

This document is an example of the output from a ControlDraw model, in this case the Milkshake plant demo. It has been produced entirely in the ControlDraw Print and Review software.

The model itself contains portions of text from the original EBF working group. The model has now been developed following the developments in ControlDraw and in experience gained with its deployment on many projects, although it is still under development in several respects.

The model is part of a suite of sample models that are anchored in a single reference model. These are not just demonstrations, they are usable libraries of process automation objects.

The New Milkshake model

Introduction

When originally conceived, the intention was to illustrate a realistic process that 'challenged' S88 and then to show how the standard can be interpreted to meet these challenges. These challenges are identified below. Further on this document describes where the milkshake plant shows examples of them.

The ControlDraw model presented here provides workable solutions to a number of these issues. These are not the only answers, but they are we think they are good ones.

They are based on the work done by experts and represent typical good practise.

The model also demonstrates many of the advanced features of ControlDraw.

The model is not yet complete

The challenges:

The CIP issue

There is a common perception among CIP specialists that CIP does not 'fit' S88. This is illustrated in part by the CIP process description that was provided by GEA for the originally EBF working Group.

It is possible to view CIP processes as Servers to the Process Units, so that when a unit wants to be cleaned it can call on the CIP Common Resource to carry out the clean. However this seems unnatural - the cleaner when cleaning must be completely in charge of the equipment. What about a line clean, where is the unit in that?



What is a Storage Tank?

Is it a Unit - or a Common Resource?

This topic can cause a considerable amount of lively discussion in a group of batch specialists.

It's not a Unit because although Tanks can have a batch in them, they also often have a mix of batches. Of course a proper S88 Unit never has a mix of batches in it, so this type is not a unit under the present definition

Arguably if it only stores one batch and does something to look after the batch (even just monitoring it) then such a tank could be a unit.

Continuous processing equipment with the batch

Often there are parts of a batch process that are really continuous in operation

Handling of material routing Equipment

Often this is a major challenge in plants especially where multiple routes are required.

Boundaries between S88 objects

Often it is not clear where the boundaries, should these be placed, in fact sometimes there seem to be alternative boundaries depending what is happening , eg CIP or production.

Efficient modularisation

How best to split the process into modules and to make the modules re-usable

The Milkshake plant

This section briefly describes some feature of the plant that illustrate the above issues

CIP

This plant includes multiple CIP 'units', numerous line cleans and tank cleans. To further complicate the issue, the CIP 'unit' can run two cleans at once, and shares the Water, Acid and Caustic tanks

Storage Tanks

The milk silos operate on a continuous cycle whereby they are filled repeatedly during the day and then cleaned at night, when no milk deliveries are expected.

A similar concept applies to the product tanks except here the rules are that different products should obviously not be mixed.



Continuous processing equipment

The homogenisers are examples of continuous 'units' in the process.

Material routing

The milkshake plant, like many dairies, breweries and other liquid food processes uses valve manifolds

Difficult Boundaries

For example in our milkshake plant units such as the Batch Vessels, have things around them (the inlet valves are a good example) that intuitively seem to belong to the units.

However, the 4 port valves can carry both process fluids and cleaning fluids. Whilst they are under the control of a cleaning program it seems equally reasonable that they should belong to the CIP system as to the Unit or line that is being cleaned.

The Milkshake Model Solutions

CIP

In the model, CIP is treated as the master - a Unit whose function is to clean a collection of 'dumb' equipment.

In fact the model contains two CIP units, each sharing the same collection of

Storage Tanks

The milk silos operate on a continuous cycle whereby they are filled repeatedly during the day and then cleaned at night, when no milk deliveries are expected.

A similar concept applies to the product tanks except here the rules are that different products should obviously not be mixed.

Continuous processing equipment

The homogenisers are examples of continuous 'units' in the process.

Material routing

The milkshake plant, like many dairies, breweries and other liquid food processes uses valve manifolds for CIP and process routing.

Difficult Boundaries

In our milkshake model, the Batch Mixing Unit and the silos contain 'shared' equipment modules. Taking the example of the inlet valves, these are acquirable so that whilst they are taking part in the mixing unit procedure they are under control of the Mixing Unit, however when running a CIP or a transfer then they are commanded by the CIP



However, the 4 port valves can carry both process fluids and cleaning fluids. Whilst they are under the control of a cleaning program it seems equally reasonable that they should belong to the CIP system as to the Unit or line that is being cleaned.



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The Milkshake plant model

This was originally developed for the European Batch Forum Working Group 3.

It is now being developed by ControlDraw Ltd as a sample model.

This version of the model follows substantial development of the modularisation, the routing and CIP systems, this is not yet complete, contributions invited.

Objects, text and images copied from this model can be freely used elsewhere provided the source is acknowledged in documents and publications that use them.

ControlDraw Ltd 2003



Project Information

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Client:	The World Batch Forum
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Date Printed:	23/10/2003
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23/10/2003	Minor Issue - 0D	520	Francis Lovering	Issue for interim Web site publishiing
09/10/2003	Minor Issue - 0C	409	Francis Lovering	The model has now been developed following developments in ControlDraw and experience gained in it's deployment on many projects. The model contains portions of text from the original EBF working group, and is designed to address the issues raised.
08/08/2003	Minor Issue - 0B	328	Francis Lovering	Added CIP state and pulsing to silos
13/05/2001	Issue Reset	0	Francis Lovering	Cleared Model History



Milkshake Process description

Additive Deliveries

On arrival of a lorry at the Additives reception bay the pallets of additives are unloaded by fork lift truck and taken to the Additive Warehouse.

A procedure is required to register the arrival, which should match an expected delivery as scheduled in the MES

Additive Warehouse

The Additive Warehouse stores pallets of Flavour additives. Each pallet contains a number of sacks or additives. A system to control the location of materials and to ensure that they are used in an appropriate order, such as first-in first out or according to use by dates will be required. This document does not explore these areas of functionality.

Solids Processing

Flavour additives materials are depalletised then the sacks are slit, the contents extracted and then pneumatically conveyed into the Additive Silo.

Additives are then milled, sieved and then weighed into IBC's

This is driven by the production campaign requirements so that the right additives in the right quantities are processed.

Intermediate Product Store

The Intermediate Product Store provides a buffer which is used to store IBC's which have been prepared in advance of when they are needed or in case of a hold up in the liquids processing.

Milk Reception

On arrival of a tanker at the milk reception bay the tanker is connected up to one of the three possible unloading points. Milk is then pumped from the tanker into one of the 3 milk silos

On completion of the unloading of the tanker a clean is carried out of the tanker and the pipework which routes the milk from the tanker to the silos.

The milk silos operate on a continuous cycle whereby they are filled repeatedly during the day and then cleaned at night, when no milk deliveries are expected.

Only one tanker is unloaded at one time and generally to only one milk silo.

However, operators can in exceptions unload into one silo until it is full and then the next

CIP Chemical Deliveries

On arrival of a lorry at the CIP chemicals reception bay the drums are unloaded by fork lift truck and taken to the CIP Chemical Store.

A procedure is required to register the arrival, which should match an expected delivery as scheduled in the MES

CIP Chemical Store

The CIP Chemical Store stores drums of cleaning chemicals

A system to control the location of the drums and to ensure that they are used in an appropriate order, such as first-in first out or according to use by dates will be required. This document does not explore these areas of functionality.

CIP Generation System

The Clean In Place system provides rinse water and also doses the cleaning chemicals into the water to make cleaning liquids

The system also takes the returned liquids and can store the final rinse water for use in subsequent first rinses

Liquids Processing Building

Batch Mixing Processes are carried out to make batches of the various products. Certain products are then homogenised on their way to the Product Silos.

A typical mixing process comprises



Add Milk Start qty
Add Milk and Additive
Add Final Milk Qty
Mix
Mix and Heat
Transfer Out

Packaging Building

In the packaging building liquid product from one of the product silo's is filled into bottles and then labelled and packed into pallets - further details are given below.

The operation of the packaging lines is organised in terms of Work Orders.

A Work Order is characterised by:

- The number of bottles to be packed
- The labelling on the bottle - one work order per label type
- The customer - a single customer per work order

A single work order may be made up from one or more Product Silo

Bottles

Bottles are supplied to the filling line in boxes of pallets. A depalletising machine takes the boxes from each pallet, and the de-boxer takes bottles from the boxes. Bottles are then fed onto an accumulation conveyor which feeds into the filling machine.

Customers

Milko Ltd supplies to a large number of customers including the premium Supermarkets, Milko Ltds own brand and some others. Milko also has a strategy to be able to supply new customers in response to order placed over the phone or the Internet when the customers usual supplier is unable to meet the demand or has a production problem. The pricing of such orders is a strategic decision made by Milko's senior management - sometimes the cost will be high in order to make sure that the costs of the disruption to the schedule are more than covered, however sometimes the work is done at cost or even at a loss if the new customer is considered strategically important enough.

Rework

Just occasionally, and notwithstanding the highly effective scheduling system ,a batch is made which does not meet the critical quality standards of Milko Ltd.

This can happen when there is an equipment failure - in general equipment failures can be tolerated by putting the process into hold, repairing the failed item, and then re-starting.

However, sometimes there are failures which cannot be fixed in time to allow the batch to be completed.

In these cases it is highly preferable to be able to re-use the batch if possible. This is far more acceptable than disposing of the batch down the effluent system, and can be achieved by using small percentages of the batch in subsequent batches of similar products provided this is done in time.

This practise is accepted to a greater or lesser degree by the customers.

The pipework in the plant makes it possible to divert a failed batch back into one of the milk silos for subsequent rework.

A further issue with rework is that when a problem does occur and some rework is needed , it can become necessary to change the production schedule to make product which can use up the reclaimed batch. (It may also require that the current schedule is altered in order to free space in a Milk Silo to hold the batch.)

Recipes

The plant produces a large number of products, in a variety of packages.

There are three basic types of recipe

Splodge Drinks



These include Banana, Strawberry and other fruit based milkshakes

Fudge Drinks

These include Chocolate and other cocoa based drinks

Alchoshake

These are the hot sellers, Milko Lts latest introduction of milk shake alcoholic drinks have taken the club drinks market by storm since their introduction.

Recipe Characteristics

Each type of products is made in a different way

Within each general recipe type there are a large number of specific recipes. The Premium Supermarkets, and Milko themselves each have their own recipes but the lower price customers all use exactly the same recipe.

Rework is handled by a rework substitution algorithm - this is a set of recipe parameter which define how much of a particular type of rework batch can be added. For example, small parts of banana milkshake can be added to all other product which also contain banana, no rework which contains alcohol can be used in any non-alcoholic products etc.

Packaging

The product is packed in a variety of ways. Each customer has their own labels for the bottles or cartons which are use. Alcohshake is provided in bottles with child-proof caps. And each customer has their own barcoding standard.

Homogenisation

Homogenisation is essentially a mixing process which ensures that the various constituents of a batch are deeply mixed. The depth of the mix is determined by the physical properties of the batch and the pressure and flow through the homogeniser.

Homogenisation, if required, takes place in the process of transferring a batch from a **Batch vessel to the Product Silos.**

The process of starting up a homogeniser is a complicated by the mechanical problems of raising the pressure, which can be very high and the fact that it is possible to physically damage the equipment by running it empty. h

The homogeniser supplier provides a control system specifically for this equipment and refuses to guarantee it if this system is not used. Consequently Milko has bought the homogeniser and it's control system as a complete package. The vendors system includes a serial interface so that all of the control parameters that the vendor considers relevant can be set from a supervising system.

GEA P.T. Automation Ltd.

Milkshake Plant
CIP Process Descriptions
2 April, 1997

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1. Introduction

The CIP Station for the milk shake plant essentially consists of one Fresh Water Tank, one Return Water Tank, one Hot Caustic Tank, one Acid Tank and two feed and return lines.

The CIP station is used to clean the Milk Silos area, the Liquids Processing area and the Product Silos. These are two types of CIP sequences, line CIP and tank CIP.

2. Download original document

<http://www.controldraw.co.uk/ForumWorkingGroup/cipmshk.doc>

3. CIP Process Description

3.1. Line CIP

The normal sequence for a line CIP is as follows;

- 1 Pre-Rinse Return Water Tank to drain at CIP station via selected line
- 2 Push Out Water with Caustic Caustic Tank to drain at CIP station via selected line
- 3 Caustic Wash Caustic Tank to Caustic Tank via selected line
- 4 Push Out Caustic with Water Fresh Water Tank to Caustic Tank via selected line
- 5 Post Caustic Wash Fresh Water Tank to Return Water Tank via selected line
- 6 Push Out Water with Acid Acid Tank to Return Water Tank via selected line
- 7 Acid Wash Acid Tank to Acid Tank via selected line
- 8 Push Out Acid with Water Fresh Water Tank to Acid Tank via selected line
- 9 Final Rinse Fresh Water Tank to drain via selected line

3.2. Tank CIP

The normal sequence for a tank CIP is as follows;

- 1 Pre-Rinse Return Water Tank to drain at CIP station via selected line
- 2 Empty Tank Empty Tank to drain at CIP station via selected line
- 3 Push Out Water with Caustic Caustic Tank to drain at CIP station via selected line
- 4 Caustic Wash Caustic Tank to Caustic Tank via selected line
- 5 Empty Tank Empty Tank to Caustic Tank via selected line
- 6 Push Out Caustic with Water Fresh Water Tank to Caustic Tank via selected line
- 7 Post Caustic Wash Fresh Water Tank to Return Water Tank via selected line
- 8 Empty Tank Empty Tank to Return Water Tank via selected line
- 9 Push Out Water with Acid Acid Tank to Return Water Tank via selected line



- 10 Acid Wash Acid Tank to Acid Tank via selected line
- 11 Empty Tank Empty Tank to Acid Tank via selected line
- 12 Push Out Acid with Water Fresh Water Tank to Acid Tank via selected line
- 13 Final Rinse Fresh Water Tank to drain via selected line
- 14 Empty Tank Empty Tank to drain via selected line

The line and tank CIP's in the milkshake plant would usually only include the acid wash once a week or once a fortnight. If the acid wash is not included then steps 7 through 12 are skipped.

The sequence for cleaning the Batch Mixing tanks will probably include some additional steps. During wash steps it would also be necessary to pulse sample valves etc..

Assuming that there are two feed and return lines then two CIP's can operate in parallel. This means that one of the mix tanks could be cleaned at the same time as one of the tanker intake lines and that the liquid from one of the CIP tanks (e.g. acid) could be circulated through the intake line and the mix tank at that time.

In the post caustic wash fresh water is recovered to the return water tank. This leaves the possibility for cross contamination.

3.3. CIP Tank Make-Up

The normal sequence for a CIP Tank Make-Up is as follows;

- 1 Dump Tank Contents Transfer contents of CIP tank to effluent plant
- 2 Fill Tank with Water Fill Tank to High Level with Fresh Water
- 3 Dose Chemical Concentrate Empty Tank to drain at CIP station via selected line
- 4 Heat Tank Caustic Tank to drain at CIP station via selected line

Fresh Water Tank requires only step 1.
Cold Caustic and Acid Tank only require steps 1 and 2.
Hot Caustic Tank requires steps 1, 2 and 3.

4. CIP Recipe

The recipe for a CIP will usually consist only of a set of times for each wash step and a single on/off bit to decide whether to include an acid wash in the CIP sequence.

It is possible to include additional items such as pre-set values for watch dog timers for push out and emptying steps etc.. to allow the operator to tune the CIP's. It would also be possible to allow the sequence of steps to be modified as part of the recipe but this is not really necessary.

Therefore a CIP recipe can essentially be reduced to the following

- 1 With Acid Y/N 1 / 0
- 2 Pre-Rinse 10 minutes
- 3 Caustic Wash 20 minutes
- 4 Post Caustic Wash 8 minutes
- 5 Acid Wash 15 minutes
- 6 Final Rinse 15 minutes



5. The Physical Model

The CIP station is not a process cell, it is not a unit, the individual CIP vessels are not units either as they do not perform any batch processing (unless we consider the make-up process). If we look at the CIP station in terms of the CIP feed and return lines rather than in terms of the CIP vessels the CIP station can be viewed in a similar way to any other utility. The CIP feed lines supply the required liquids to the various units and transfer lines in the plant. Therefore the CIP Station is probably best viewed as shared resource even though the procedural control for cleaning a unit is associated with the CIP station rather than the unit in question.

The CIP station will be required to clean not only other units (such as the batch mixing vessels) but also other vessels which might not even be defined as units. For example the CIP station will be used to clean a milk silo and neither the CIP station nor the

Note : If we assume that the CIP station for the Milkshake Plant was delivered with it's own control system then it would require the above recipe to be downloaded from the MES (or SCADA) it would carry out the sequencing through prerinse, caustic wash etc.. and deliver the cleaning media to the various units.

6. CIP Batch and CIP Batch Scheduling

A CIP sequence is not a Batch as defined in S88.01.

A CIP batch could be included in the batch recipe for each product. In this case the CIP unit procedure would form part of the procedure for producing "Splodge Drink".

In the Milkshake plant it would be necessary to schedule a CIP of a Batch Mixing Tank before producing any "Splodge Drink" if the previous batch had been an "Alchoshake" batch, however if the previous batch had been a "Splodge Drink" batch no CIP would be required.

7. CIP Batch Reports

The milkshake plant owner would obviously require some reporting mechanism for the plant CIP. The CIP reports could be attached to batch report to show for example that a Batch Mixing Vessel had been cleaned before use.



Diagram Description 1 - Milkshake Plant Overview

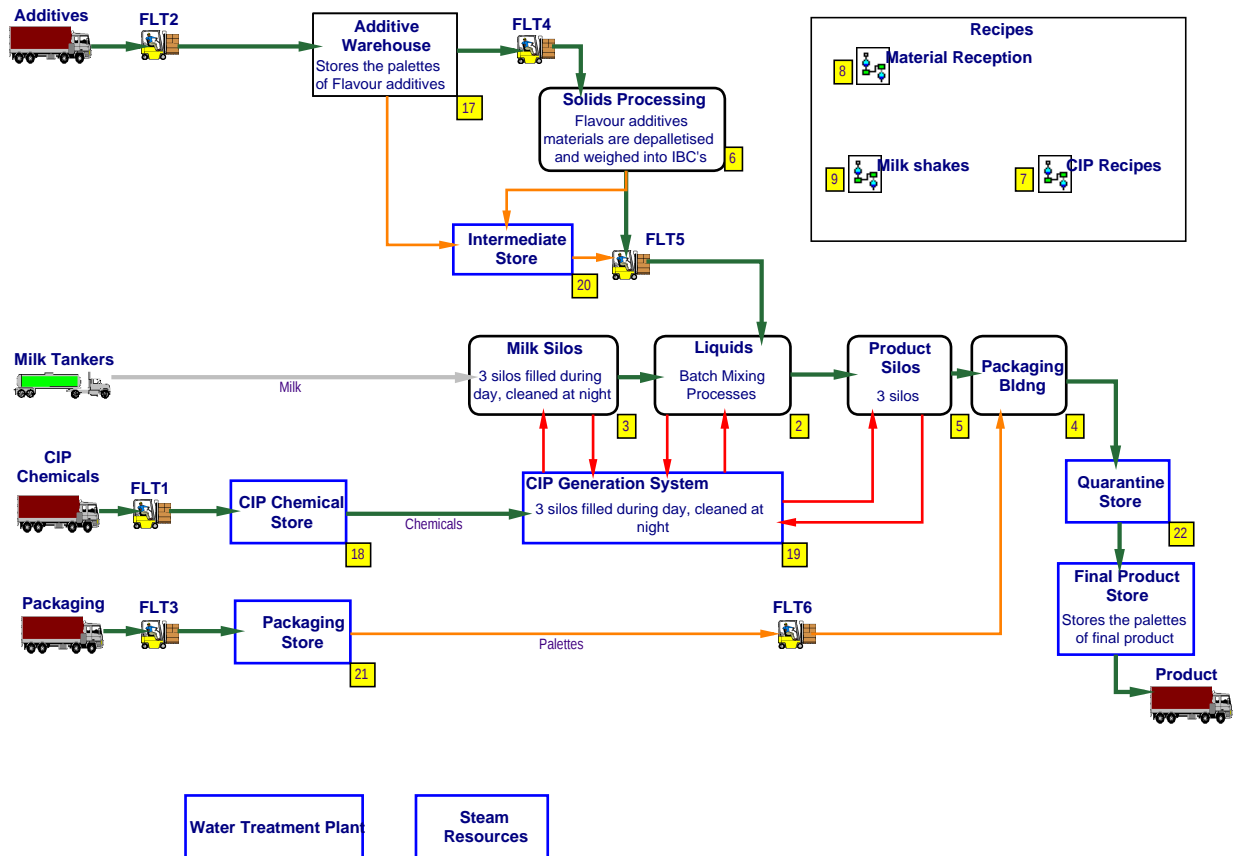




Diagram Description 2 - Liquids Processing Bldng

This Process cell is where the batches of product are produced.
 Each batch mixing unit can be making a different product or being cleaned.

PCS Design point

The corresponding graphic in the PCS will be animated with the states of the main areas.

Sheet Version: 490 Class: Process Cell Sheet 2 of 89 PageID: 15

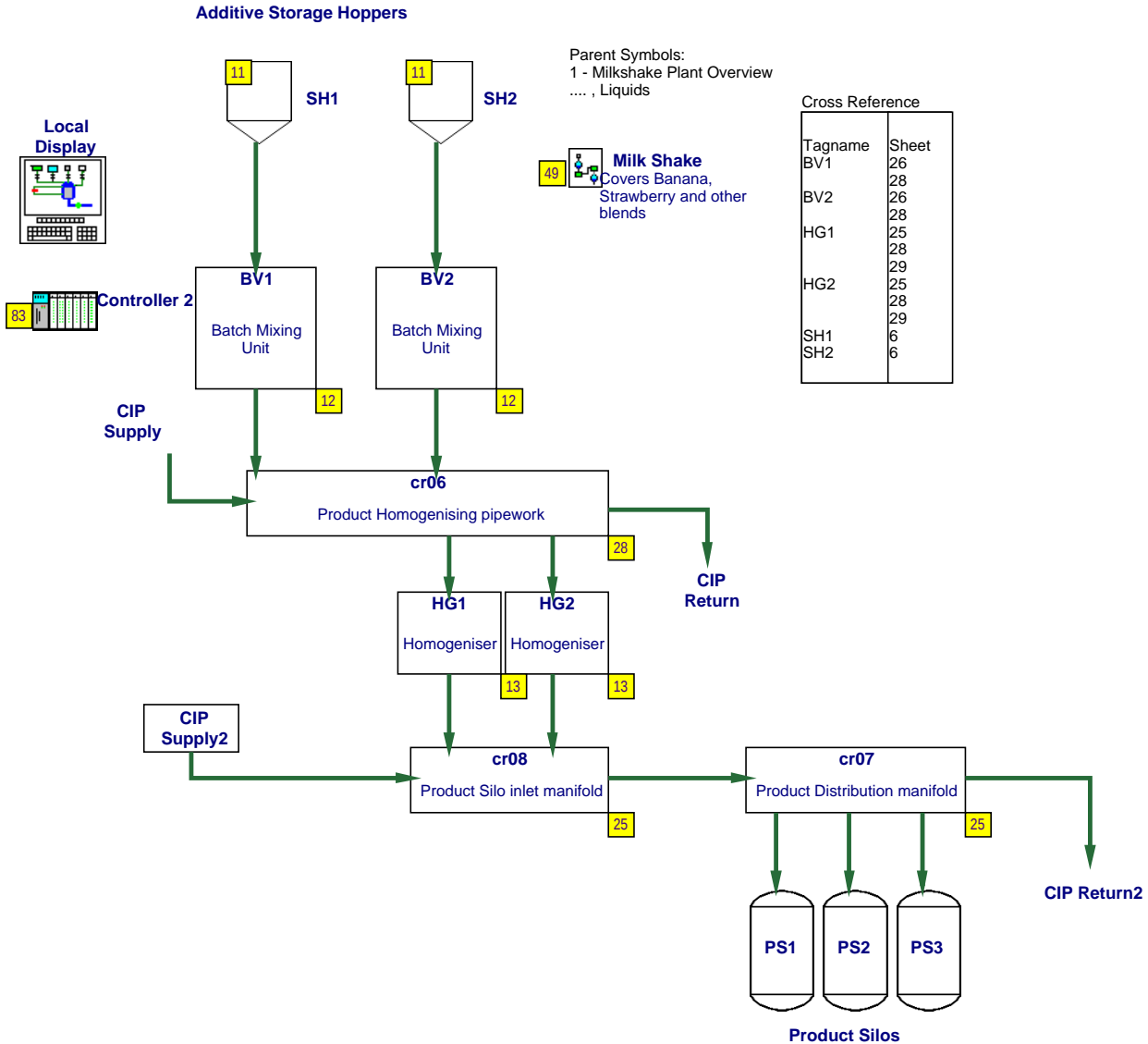




Diagram Description 3 - Milk Silos

The milk silos store fresh milk and unused returned milk.
 In this model they are grouped into one process cell
 This is because the batches in this area are not one to one related to other areas.

PCS Design point

The corresponding graphic in the PCS will be animated with the states of the main areas.

