

Technical News Bulletin

Cham, August 2012

IS Machines Enhancements - Increased safety easier operation

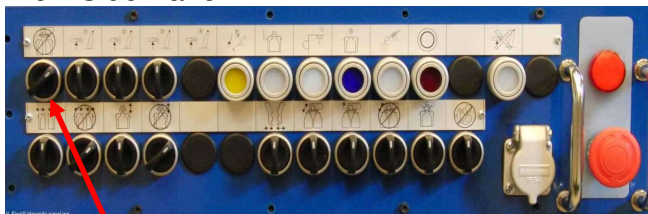
Introduction

Since the introduction of IS machines, Emhart continuously launched improvements for easier operation and increased safety.

During 2012 all IS and AIS machines will get the following enhancement.

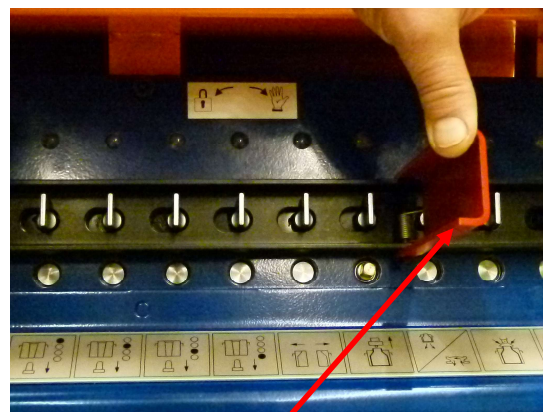
1. P-Switch (patent pending) replacing the existing mushroom type P- Snap
=> Easy and safe operation to make sure from the blow side that blow MOC in open and Blowhead stay in up position.
2. Special pneumatic activated stop cycle to remove safely glass out of the blow molds
=> quick and safe taking away of collapsed containers.
3. 26-Line Electro Pneumatic Valve Block (EPVB) on blank side with safety flaps covering blow side manual overrides
=> requires a two-hand blank side operation for blow side override events (MOC and Blowhead)

Blow Side Panel:



Special Cycle for glass removal

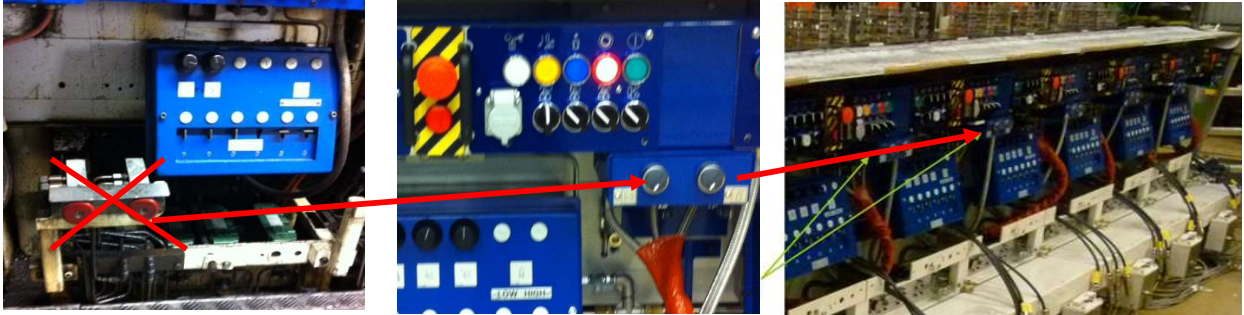
26-Line Valve Block:



26 EPVB safety flaps

System Description

Enhanced Blow Side Operation



P-Snaps (mushroom type) are obsolete and replaced by a special cycle and P-Switches to improve the following operating modes.

A. Normal Operation => remove collapsed glass containers out of the molds

P-Snap - obsolete system:

Operator uses tongs (so his hands do not reach into the hazardous area of the blow mold) activates the mushroom type P-Snaps with one foot, within a specific time window

After the glass is removed from the blow mold, the P-Snaps need to be deactivated within a specific time window. Not matching this quite short time window, the section will almost certainly jam or the mechanism may crash. P-Snap is an obsolete system will be replaced and is not any longer available

Special Programmable Cycle – new:

Using special programmable cycle instead of P-Snaps makes operation safer and easier. No need:

- To match specific time window (on/ off operation) => control system ensures synchronization
- Operator can stay on both legs and concentrate on removing the glass.

