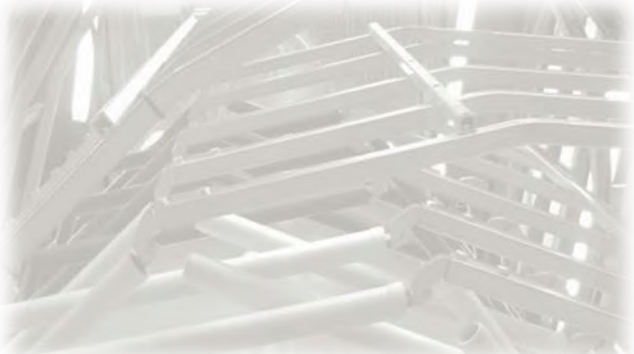
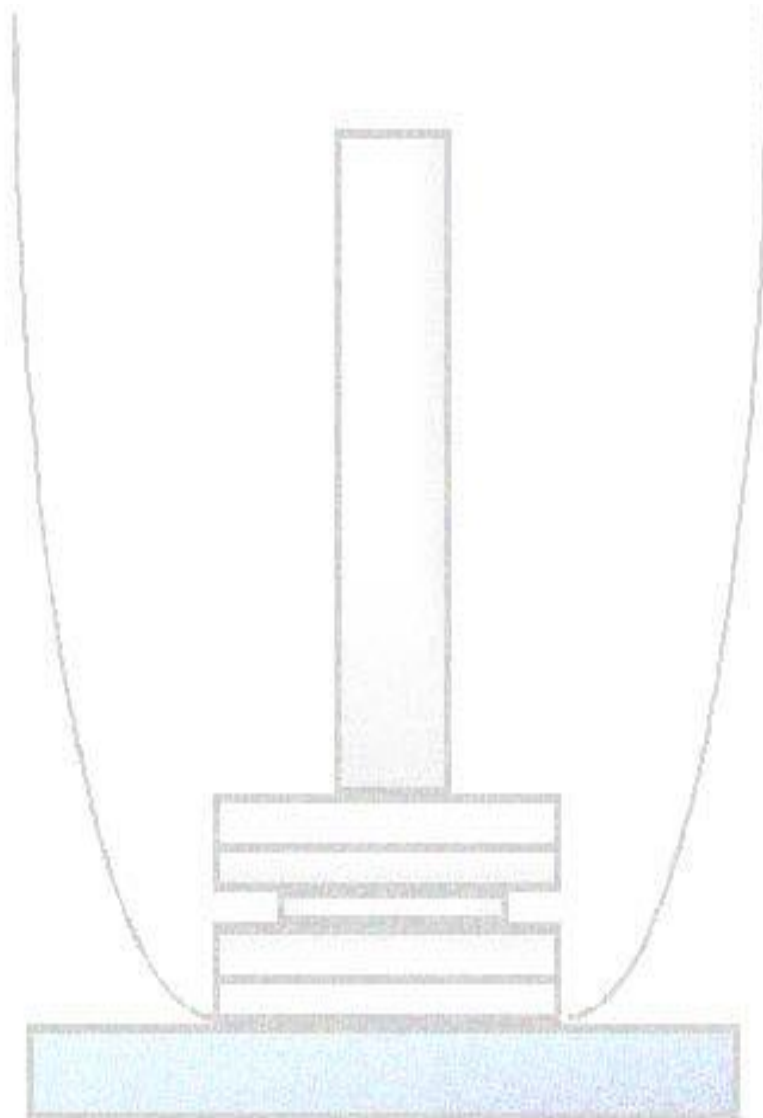


IBC Control

*3rd Generation Automated IBC Control System
For Blown Film Lines*



D.R. Joseph
INCORPORATED

IBC Control Systems

D. R. Joseph, Inc. provides the latest in Internal Bubble Cooling (IBC) Control Systems.

Our latest 3rd Generation IBC system can improve production rates 25 to 50% when adding IBC control to a blown film line, and 8-15% in production over competing IBC systems on the market. The 3rd Generation System guarantees such rates by providing extremely tight layflat control, optimizing your systems inlet and outlet airflow, and allowing for higher exchange rates while maintaining precision control of your layflat.