Sheet Version: 513 Class: Process Cell Sheet 3 of 89 PageID: 14

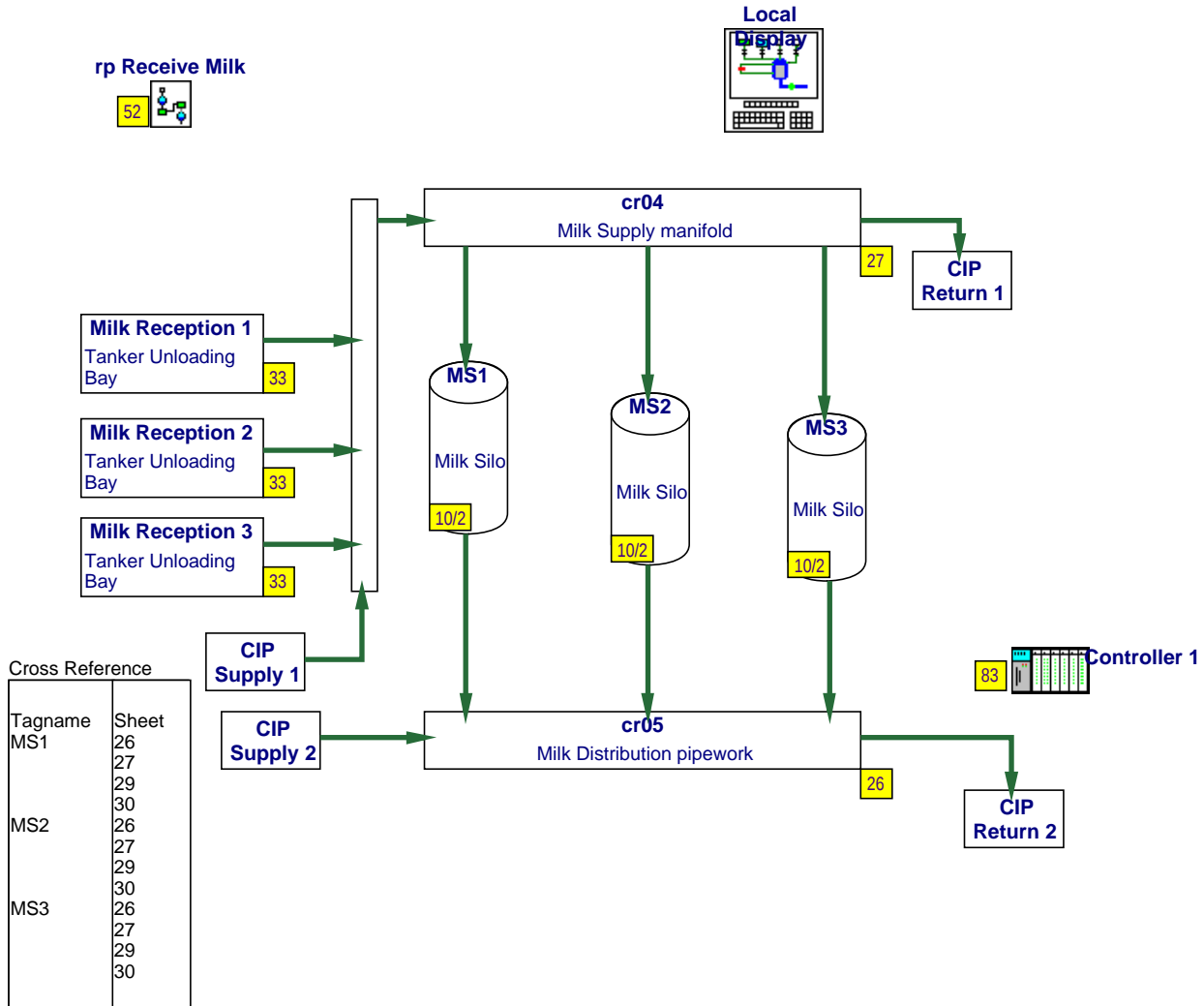




Diagram Description 5 - Product Silos

The product silos store the batches of product.
In this model they are grouped into one process cell

Sheet Version: 474 Class: Process Cell Sheet 5 of 89 PageID: 16

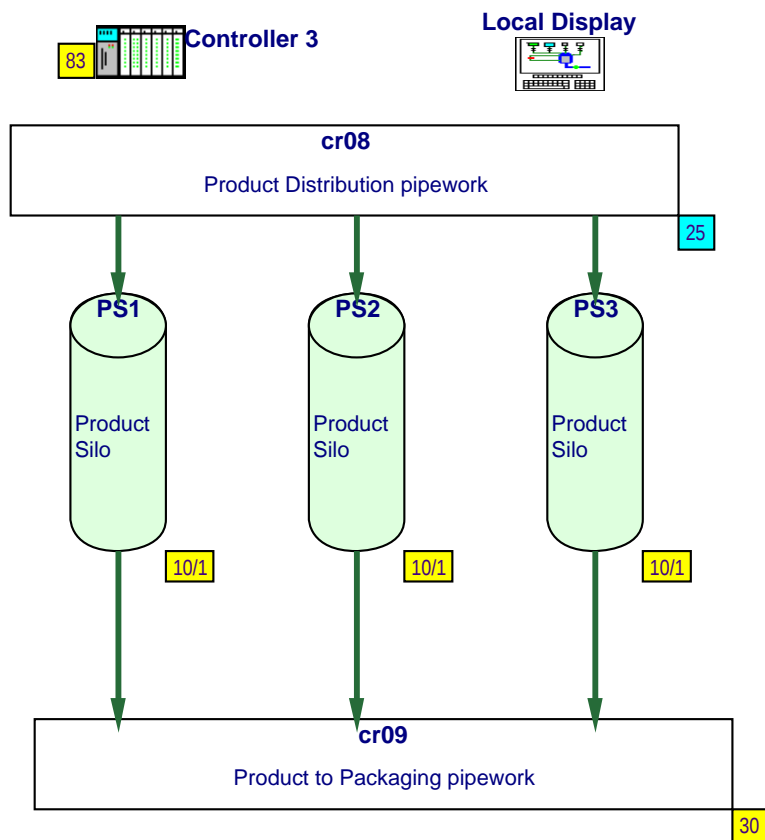




Diagram Description 7 - All CIP Recipes

This diagram will show all the CIP procedures (to be completed)

Sheet Version: 513 Class: Recipe Sheet 7 of 89 PageID: 255

Line CIP Recipes



Vessel CIP Recipes





Diagram Description 8 - Material Reception Recipes

This diagram shows the Recipe procedure icons for material reception
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 Receive Addiitive

 Receive Chemical Drums

 Receive Packing Pallets

 Receive Milk



Diagram Description 9 - Milk shakes

Covers Banana, Strawberry and other blends

Sheet Version: 522 Class: Recipe Sheet 9 of 89 PageID: 325

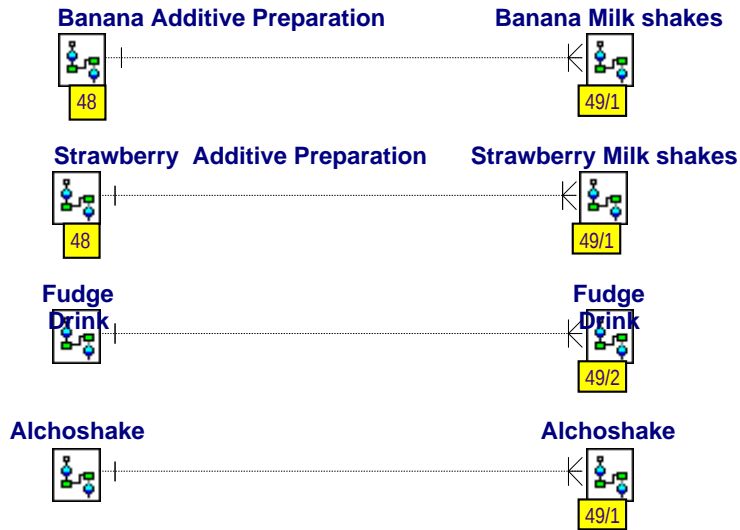
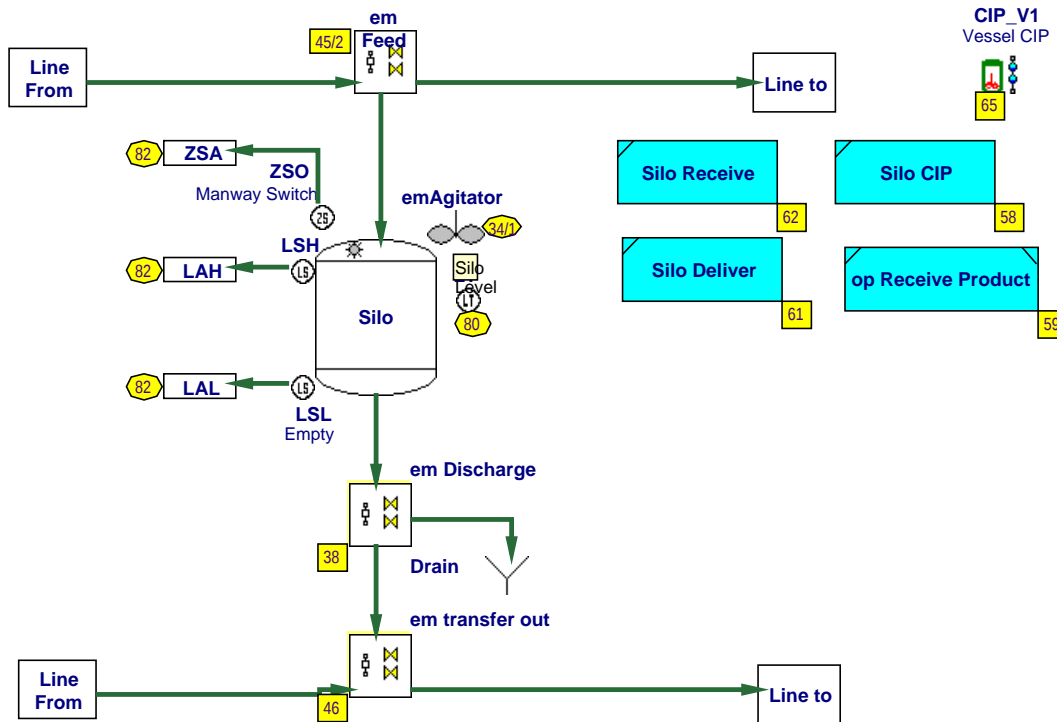


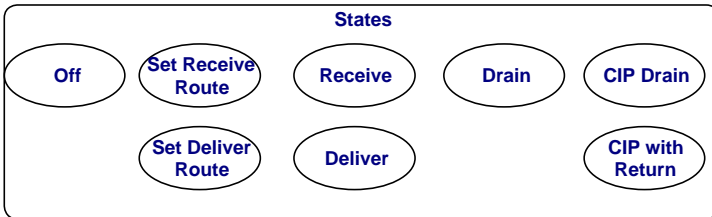


Diagram 10 - un Milk/Product Silo
 Sheet Version: 513 Class: Unit Sheet 10 of 89 PageID: 18
 Variant 1 - Product Silo



Variants

Variant	Tagname	Excluded	VarTag	SubVar
Milk Silo	LT	X		
	LSL	X		
	LAL	X		
	WIA	X		
Product Silo				

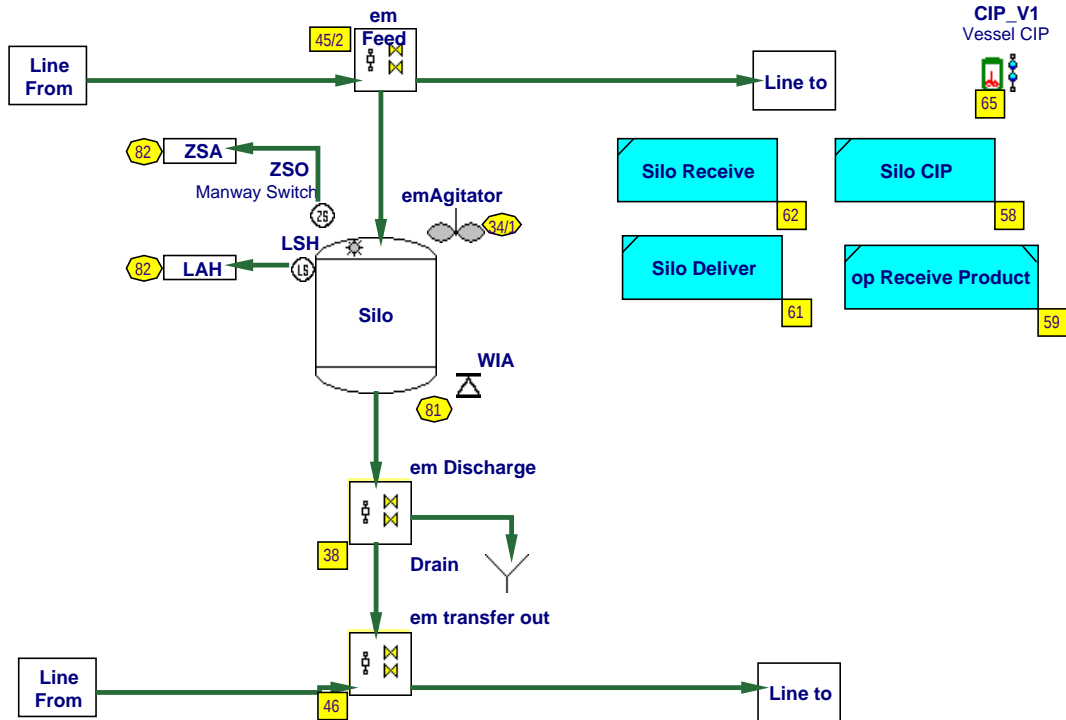


Milk/Product Silo

	em Discharge	em Feed	emAgitator	Line to	em transfer out
Off	Off	Through	Run	6	Through
Set Deliver Route	Off	Through	Run	6	Through
Deliver	Transfer	Through	Run	6	Send
Set Receive Route	Off	Through	Run	6	Through
CIP with Return	Transfer	Receive	Run	6	Send
CIP Drain	Drain	Receive	Off	6	Through
Receive	Off	Receive	Run	6	Through
Drain	Drain	Through	Run	6	Through

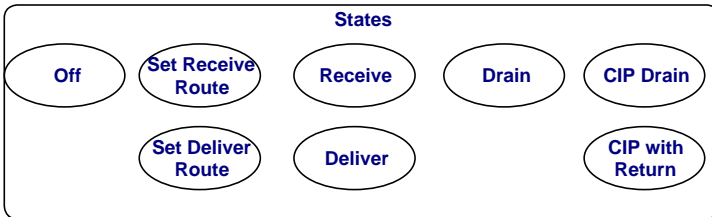


Diagram 10 - un Milk/Product Silo
 Sheet Version: 513 Class: Unit Sheet 10 of 89 PageID: 18
 Variant 2 - Milk Silo



Variants

Variant	Tagname	Excluded	VarTag	SubVar
Milk Silo	LT	X		
	LSL	X		
	LAL	X		
Product Silo	WIA	X		



Milk/Product Silo

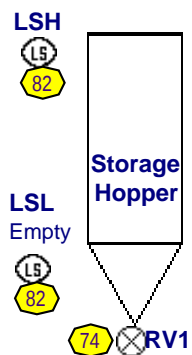
	em Discharge	em Feed	emAgitator	Line to	em transfer out
Off	Off	Through	Run	6	Through
Set Deliver Route	Off	Through	Run	6	Through
Deliver	Transfer	Through	Run	6	Send
Set Receive Route	Off	Through	Run	6	Through
CIP with Return	Transfer	Receive	Run	6	Send
CIP Drain	Drain	Receive	Off	6	Through
Receive	Off	Receive	Run	6	Through
Drain	Drain	Through	Run	6	Through



Diagram Description 11 - un Additive Storage Hopper

Not yet fully modularised

Sheet Version: 511 Class: Unit Sheet 11 of 89 PageID: 23



Parent Symbols:
2 - Liquids Processing Bldng
.... , SH1, SH2

Additive Storage Hopper

	RV1	LSH	LSL
Idle	Stop	Disabled	Disabled
Feed	Run	Enabled	Enabled
Receive	Stop	Enabled	Enabled





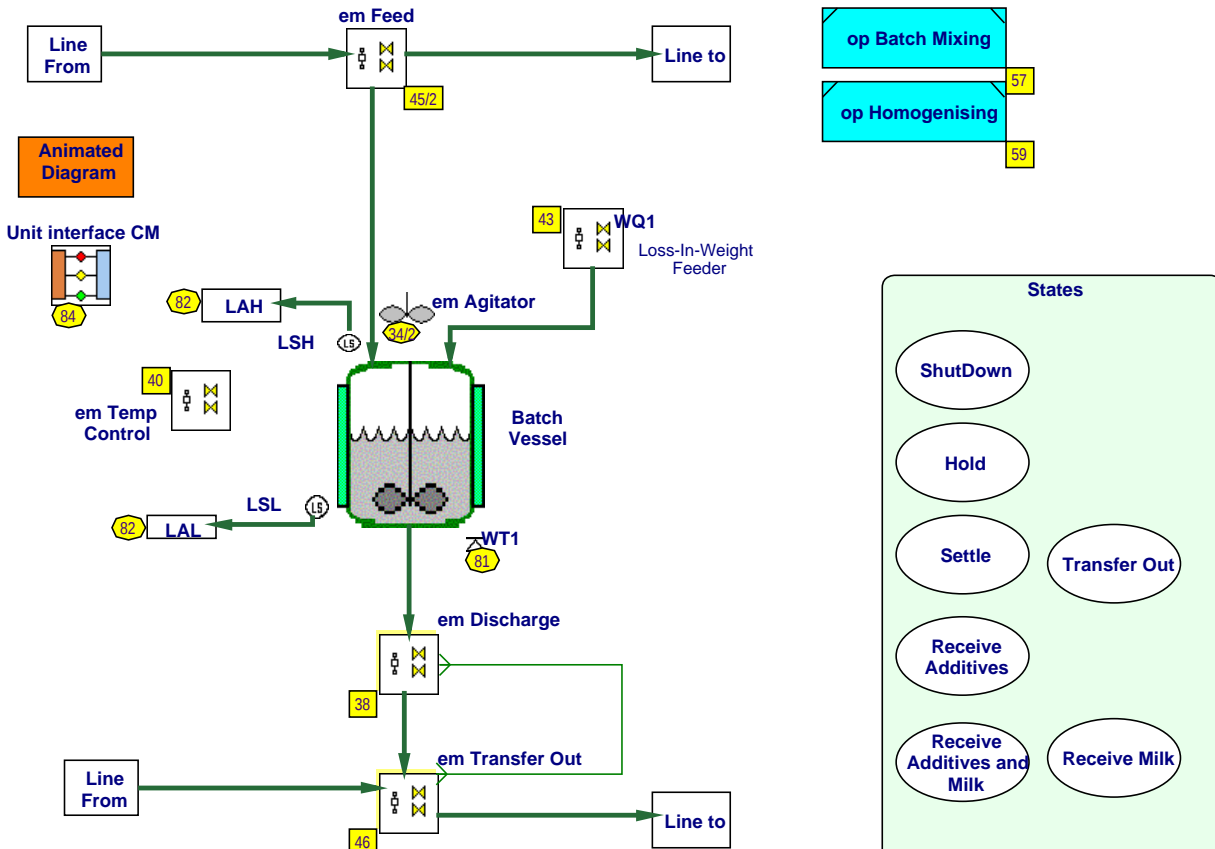
Diagram Description 12 - un Batch Mixing

The batch mixing Unit is split into a number of equipment modules, these are:

- em Temp Control Controls the vessel temperature
- em Agitator Runs the Agitator
- em Discharge Controls discharge to drain or to downstream
- em Feed Controls feeds into the vessel
- em Transfer Out Controls Transfer out of the vessel

Note that em Feed and em Transfer Out are not completely owned by the Unit, they can also be acquired by the CIP recipes and transfer routes.

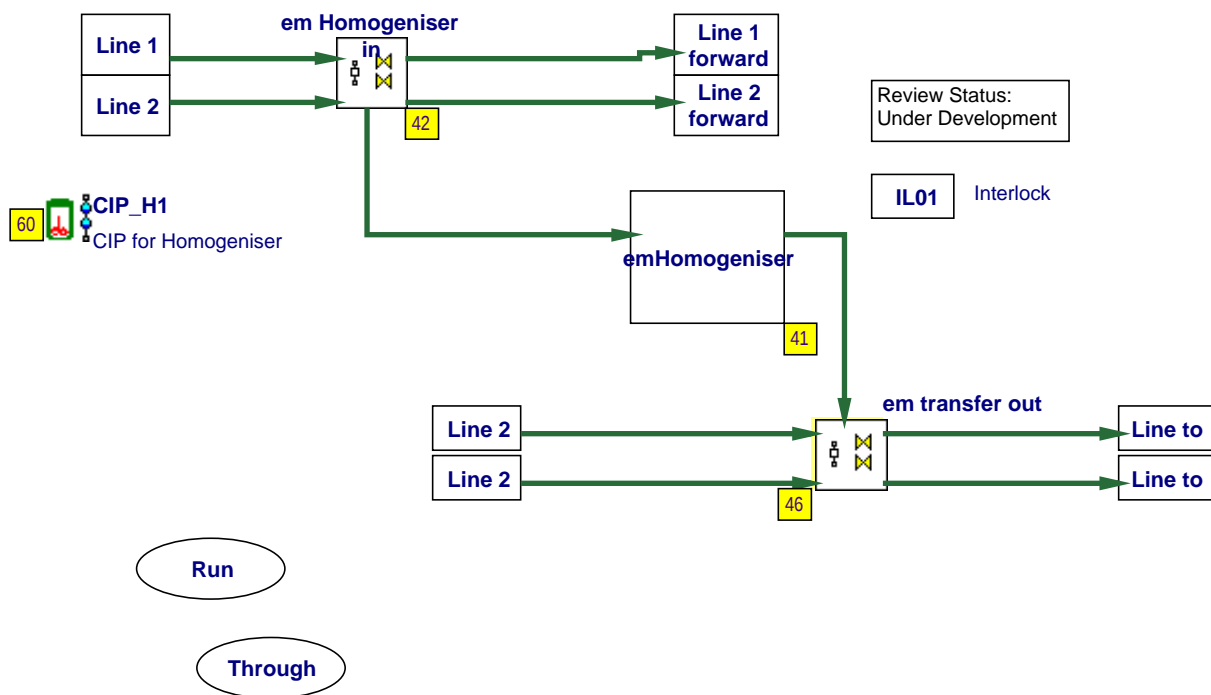
Sheet Version: 517 Class: Unit Sheet 12 of 89 PageID: 19



	emAgitator	em Temp Control	em Feed	em transfer out	WQ1	LAL	LAH
ShutDown	Off	Idle	Through	Through	Stop	Disable	Disable
Receive Milk	Run	REG	Receive	Through	Stop	Enable	Enable
Hold	Run	REG	Through	Through	Stop	Enable	Enable
Receive Additives	Run	REG	Through	Through	Run	Enable	Enable
Receive Additives and Milk	Run	REG	Receive	Through	Run	Enable	Enable
Settle	Off	REG	Through	Through	Stop	Enable	Enable
Transfer Out	Run	REG	Through	Send	Stop	Enable	Enable
Heat Up	Run	MH	Through	Through	Stop	Enable	Enable
Cool Down	Run	MC	Through	Undefined	Stop	Enable	Enable
CIP	Run	Idle	Receive	Send	Stop	Disable	Enable
Drain	Off	Idle	Through	Undefined	Stop	Disable	Enable



Diagram 13 - un Homogeniser
Sheet Version: 413 Class: Unit Sheet 13 of 89 PageID: 35



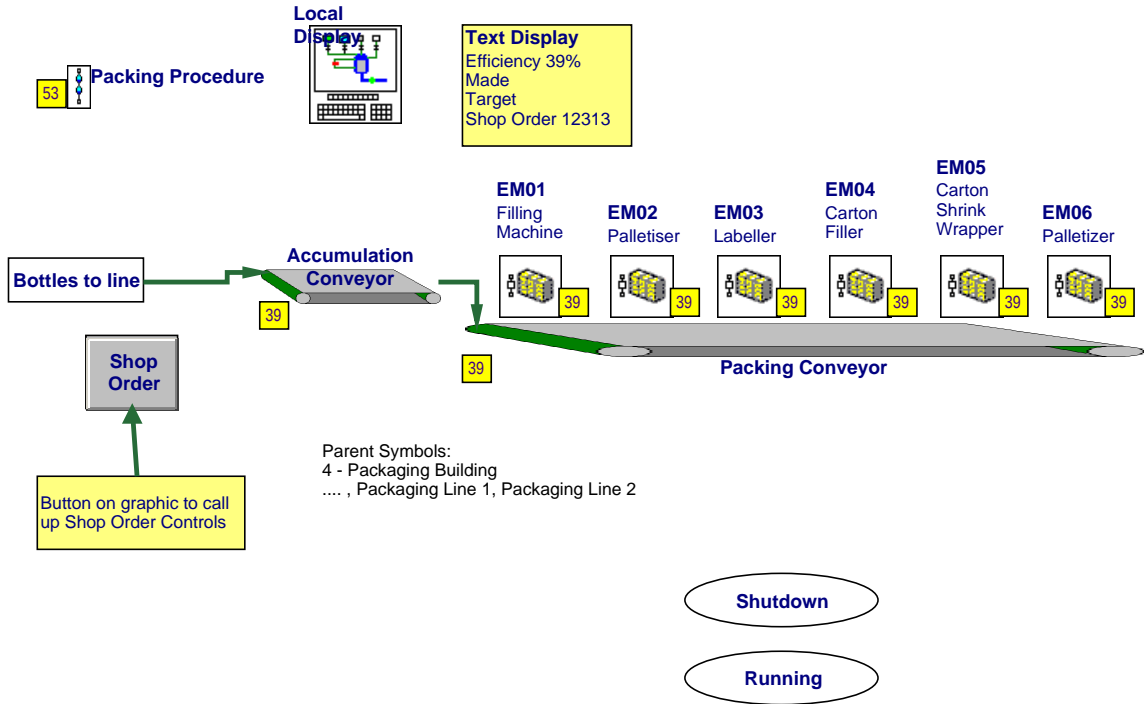
http://www.gchahn.com/media/systematic_aeration_en_0103.pdf
Double click to open



Diagram Description 14 - un Packaging Line

The packaging area is a process cell containing two packaging lines.
The packaging line is treated as a single nit.
Each machine is an Equipment module

Sheet Version: 458 Class: Unit Sheet 14 of 89 PageID: 20



Parent Symbols:
4 - Packaging Building
.... , Packaging Line 1, Packaging Line 2



Diagram Description 15 - un Solids Blending

Not yet fully modularised

Sheet Version: 449 Class: Unit Sheet 15 of 89 PageID: 22

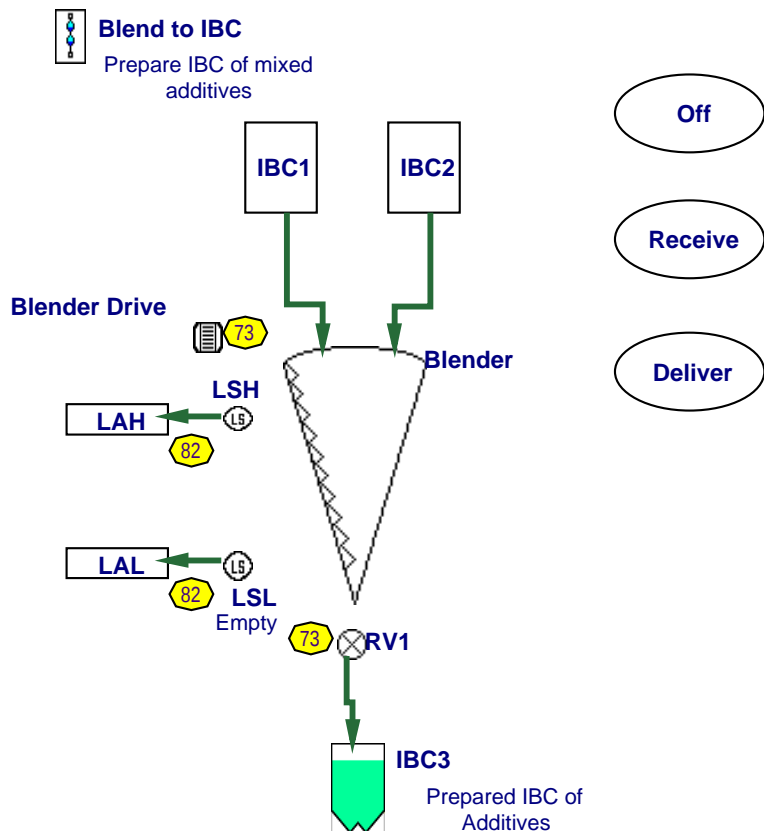
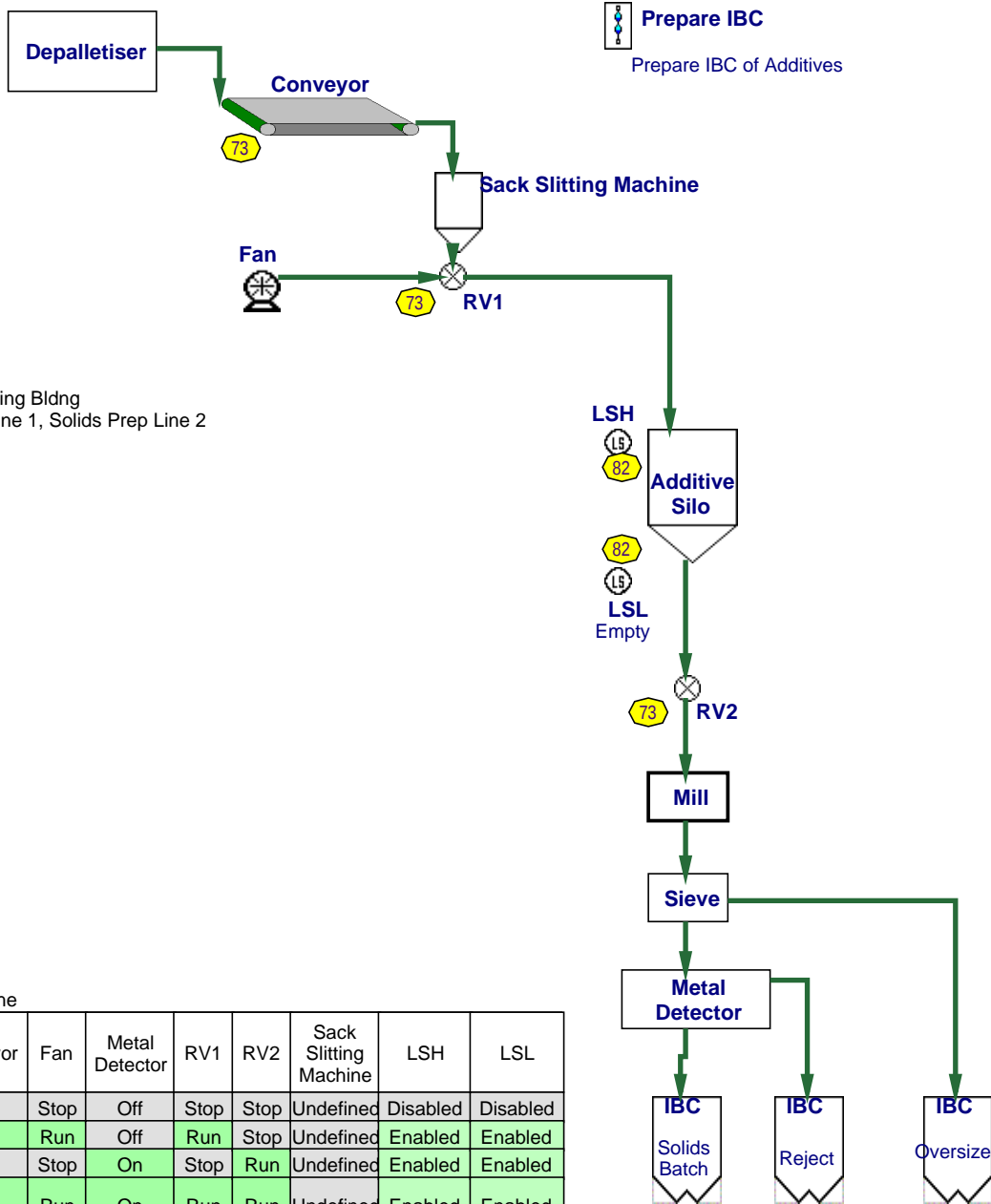




