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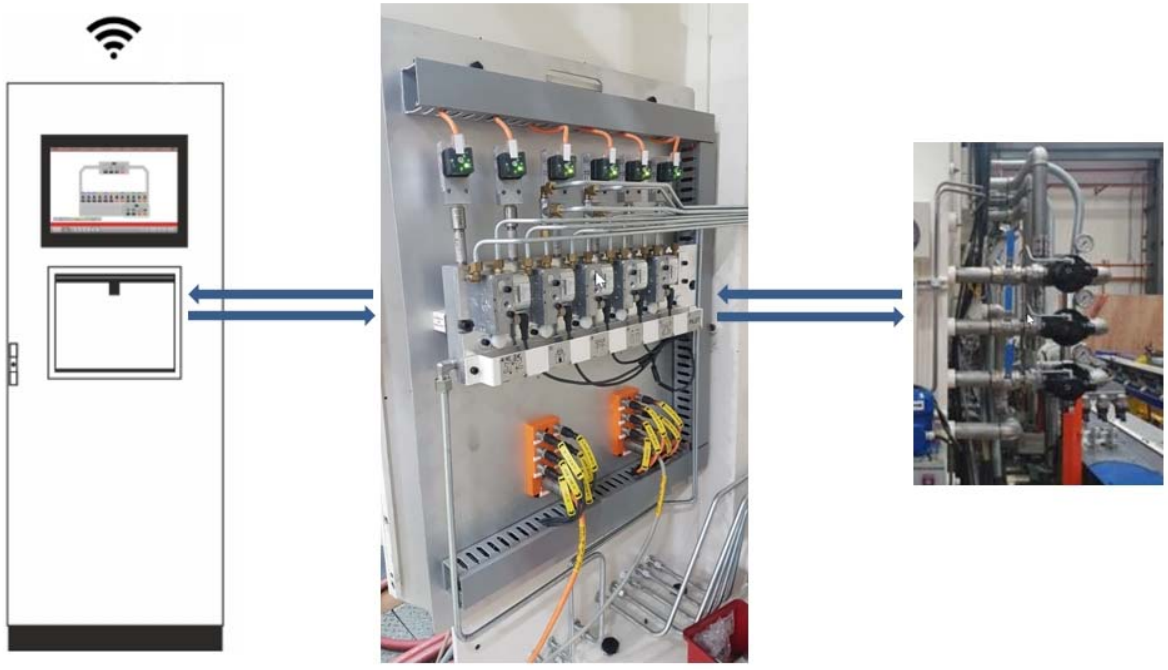


Pressure Supervision Unit and Machine Control Unit

- Optimal control of air pressure
- Improved production monitoring
- Enhanced machine safety given by automatic actions

Introduction

An optimal control of the air pressure is a key factor to maintain a stable container production.
To increase the air pressure monitoring level, improve the startup process after job changes and guarantee a stable production, the Pressure Supervision Unit and Machine Control Unit are now available as configurable options for all IS and AIS machines running with the FlexIS 3 forming control system.

Pressure Supervision Unit

The Pressure Supervision Unit is based on a pressure reading panel mounted in one of the machine uprights, and connected to FlexIS 3 forming control system.

The Pressure Supervision Unit can monitor up to 6 (or optional 8) channels depending on the selected panel.

