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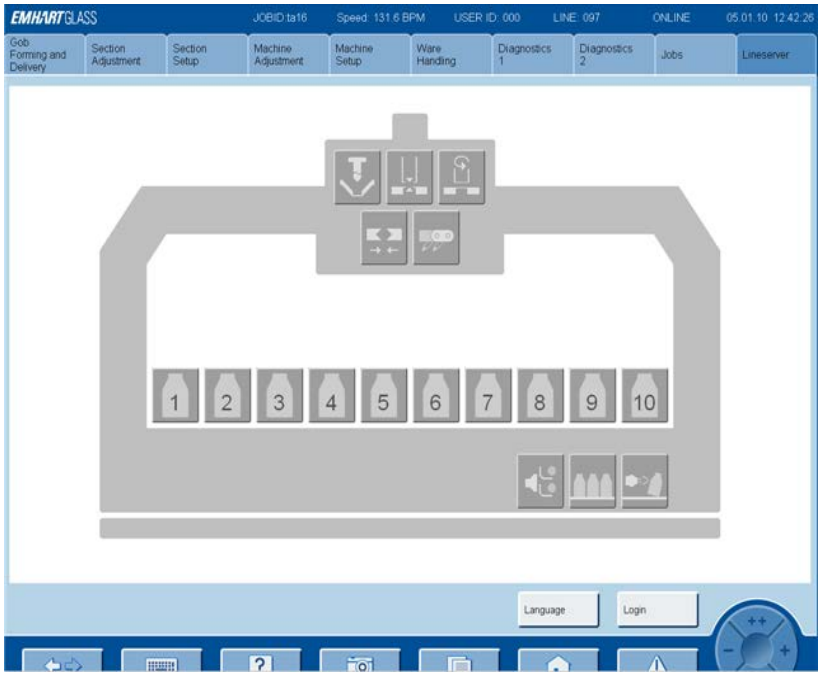
Technical News Bulletin

Steinhausen, January 2010



FlexIS Software Release V 1.07.02.xx

- FlexIS software version 1.07.02.11 has now been officially released
- The menu order has been reworked to provide enough space for the new features.
- The number of Events programmable on the Forming Events has been extended to 40 from 20.

Introduction

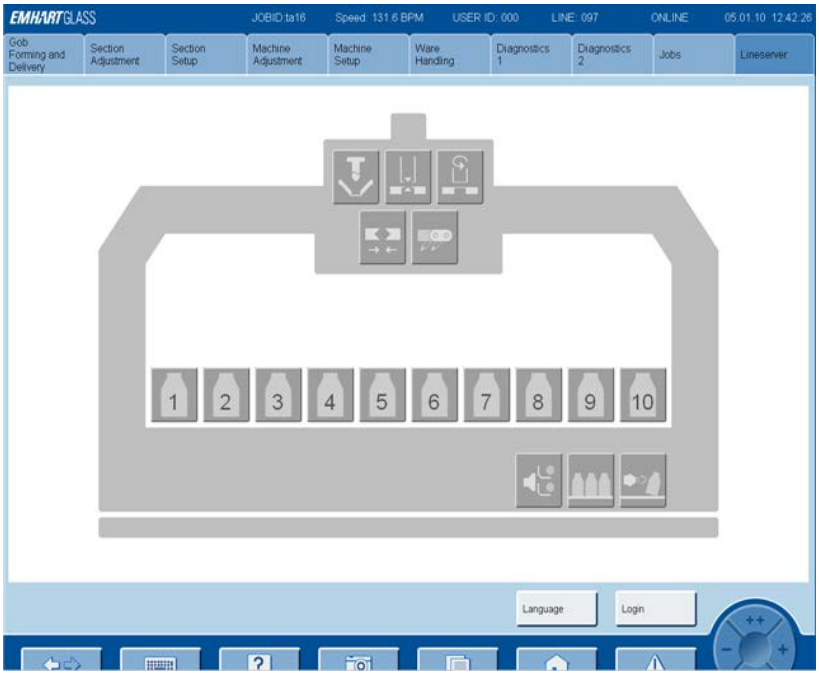
FlexIS software version 1.07.02.11 has now been officially released, after successful tests on IS and NIS Machines.

The new software is a major release with several new features. Please contact our Technical Service Group through your local sales office for support in installing the new software.