Diagram Description 16 - un Solids Preparation Line

NOTE - this is not yet modularised in Equipment modules
 Sheet Version: 513 Class: Unit Sheet 16 of 89 PageID: 21



Parent Symbols:
 6 - Solids Processing Bldng
 , Solids Prep Line 1, Solids Prep Line 2

- Off
- Receive
- Deliver
- Receive and Deliver

Solids Preparation Line

	Conveyor	Fan	Metal Detector	RV1	RV2	Sack Slitting Machine	LSH	LSL
Off	Stop	Stop	Off	Stop	Stop	Undefined	Disabled	Disabled
Receive	Run	Run	Off	Run	Stop	Undefined	Enabled	Enabled
Deliver	Stop	Stop	On	Stop	Run	Undefined	Enabled	Enabled
Receive and Deliver	Run	Run	On	Run	Run	Undefined	Enabled	Enabled



Diagram Description 19 - CIP Generation System

This diagram shows how there are Two CIP units that share the same collection of Water, Acid and Caustic tanks. Note that each CIP unit can supply either of the lines

Sheet Version: 523

Class: Cell Common Resource

Sheet 19 of 89 PageID: 36

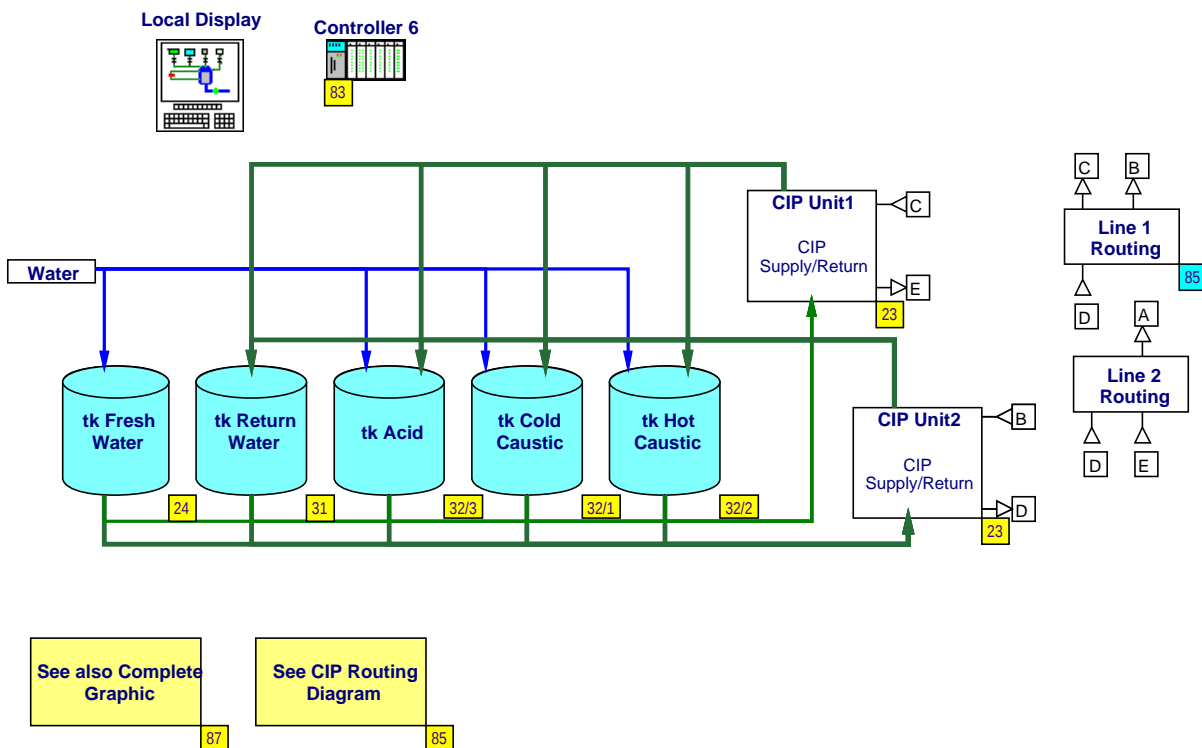




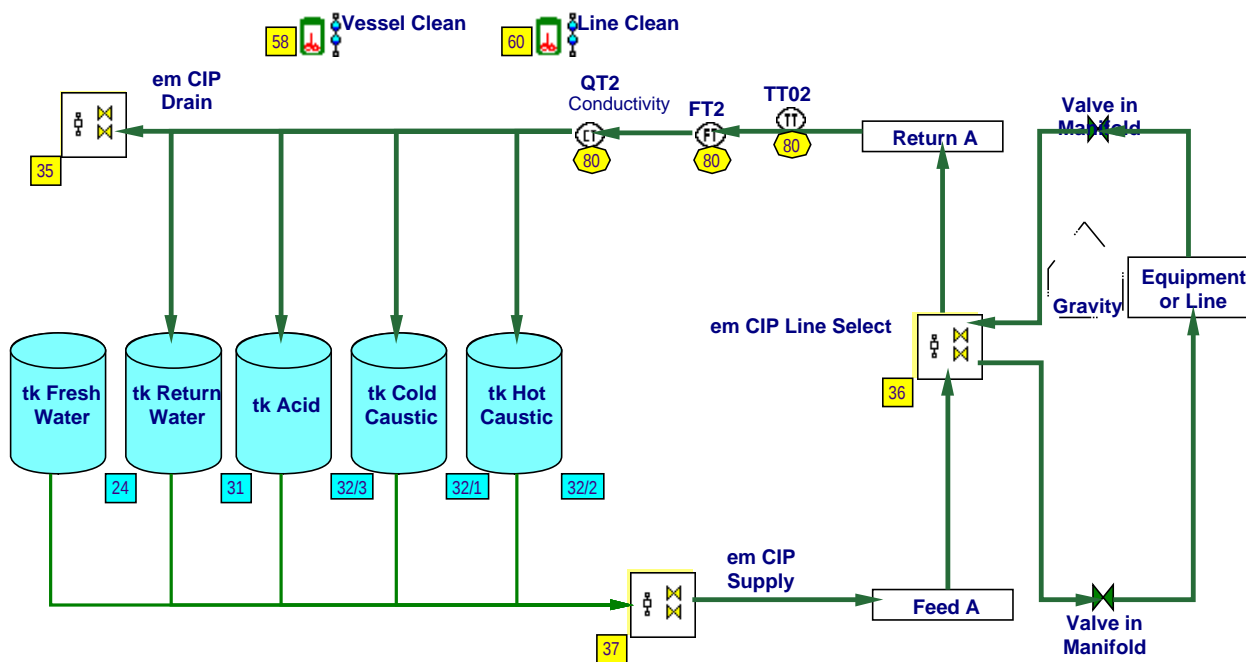
Diagram Description 23 - CIP Unit

CIP Supply/Return

Sheet Version: 524

Class: Common Resource

Sheet 23 of 89 PageID: 318



- Shutdown
- Supply Acid
- Supply Cold Caustic
- Supply Hot Caustic
- Rinse to Recycle
- Acid Recycle
- Cold Caustic Recycle
- Hot Caustic Recycle

CIP Unit

	KV005	CIP Supply Pump	tk Acid	tk Cold Caustic	tk Fresh Water	tk Hot Caustic	tk Return Water
Shutdown	Close	0	0	0	Shutdown	0	0
Supply Acid	Close	0	0	0	Shutdown	0	0
Acid Recycle	Close	0	0	0	Shutdown	0	0
Supply Cold	Close	0	0	0	Shutdown	0	0
Cold Caustic	Close	0	0	0	Shutdown	0	0
Rinse to	Close	0	0	0	Shutdown	0	0
Hot Caustic	Close	0	0	0	Shutdown	0	0
Supply Hot Caustic	Close	0	0	0	Shutdown	0	0



Diagram Description 24 - crFreshWater

Whilst having the class of Equipment Module, it is also an exclusive use Common Resource. Only one control recipe can put the module into the feed state at one time.

The module has to be explicitly acquired and given it's route select parameter, then it can feed. Once it is released another recipe can