B. Section Intervention => change blow molds and other forming equipment

P-Snap – obsolete system

Maintenance Stop (MS) and the P-Snaps are activated (Invert and Take-out mech. blocked)

P-Switch– new:

Instead of the cumbersome P-Snap the more convenient and well-located P-Switches are activated. The P-Switch system provides cleaner installation

C. Job Change and Repair at Blow Side => change accessories and mechanisms

Blow side section work done on safe Maintenance Stop (MS) condition and with:

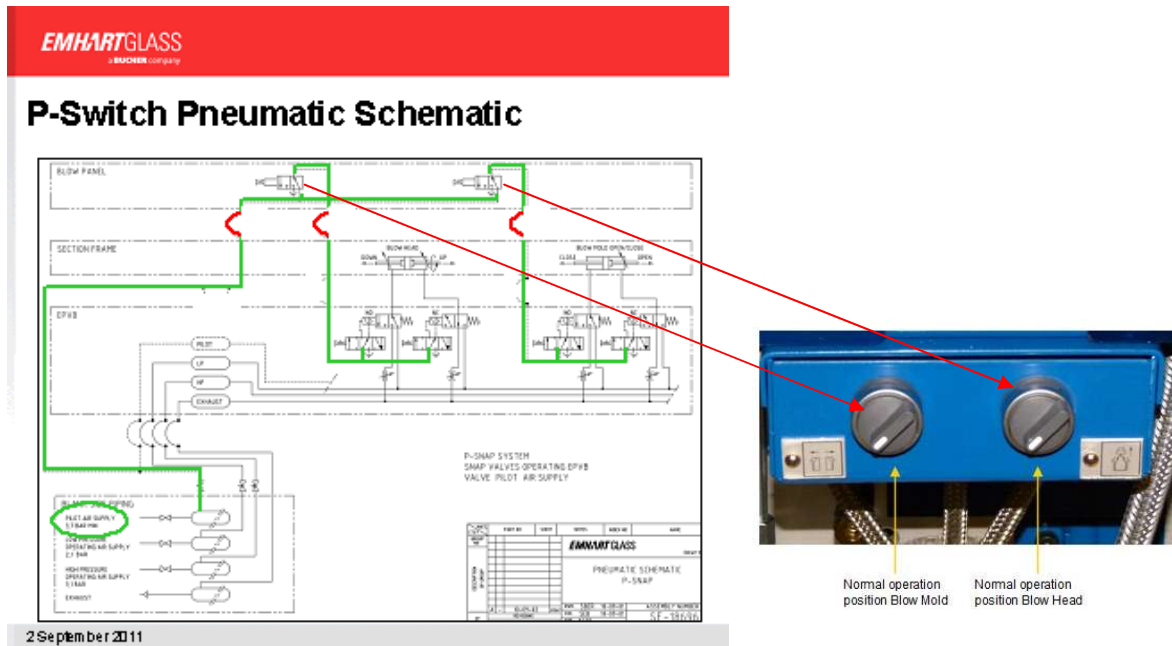
- P-Switch activated (blow MOC and Blowhead inhibited)
- Mechanical locks for Take-out and Invert installed to protect against unintentional overrides from the blank side. P-Switch much easier to use than the obsolete P-Snap

P-Switch Enhancements

The P-Switch (patent pending) replacing the obsolete P- Snap is a **pneumatic** shut-off valve.

Note 1: The newly designed switch unite replaces the traditional Snap (mushroom type) valve. It is mounted at a convenient height for enhanced operation (ergonomics) by hand. The P-Switch is a rotary actuated pneumatic switch to prevent accidental actuation.

It cuts the pilot air to the valves and inhibits any motion, even if the manual overrides are activated by mistake; the Blow Molds and Blowhead remain de-activated and safe for the operator on the blow side. The blow side operator is protected (blow MOC, Blowhead) from any error made on the blank side.



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Pneumatic schematic re-routing EPVB pilot air

Blow side P-Switches (patent pending) "



The new moveable covers (flaps) protecting and highlighting blow side override switches on the 26-Line EPVB forces a two-hand operation. So unintentional activation, even if the blow side operator has not activated the P-Switches is very unlikely. This definitively improves the safety level for the blow side IS machine operation

These safety relevant enhancements is standard on all IS and AIS machines.

Features / Benefits

| Features | Benefits |
|---|--|
| P- Switch | Safer blow side operation (MOC and Blowhead). Clear distinction between operation modes. Ergonomic – close to Maintenance Stop (MS). Blow side operator controls his own safety (unintentional blank side override operation). |
| Special cycle | Enhanced safety for collapsed blow side glass removal. No need to match operation within limited time window. Operation with both feet on the platform (less likely to slip). Clear split between the blow side operation modes. |
| Blank side cover 26-Line EPVB | Two hand operations reduce residual risk due to unintentional blank operation. |
| MOC and Blowhead operated from 26-Line EPVB | No valve burning by hot containers underneath the conveyor. Easy speed adjustment by valve block needles Faster more convenient valve exchange and maintenance. Less spare parts using standard valves 2 independent 3/2 valve for better pneumatic control. |
| Blow side: - No manifolds and valves for MOC and Blowhead - Vacuum manifold optional | Easier to keep blow side clean. |