New Features included in the 1.07.02.xx release

Menu Display

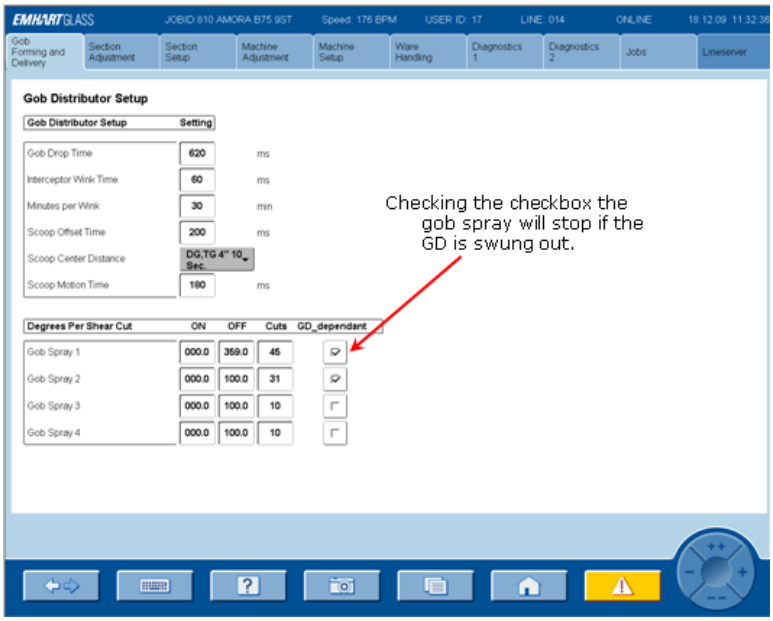
The menu order has been reworked to provide enough space for the new features.



Gob Forming and Delivery

GD screen:

Checking the checkbox “GD_dependent” the gob spray will stop if the GD is swung out.



Scoop Correction:

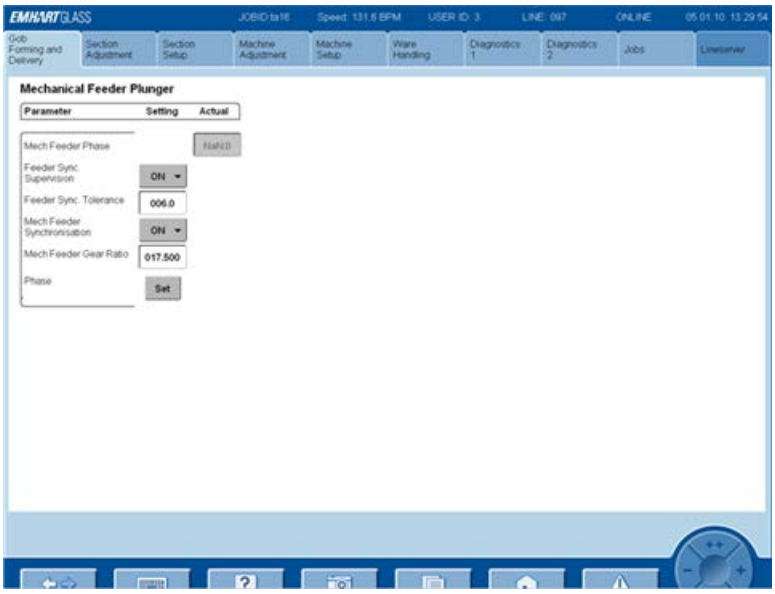
For Tandem with asymmetrical delivery on the HHT, with GD in MS, it is now possible to enter correction values directly (no need to jog). This feature needs to be activated by dongle debug code.

Feeder Plunger cams:

19 cams are installed. The curves have been slightly reworked to prevent jumps and reduce vibration during runtime.

Mechanical Feeder:

Mechanical Feeder is now supported.
If ‘Mech. Feeder’ is selected for Feeder Plunger in the Dongle Config., the Feeder Plunger Screen will display the parameters for a mechanical feeder.
The hardware will be the same of the 555 Plunger and the Output for shear retract and air assistance are on the Drive



Tube Height:

Previously, the value for Tube Height was part of the job configuration. This now has been moved to machine configuration. Now, if the Tube Height value is changed, all the stored jobs on that UC receive this new value. If a job is imported, also the imported job gets the actual Tube Height value.

Section Adjustment/Setup

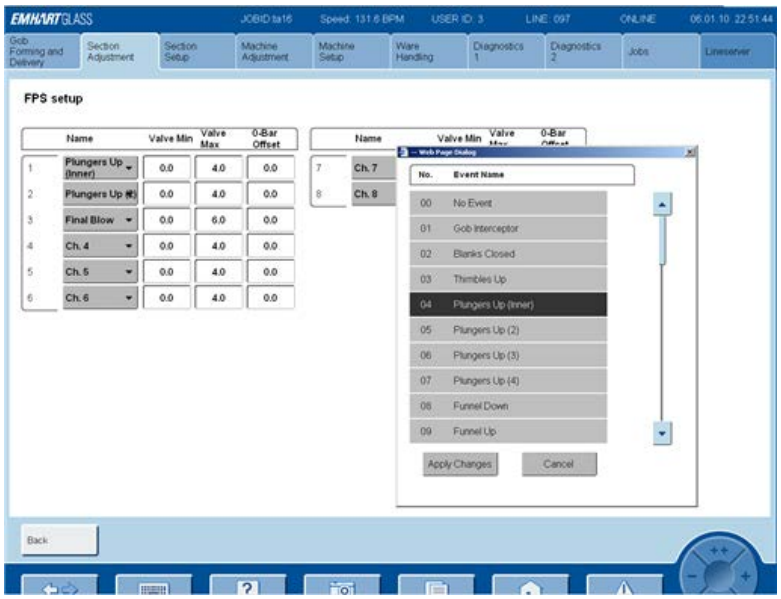
Forming events:

The number of Events programmable on the Forming Events has been extended to 40 from 20.