Sheet Version: 458 Class: Common Resource Sheet 24 of 89 PageID: 271

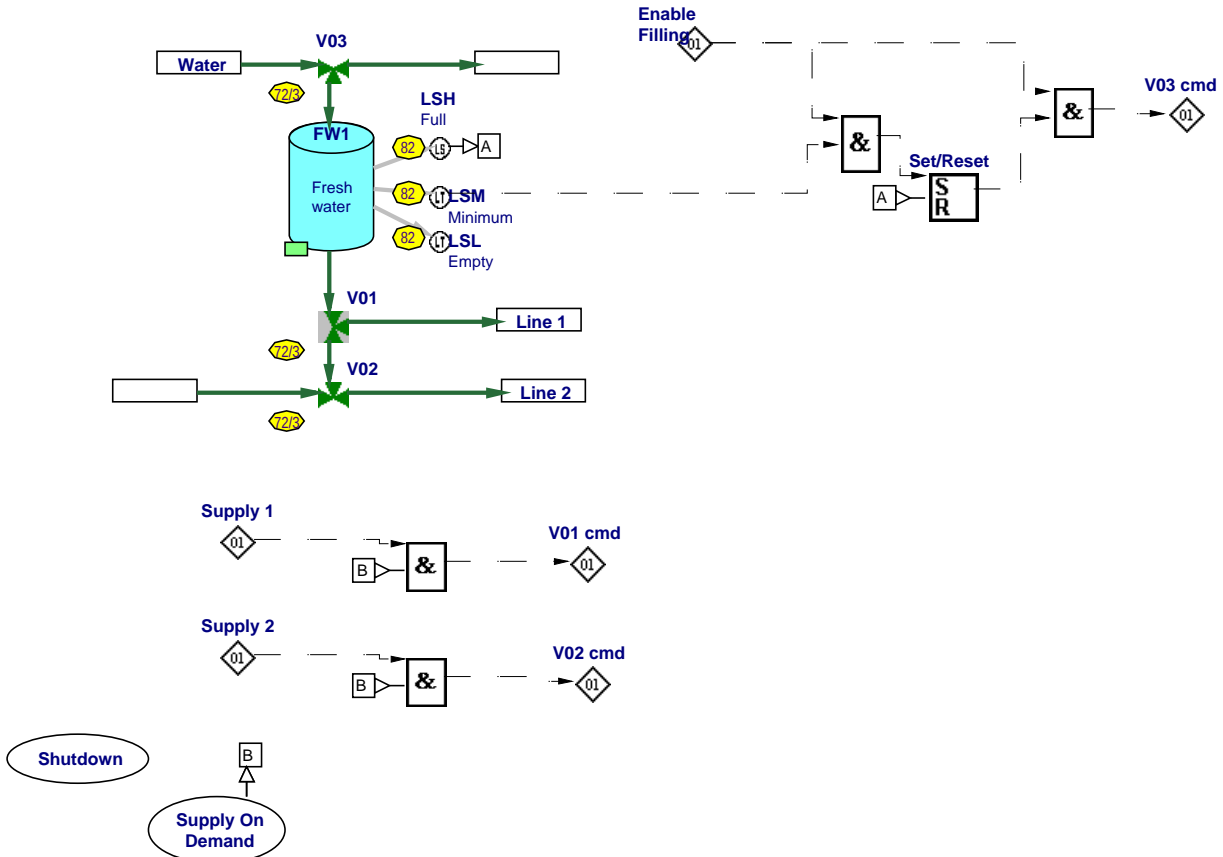




Diagram 25 - Homogeniser Outlets manifold

Sheet Version: 523

Class: Common Resource

Sheet 25 of 89 PageID: 33

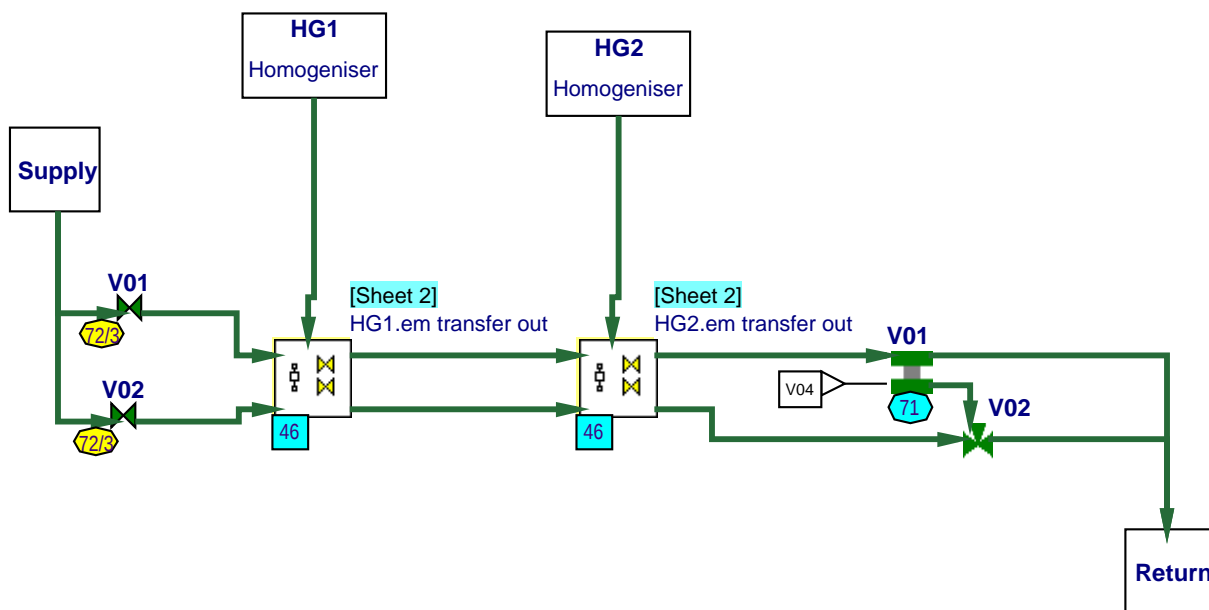




Diagram 26 - Milk Distribution Manifold

Sheet Version: 515

Class: Common Resource

Sheet 26 of 89 PageID: 30

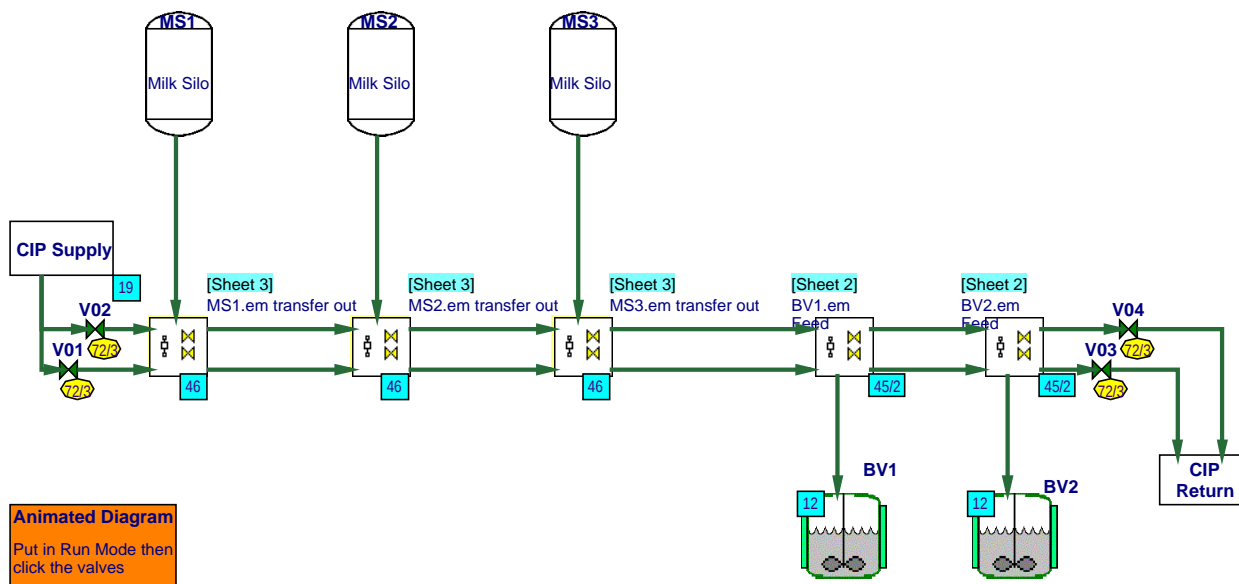




Diagram 27 - Milk Supply manifold

Sheet Version: 522

Class: Common Resource

Sheet 27 of 89 PageID: 31

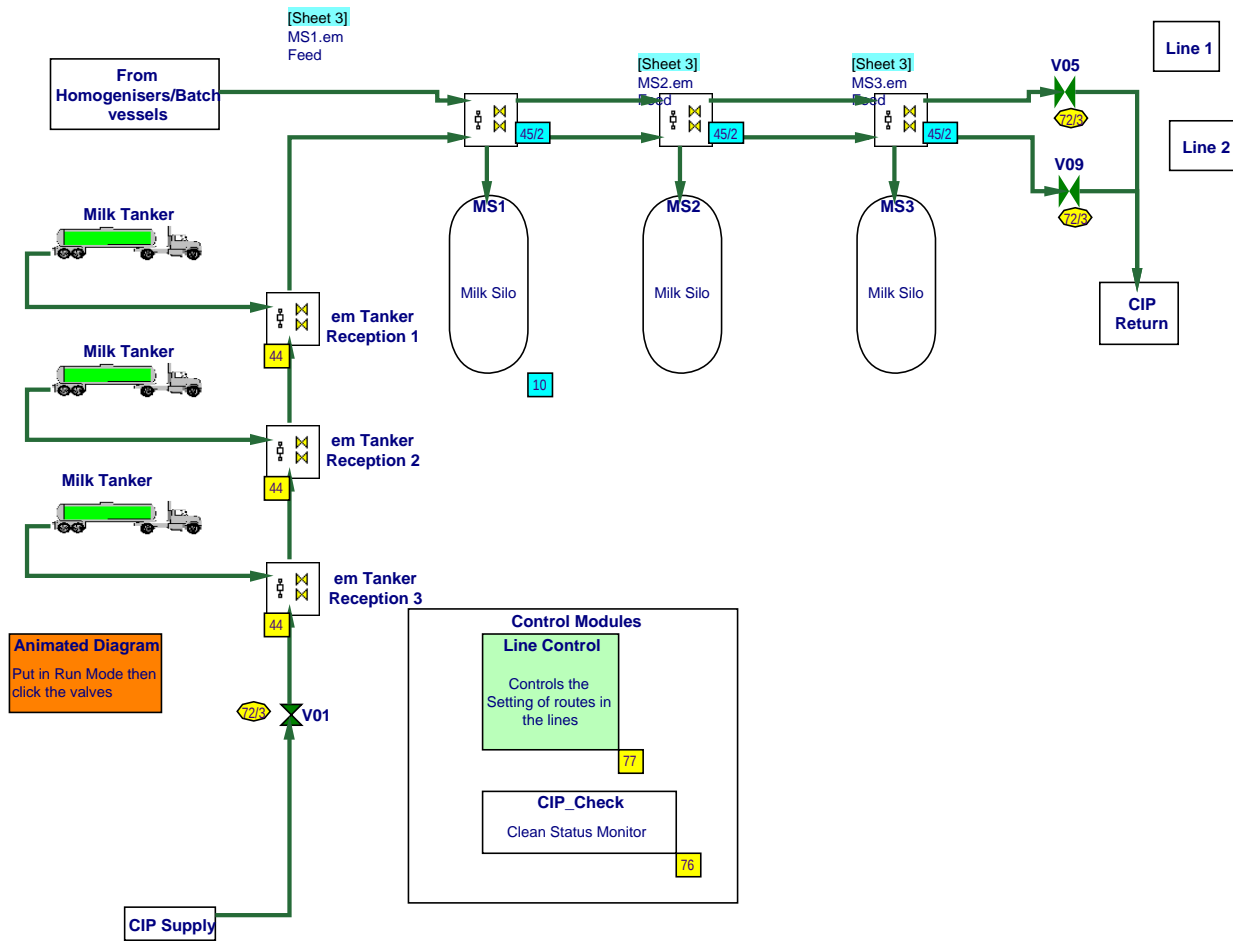




Diagram 28 - Product Homogenisation manifold

Sheet Version: 515

Class: Common Resource

Sheet 28 of 89 PageID: 32

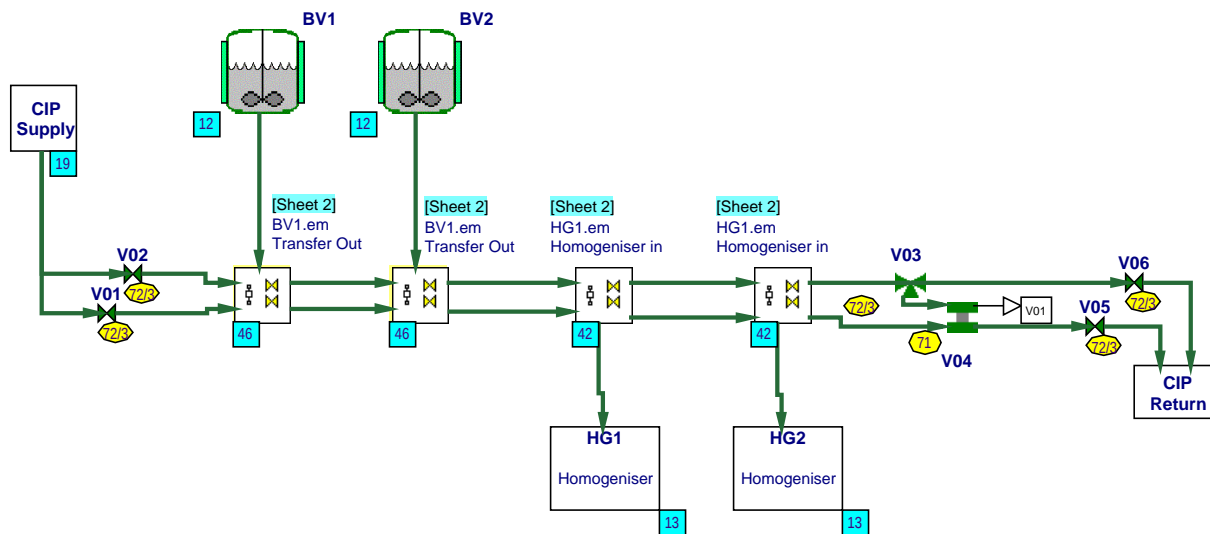




Diagram 30 - Product to packaging manifold

Sheet Version: 474

Class: Common Resource

Sheet 30 of 89 PageID: 34

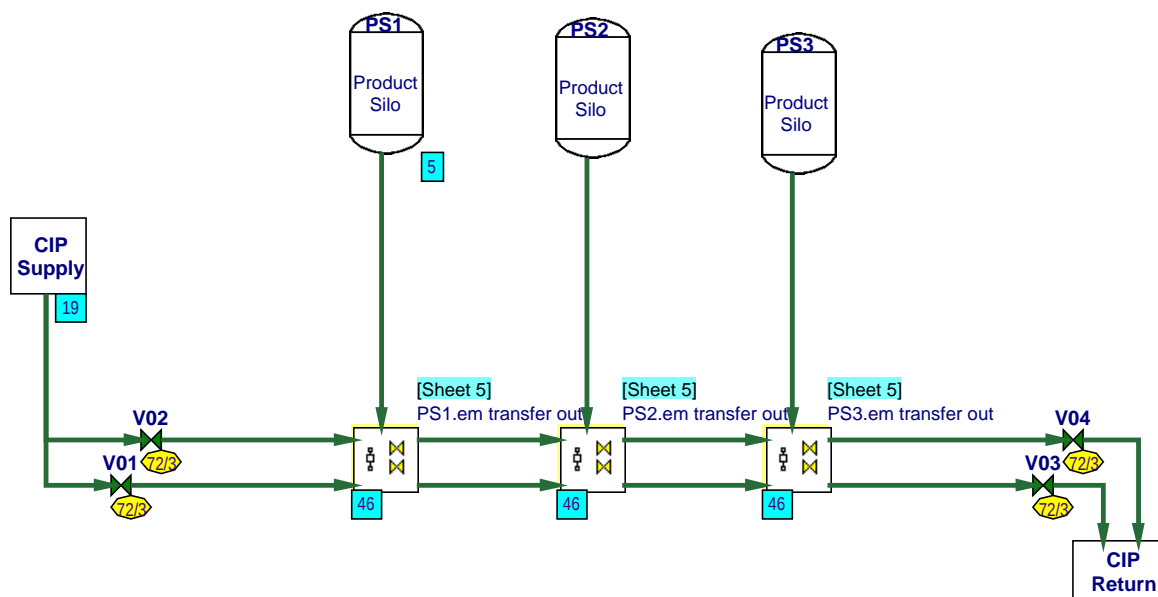




Diagram 31 - Recycled water

Sheet Version: 395

Class: Common Resource

Sheet 31 of 89 PageID: 273

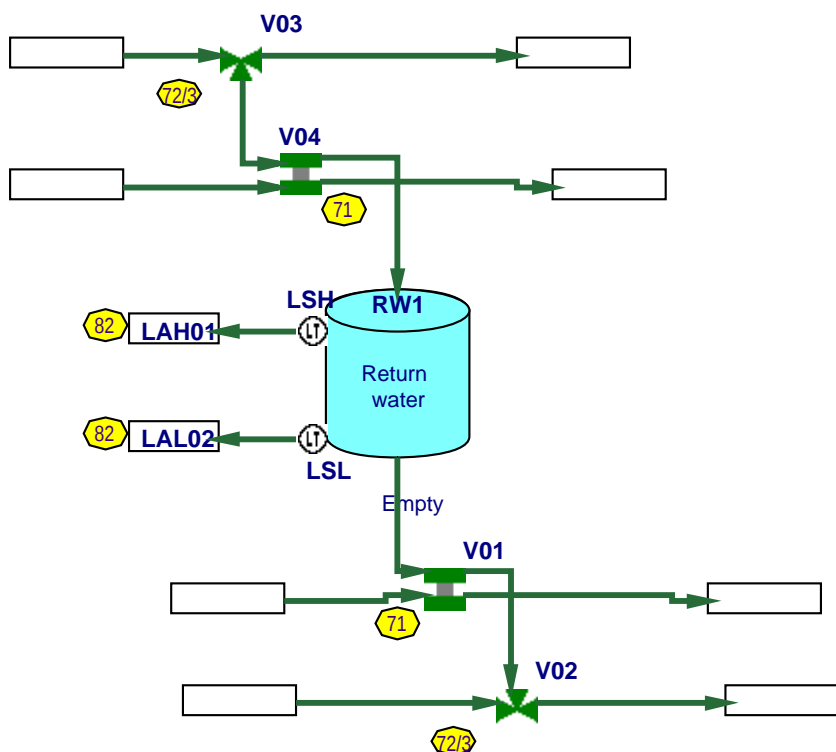




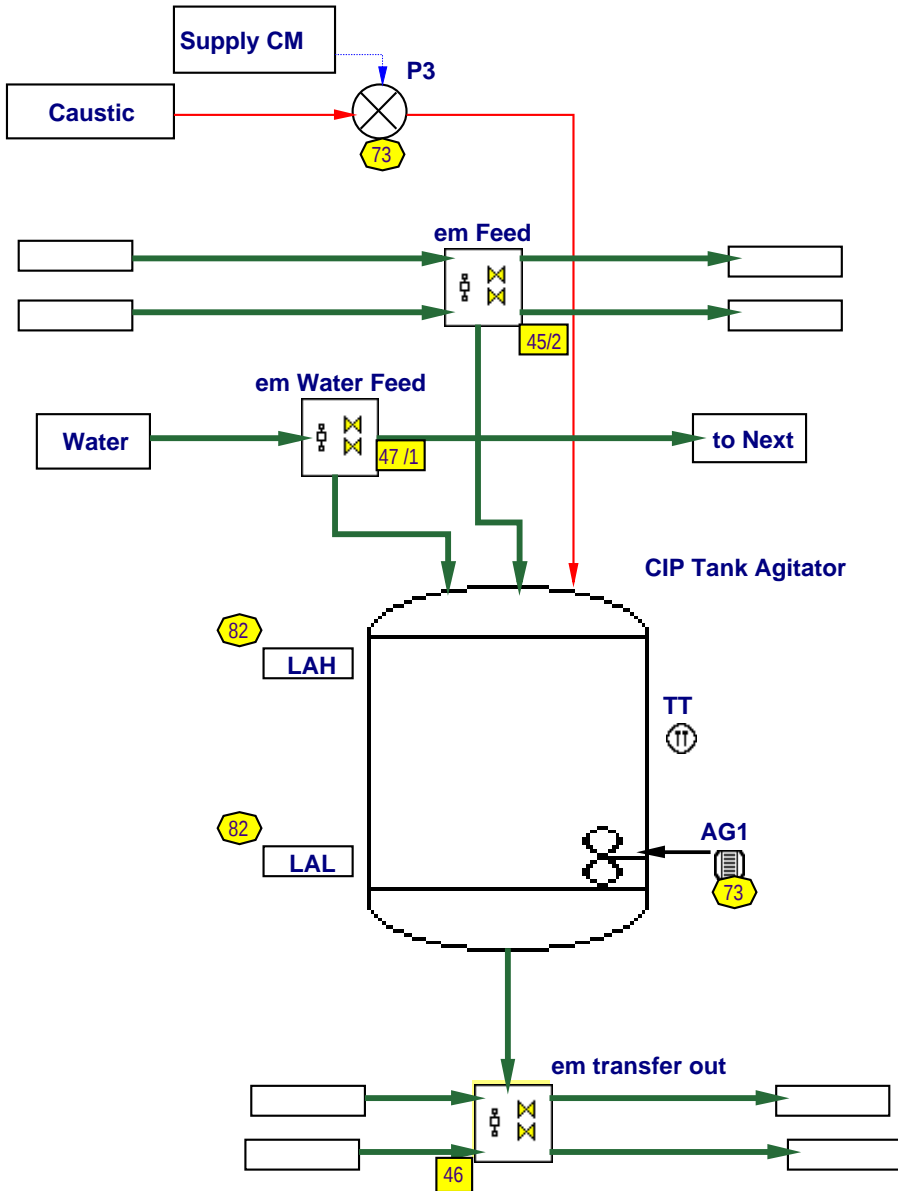
Diagram 32 - Tank, LSL,LSH,Agit, TT

Sheet Version: 502

Class: Common Resource

Sheet 32 of 89 PageID: 39

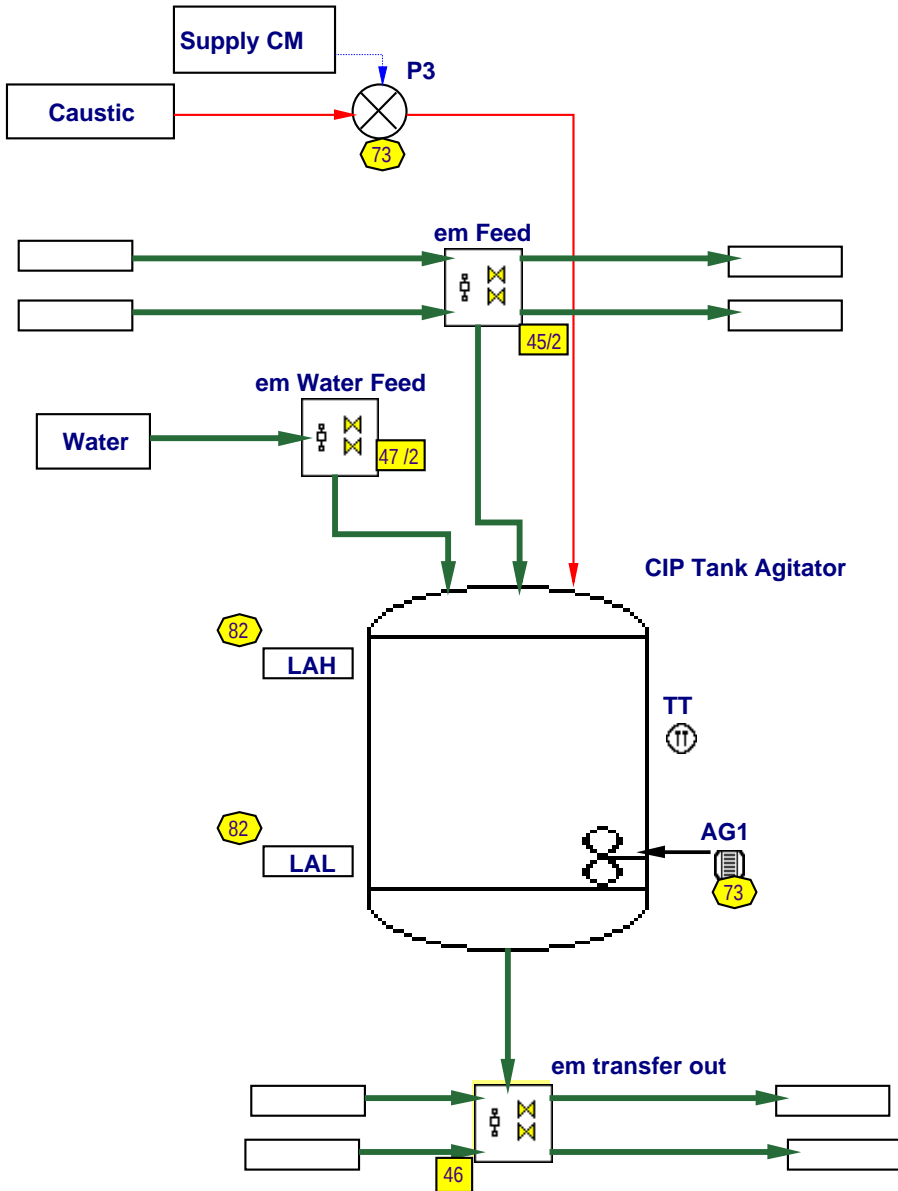
Variant 1 - Caustic 1



Acid	1-Caustic 1	2-Caustic 2	3-Acid
em Water Feed	Caustic	Caustic	
to Next	/Var 1	/Var 2	/Var 1
		{Excluded}	



Diagram 32 - Tank, LSL,LSH,Agit, TT
 Sheet Version: 502 Class: Common Resource Sheet 32 of 89 PageID: 39
 Variant 2 - Caustic 2



Acid em Water Feed to Next	1-Caustic 1 Caustic /Var 1	2-Caustic 2 Caustic /Var 2 {Excluded}	3-Acid /Var 1
----------------------------------	----------------------------------	--	------------------



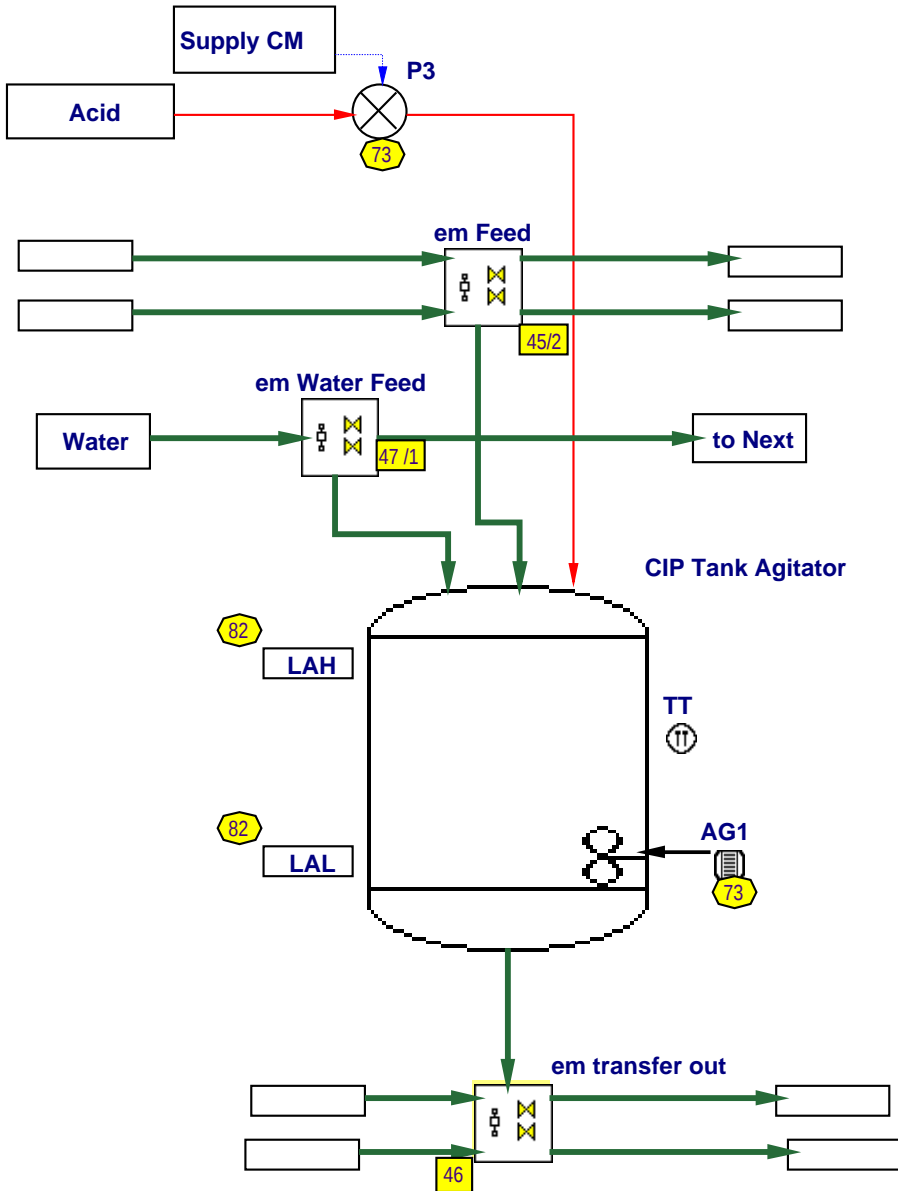
Diagram 32 - Tank, LSL,LSH,Agit, TT

Sheet Version: 502

Class: Common Resource

Sheet 32 of 89 PageID: 39

Variant 3 - Acid



Acid	1-Caustic 1	2-Caustic 2	3-Acid
em Water Feed	Caustic	Caustic	
to Next	/Var 1	/Var 2	/Var 1
		{Excluded}	

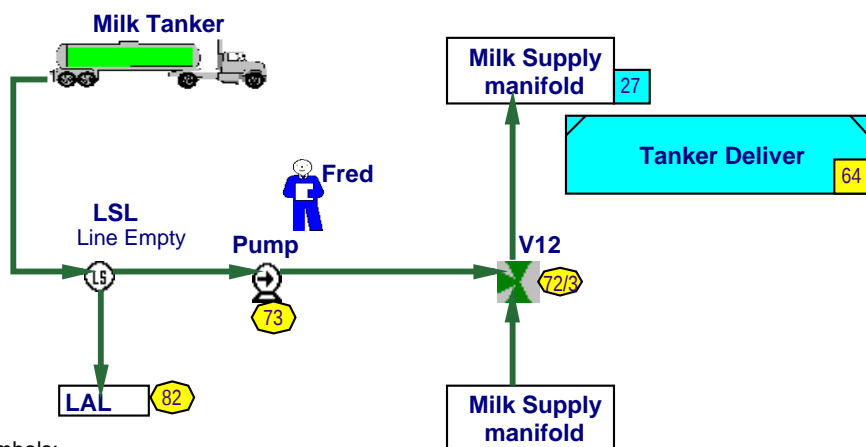


Diagram 33 - Tanker unloading bay

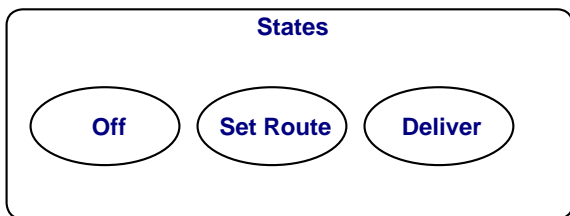
Sheet Version: 273

Class: Common Resource

Sheet 33 of 89 PageID: 27



Parent Symbols:
 3 - Milk Silos
 , Milk Reception 1,



Tanker unloading bay

	LAL	Pump	V12	Milk Tanker
Deliver	Enabled	Run	Mix	10
Off	Disabled	Stop	Thru	0
Set Route	Enabled	Stop	Mix	10



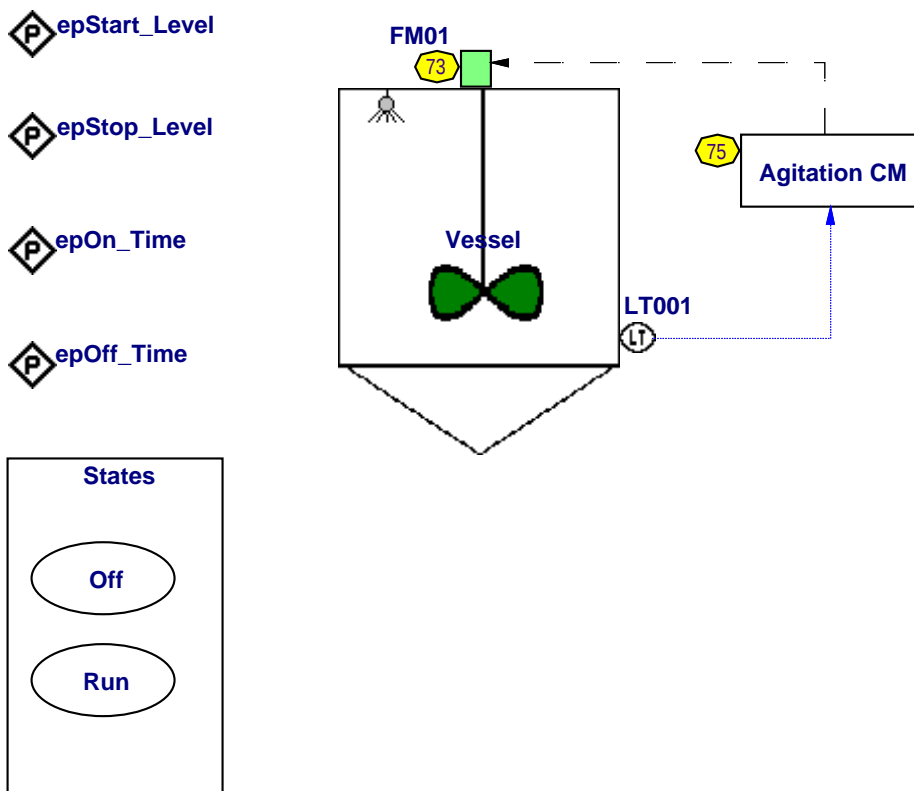
Diagram 34 - em Agitator

Sheet Version: 2

Class: Equipment Module

Sheet 34 of 89 PageID: 261

Variant 1 - Fixed Speed



em Fixed Speed Agitator

	Agitation CM		FM01
Off	Off		Stop
Run	On		Start



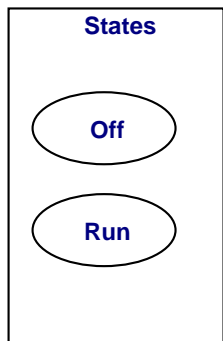
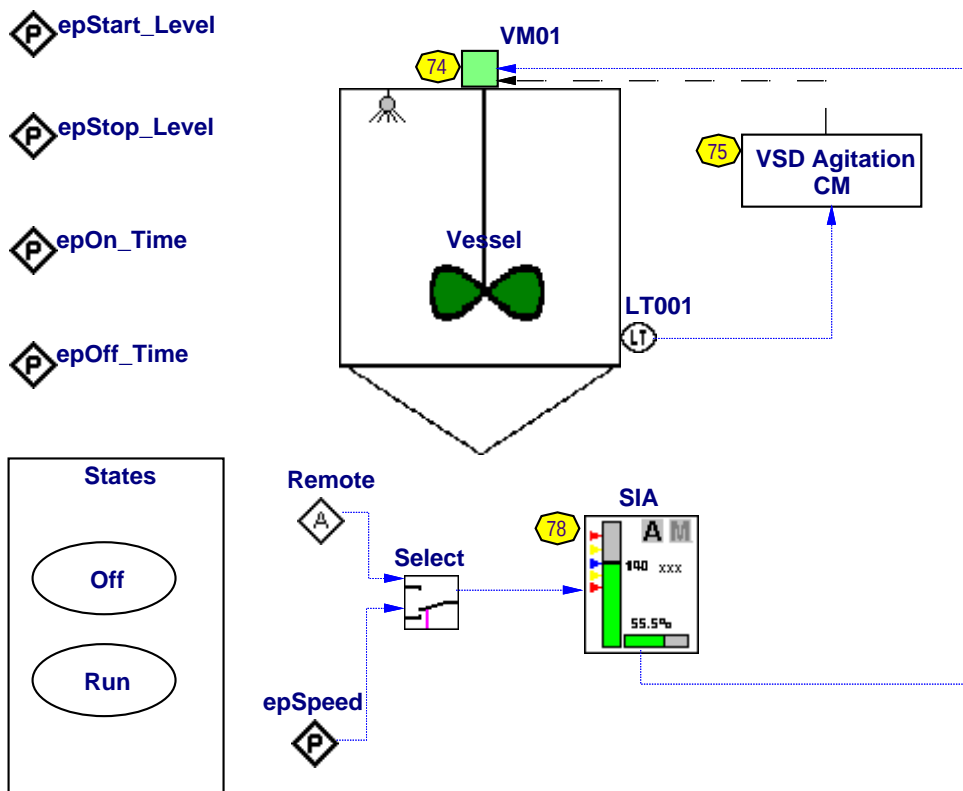
Diagram 34 - em Agitator

Sheet Version: 2

Class: Equipment Module

Sheet 34 of 89 PageID: 261

Variant 2 - Variable Speed



em Fixed Speed Agitator

	VSD Agitation	VM01
Off	Off	Stop
Run	On	Start



Diagram Description 35 - em CIP Drain

This incomplete module enables the routing of CIP returns to drain

Sheet Version: 513 Class: Equipment Module Sheet 35 of 89 PageID: 328

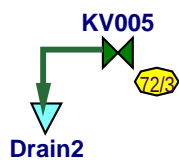




Diagram Description 36 - em CIP Line Select

This incomplete module switches a CIP Supply and return between one or other lines

Sheet Version: 515 Class: Equipment Module Sheet 36 of 89 PageID: 329

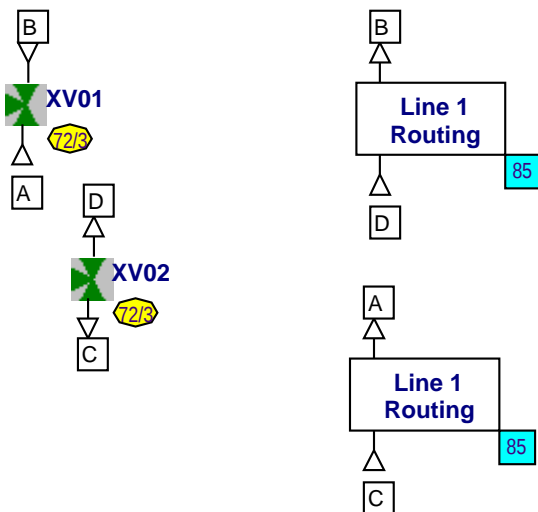




Diagram Description 37 - em CIP Supply

This incomplete module controls the supply of CIP into the CIP lines

Sheet Version: 513 Class: Equipment Module Sheet 37 of 89 PageID: 327

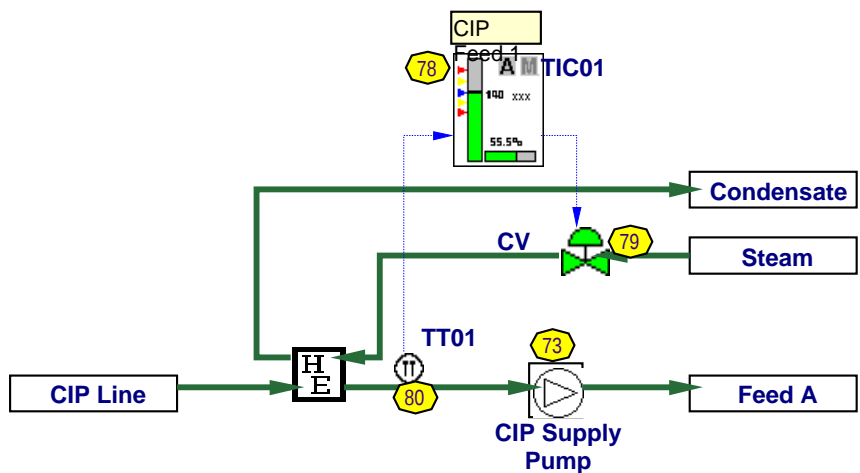


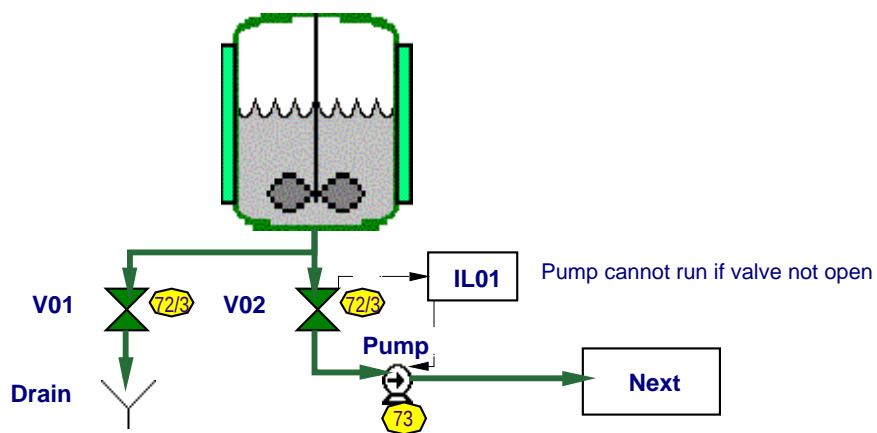


Diagram 38 - em Discharge

Sheet Version: 395

Class: Equipment Module

Sheet 38 of 89 PageID: 263



Off

Transfer

Drain

em Discharge

	Pump	V5	V6
Off	Stop	Closed	Closed
Transfer	Run	Open	Closed
Drain	Stop	Open	Open



Diagram 39 - em Generic Machine Interface

Sheet Version: 514

Class: Equipment Module

Sheet 39 of 89 PageID: 234

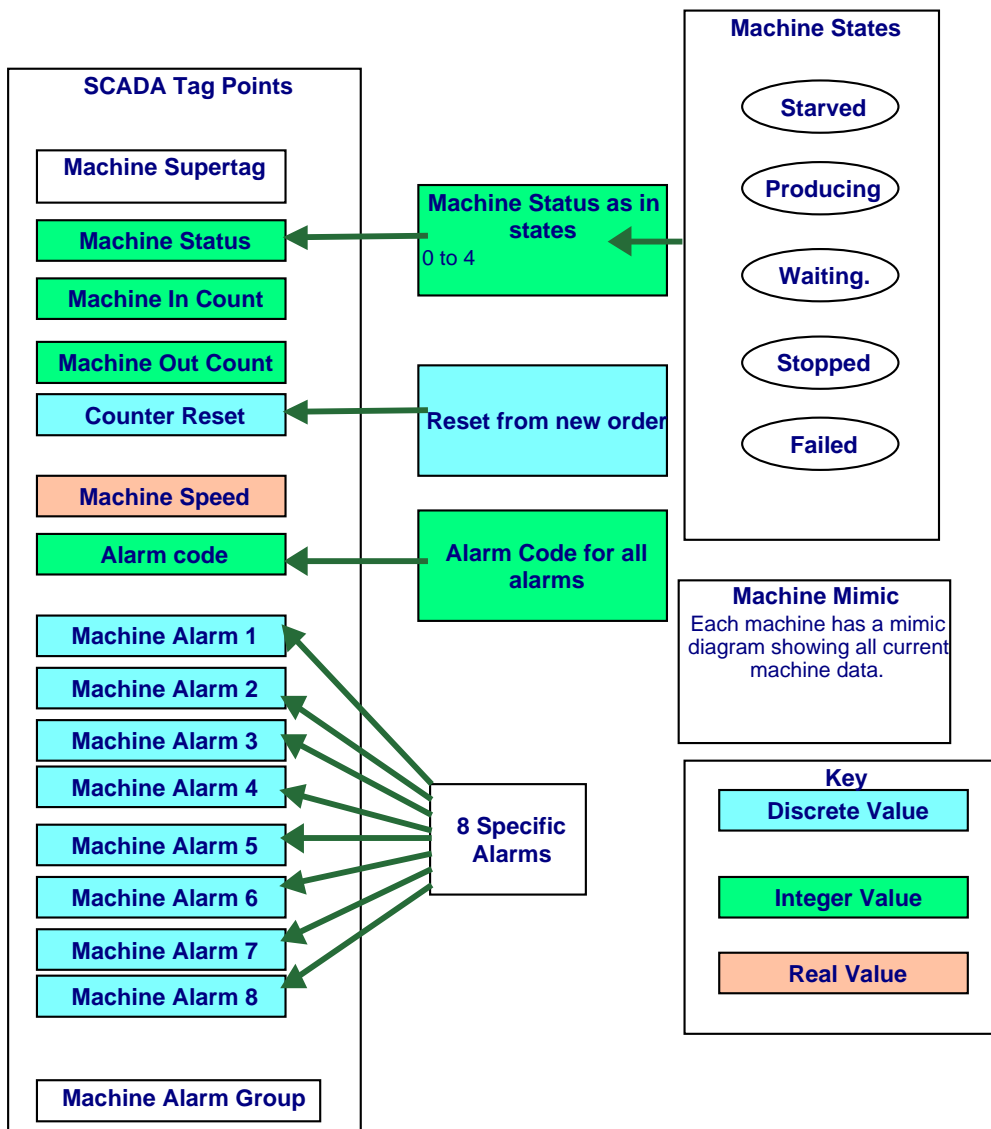




Diagram 40 - em Heat/Cool Jacket

Sheet Version: 517

Class: Equipment Module

Sheet 40 of 89 PageID: 86

Parent Symbols:
 12 - un Batch Mixing
 , em Temp
 Control

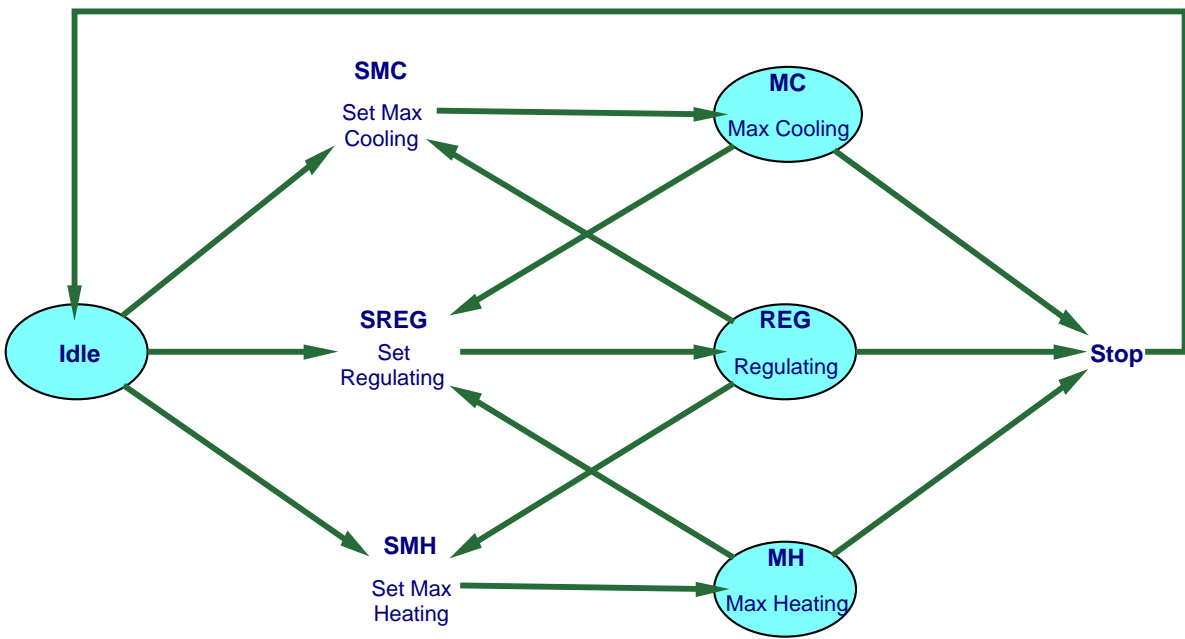
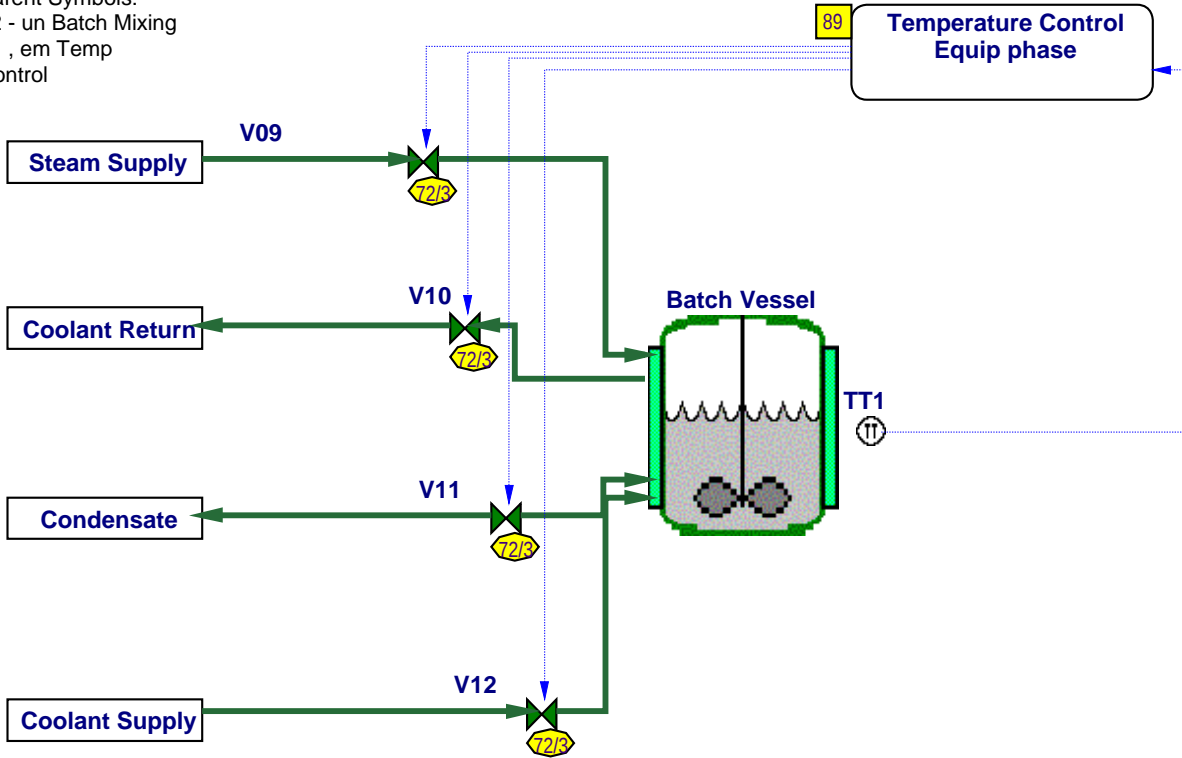