Performance & Benefits

- Improved Rate & Quality
- High & Low Stalk Bubbles
- ROI: 12 Months or Less
- Retrofit Virtually Any Blown Film Die
- Tightest Layflat Tolerances
- Operating Costs Reduced
- Reliable Operation
- Run Multiple Resin Blends
- Statistical Reporting
- Tri-Mode IBC/non-IBC (see page 3)

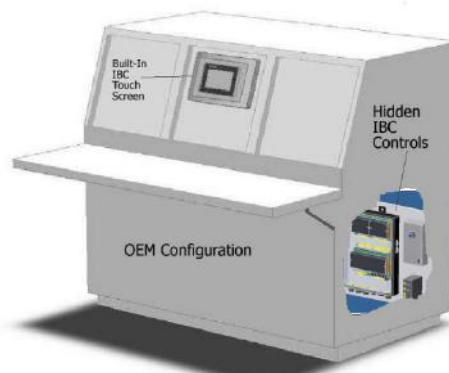
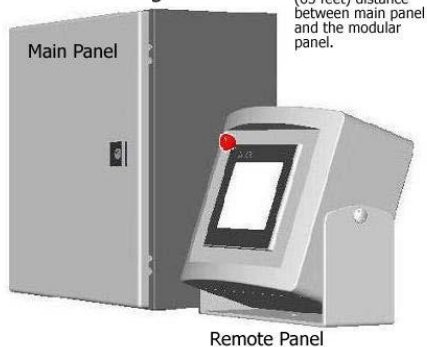


Ease of Use

- Automatic Valve Calibration
- Auto Blower Balance
- Automated Start-Up
- Automatic Cage Control
- Automatic Layflat Control
- Operator Friendly
- Bubble Break Detection
- Ducting Failure Detection
- Remote Diagnostics
- Remote Control Operation
- Easy Installation
- Online System Tutors

3rd Generation IBC Flexible Configuration Options

Modular Configuration



IBC Control Systems

3rd Generation IBC Available Features

Automatic Blower Balance*

- Balance the Flow Rate of Inlet / Outlet
- Coordinates blower speeds when the operator changes the air exchange

Layflat Controller*

- Sensors Mounted on top of the Cage
- Calculates near instant readout of the layflat

Automatic Cage Controller*

- Automatically adjusts cage diameter for completely automated control and size changes (for a motorized cage)

Auto Valve Calibration*

- Automatically calibrate the proprietary Airflow Control Valve

Tri-Mode: IBC / non-IBC / Geo, Ag Control

- Run IBC and non-IBC products on the same die
- Run Geo and Ag film on the same die

TFT Color Touch Screen

- Easy to use pop-up screens
- Multi Lingual / Metric & Standard

Configurable Alarms

- Bubble Break and Layflat deviation Detection and Alarms
- SOP Deviation Alarm

Statistical Reporting

- Record Long / Short Term Layflat Trends plus 3 Sigma Data
- Data Collection Integration with PC/PLC

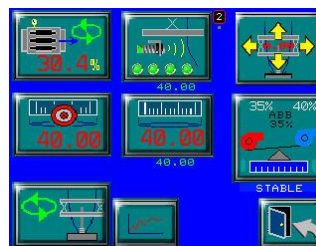
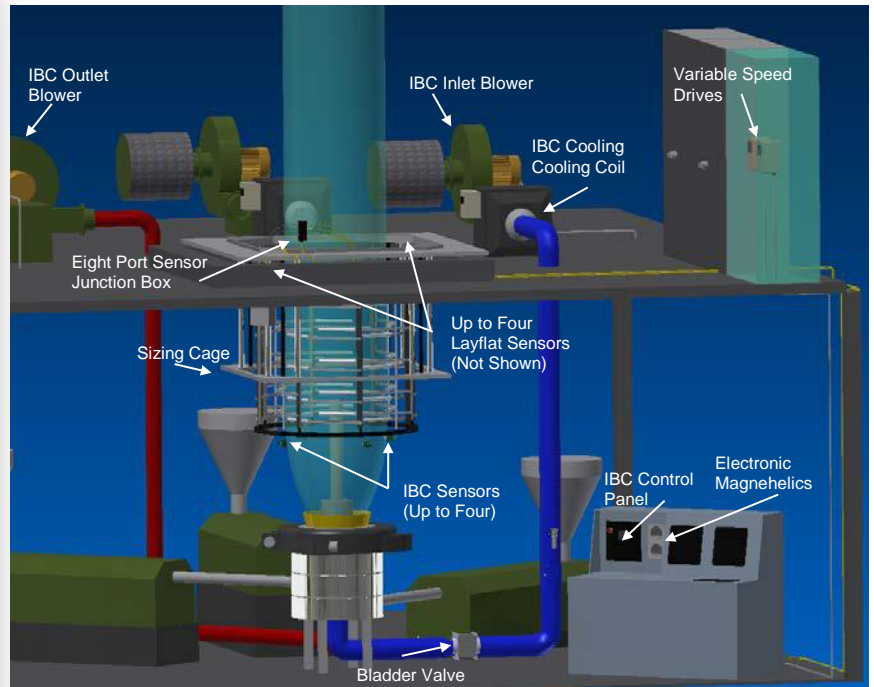
Cage Height Adjustment