FPS Setup:

It is now possible to assign a name to the FPS channels. As name the user can choose an event name (no free text entry).

It is also possible to set the pressure range of the FPS valves including the zero point (zero point: a offset between -4 and 0 can be set to achieve 0 to 4 [mA] for the lowest pressure).



Axis - Configuration:

Sect. Controller now supports 5 positions instead of 3 for every servomechanisms

(In earlier releases one had to define for every event where a motion goes to. Now, one has to define from where the motion starts and to where it goes).

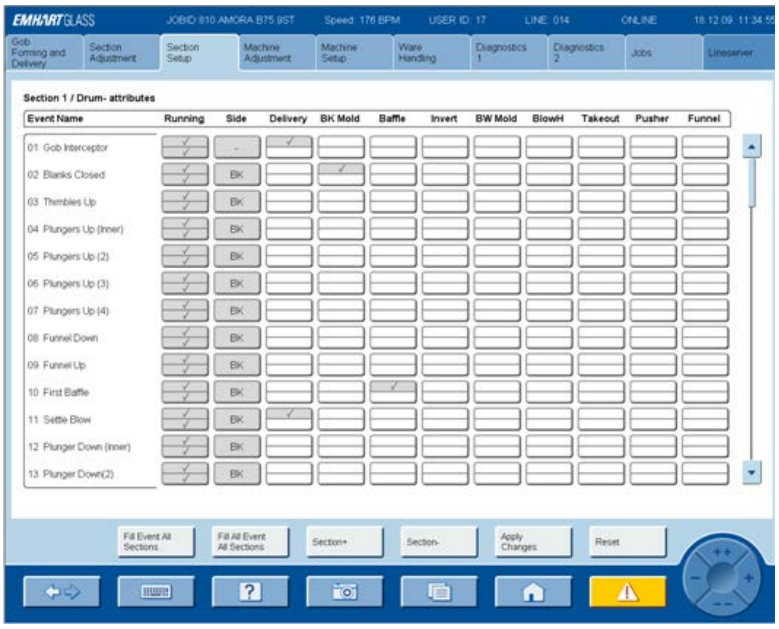
Note that when updating from V 1.06.xx.xx it is necessary to load the version 1.07.00.05first. This automatically converts existing jobs for the 5 positions

Examples of the new settings are below:

Pos	Blankm.	Baffle	Blowm.	Bl.head	Invert	Takeout	Pusher	Finger	Funnel
1	Open	Up	Open	Up	Revert	Kickback	In	Retract	Up
2	Close	Settle	Close	Down	Invert	In	Out	Extend	Down
3	Crack	Down	Crack	Lift	Spare	Out	Spare	Spare	Spare
4	Opensoot	Up2	Spare	Spare	Spare	Spare	Spare	Spare	Spare
5	Closesoot	Spare	Spare	Spare	Spare	Spare	Spare	Spare	Spare

Drum Attributes:

It is now possible to choose the ON and/or the OFF event individually to improve the handling of two valve operated mechanisms. This prevents the mechanism to move by inertia during special cycle or disable.



New “on” Section Control

Job to Machine configuration :

Some job parameters have been redefined as config parameters. These are changed in all jobs according to the current Online job parameter.

Following parameters are currently affected :

Takeout OUT, IN, Kickback position

Invert and Revert position

Blade overlap,

Shear spray ON and OFF

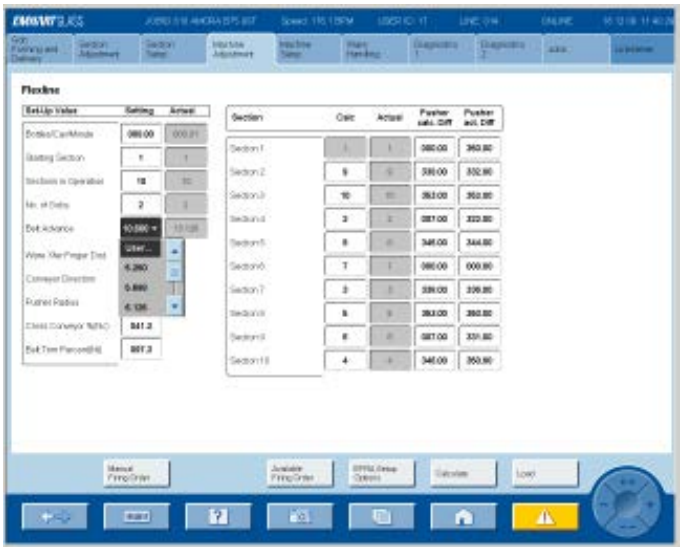
They cannot be written in Job edit mode. All the stored jobs are automatically converted.

MS behavior:
After pressing MS, delivery OFF is switched faster now.

