D. R. Joseph

When You Need Solutions... Not Just Answers

For Immediate Release

D R. Joseph, Inc. Introduces the

New 3rd Generation IS-IBC1[®] Control System



D.R. Joseph, Incorporated is proud to announce the 3rd Generation IS-IBC1 Internal Bubble Cooling (IBC) Control system. The new system incorporates a smaller size, lower power consumption, fewer installed parts, the same high performance and new features that make overall operation even easier than before! This new unit focuses on automated adaptability to the application of internal bubble cooling and automated width control. Power consumption for the system has been reduced by approximately 50% over our previous systems.

Flexible Configurations

Regardless of the available space on multi-layer extrusion lines, there is an IS-IBC1 configuration that will fit the bill. The new ALL-N-ONE panel requires 27% less volume over our previous system panel (shipping weight has also been reduced by 40 pounds). A new MODULAR configuration has been added for an 83% reduction in volume. We also support a "built in" or OEM version to minimize required space to an absolute minimum.



The new 3G IBC even allows for multiple operator stations as shown below.



Flexible Configurations (continued)

In the ALL-N-ONE configuration (shown right), all IBC components are mounted within a 15 inch by 15 inch panel including easy access power connection, a new 90% efficient power supply (replaces the previous 70% efficient power supply) and new 5 port Ethernet modem/managed switch. A new configurable management beacon lamp is also supported to allow visual alert to management for of a variety of conditions including non-standard use of the system and internal or external faults.





For installations extremely tight on space, the modular design allows the main control panel to be mounted up to 20 meters away with the very compact touch screen panel mounted in a variety of configurations.

Finally for a totally integrated look, the "built in" or OEM configuration provides the same point to point wiring configuration as the ALL-IN-ONE and modular configurations but allows all the parts to be efficiently mounted inside the main control station. Alternatively, the hidden IBC control components can be mounted up to 20 meters away from the location of the IBC system touch screen.



What's New?

Improved Sensor Wiring

One of our main design objectives was to simplify the sensor installation process making for a much easier process for the installer. We moved all the functionality of the notorious blue boxes into the main controller. As a result, the blue boxes are replaced with a simple to mount eight-port junction box with round twist-on cable connectors.





The connectors that mount to the 8 port junction box are a new design that allows easy passage through conduit. We also eliminated the master IBC port requirement, thereby eliminating the need to arrange the sensors in a particular order. To eliminate problems with electromagnetic interference (EMI), the sensor cables are double shielded.



New Optional Smaller Touch Screen

Another cost saving option is the new 4 inch TFT full color touch screen. It has the same brightness as the 6 inch TFT screen and can be specified on all of our systems except systems with manual or auto cage control.



100% Touch Screen Control

Cost reduction was another objective, and our main effort on this front was the main control panel. As mentioned earlier, we reduced the size by nearly 30%, but we also eliminated many of the old discrete components that were closing in on end-of-life.



As a result, we've been able to deliver an IBC system with single point control for IBC, Blowers, Sizing Cage and a host of other options. Using popup window techniques, the operator sees only what he needs to see to get the job done.



Automated Adaptability

Ducting Failure Detection

Air flow restrictions make up more than eighty percent of the service calls we receive at DRJ. Restrictions can be anything from a clog to a collapsed hose to a dirty air filter. Regardless of the issue, air flow to... or... from the bubble is impeded and maintenance personnel find it difficult to focus on something as mundane as ducting. This system will actually point them to the specific air flow path and can even detect improperly installed components.



Automatic Valve Calibration

Another maintenance issue that is often

overlooked is the periodic calibration of the bladder valve. The system will now calibrate the valve as required without the operator having to make any special steps. This eliminates the need for maintenance to manually adjust the system when there are subtle or significant changes to the die or air flow path.

Automated Assistants

The IBC system has installation requirements that are often overlooked by less-experienced commissioning engineers. For instance, one difficult task is placing the layflat sensors in the proper positions to handle all possible layflat widths. The screen shown at right tells exactly which sensors to move and to what position. There are other automated assistants as well.

Configurable Management Alert Beacon

The highly visible xenon lamp flashes based on a configurable set of parameters. The parameters allow management to be alerted whenever the operator operates the system in



This shows that sensor #6 (serial# 100015) needs to be moved out 3.50 inches to support the requested minimum and maximum lavflat.

a manner outside Standard Operating Procedures (SOP). For instance, if the operator is running the system in manual layflat control when the SOP requires running in automatic layflat control, the beacon will flash until the system is put into automatic layflat control.

