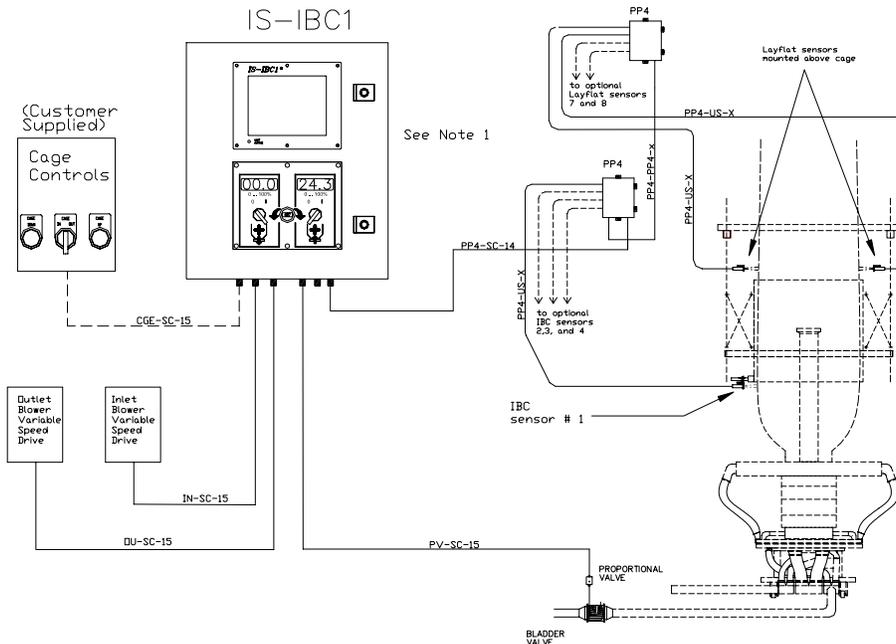


Specification Sheet

DRJ Part Number *IBC12SACC*

Drawing Set: *IS-03-16*

IBC control with automatic blower balance, layflat control and sizing cage diameter control. Bubble break and layflat variation alarm outputs included.



Application

This configuration is best suited for blown film applications that need to make multiple size changes per shift or have low manpower availability to operate the line. The layflat and cage control features are particularly helpful when running heavy gauge film and the time from die to winder is several minutes. The time to required to make a size change is significantly reduced because the layflat sensors are mounted just above the sizing cage. The many automated features make it ideal for situations where the customer has little or no IBC experience. Automatic layflat and cage control allow the operator to set the size and tend to other issues of operating the line. The color touch screen provides an easy to use and highly visible interface to quickly establish production settings. There are also helpful trend and maintenance screens to help determine if the line is running optimally. Online help and procedure tutors are also provided for the operators and maintenance personnel. All DRJ IBC systems come with both a comprehensive manual and a color operator's manual.

Select This Configuration When:

The objective is to upgrade from an existing DRJ or to replace a competitive system and a stand-alone panel for the operator interface is desirable. Also, this configuration works well if the new IBC system will be part of a die upgrade package because it keeps installations costs down. The main system components and operator controls are installed in NEMA panel that is easily mounted to existing support structure. All original wiring is supplied with quick connect military style connectors. Main panel dimensions: Height-19.75" (500mm), Width-15.75 (400mm), and Depth-8.25" (210mm)

Notes

Sizing cage controls (up/down and in/out) to be supplied by others. Optionally, the switches can be mounted into the IBC panel. The sizing cage must have electrically adjusted diameter control. The movement of the cage must be smooth throughout the size range. The customer may need to provide a cage movement speed control for proper operation. Electrically adjusted height control is recommended but not required. The system comes with an interface to allow the existing cage controls to continue to function even when the system is in automatic mode.

Variable speed drives may either be purchased with the system, supplied by another vendor, or be previously installed units from an existing IBC system. If drives are supplied by DRJ, the drives will be pre-programmed with all settings for proper IBC operation. If the drives are to be supplied by another vendor, check first with DRJ to ensure compatibility of the drive with the IBC system. DRJ will supply a wiring and programming guides for compatible drives. If previously used drives and blowers are to be integrated with this system, DRJ must check the variable speed drives for proper power ratings and the blowers for proper airflow to ensure optimum performance. Use the DRJ configuration form to identify any used equipment that will be used with this system.

Electrical

System comes standard with Allen Bradley “Euro” style switches. Optional Klockner Moeller switches are also available. Power requirements: 100-250 VAC, 50-60 Hz, 4 amps maximum. Input terminal block is fused with illuminated blown fuse indicator. A power switch is provided on the bottom of the main panel. All sub-systems and control voltages are powered by 24 volts DC and are individually fused.