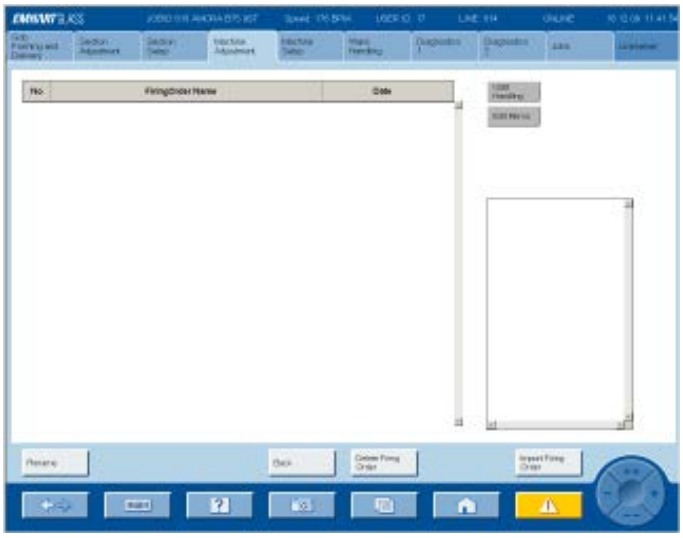
Plunger action after releasing MS and repositioning:
Only the plunger events for the physically present plungers (depends on the number of gobs configured) are now switched, instead of all 4 in every case. This means that the 'spare' plunger events can be configured for other use without influence after MS release.

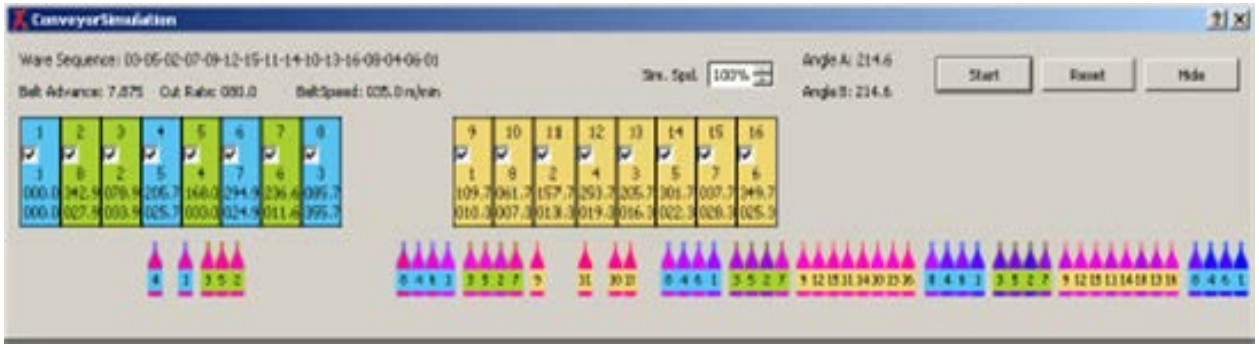
Fuse supervision:
Now, an action to perform after fuse failure can be defined (alarm only, normal stop or MS) see Machine Setup / Dongle

Machine Adjustment
Flexline
It is now possible to enter a defined firing order manually – Number of running Sections, Belt Advance, Gob sequence and pushers start or calculate a defined own firing orders , using the new Firing Order Generator software, and loading in firing orders tables from a USB stick (similar to jobs). One column with the "Pusher act. Differential" has been added to the Flexline page to be sure that values are loaded correctly.



Tandem Firing Orders
With the new Firing Order Generator software we can supply special firing orders with multi gaps to separate a multiple job configuration on the conveyor.
This possibility is useful in combination with a multi-cam/ multi-weight feeder software also for single IS or Tandem Machines (see below).
Itis be automatic on lines equipped with FlexIS WHC, in case of EFRA it needs to calculate manually the parameters No, Nb, Nw and to modify the mechanical ratio of the Ware Transfer.