- Adjust cage height to preset levels for different jobs or for maintenance

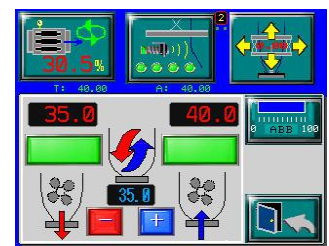
Integrated Cooling Air Control

- Set/Monitor IBC & Air ring Temperature

*D.R. Joseph Patented Feature



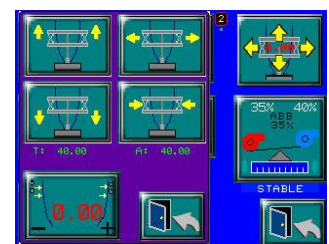
Main Operator Screen



Blower Controls



Layflat Trend Line



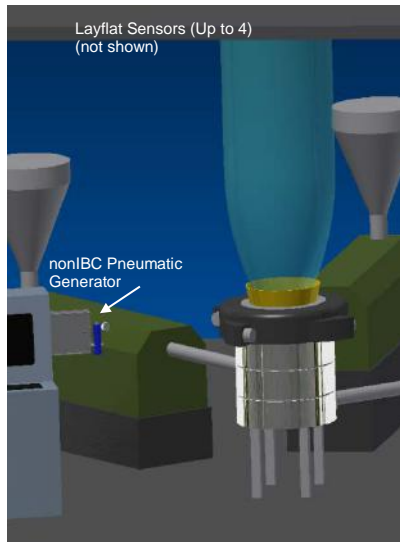
Cage Control Screen

Integration Support

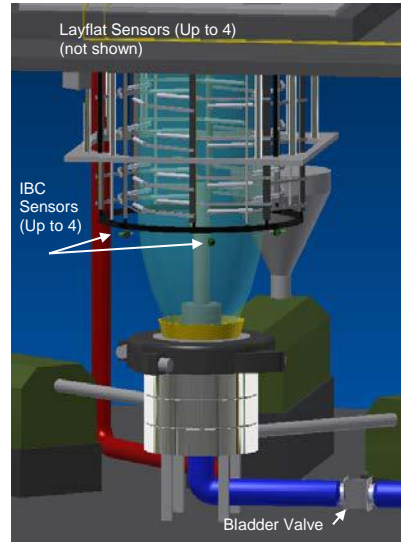
The 3rd Generation IBC Controller has 5 built in Protocols to support data integration (Modbus RTU/TCP and Kundig PCD.2/ KRU). With optional protocol converters, a wide variety of industry standard protocols can be supported. An Ethernet modem is also built into the IBC system, which permits users to connect a wide variety of other devices to the available 4 Ethernet ports.

Tri-Mode Control System

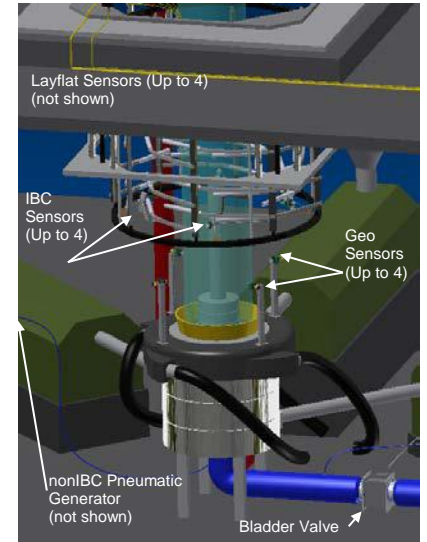
Three Control Systems in One! – Tri-Mode Controller with IBC Control, non-IBC Width Control and Geo Membrane / Agricultural Film Control



nonIBC Application



IBC Application



Geo / Ag Application

D. R. Joseph, Inc. has a solution for film processors who need maximum film control flexibility for a single line. The Tri-Mode Control System is an all-in-one control system that allows users to switch from IBC control, to nonIBC layflat control, to Geo/Ag IBC Control.