General Installation Requirements

Main controller should be mounted in close proximity of the die, preferably so the operator can operate the panel and see the bubble at the same time. The IBC sensors must move linearly with the change in diameter of the cage. The IBC sensors must also move vertically as the cage moves up and down. The flow control valve must be mounted within ten feet of the die, in the supply (cold air) ducting for optimum performance. Variable speed drives are directly interfaced with the IBC system. Blower controls, start/stop and speed control are provided within the IBC control panel. Supplied interface cables have a standard length of 50 feet. Optional lengths are available upon request.

Standard Features

| Item | Description |
|--|---|
| High Performance IBC Control | Patented IBC technology provides the best possible control of the bubble at the highest air exchange rate. State of the art ultrasonic sensor technology provides optimum performance even in high bubble flutter conditions. Patented “bladder valve” technology allows very good control of airflow over a wide range of operating conditions. Layflat control capability is +/- 1/8 inch (+/- 3mm). Actual performance depends on alignment of equipment, stability of melt pressure, melt strength, tension control and absence of wind effects on the air supply to the IBC blowers. |
| Six Inch Color Touch Screen with 5 Language Interface | The touch screen provides standard operator controls and trend graphs of layflat and process information. Five languages are supported for the operator: English, Spanish, French, German, and Italian. The color touch screen also comes with context sensitive help messages and on-line tutors for seldom-used functions. All maintenance screens are password protected. The customer can change the password. Color touch screen supports TFT technology which provides near infinite viewing angles. |
| One-touch Air Exchange Adjustments | The automatic blower balance feature completely eliminates the need for the operator to adjust both blowers to achieve the proper balance between the inlet and outlet blowers. By adjusting a single control, the operator can |

| Item | Description |
|--|---|
| | quickly set the air exchange rate a new setting. The system also automatically reviews the blower balance and readjusts without disturbing the process. |
| One-touch Layflat and On-the-Fly Sizing | The system allows the operator to enter the desired size and the system manages sizing cage automatically to achieve the desired size. This feature works both from a startup mode and while the line is running. Full integration with the IBC and blower balance features provides a system that can manage temporary bubble instability problems. This system does not control cage height. |
| Operator Calibrated Layflat | This feature allows the operator to measure the web at the winding station and enter the layflat into the system. The system uses this information to calibrate the layflat control system and to account for draw down in the web. |
| Bubble Break Detector | When a bubble loss is detected by the layflat sensors, an output triggers a relay which is used to interface with the customer's equipment. Any function, from sounding an alarm or stopping the line, can be tied to the relay. The relay is a DP4T with 4 normally open contacts and 4 normally closed contacts. Loss detection distance and trigger delays are configured by the user. This feature arms itself automatically 10 minutes (configurable) after the operator starts the outlet (exhaust) blower. |
| External Layflat Alarm | When layflat drifts out of specification, an output triggers a relay which is used to interface with the customer's equipment. Any function, from sounding an alarm or stopping the line, can be tied to the relay. The relay is a DP4T with 4 normally open contacts and 4 normally closed contacts. The operators can specify both undersize and oversize limits. A visual alarm indication is provided on the color touch screen even if this option is not selected. Alarm will remain active until the operator acknowledges the alarm or turns off the outlet (exhaust) blower. |
| Analog Output Interface (0-10V) | This feature provides a fully configurable analog output with a maximum range of 0-10 volts that is proportional to the indicated layflat width. This output is often used to provide layflat data to gravimetric systems, extrusion control systems, and data collection systems. This feature is configured using the color touch screen to assign a minimum and maximum signal level to the minimum and maximum layflat values. Analog output is isolated and fused. |
| RS232 Interface | The unit comes with a user configurable RS232 interface that can communicate at speeds ranging from 110 baud to 115K baud. Modbus RTU and Modbus ASCII protocols are supported on this port. |
| Ethernet Interface | The unit comes with a 10Mhz Ethernet port. The Ethernet port can be used to connect the IBC to the company intranet or the internet (firewall protection must be provided). Possible uses for Ethernet connection: remote diagnostic interface, integration with plant data collection or control systems. Communication protocols include Modbus over TCP and UDP. |
| Internal Diagnostic Modem Interface | Allows DRJ to log into any IBC system and monitor and tune the operation of the system. Simply connect a standard analog telephone line to the system. No other devices required. |

Optional Features

| Item | Description |
|--|--|
| Multiple Sensors; IBC and layflat | Provides 2, 3 or 4 IBC sensors to monitor bubble position or provides 3 or 4 layflat sensors to monitor bubble diameter. Useful in rotating die applications, when very large bubble diameter precludes the ability to maintain a round bubble, or when trimless operation is desired. Note: some sizing cages cannot support 4 IBC sensors. Please contact DRJ to determine the correct maximum number of sensors for the cage in question. |
| Ethernet Switch, Unmanaged, Level II, 4 Ports | Allows the single Ethernet port to be expanded to 4 ports. Allows multiple Ethernet devices to communicate with the IBC system. |
| Klockner Moeller Electrical Switches | Replaces the Allen Bradley switches with the Euro style switches from Klockner Moeller. Change the part number to IBC12SKCC. |