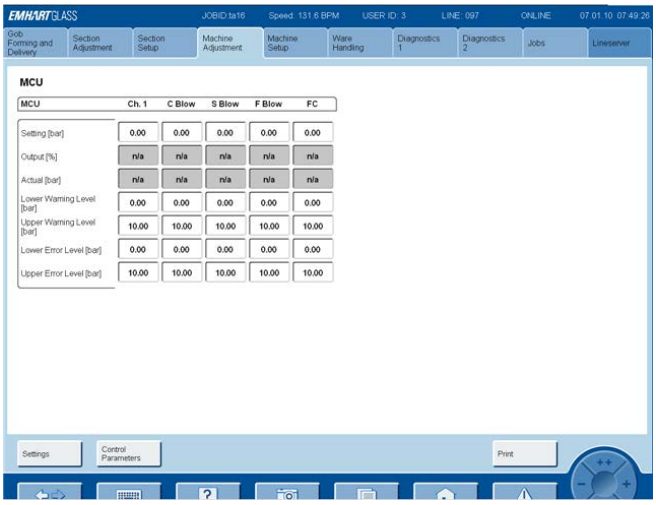


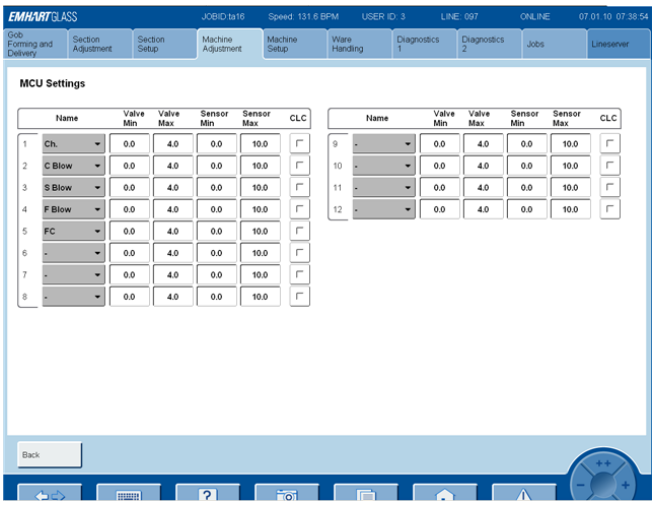
MCU

MCU is now supported for IS and AIS Machines.

It can handle up to 12 channels.

The pressure range of the sensor and the valve can be adjusted independently.





Because the MCU settings have been extended and taken out of the job data.

Machine Setup

Machine Controller Dongle

Input supervision MC 102 and 103:

Signal must be 24Volts

This feature can now be activated with following possibilities:

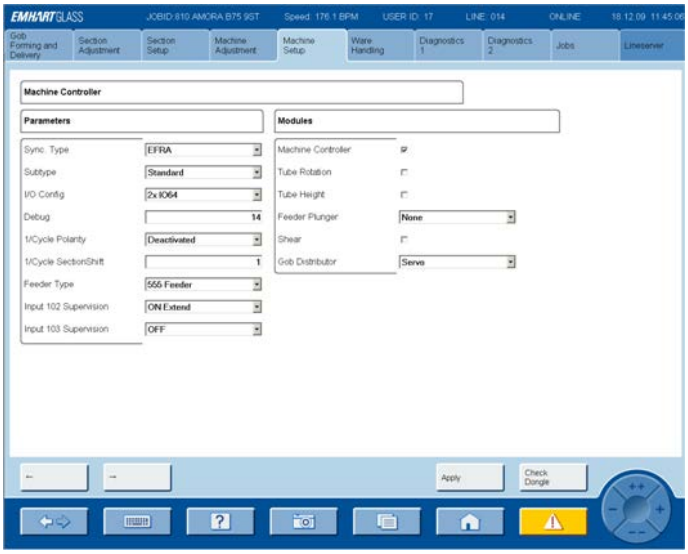
Off – not supervised

On – supervised: If the signal drops down (due to air supply loss, UPS problems, etc.) MC stops all sections and swings out Gog Distributor, but the sections can be restarted even if the Input Signal is not yet back to 24Volts.

On Extend: supervised: If the signal drops down (due to air supply loss, UPS problems, etc.) MC stops all sections and swings out Gob Distributor, restart of the sections is blocked until the Input Signal is not back to 24Volts

Input 102 MC stops all sections in NS and swing out GD

Input 103 MC stops all sections in NS and then in MS, GD swings out.



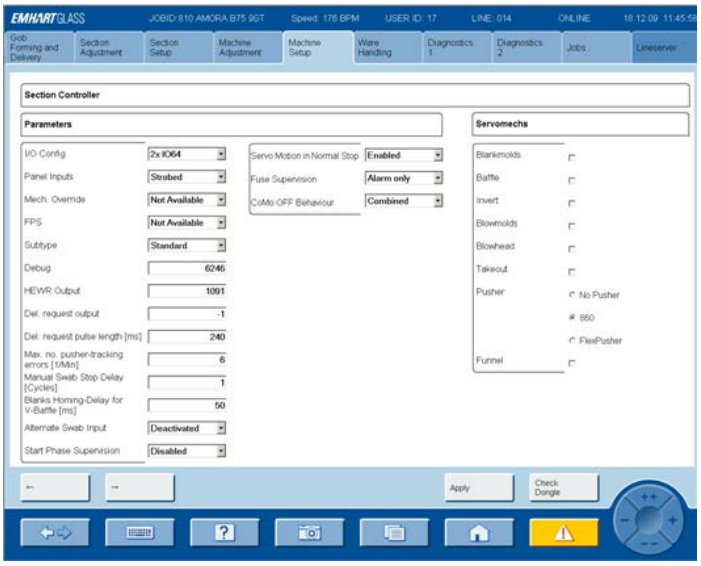
Section Controller Dongle

Servo Motions in Normal Stop:

It is now possible to configure 'Servo motions in Normal Stop'.

Enabled: override switch can move servo with section in NS and Set-Up (Auto/Manual) mode

Disabled: override switch can move servo with section only in
Set-Up (Auto/Manual) mode



Fuse supervision:

Now, the fuses 107..114 are supervised. Actions to perform after fuse failure can be defined on the Dongle screen

Alarm only: a warning will be activated.

Normal stop: Section stop in NS

MS: Section stop in MS

Cold Mold OFF behaviors:

Now it is possible to select two behaviors:

Separate: CoMo cycle can be ended only on the side where it has been activated.

Combined: CoMo cycle can be ended on either the blank or blow side.