Diagram 41 - em Homogeniser

Sheet Version: 413

Class: Equipment Module

Sheet 41 of 89 PageID: 313

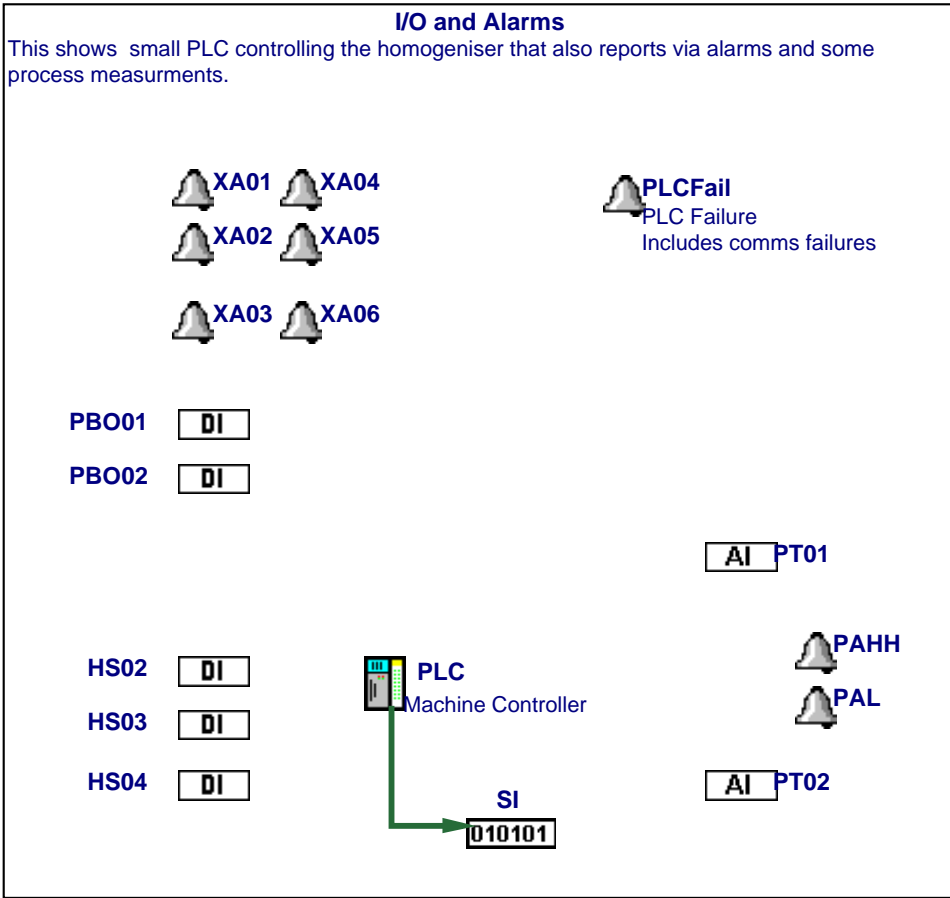
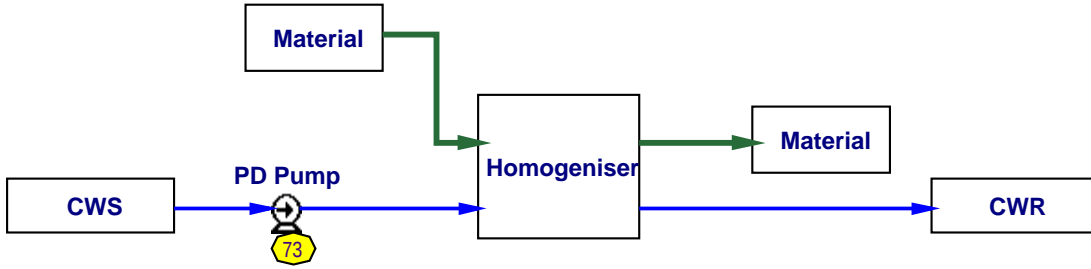




Diagram 42 - em Homogeniser in
Sheet Version: 490 Class: Equipment Module Sheet 42 of 89 PageID: 306

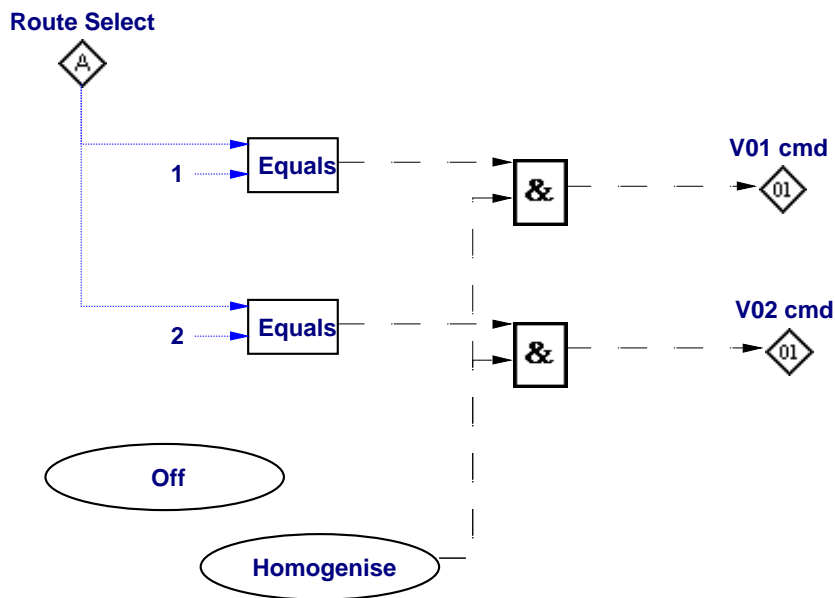
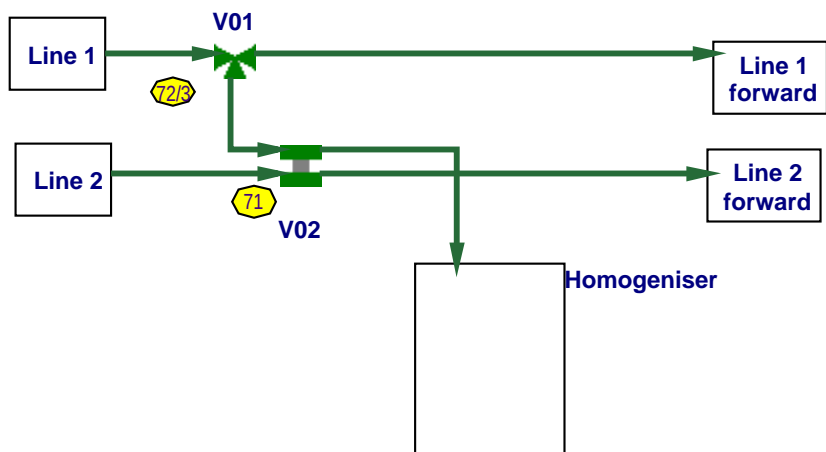




Diagram 43 - em Loss In Weight Feeder

Sheet Version: 517

Class: Equipment Module

Sheet 43 of 89 PageID: 46

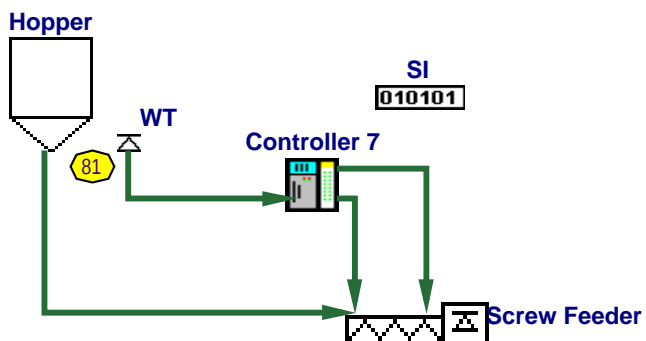




Diagram 44 - em Tanker Reception

Sheet Version: 457

Class: Equipment Module

Sheet 44 of 89 PageID: 314

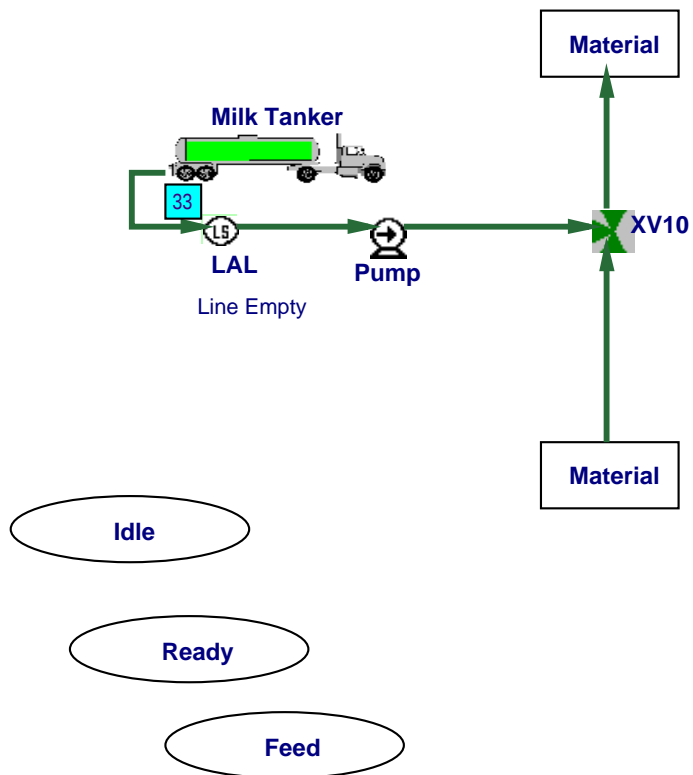




Diagram Description 45 - em Transfer in

Variant 2 - Type 2

This module can be acquired by the batch manager. This also sends a Route number to the module. The unit then sets the module to the Through or Feed State



Diagram 45 - em Transfer in

Sheet Version: 458 Class: Equipment Module Sheet 45 of 89 PageID: 264

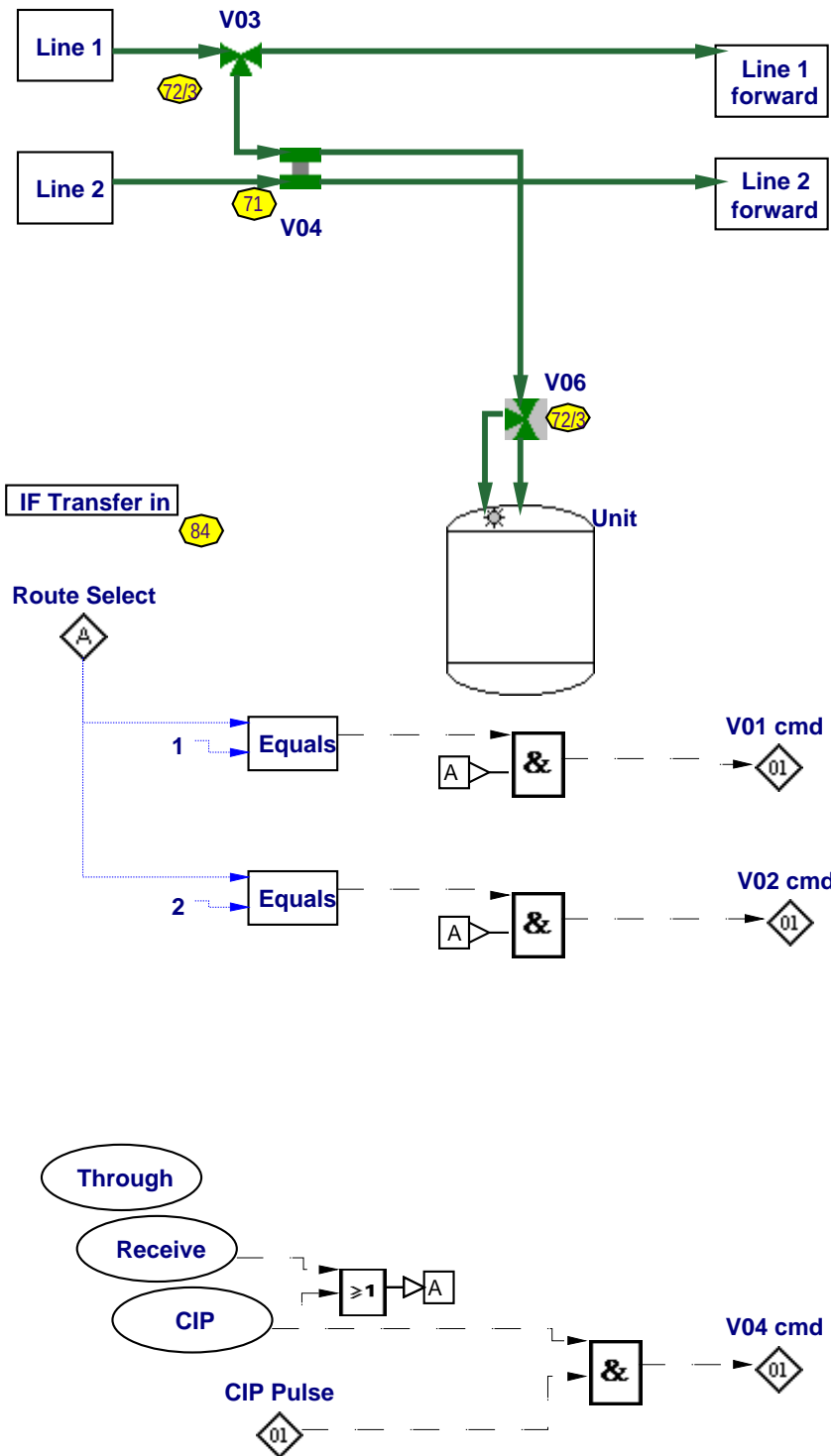
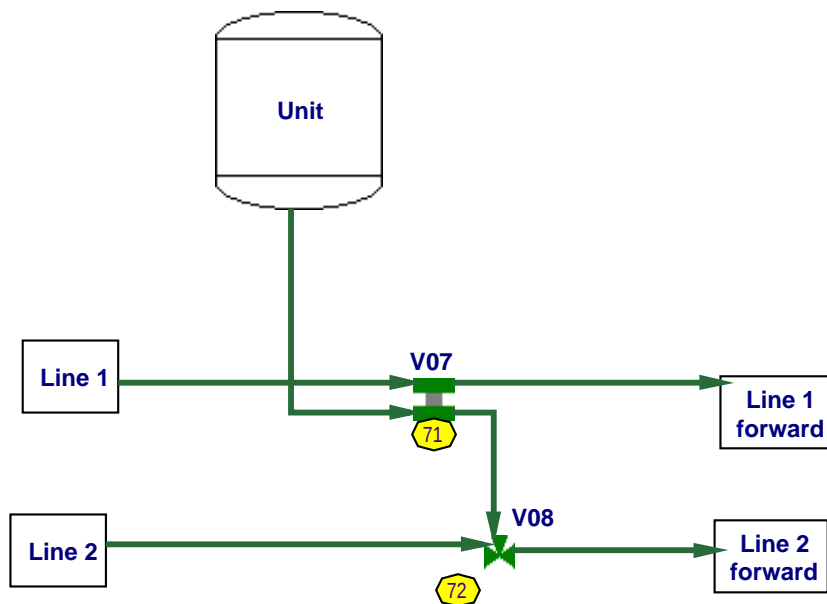




Diagram Description 46 - em Transfer out

This module can also be acquired by the CIP recipes and transfer routes.

Sheet Version: 517 Class: Equipment Module Sheet 46 of 89 PageID: 266



Route Select

From Recipe Procedure

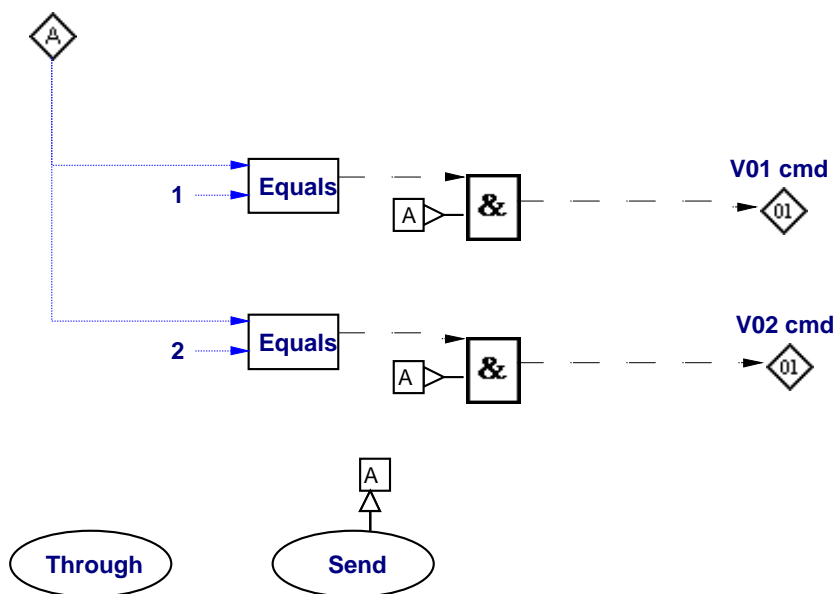




Diagram Description 47 - em Water Feed

Variant 1 - In-Line

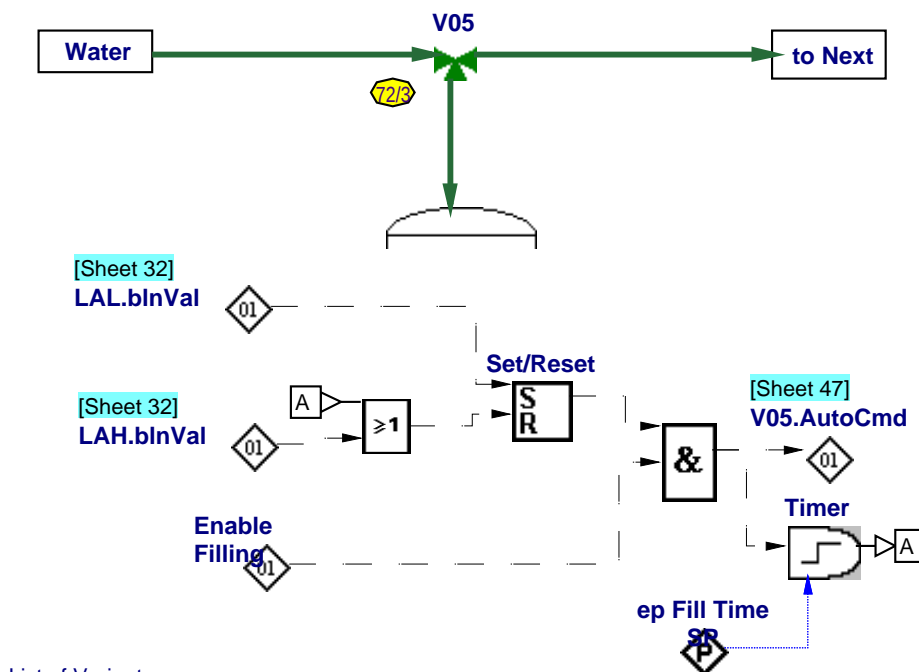
This module fills the vessel with water - when the level drops below the low level switch filling starts and it stops on high level.

Note that the value of ep Timer SP in the Low level switch modules should be greater then the time taken to allow the water to increase the level.

Also that ep Fill Time SP should be long enough to allow the level to rise enough, but to below the High level switch, since that would trigger a High level alarm.

If a third switch just below the LAH were provided then that could be used instead of the timer.