While offering three different running modes, the Tri-Mode system permits users to change between 2 modes on the fly: nonIBC and IBC functionality, or IBC to Geo/Ag mode depending on set-up. Producers who run Geomembrane products will also have the possibility of running large BUR agricultural and construction films on the same line. Similarly, producers who run IBC on one product, but need nonIBC control for other products which cannot maintain stability with IBC, can do so on one line.

How it Works: nonIBC Mode

Fixed position sensors read bubble diameter and calculate layflat width. The controller compares the actual width against the operator specified target width, and adjusts the bubble size accordingly. The controller also quickly responds to holes in the bubble. The pneumatic controller can also remove air in over inflation situations. Trending of the width, sensor data and statistical analysis is included as standard.

How it Works: IBC Mode

Moving sensors just below the sizing cage keep the bubble positioned accurately to the sizing cage with an operator adjustment for contact pressure. Fixed position sensors above the cage read bubble diameter & calculate layflat width. The controller compares actual width against the user entered target value and adjusts internal air exchange and sizing cage diameter to achieve the correct layflat. Internal air exchange is adjusted by a patented bladder valve & automatic blower balance.

How it Works: Geo / Ag

Fixed position Geo sensors read the bubble diameter just above the air ring. The system uses a special algorithm to automatically set the distance between the geo sensors and the bubble to achieve the target width. A second set of fixed position sensors above the frost line read bubble diameter and calculate the layflat. The controller retunes the geo sensors to bubble distance on the fly to ensure the target is maintained as thickness and materials change. The BUR range for this system is 0.98 – 1.50. When running in Ag mode, the system runs as the IBC Mode described above.

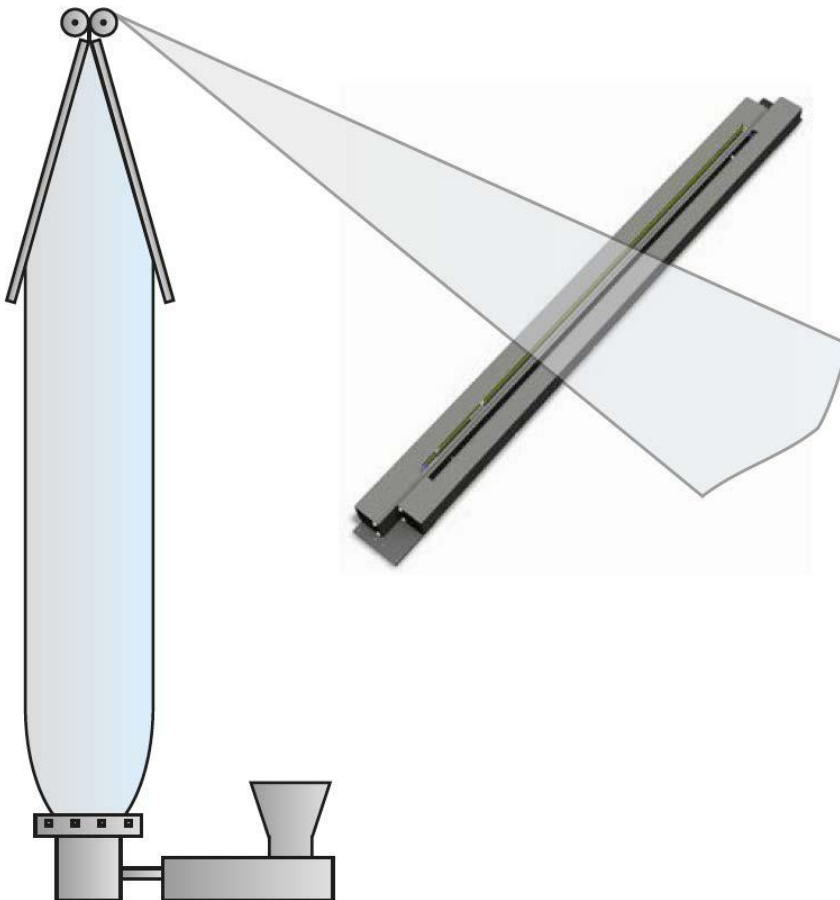
Kundig Measurement Integration

Kundig FE-7 and FE-8 Integration



The 3rd Generation IBC Controller can now be integrated with Kundig's FE-7 and the latest FE-8 Layflat Measurement Bar.