New “on” Machine Controller

Speed Change:

If the machine is in E-Stop, the machine speed changes much faster now to allow quicker speed changes.

Sync pulse (1/cut):

On previous software versions, if the sync pulse (1/cut) was configured as ‘external’ and the MC started up, it did not complete the initialization if the sync pulse was missing. Now, if the external sync is missing, MC changes itself to ‘internal sync’ after 30s to enable a complete start up.

When the MC detects the external sync pulse, it will fall into E-stop. Quit E-stop and the MC will synchronize properly to the external sync signal.

Shear page:

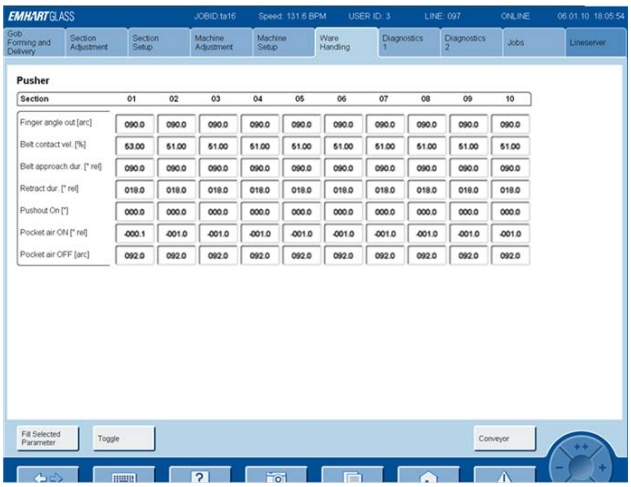
Shear differential has been removed from the parameters.

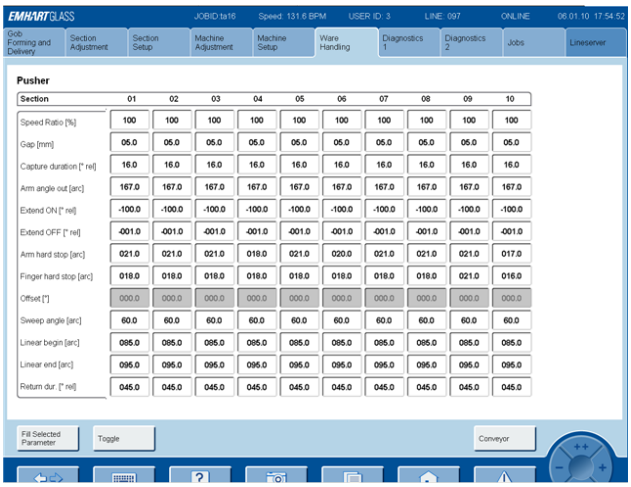
Ware Handling

Pusher

This version uses the **FlexPusher Int. II** as standard interface for the pushers setting.

The setting parameters are split into two screens to provide better overview for the most used parameters. For a detailed description of the curves and parameters consult (***Settings_FPII_RevB.pdf***). When older jobs are imported, all new parameters get the starting values as described in the mentioned pdf file. This means that you have to adjust the push out motion when loading an older job.

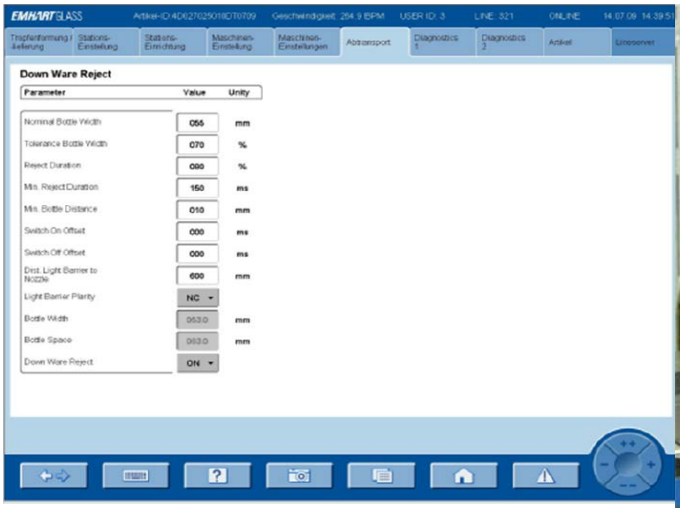




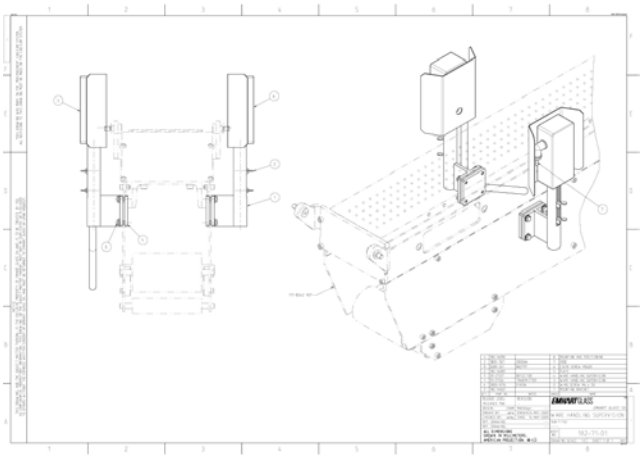
When pressing MS, the finger returns to the position over the dead plate..