Sheet Version: 510 Class: Equipment Module Sheet 47 of 89 PageID: 324



List of Variants

to Next	1-In-Line	2-EndLine {Excluded}
V05	{Excluded}	{Excluded}

em Water Feed

	Enable Filling
Idle	False
Feed	True





Diagram Description 48 - rcp Additive Preparation

Makes up a batch in an IBC for use in next cell

Sheet Version: 509

Class: Recipe Procedure

Sheet 48 of 89 PageID: 267

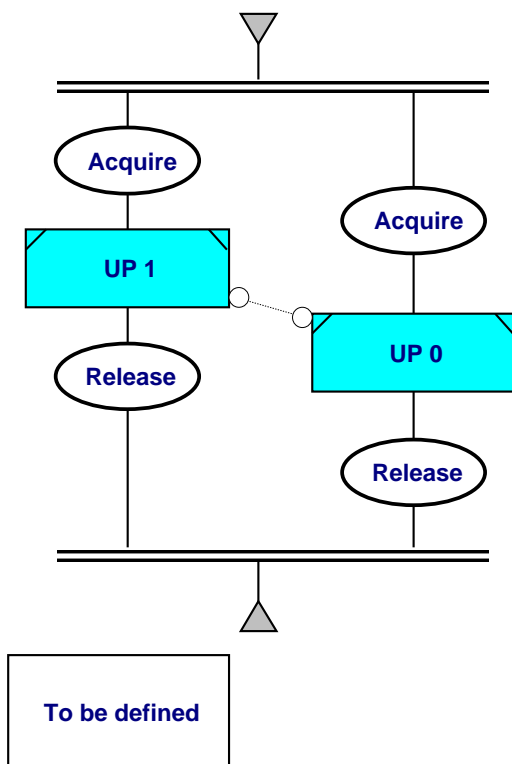




Diagram 49 - rcp Batch Mixing

Sheet Version: 515

Class: Recipe Procedure

Sheet 49 of 89 PageID: 56

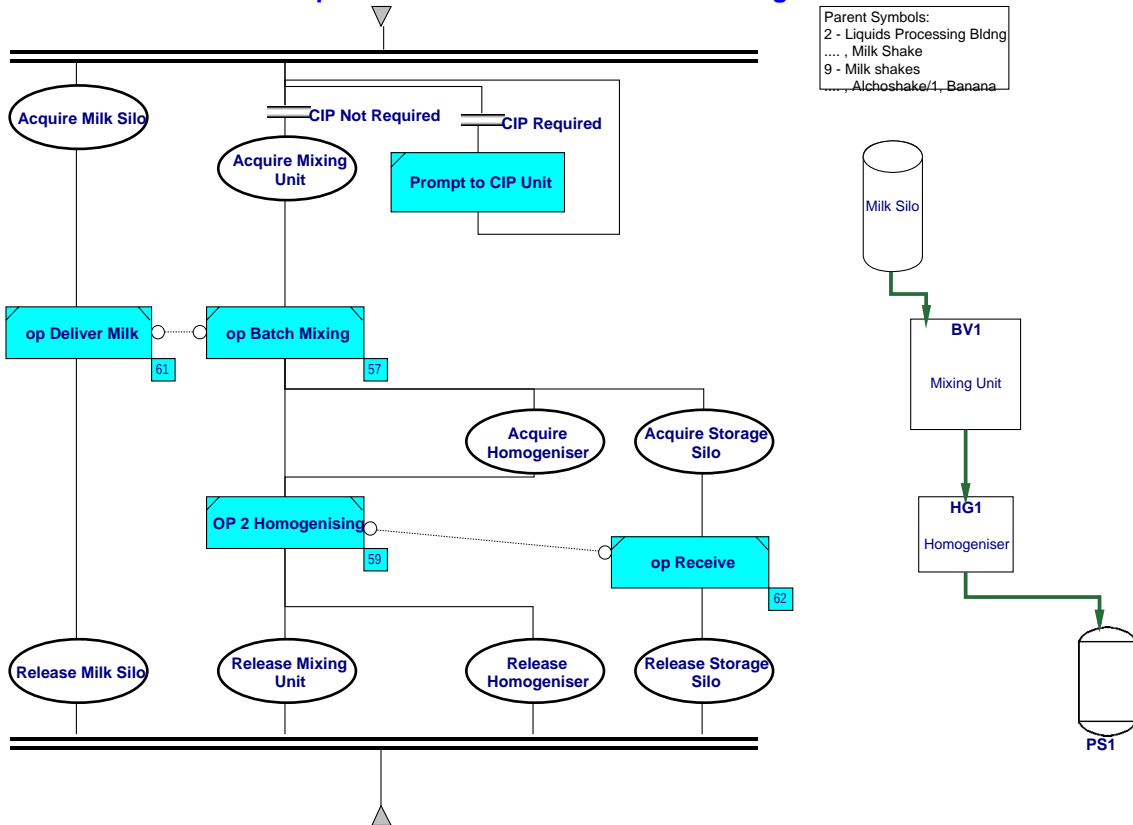




Diagram 49 - rcp Batch Mixing

Sheet Version: 515 Class: Recipe Procedure

Sheet 49 of 89 PageID: 56

Variant 1 - With Homogenising

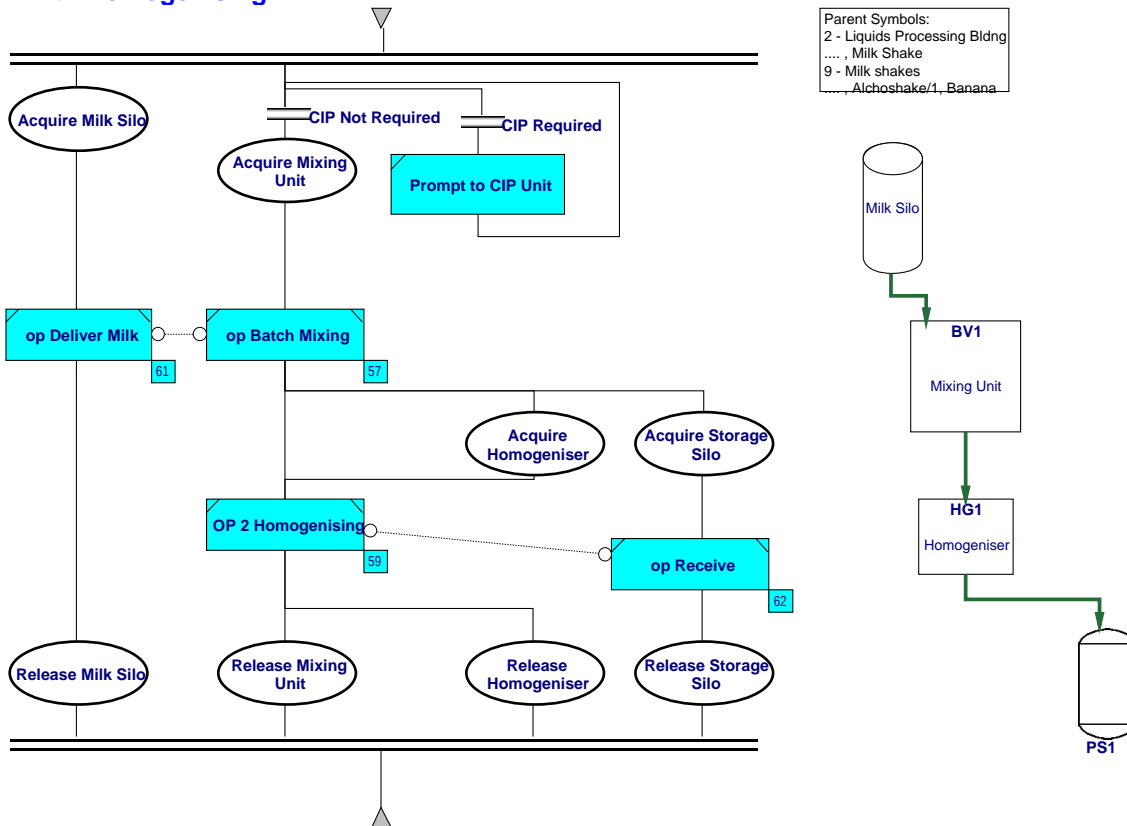




Diagram 49 - rcp Batch Mixing

Sheet Version: 515

Class: Recipe Procedure

Sheet 49 of 89 PageID: 56

Variant 2 - No Homogenising

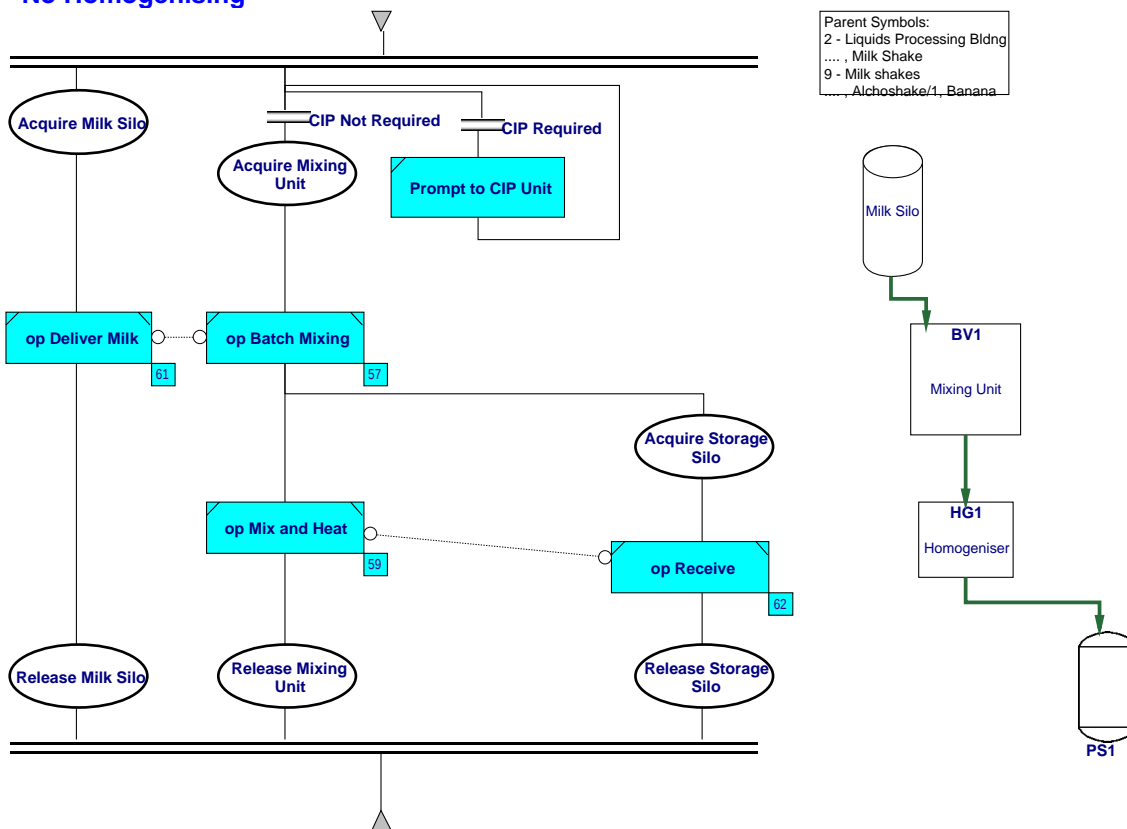




Diagram 50 - rcp generic Vessel CIP

Sheet Version: 515

Class: Recipe Procedure

Sheet 50 of 89 PageID: 257

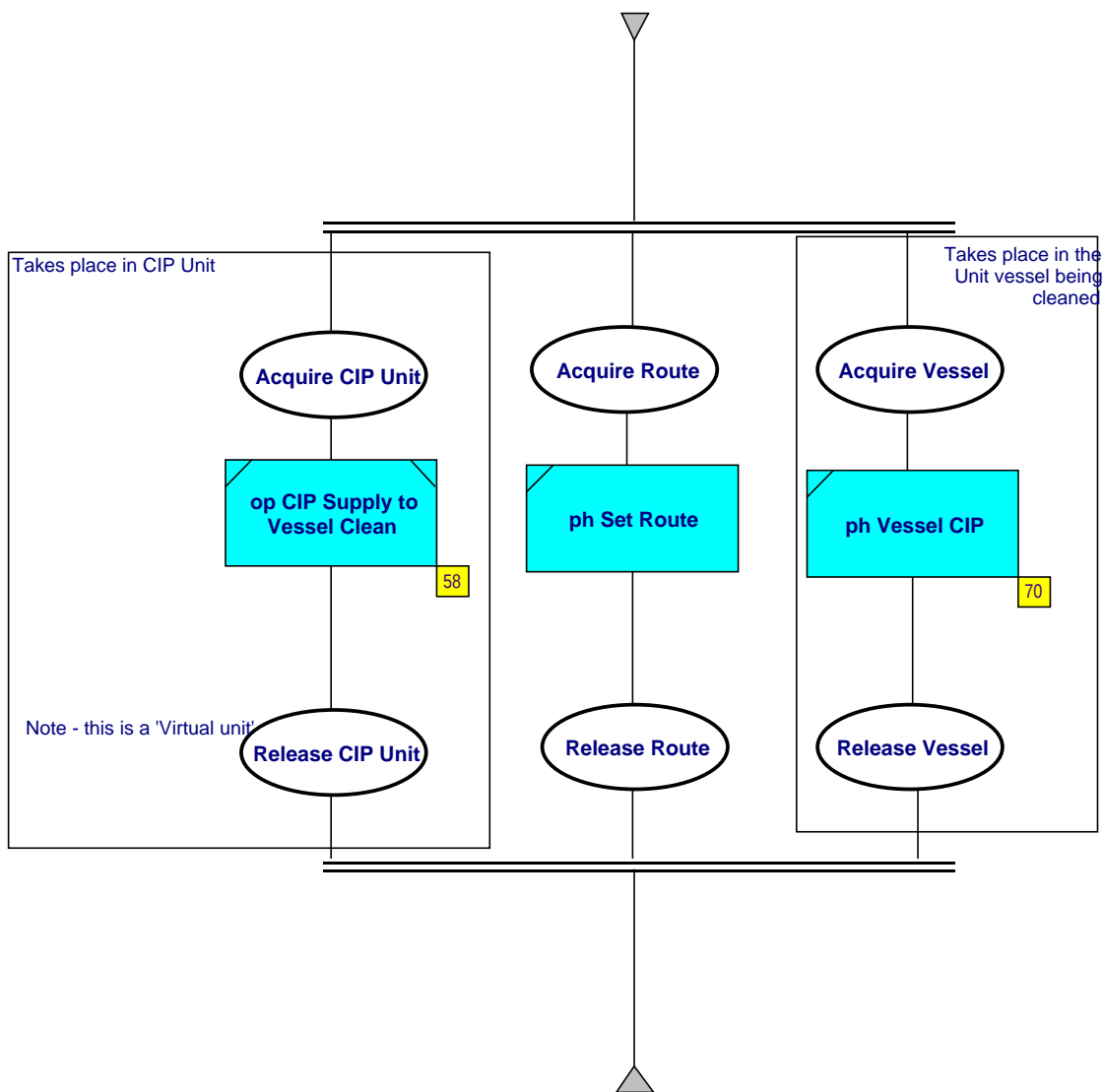




Diagram 51 - rcp Receive Addiitive

Sheet Version: 513

Class: Recipe Procedure

Sheet 51 of 89 PageID: 243

Parent Symbols:
8 - Material Reception Recipes
.... , Receive Addiitive, Receive Chemical Drums, Receive Packing Pallets

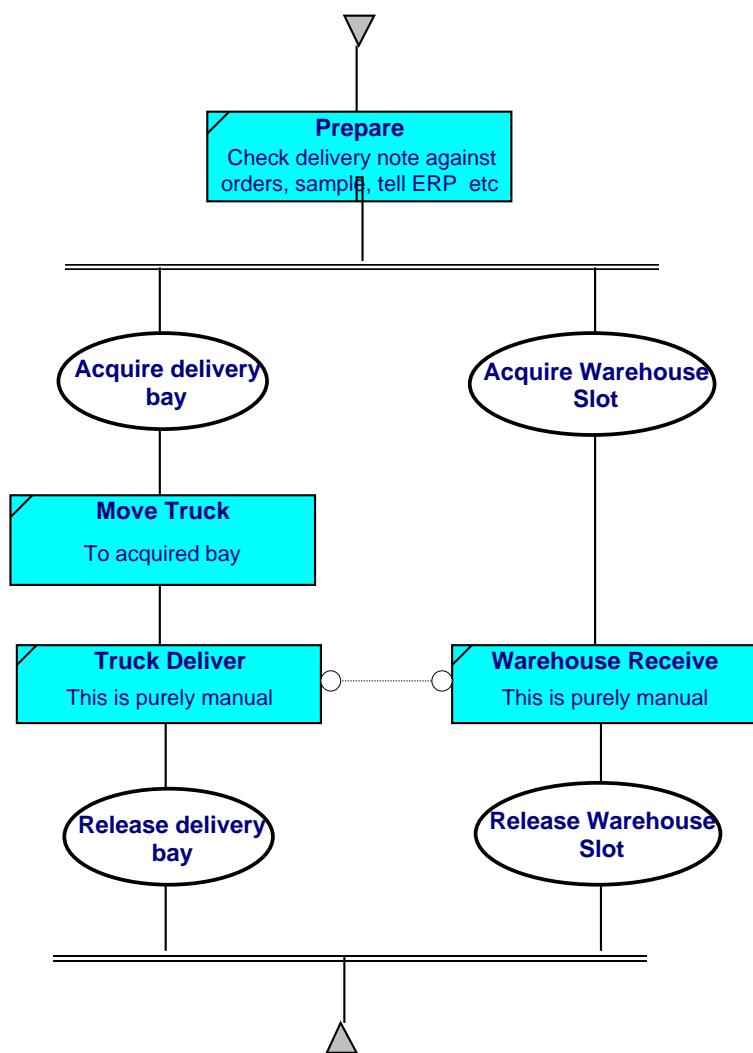




Diagram 52 - rcp Receive milk

Sheet Version: 488

Class: Recipe Procedure

Sheet 52 of 89 PageID: 244

Parent Symbols:
3 - Milk Silos
.... , rp Receive Milk
8 - Material Reception
Recipes
.... , Receive Milk

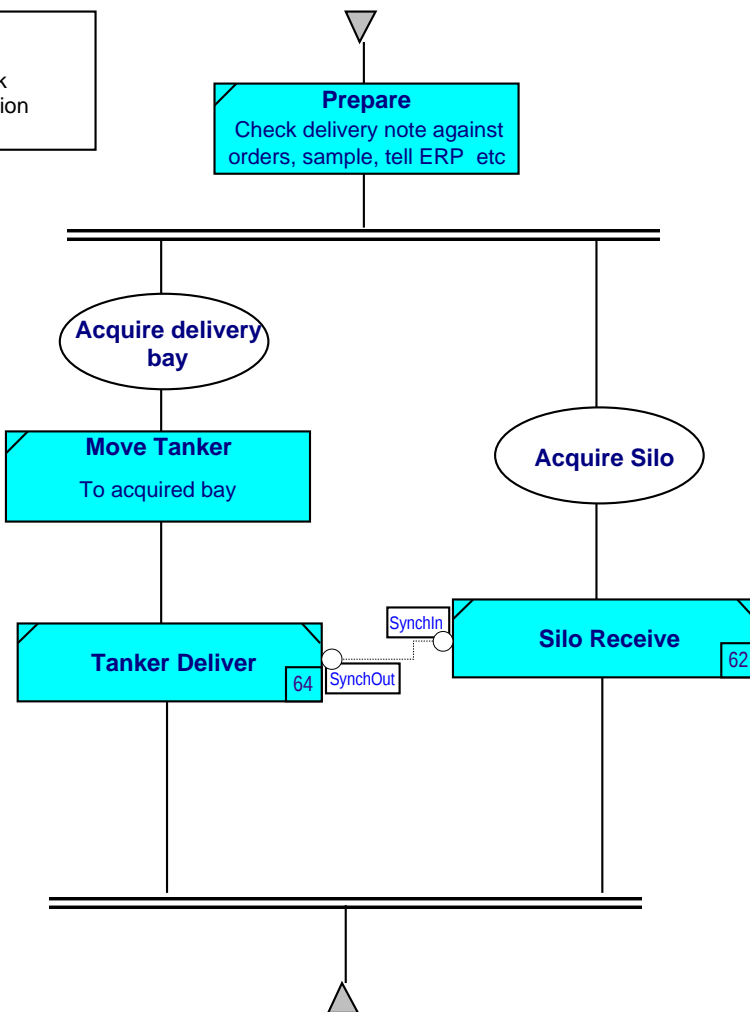




Diagram 53 - up Fill and Pack Procedure

Sheet Version: 513

Class: Unit Procedure

Sheet 53 of 89 PageID: 55

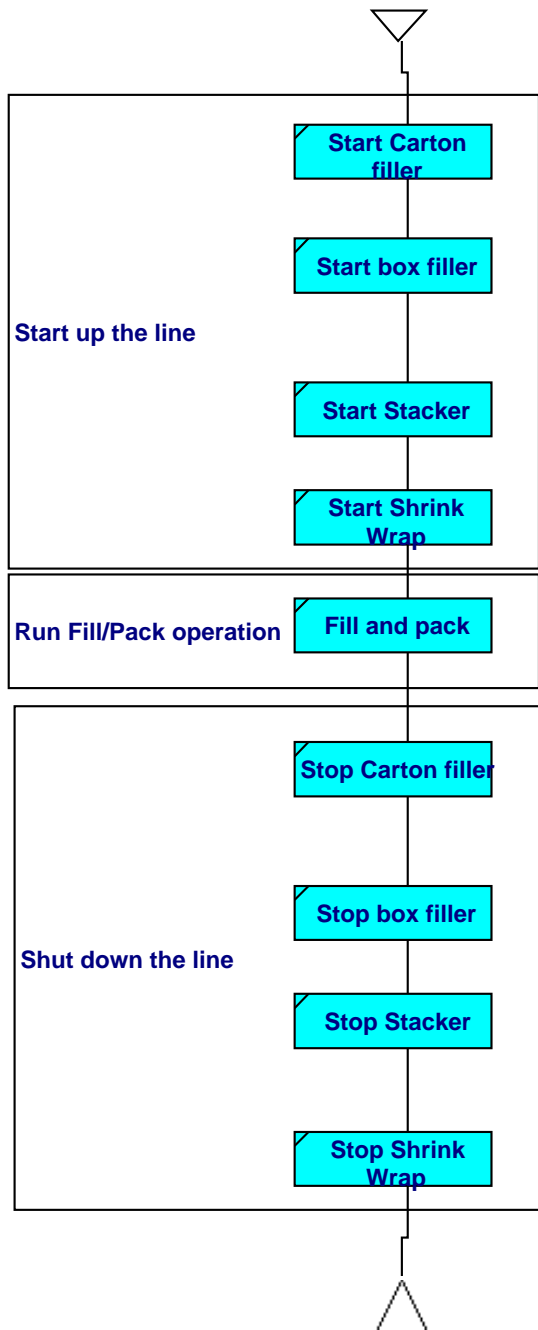




Diagram 57 - op Batch Mix and Homogenise

Sheet Version: 369

Class: Operation

Sheet 57 of 89 PageID: 310

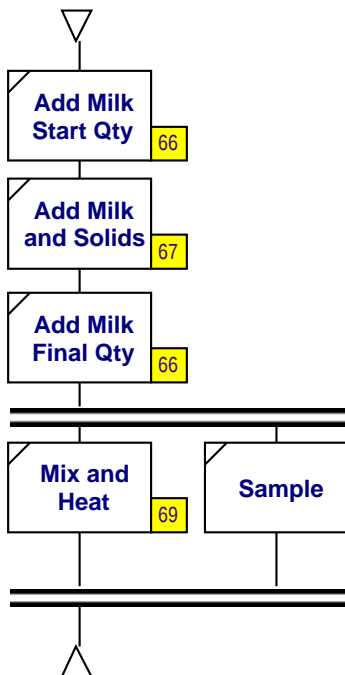




Diagram 58 - op CIP Supply to Vessel Clean

Sheet Version: 457

Class: Operation

Sheet 58 of 89 PageID: 68

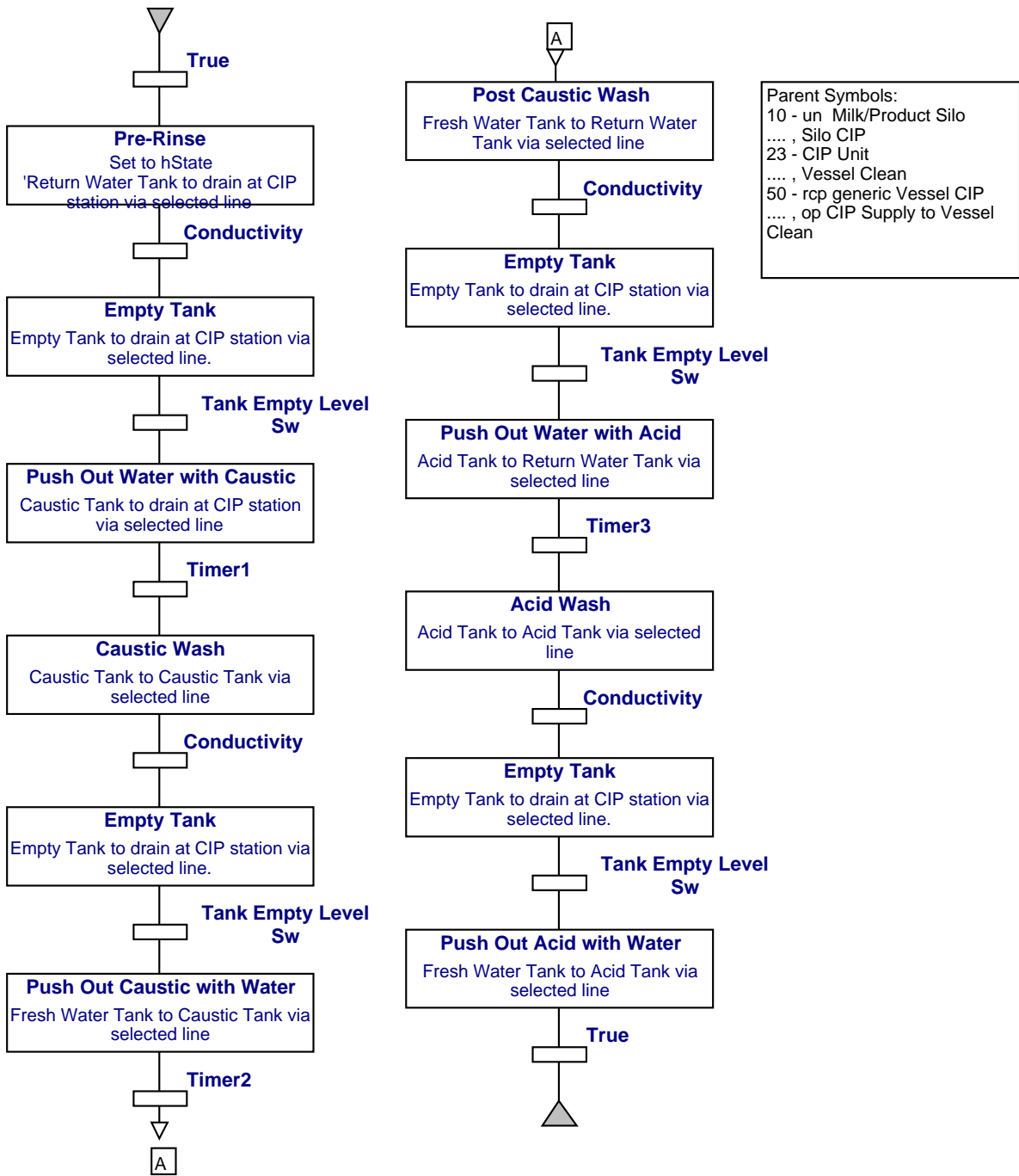




Diagram 59 - op Homogenising

Sheet Version: 509

Class: Operation

Sheet 59 of 89 PageID: 312

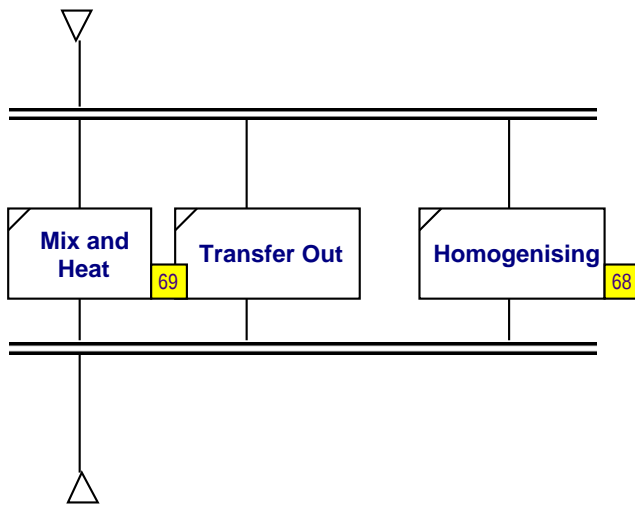




Diagram Description 60 - op Line Clean

Generic Line Clean



Diagram 60 - op Line Clean

Sheet Version: 457

Class: Operation

Sheet 60 of 89 PageID: 69

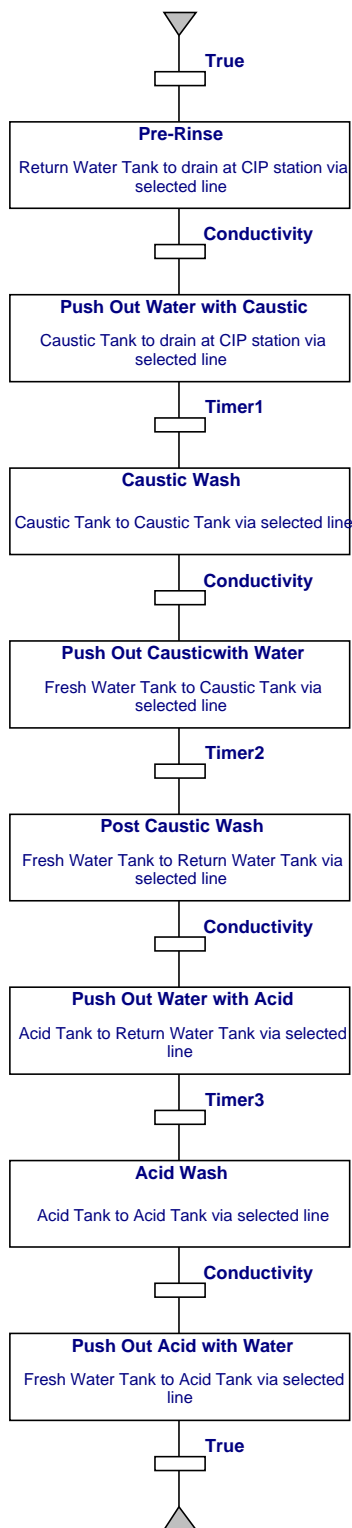




Diagram 61 - op Silo Deliver

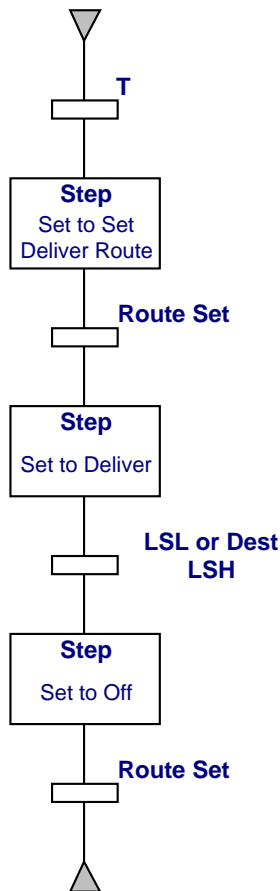
Sheet Version: 513

Class: Operation

Sheet 61 of 89 PageID: 248

Parent Symbols:
10 - un Milk/Product
Silo
.... , Silo Deliver

Start Interface with receiver
Ready check and set step and transition for
the interface with the receiving unit