The advantage of this integration is that operators can now easily see the real world layflat at the winder to facilitate calibrating the IBC Control System. Layflat information is visible on the DRJ IBC Control Panel with this integration.



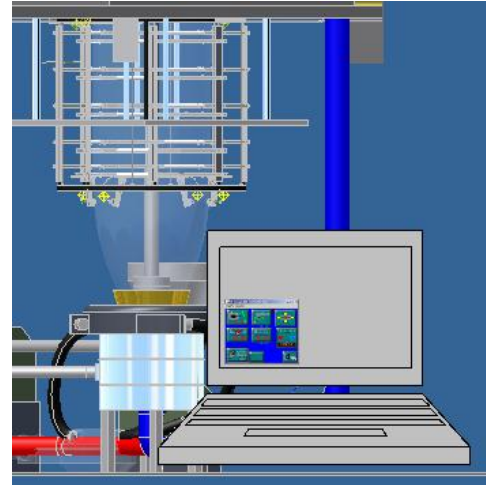
- The FE-8 works as a non-contact measurement bar using two infrared sensors.
- When placed at the winder, it can be used to measure the film width after shrinkage.
- When tied into the DR Joseph IBC Control System, it can help control the bubble layflat width.
- A modular sliding design gives the FE-8 flexibility to run on lines with varying layflat width.
- As the North American Representative of Kundig Control Systems, D.R. Joseph runs Kundig International from our location in Arlington, TX. We can therefore offer sales and service support for North American customers.

WinIBC Operator Interface

Create Multiple IS-IBC1® Control Points Using a PC Based Application

A new set of solutions are available from D. R. Joseph that provide an easy solution for installing multiple operating or monitoring points for the 3rd Generation IBC control system. All that is required is a Windows based PC connected to the 3GIBC system via standard Ethernet cabling.

There are three solutions available as show in the table Below:



WINIBC FAMILY	MAIN FEATURES	LIMITATIONS	LICENSING
Viewer	Adds a PC based operating point remote to the supplied 3GIBC1 touch screen with 100% 3GIBC1 functionality and multi user support	Up to 3 simultaneous remote viewers per licensed 3GIBC1 System	Each 3GIBC1 System must be licensed
Operate	Replaces standard touch screen with a Windows based PC application that provides 100% 3GIBC1 functionality	One per 3GIBC1 System	Each PC must be licensed via USB memory stick (must remain installed)
WebView	Allows remote alarm monitoring via an RSS feed using Windows Internet Explorer	No limit on users but does require Windows Internet Explorer 6.0 or greater. Only available on 6" touch screens	Per 3GIBC1 System

The WinIBC **Viewer** product is an economical choice when a second control point is needed, or if remote viewing of the IBC system is required by supervision. It is also a great training tool that allows training sessions in a quiet environment but at the same time provides a live, working system.

The WinIBC **Operate** product is a logistical choice when your blown film line already has enough operator screens and putting an application window running the 3GIBC1 system makes more sense than adding yet another touch screen.

The WinIBC **WebView** product is an economical way for maintenance to keep track of multiple systems via standard Internet Explorer Browser. If RSS feeds are supported, the user can subscribe to a feed from each IBC system and be alerted of any faults without having to individually access each system. This feature is only supported on our 6" touch screens.