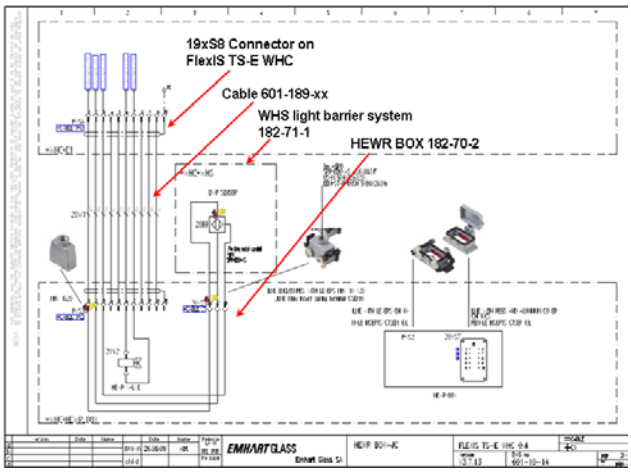
Ware Handling Supervision- WHS - available as option -

The WHS (P.N. 182-71-01) is a barrier light system used for down and stuck ware detection rejecting the stuck and down bottles on the conveyor.



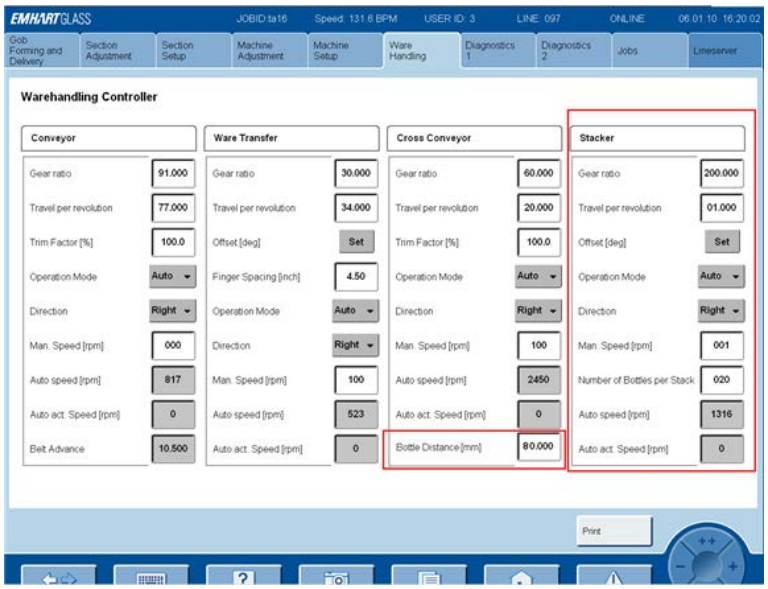
The settings are located on the Ware Handling / DWR screen.
One advantage of using this system is that all rejects are displayed on the Production Counter Screen





The WHS System is completely integrated in the TS-E WHC configuration.

Mechanical Stacker :
Mechanical Stacker is standard on TS-E WHC (needs an additional I/O card on TS).
If Stacker is selected in the WH Dongle Page, the WH screen will display the parameters for a mechanical stacker.
The stacker phase is wired to input 215 (-) and 216 (+)



Cross Conveyor:
CC speed is defined according to the real mechanic conditions, setting the 'Bottle Distance' required on CC.
This also means that every job has to be modified with the corrected values.
CC trim factor can be adjusted by a push button on the OS input 213 (-) and 214 (+)
The values of the actual speed of all the motors will be displayed to compare with the calculated one.

New on WHC

Wiring with second I/O card:

CC trim factor: input 213 (-) and 214 (+)

Conveyor height adjustment: before, outputs 105-108 were used, now outputs 237-240 have to be used.

Auto Reject:

If the conveyor is running and either of the ware transfer, cross conveyor or stacker stops, all sections will switch to continuous reject.

When all ware handling components are back running, the continuous reject will switch off again.

WHC Parameters:

Gear Ratios and travel per revolution support 3 decimal places now.