End Interface with receiver
Disable the Interface CM



Diagram 62 - op Silo Receive

Sheet Version: 513

Class: Operation

Sheet 62 of 89 PageID: 247

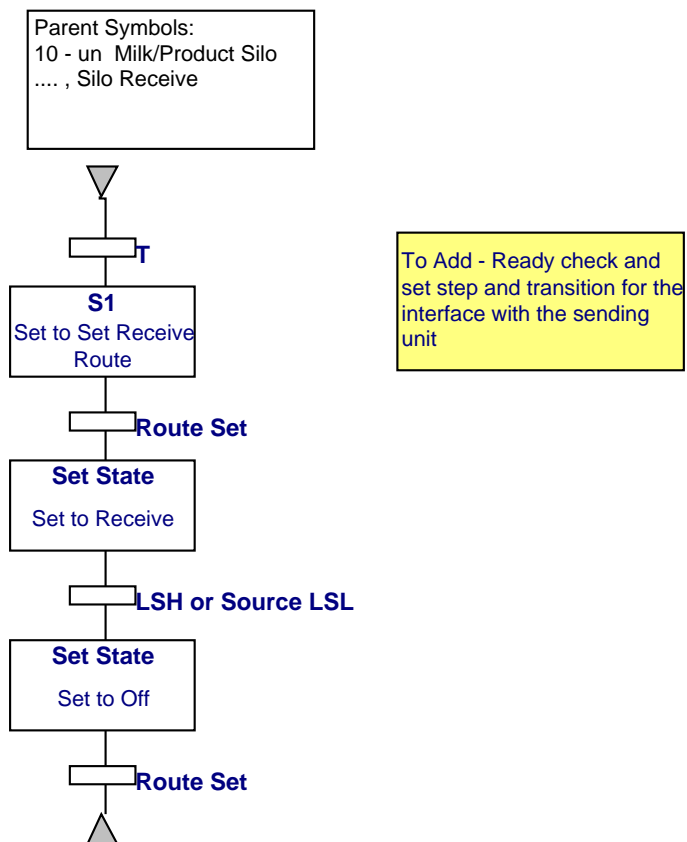




Diagram 64 - op Unload Tanker

Sheet Version: 455

Class: Operation

Sheet 64 of 89 PageID: 245

Parent Symbols:
33 - Tanker unloading bay
.... , Tanker Deliver
55 - up Receive Milk
.... , Transfer Milk

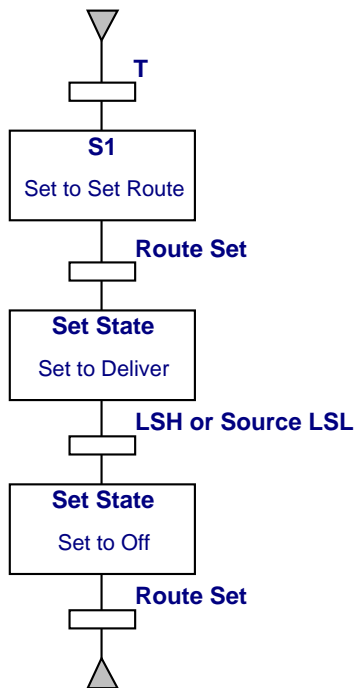




Diagram 65 - op Vessel CIP

Sheet Version: 397

Class: Operation

Sheet 65 of 89 PageID: 259

 epVesselEmptyLevel

Parent Symbols:
10 - un Milk/Product
Silo
..., CIP_V1

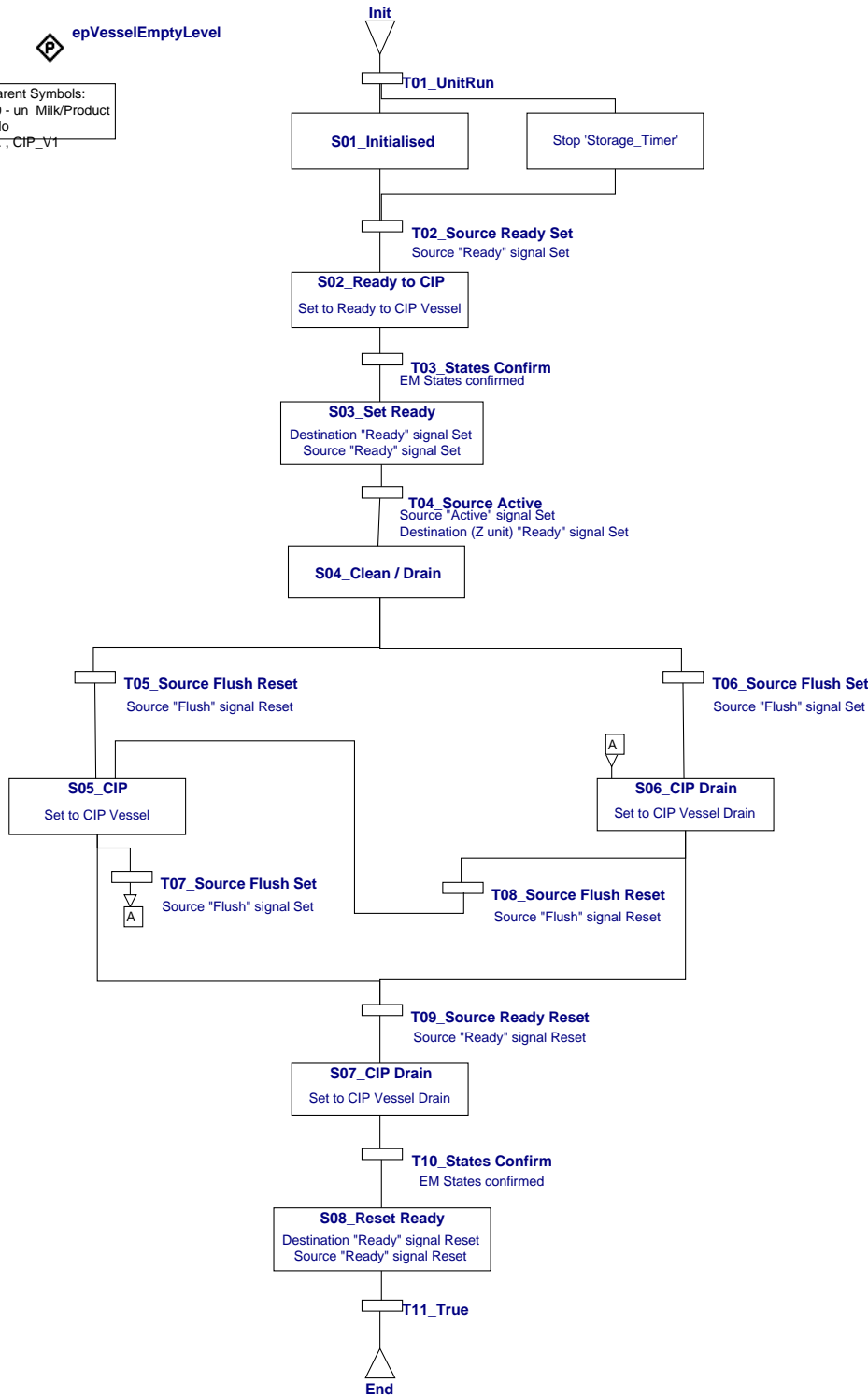




Diagram 66 - ph Add Milk

Sheet Version: 454 Class: Phase Sheet 66 of 89 PageID: 59

Parent Instances

Set State Matrix
Batch Mixing Unit

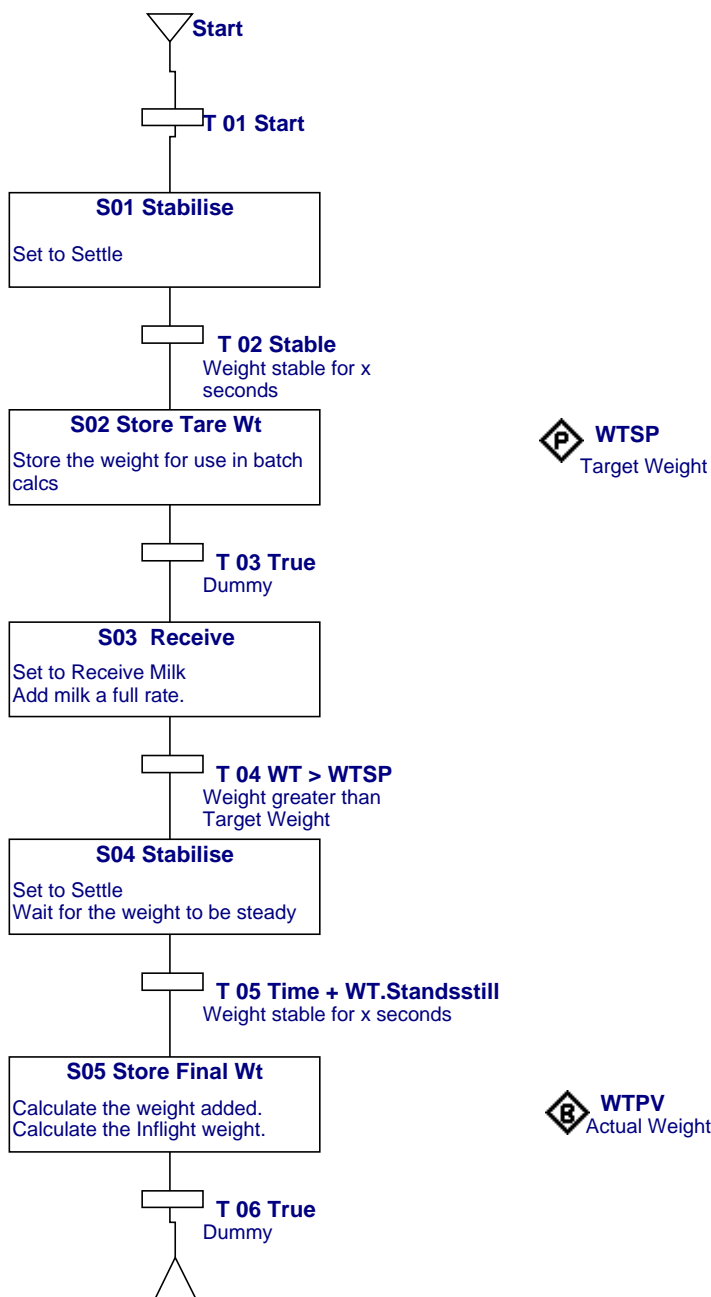




Diagram 67 - ph Add Milk and Solids
Sheet Version: 298 Class: Phase Sheet 67 of 89 PageID: 58

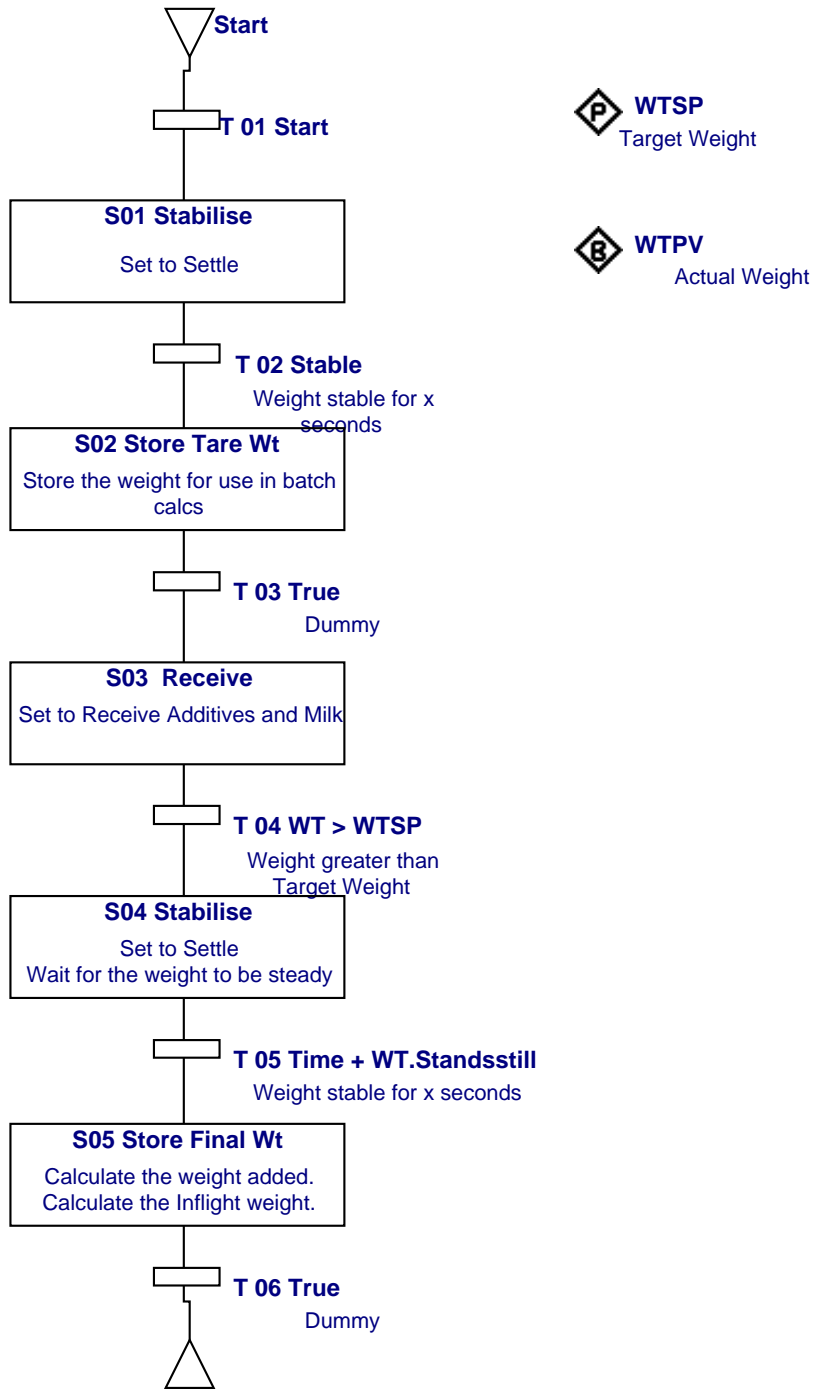




Diagram 69 - ph Mix and Heat
Sheet Version: 456 Class: Phase Sheet 69 of 89 PageID: 63

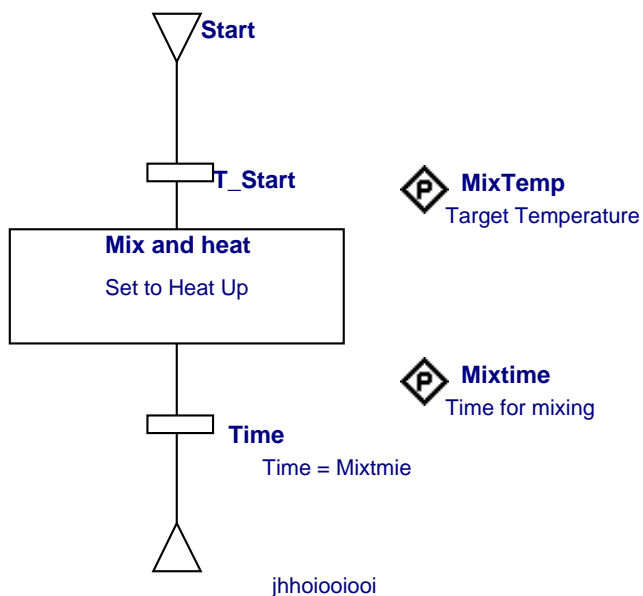




Diagram Description 70 - ph Vessel CIP

This diagram is the procedure for a vessel that is being cleaned. Note that all vessels must have CIP and Drain states.

Basically the vessel is extremely ignorant of what is happening, the CIP unit is in charge

Sheet Version: 455 Class: Phase Sheet 70 of 89 PageID: 311

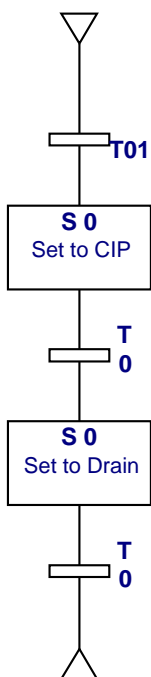


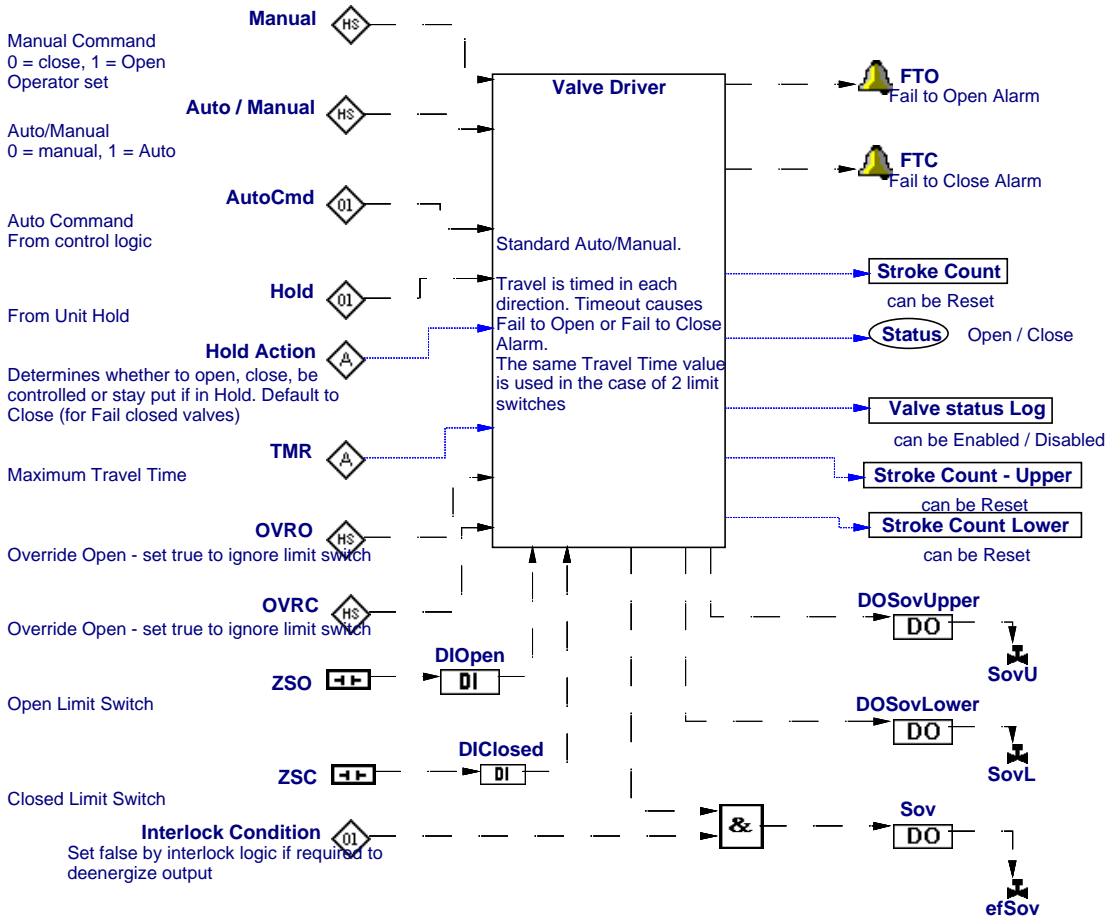


Diagram 71 - Mixproof Valve

Sheet Version: 0

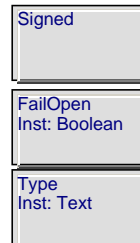
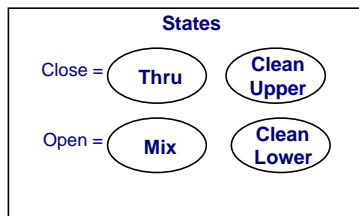
Class: Valve

Sheet 71 of 89 PageID: 242



Mixproof Valve

	Sov	SovL	SovU
Thru	Off	Off	Off
Mix	On	Off	Off
Clean Lower	Off	On	Off
Clean Upper	Off	Off	On



Flip Group handling

Clean Upper when the value from the CIP station = Valve Flip group 1
 Clean Lower when the value from the CIP station = Valve Flip group 2
 Can Not Clean Upper and Lower at the same time. (Upper takes preference)
 Can Not Clean when in Mix position



Diagram 72 - On Off Valve

Sheet Version: 144 Class: Valve Sheet 72 of 89 PageID: 231

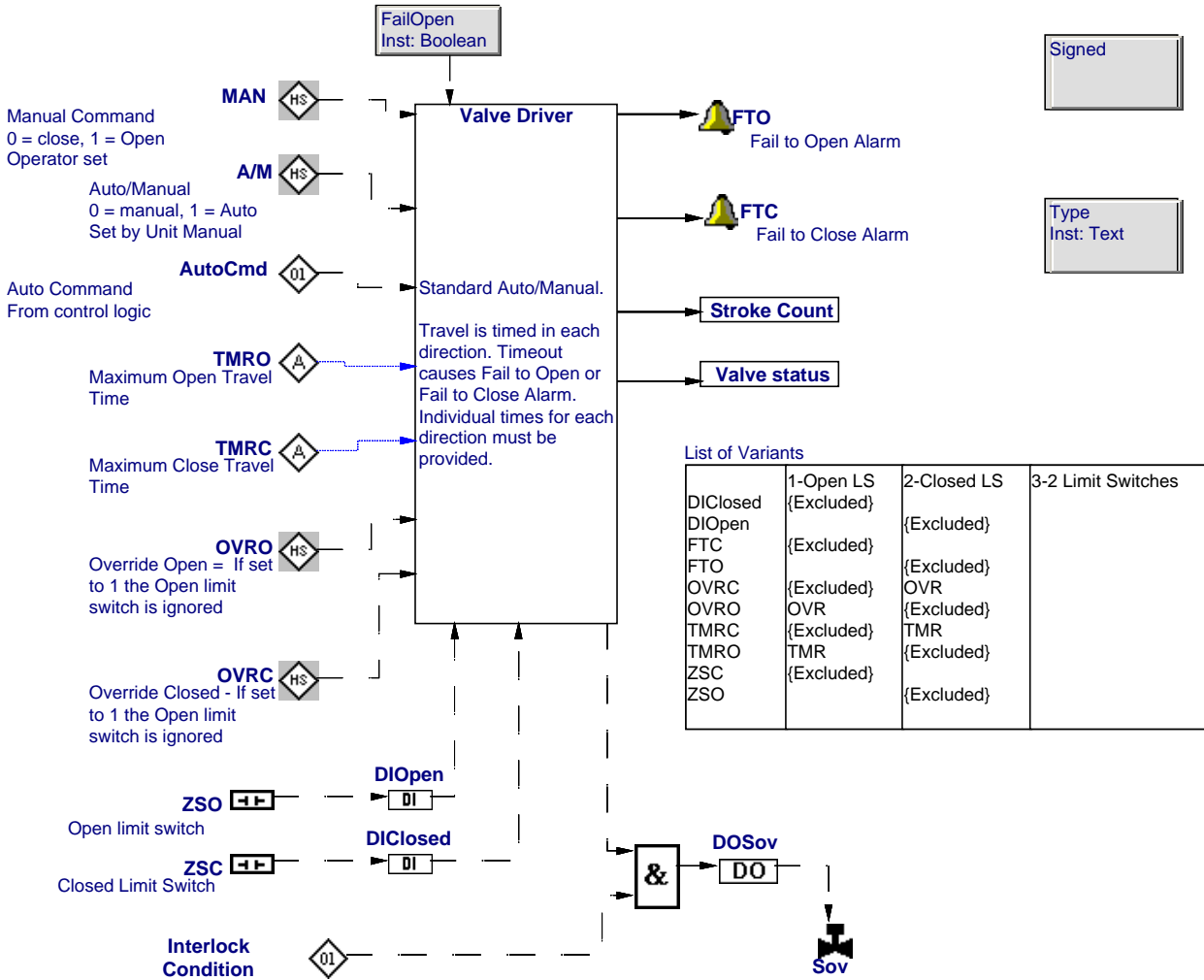




Diagram 72 - On Off Valve
Sheet Version: 144 Class: Valve Sheet 72 of 89 PageID: 231
Variants 3 - 2 Limit Switches