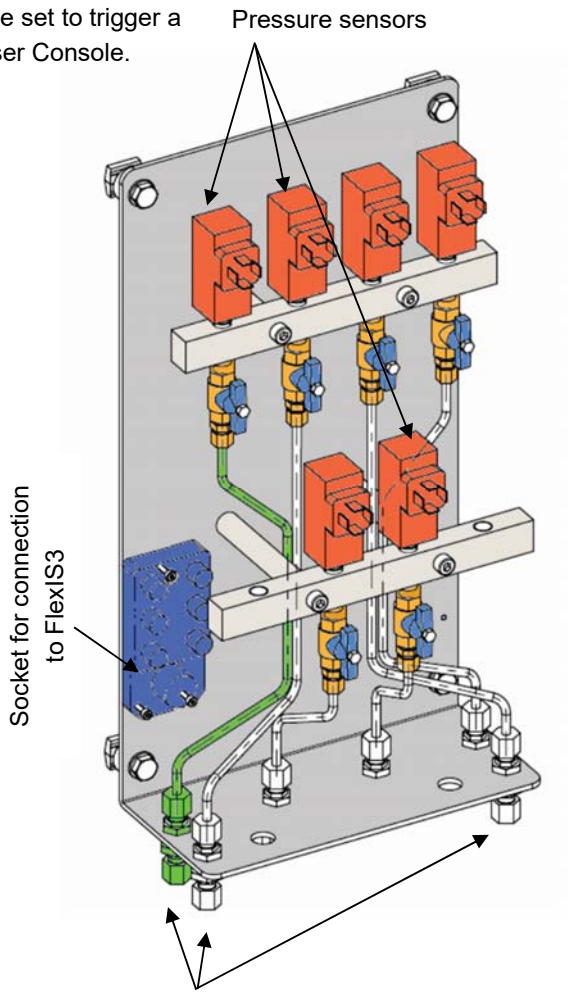
For each channel (IS function to monitor) different thresholds can be set to trigger a dedicated warning or action which is assigned from the FlexIS 3 User Console.

Typical functions monitored by the Pressure Supervision Unit are:

- High Pressure
- Low Pressure
- Pilot Air
- Settle Blow
- Final Blow
- Finish cooling
- Blank Close
- Pocket air

The possible actions triggered by FlexIS 3 are:

- No action
- Warning
- Stop the Gob Distributor and Sections in normal stop
- Stop the Gob Distributor and Sections in Maintenance
- Stop the Servo Shear mechanism



Machine Control Unit (MCU)

The Machine Control Unit is an enhanced Pressure Supervision Unit allowing for the full control of the operating and forming air.

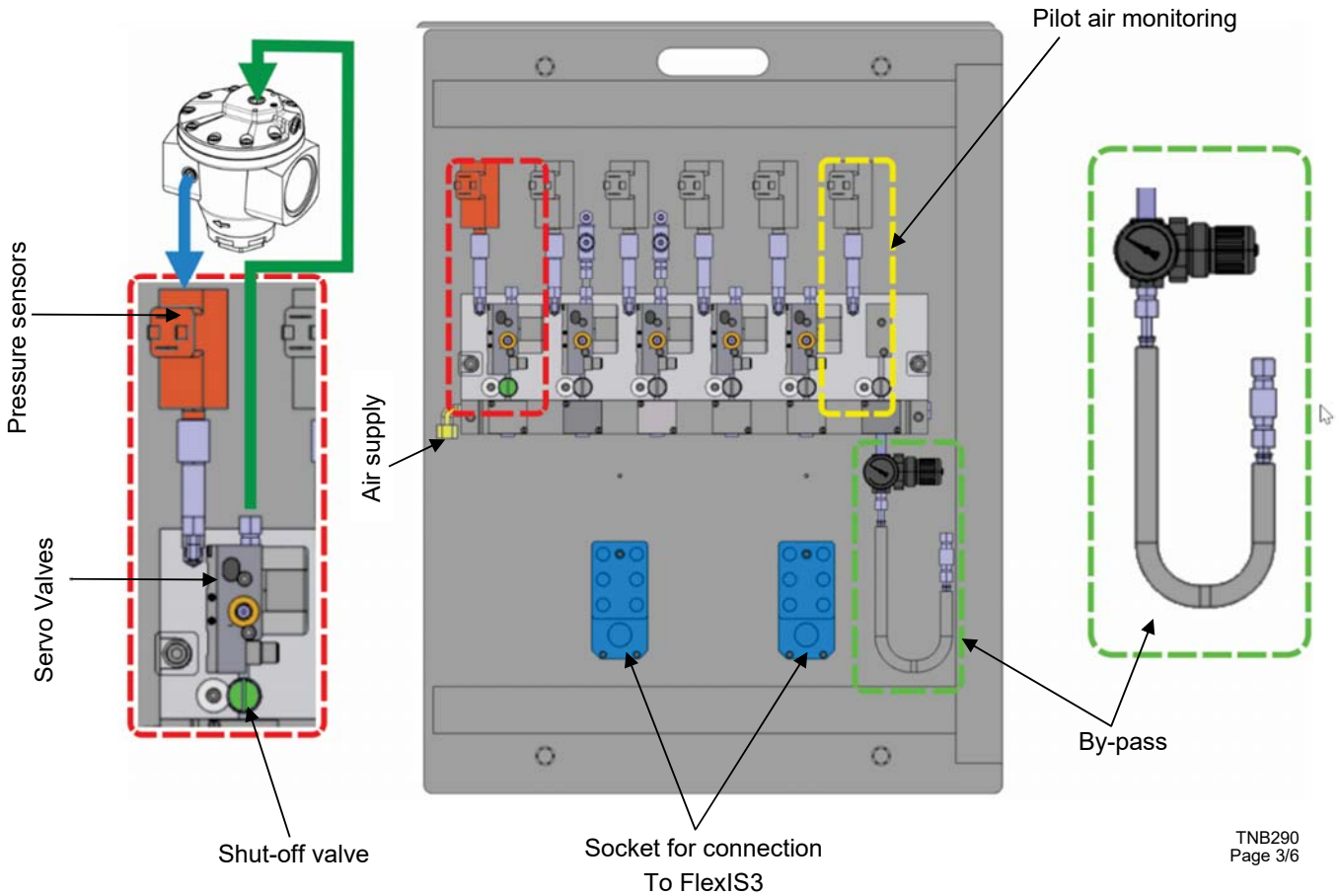
The Machine Control Unit is a pneumatic control panel mounted in one of the machine uprights, and based on Servo Controlled Valves, which are acting as pressure pilot regulators.