New Expert Mode

Expert mode has been added to allow the engineer to instantly jump into service mode bypassing the need to re-enter the service access password. Expert mode also unlocks and makes visible the critical control parameters that rarely need adjustment. System integration is commonplace and settings are often setup by a communication specialist. The system protects those settings against accidental adjustment even in expert mode with a second security level.



Field Configurable Features

The numerous new features can give our existing customers a headache when strict operating procedures are in place. This system allows each user to decide how much of the automation to implement. For instance, manual valve calibration is still supported. The system can be configured to automatically calibrate the valve when needed or it can be configured to skip automatic calibrations. Going further on the valve calibration configuration, the system can be setup to calibrate based on excessive down time, number of days since last calibration, detected air flow anomalies or number of startups.



User can switch between the traditional manual valve calibration ere to Switch to and auto valve calibration with a single touch.

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Reverse Compatibility

Whenever we produce a new system, we do everything possible to protect our existing customers' investment. The 3rd generation ISIBC1 is no exception. We've

made the 3rd generation software so it can run on previously installed 32 bit systems. This means that adding automatic valve calibration only requires replacing the touch screen and installing electronic Magnehelics (if required - we've been shipping systems with electronic Magnehelics for more than a year now). Please note that 8 bit systems cannot be upgraded unless the 8 bit controller is replaced with our 32 bit controller. DRJ does offer a core value on the 8 bit controller to reduce the upgrade costs.



Integration Enhancements

There is nothing more involved for the customer than to configure and validate data integration. Regardless of the integration level, the IS-IBC1 system can support it. It has five built in protocols (Modbus RTU, Modbus ASCII, Modbus TCP, Modbus UDP, Kundig PCD.2), and a wide variety of industry standard protocols enabled through an optional protocol converters. Through our new Ethernet modem, we now have four available Ethernet ports to connect to a variety of other devices without the need for an additional Ethernet switch.

Enhanced Layflat Calibration

As with our generation 2 IBC control system, the 3rd generation system supports layflat sensor calibration via a Kundig width bar through one of the available four Ethernet ports. Note that any Kundig width bars (FE-7) with an Ethernet enabled Measuring Bar Interface can be integrated into the IS-IBC1.

Taking this another step, customers can have the option of sending a calibration value through protocol to the IBC system to calibrate the layflat sensors. This allows the customer to take advantage of a previously integrated web guide or gauging system that has a width output.

Additional Features

- **Bubble Break Detector** Automatically arms, resets and can be interfaced to just about any Programmable Logic Controller or computer.
- Layflat Deviation Alarm Can be configured to detect holes when running master tubing rolls.
- **Data Collection Integration** This feature allows the IS-IBC1 to be fully integrated into any industry standard data collection system.

Economy Version

There are often times when a comprehensive solution is really more than the customer needs. As a result, we've added an economy version of the All-In-One configuration that provides the essentials of IBC and width control at a lower price point than the standard All-In-One configuration. Further, if the customer wants to later upgrade to the standard version with 6 inch touch screen, cage control and Ethernet modem, this can be done by the customer as a field upgrade. It is important to note that the economy version does not include the 5 port Ethernet modem which is required for remote diagnostics.



Feature	Standard IS-IBC1	Economy IS-IBC1	(*) Field Upgradeable?
32 Bit Controller	\checkmark	✓	
90% Efficient Power Supply	\checkmark	\checkmark	-
5 Port Ethernet Modem	\checkmark		YES
6 Inch Color TFT Touch Screen	\checkmark		YES
4 Inch Color TFT Touch Screen	§	\checkmark	
IBC Control (patented)	\checkmark	\checkmark	-
Automatic Blower Balance (patented)	✓	\checkmark	-
Layflat Control (patented)	§	\checkmark	-
Cage Control (patented and patent pending)	8		$YES(\star)$
Auto Valve Calibration	✓	\checkmark	-
Management Alert Beacon	✓	✓	-
Start/Stop for External Thickness Gauge (Stable Bubble)	✓	✓	
Remote Control Station Support	\checkmark		YES(*)
External Ethernet Connections	2	1	YES(*)

§ - Optional Feature, ✓ - Standard Feature

(*) – YES means that the feature can be added to the economy version at a later time.

 (\star) – Cage Control can be added if the touch screen is also upgraded to the 6 inch version.

(*) - Remote control Station Support and External Ethernet connections require the 5 Port Ethernet Modem

Customer Service and Support

D.R. Joseph, Inc takes great pride in providing the highest level of customer support. The same level of support can be expected with the new 3rd Generation IS-IBC1 system as with all DRJ products.

Since 1987, D. R. Joseph, Inc. provides high value solutions for the blown film industry including internal bubble cooling control, width control for extrusion dies without internal bubble cooling and machine direction sealing systems.

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