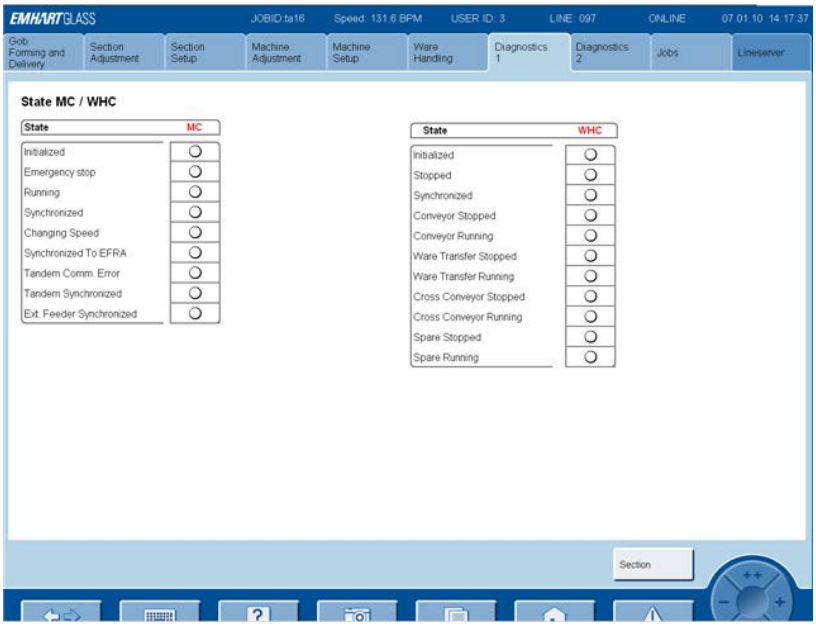
Download Speed:

Due to code optimization the speed for Job Download could be increased significantly.

Diagnostic1

Status:

Now, the WHC state is displayed with MC. For MC stand alone configuration it is possible to get the state of the MC screen.



Diagnostic2

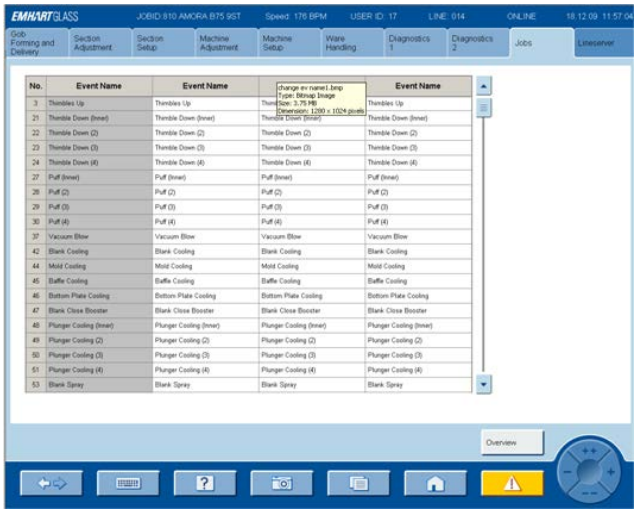
Scope-Graphical visualization of servo mechanism parameters:

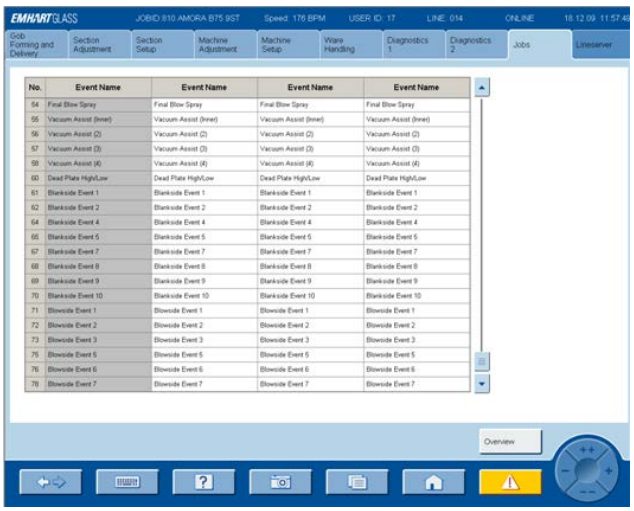
For every servo mechanism it is possible to record current, velocity, position and tracking error, the duration of the recording and visualization is one cycle.
The acquisition is triggered by a preprogrammed sub-event for each servo. The delay time to display the graph will be 2 machine cycles + 3 sec per parameter.
It is also possible to save a curve and compare it with the actual curves.

Job

Change Event Name:

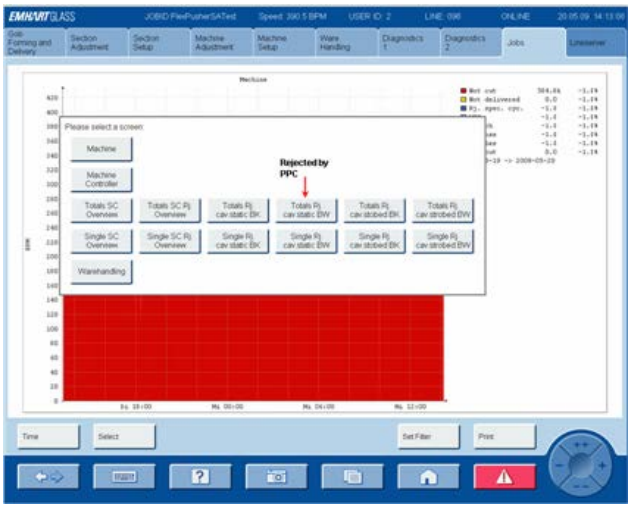
The number of nameable event names has been increased, All the event names not related with mechanisms can be renamed.





Production Reports:

This version introduces much more detailed production counters. The reports, now, include also a graphical output.



Also the WH Reject are displayed.

The PPC Reject are on the page “ Tot. Rj Cav Static BW” (see fig. a)