any material you run. If you are running an IBC system, use a cage that easily supports an IBC sensor to maintain a constant position relative to the cage.

There are other concerns when purchasing a sizing cage. If you have any questions about what cage to use or what features you should be looking for, give us a call. We will be glad to help you make a selection. ♦



In each newsletter, we will let you know what upgrades are available for your IS-IBC[®] control system. The following is a list of all the updates that are available:

[New Upgrades](#)

Software

1. **All systems** - Improved bubble flutter filtering. This provides a significantly improved operation when using very high air ring speeds that cause substantial bubble flutter.
2. **Systems with Cage Control** - Enhanced cage control protection against operator entry errors and improved operation of the courtesy size alarm display.

Hardware

1. **Color Touch Screen:** Software and hardware update. Improved access to layflat calibration routines. New IBC filter operation viewing screen with trend. All new color touch screen systems now ship with a brighter and faster color touch screen. TFT technology allows viewing from any angle without degradation in viewing brightness. Screen switching time has been dramatically decreased.

[Previous Upgrades](#)

1. **New Ultrasonic sensors** - Easy to maintain, tamperproof, increased signal strength.
2. **Sensor Multiplexor** - Allows up to four sensors to be connected for IBC operation.
3. **Automatic Blower Balance** - Eliminates the need for operators to balance or null blowers prior to every startup of the line.
4. **Color Touch Screen** - In addition to providing an intuitive operator interface, the color touch screen includes a variety of trends, online help and maintenance tutors for seldom used functions.
5. **Layflat Control** - Adds a second control loop to the IBC system that reduces the time to achieve a desired layflat, with or without gusseting.
6. **Cage Control** - Adds the ability for the system to automatically position the cage diameter to the correct size to produce the desired layflat. ♦

The Last Word

Cost of Omission

Our customers often make use of fast delivery services afforded by Federal Express and other overnight carriers to eliminate the need for a spare parts inventory. Who can blame them? Every new machine is accompanied by a list of spare parts that should be carried. Obviously, some sort of balance is required between the extreme of having 100% coverage of spare parts and having no spare parts at all. While having a complete spare parts inventory can be costly and require too much space, the latter option of not having any spare parts on hand can cause problems.

I would like to suggest that Managers who avoid carrying spare parts are dealing with a combination of budget constraints and the fact that in our personal experiences, we rarely encounter the need for spare parts. In America, at least, we have unlimited access to everything within a five-mile radius of our home. We are simply used to buying anything we need the very instant we need it. We all understand that the number of units sold drives the convenient availability of spare parts and services into our backyards. We also understand that the number of blown film machines sold is very low in comparison and, without our vast communication and delivery system, parts availability would be very poor.

The whole point of having spare parts

is to keep your machines producing so that your customers do not experience interruptions. No machine is perfect, and unexpected downtime can mean the difference between a happy repeat customer and one that will never return. The intangible cost of missing a delivery date, due to interrupted production time, becomes the true cost of omission.

There are two approaches to maintaining consistent customer support. Schedule extra production of commonly used items so availability is maintained when a machine is broken, or plan regular preventative maintenance and keep an effective spare parts inventory to repair equipment quickly. If you think about it carefully, both approaches require extra production capacity. When you consider the fact that your machine can produce a wider variety of products than you can store, it is more cost effective to use the second approach.

D.R. Joseph provides our customers with a specific list of recommended spare parts. The chart below is a basic schedule of critical parts for our IBC systems that you should have based on the number of systems operating at your facility. ♦

Small Parts Kit

Recommended parts for your IBC often include a variety of small components that are difficult to store without losing, such as fuses, small filters, and input/output modules. Small parts

are just as important as the obvious large parts when it comes to keeping your line running. For instance, the D.R. Joseph IBC system is designed with fuses on all inputs and outputs to protect the electronics from voltage spikes, surges, and field wiring failures. When a fuse is blown, it has to be identified and replaced.



Our small parts kit is an organized box of all the small spare parts (including proper fuses) that are required to support a D.R. Joseph IS-IBC1® system. Each part comes in a labeled envelope to make identification easy. We have received many comments on how useful the spare parts kit can be in locating the right part quickly. ♦

Save Three Percent!

D.R. Joseph accepts payment by credit cards. We accept American Express, MasterCard, and Visa. When you pay by credit card for spare parts and services, you will receive a 3% discount. (Discount does not apply on full system orders.) This is a great way to order those emergency spare part orders quickly without the hassle of issuing a purchase order. ♦



Spares Needed	1-3 IBC Systems	4-8 IBC Systems	9+ IBC Systems
IBC Sensors	1	2	3
Prop Valves	1	2	3
Spare Parts Kits	1	1	2

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