The Machine Control Unit can drive up to 6 pressure regulators.

Typical functions controlled by the Machine Control Unit are:

- Settle Blow
- Final Blow (If not FPS)
- Finish Cooling
- Blank Close
- Counterblow (if not FPS)

The 6th line in MCU is dedicated to pilot air monitoring.
The Job related pressure values can be saved in the job file and loaded at the job change, making the startup faster and safer.



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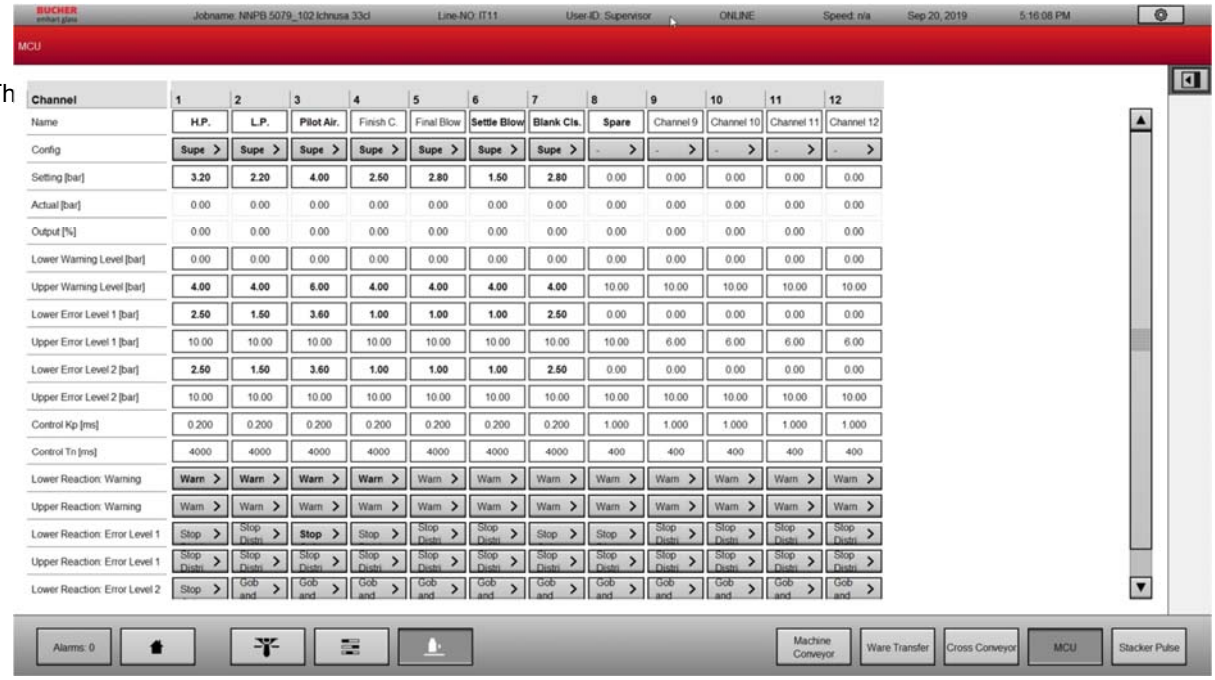