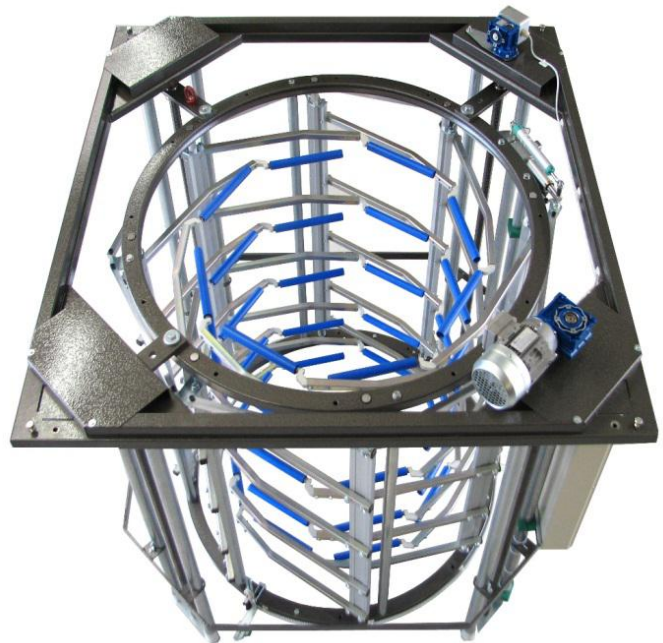
Soft Roll Sizing Cages

Roll 08 Sizing Cages

The new ROLL 08 Cage provides greater size ranges, the flexibility of 4 roller materials and smaller rollers which reduce air ring impingement forces on the bubble. One of the most popular sizing cages in the industry, this design is tried and tested to provide smooth operation, consistent up/down and in/out movement, and holding power to keep the bubble centered and stable, while maintaining smooth contact with the film to avoid marking and marring of the film.

Performance & Benefits

- No scratches or alterations of the film surface
- Effective with soft or tacky films
- Increases bubble stability
- Protects against heat transfer
- Optimizes airflow on the bubble
- No variation in film thickness
- Low Inertia interchangeable rollers are easy to install, change or clean
- No variation to outer dimension or fixing points
- Robust design for long lasting high reliability
- Increased diameter opening min/max ratio (more than 4.5 to 1)

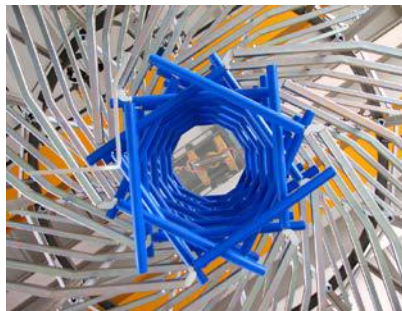


Options

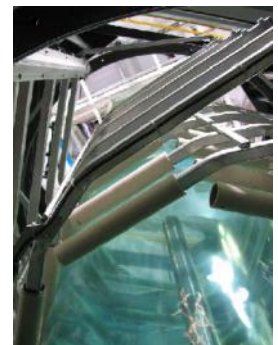
- Speed Regulation Control
- "X-Y" Axis Adjustment for Centering Cage
- Vertical and Diameter Adjustment
- Sensor Bracket for DRJ IBC Sensors
- Four Types of Guiding Rollers for All Films



New Extreme No Stick Rollers



Silicone Roller Covers



Wool-Felt Roller Covers



Our motto really says why we are in business. *To provide our customers with solutions... not just answers.* It sounds simple, but it requires a certain diligence to see a customer's problem all the way from onset to solution. Our employees and our service people have that diligence. Our company has been developing solutions for the blown film industry since 1987 and we feel our success is measured in our customer's success.

"...though it costs all you have, get understanding." That is the driving principle that pushes us to find the solutions. We continue to work on a problem until we understand it. Once the problem is understood, corrective action is possible.

Our company maintains standard working hours of 8:30 am to 5:00 pm, yet we cover the entire globe of time zones with remote office sites, remote email, and cell phones. We use a network of technicians in Canada, Europe, Africa, New Zealand, Japan and the United States to provide technical support to our customers and we have developed an assortment of training materials and self-diagnosis tools for those more experienced with process control systems. We work to make sure every product we produce will integrate with our existing equipment. Every upgrade has to be an easy retrofit.

Our offices are located centrally in one of the largest metropolitan areas in the United States, Dallas/Fort Worth. With the DFW airport nearby, we have the optional ability to ship systems and spare parts as late as 9:00 pm and still have the parts arrive the next day. From the airport, our offices are only 25 minutes away, so customers have a short drive to our area. Hotels, restaurants, professional sports teams, and golf courses make this area a very enjoyable visit.

Our training facility allows us to demonstrate equipment setup, how it is supposed to work, and how to service and repair it. We also provide training on the blown film process to ensure that technicians understand the environment in which they will be working.

We look forward to providing your company with a solution to a nagging bubble instability, low production rate, or excessive scrap rate problem. That's our specialty!

For more information on any of the products or services offered by D.R. Joseph, please contact us at:

D. R. Joseph, Inc.
921 W. Harris Rd.
Arlington, TX 76001 USA

In North America: 800-767-4470
Ph: +1-817-987-2030
Fx: +1-817-987-2043

Email: sales@drjosephinc.com
Web site: www.drj1.com