If only the Pressure Supervision Unit is specified, a manual pressure control panel, mounted in one of the machine uprights, is required for the pressure regulators.
To increase flexibility and to allow a future extension to MCU, the previously standard pressure regulators with built-in pilot 59-19177 are now replaced with conventional pressure regulators 59-27516.
For large machines with 10 and 12 sections it is recommended to supply the air manifolds from both sides. Then, a second pressure regulator (slave) 59-90290 must be mounted at the opposite side of 59-27516.

Specification

Pressure controls can now be specified choosing between three different control levels:

1. Conventional pressure controls (Manual pilot regulators + pressure gauges)
2. Pressure Supervision Unit (Manual pilot regulators + Pressure supervision panel)
3. MCU (Servo controlled pilot regulators panel including supervision functions)

Control parts for Pressure Supervision and Machine Control Unit are assembled in the FlexIS 3 machine controller cabinet at the Ware Handling Controller.

Conventional pressure control panel, Pressure Supervision Unit and Machine Control Unit are part of the new modular upright configuration and can be specified by the selection of the number of functions to be controlled and the machine layout.

Pressure Control Unit	Type of pressure control	Assy Type	Control panel	No. of Functions	Piping Assy	Pressure supervision (Option)
200-2255-1	M.C.U	LH upright	200-2239-1	6	200-2246-2	N/A
200-2255-2	Manual	LH upright	200-2233-2	6	200-2243-6	200-2237-1
200-2255-3	Manual	LH upright	200-2233-3	5	200-2243-7	200-2237-1
200-2255-4	Manual	LH upright	200-2233-4	4	200-2243-8	200-2237-1
200-2255-5	Manual	LH upright	200-2233-5	3	200-2243-9	200-2237-1
200-2255-11	M.C.U.	RH upright	200-2239-1	6	200-2246-1	N/A
200-2255-12	Manual	RH upright	200-2233-2	6	200-2243-2	200-2237-1
200-2255-13	Manual	RH upright	200-2233-3	5	200-2243-3	200-2237-1
200-2255-14	Manual	RH upright	200-2233-4	4	200-2243-4	200-2237-1
200-2255-15	Manual	RH upright	200-2233-5	3	200-2243-5	200-2237-1

Installation Requirements

Pressure Supervision Unit and Machine Control Unit are available for all new IS and AIS machines equipped with FlexIS 3 and Ware Handling Control.
Existing machines already equipped with FlexIS 3 can be upgraded to Pressure Supervision Unit or Machine Control Unit by adding the pneumatic controls in the uprights and the control modules in the FlexIS 3 machine control cabinet.
Machines equipped with pressure regulators with built-in pilot can be upgraded by removing the build in unit and connecting it to the Machine Control Unit.

Features / Benefits

Features	Benefits
Pressure Supervision Unit - monitoring	Improved production monitoring. Possibility to see logs and warnings.
Pressure Supervision Unit - reactions	Enhanced machine safety given by automatic actions: Limitation of the mechanism collisions due to pressure drops. Configurable machine conditions related to predefined thresholds.
Machine Control Unit	Enhanced ergonomics: operating and forming air pressures controlled from the same station (UC2 / Flex pad) instead of the pressure regulators located on the machine. Faster startup after job changes because the job related pressure values are stored in the job file.