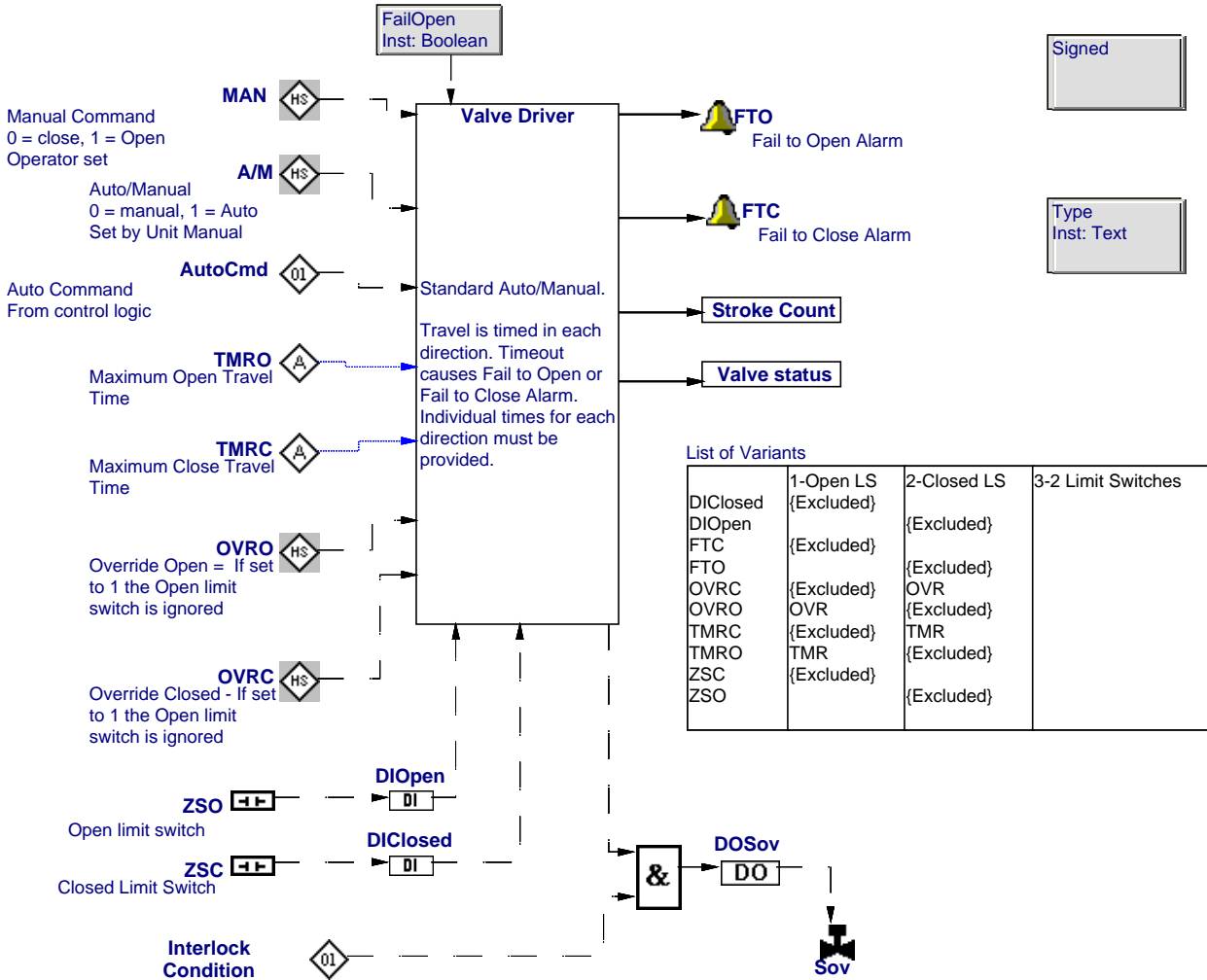




Diagram 73 - Fixed Speed Motor

Sheet Version: 162 Class: Motor Sheet 73 of 89 PageID: 43

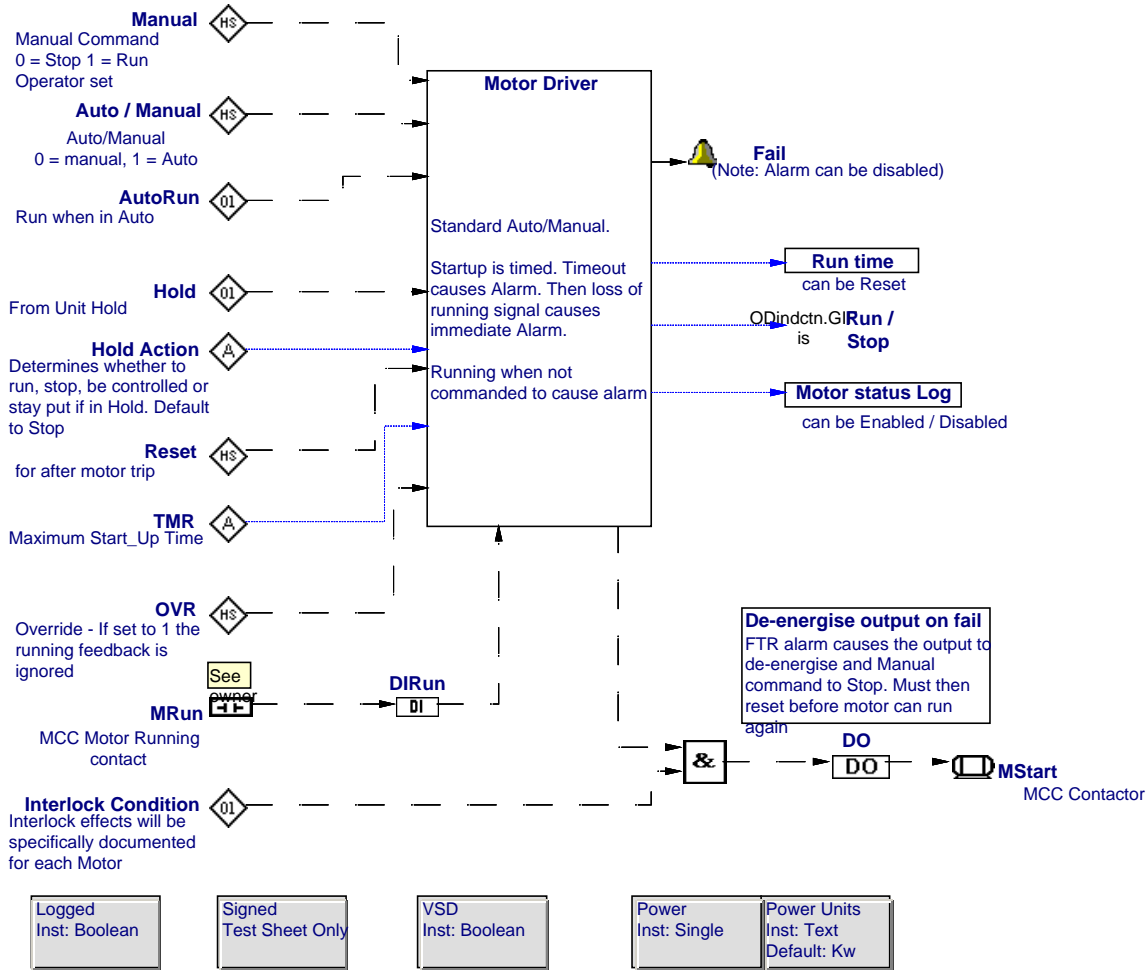
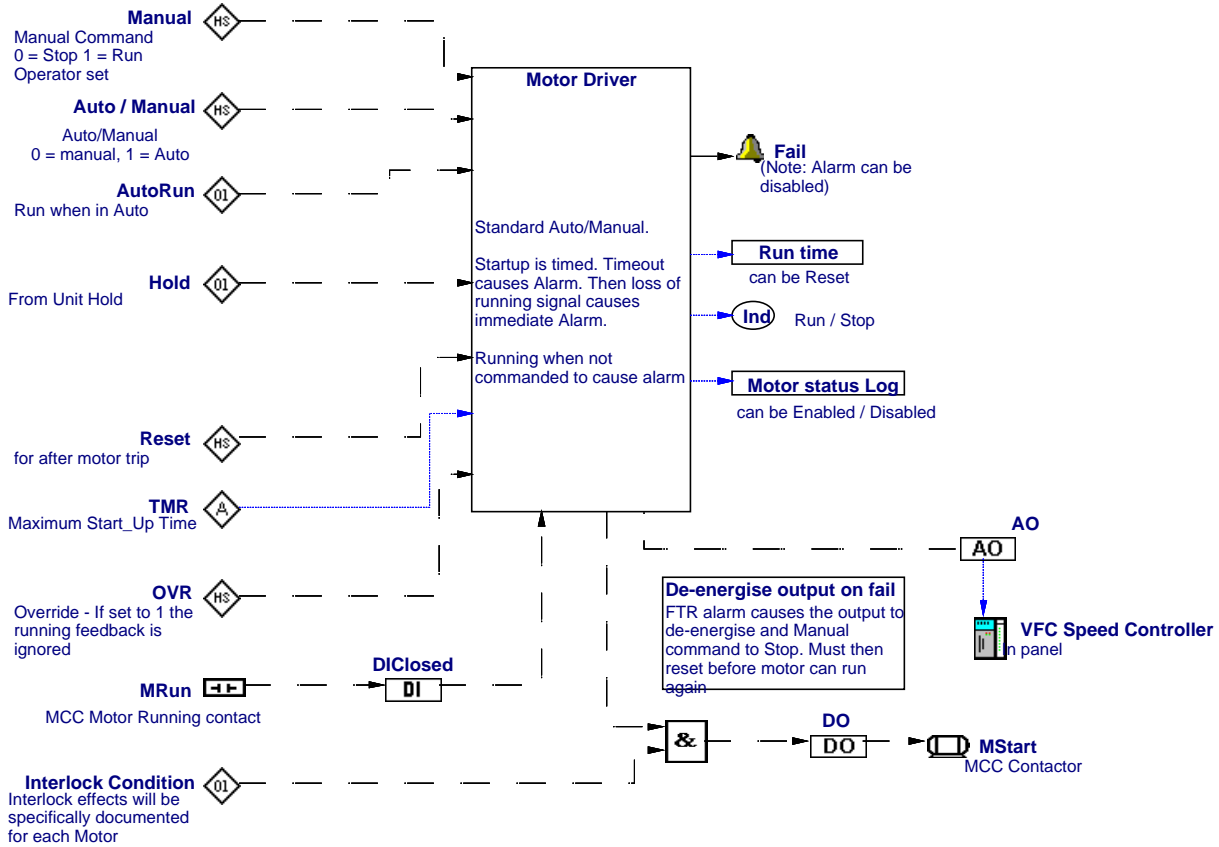




Diagram 74 - Variable Speed motor
 Sheet Version: 282 Class: Motor Sheet 74 of 89 PageID: 269



Logged
 Inst: Boolean

Signed
 Test Sheet Only

VSD
 Inst: Boolean

Power
 Inst: Single

Power Units
 Inst: Text
 Default: Kw



Diagram 75 - cm Agitator Control

Sheet Version: 2

Class: Control Module

Sheet 75 of 89 PageID: 262

Parent Symbols:
34 - em Agitator
.... , Agitation CM

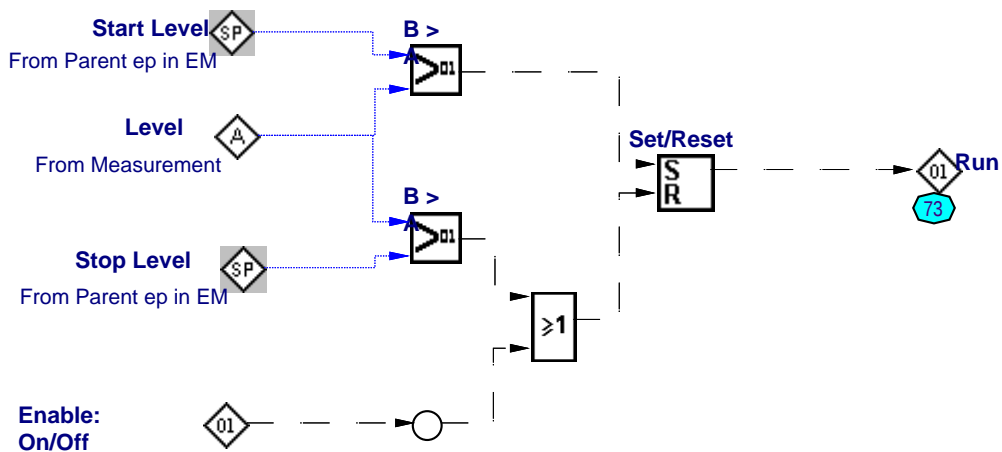




Diagram 76 - cm CIP Status Control

Sheet Version: 471

Class: Control Module

Sheet 76 of 89 PageID: 47

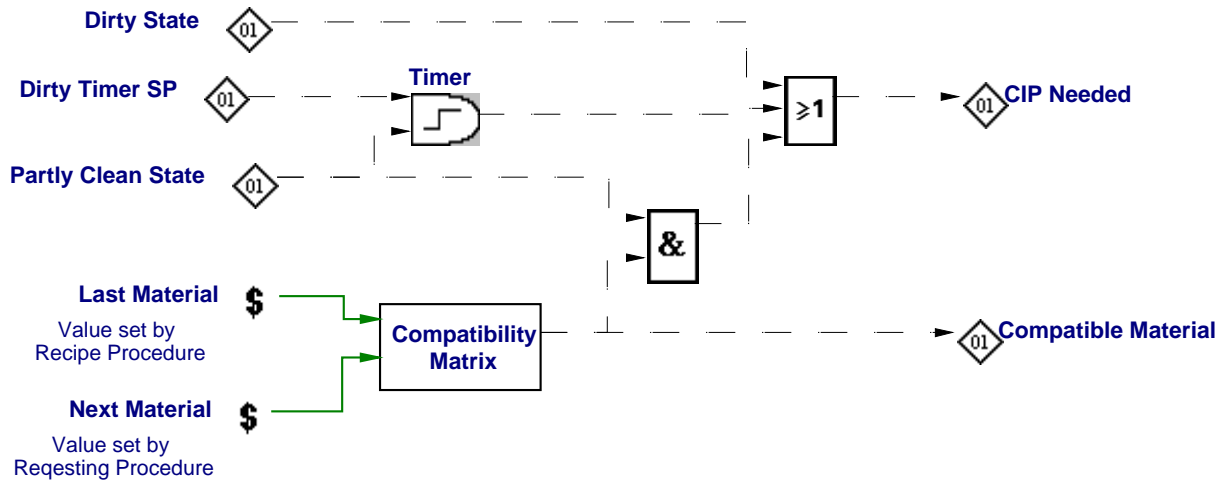
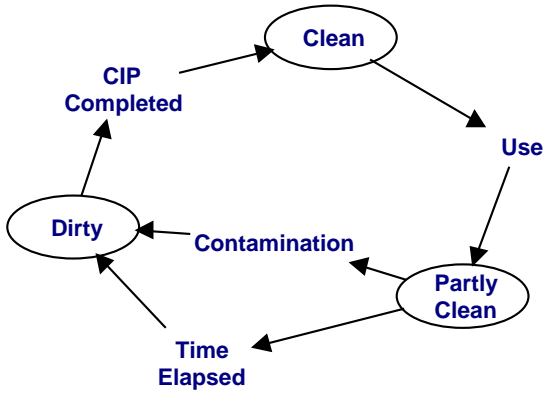


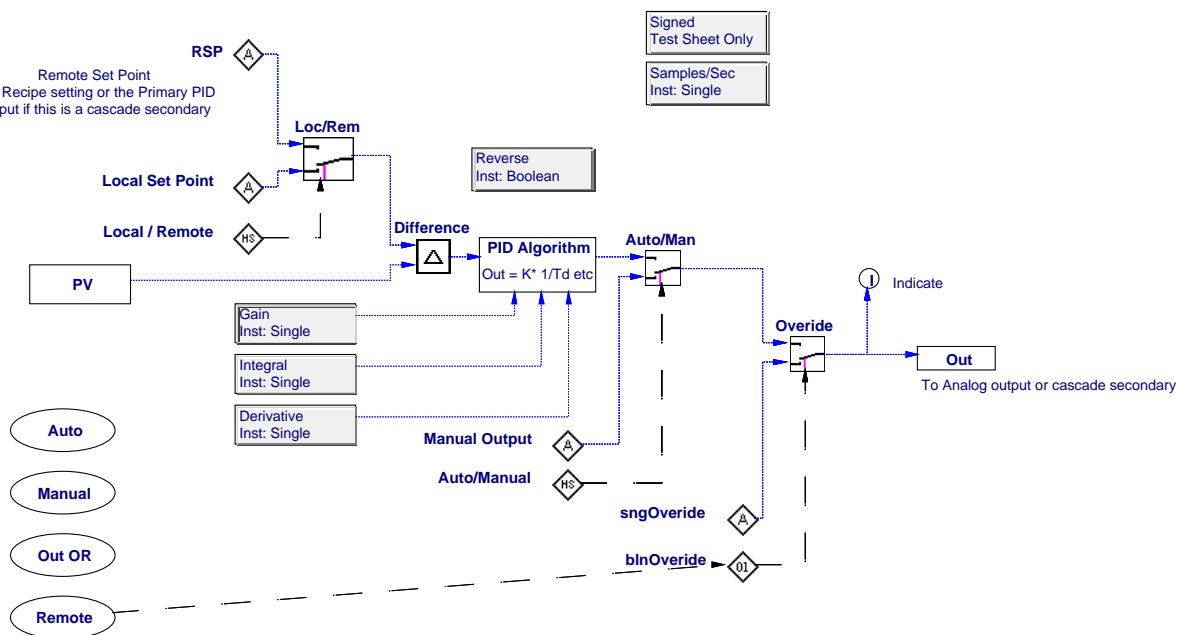


Diagram 78 - Standard PID Loop

Sheet Version: 162

Class: PID Control Loop

Sheet 78 of 89 PageID: 41



Bumpless Transfer

The PID algorithm must include Bumpless Transfer between Auto and Manual
 Optionally the SP will adopt the value of the PV at the time of switching to Auto



Diagram 79 - Control Valve

Sheet Version: 290

Class: Effector Analog

Sheet 79 of 89 PageID: 270

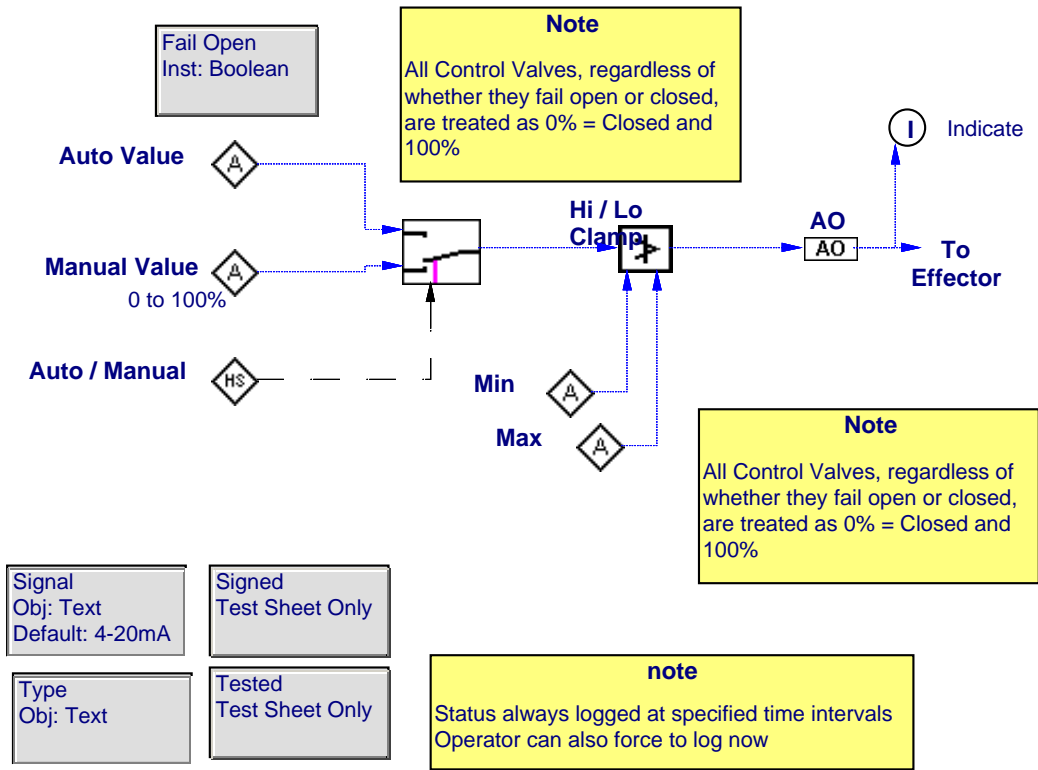
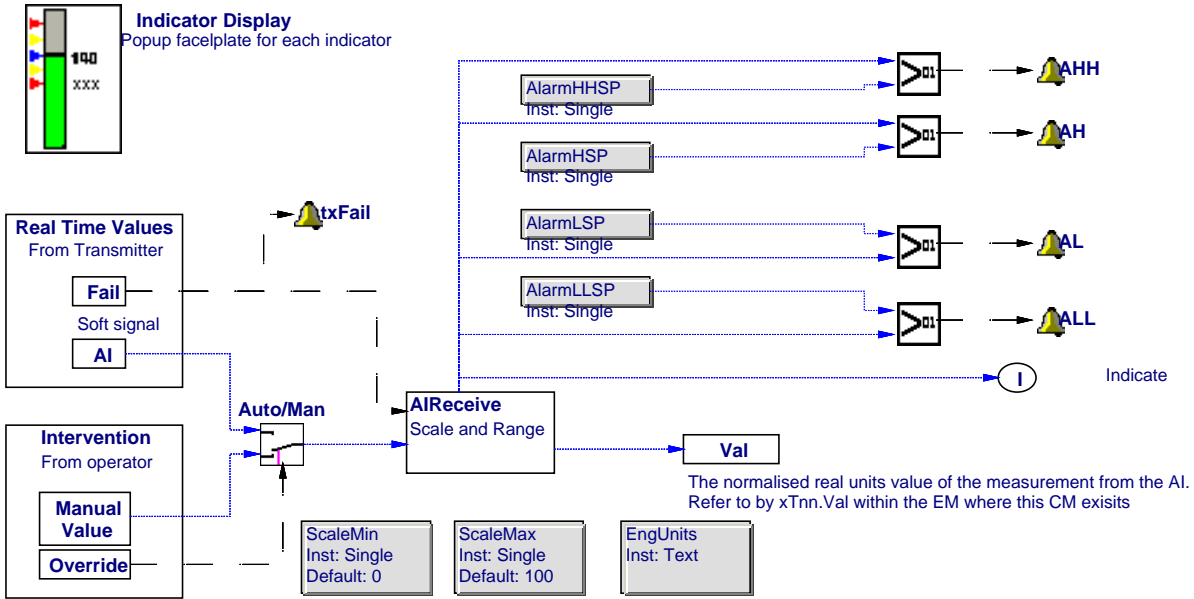




Diagram Description 80 - Analog Input from Transmitter

No text, you can write some here

Sheet Version: 451 Class: Measurement Analog Sheet 80 of 89 PageID: 40



- Order No
Obj: Text
- Serial number
Inst: Text
- SigMax
Obj: Single
- SigMin
Obj: Single
- SigType
Obj: Text
- Vendor
Obj: Text
- Signal
Obj: Text
Default: 4-20mA
- Test OK
Test Sheet Only

Alarms Disabled

Alarms Enabled

Note
Can enable and disable alarms all together



Diagram Description 81 - Weight measurement

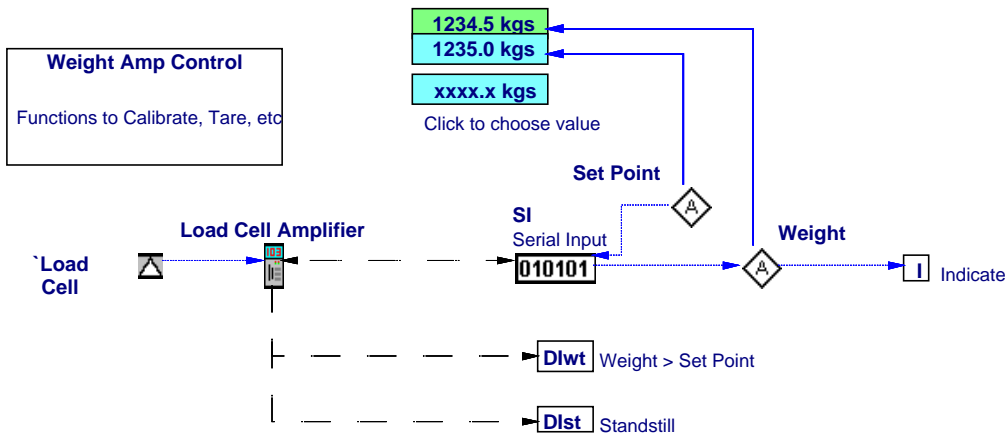
Weight Measurement

This module uses serial communications and a Boolean input to communicate with the Weight Transmitter. The serial connection is used to

- Monitor the status of the weighing instrument
- Download Set points
- Upload weight reading

The digital input is connected to the weighing instrument to receive the Weight > Set Point Boolean signal. It is better to use the weighing instrument to do the comparison between actual weight and set point because it is faster than doing the comparison in the PCS. And using an analog connection is much less accurate. In addition the Standstill signal indicates that the weight is stable within some limits, this should be checked in a phase.

Sheet Version: 216 Class: Measurement Analog Sheet 81 of 89 PageID: 45



Talk The instrument is in a dialog, eg Receive Set Point

Monitor When in monitor mode the weight is broadcast

- Order No
Obj: Text
- SigMax
Obj: Single
- SigMin
Obj: Single
- SigType
Obj: Text
- Vendor
Obj: Text
- Signal
Obj: Text
Default: 4-20mA

Test OK
Test Sheet Only

- AlarmHSP
Inst: Single
Default: 9999999
- AlarmHHSP
Inst: Single
Default: 9999999
- AlarmLSP
Inst: Single
Default: 0
- AlarmLLSP
Inst: Single
Default: 0

- ScaleMin
Inst: Single
Default: 0
- ScaleMax
Inst: Single
Default: 100
- EngUnits
Inst: Text

Serial number
Inst: Text



Diagram 82 - Alarm Switch Input

Sheet Version: 162 Class: Measurement Switch Sheet 82 of 89 PageID: 42

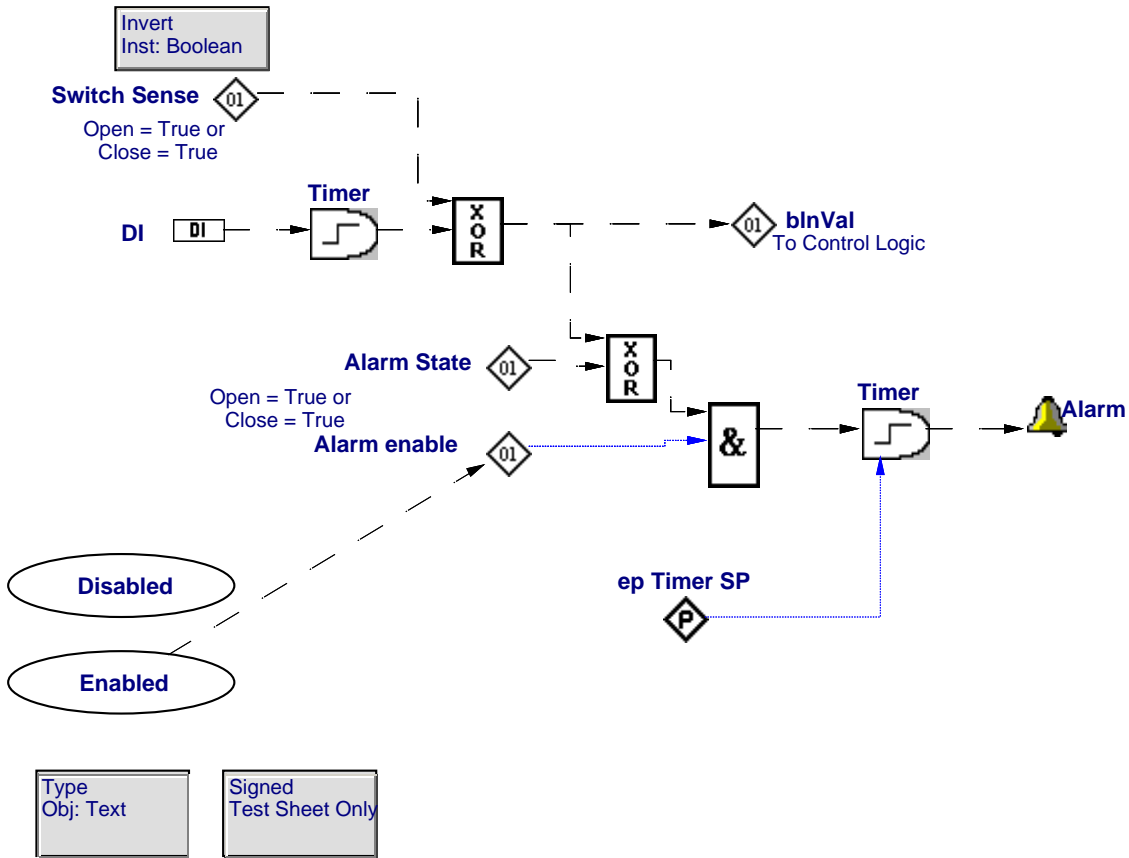




Diagram 83 - Controller Status

Sheet Version: 0

Class: Control System

Sheet 83 of 89 PageID: 48

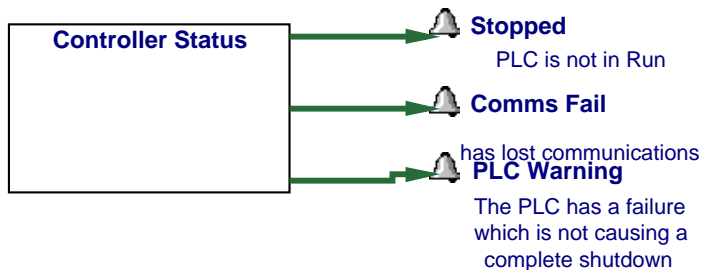




Diagram Description 84 - Interface

This shows a generic interface between modules. This may apply at the EM or the Unit level.

Sheet Version: 304 Class: Interface Sheet 84 of 89 PageID: 272

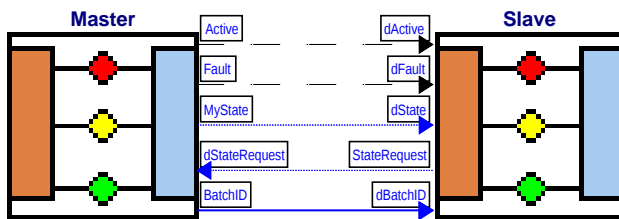
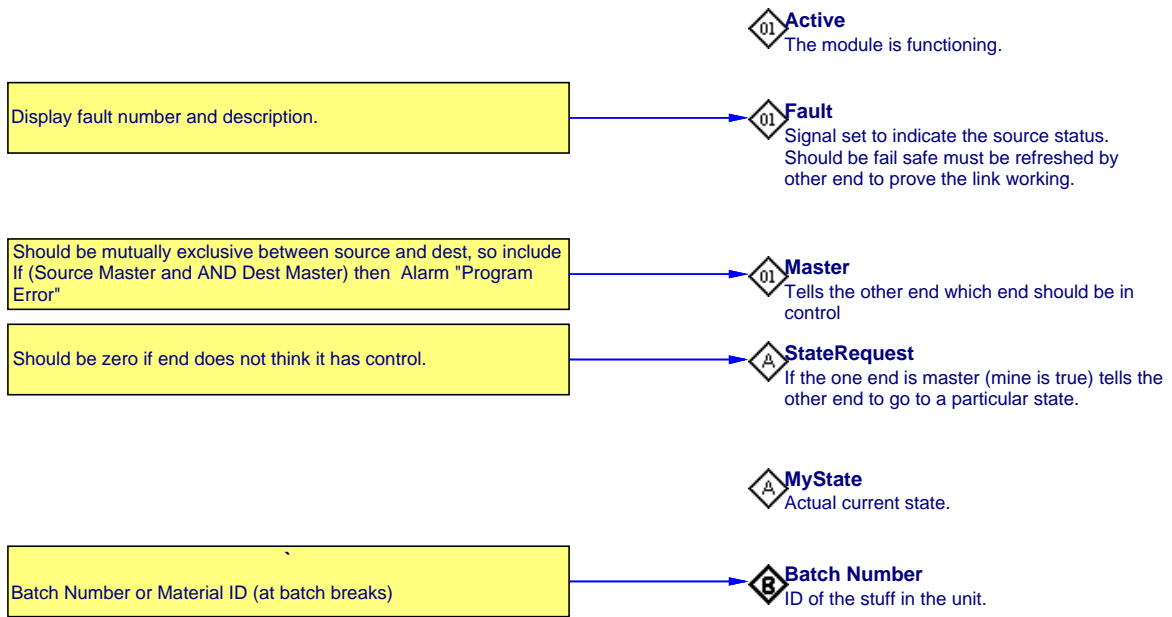




Diagram 85 - CIP Routing diagram

Sheet Version: 514

Class: None

Sheet 85 of 89 PageID: 321

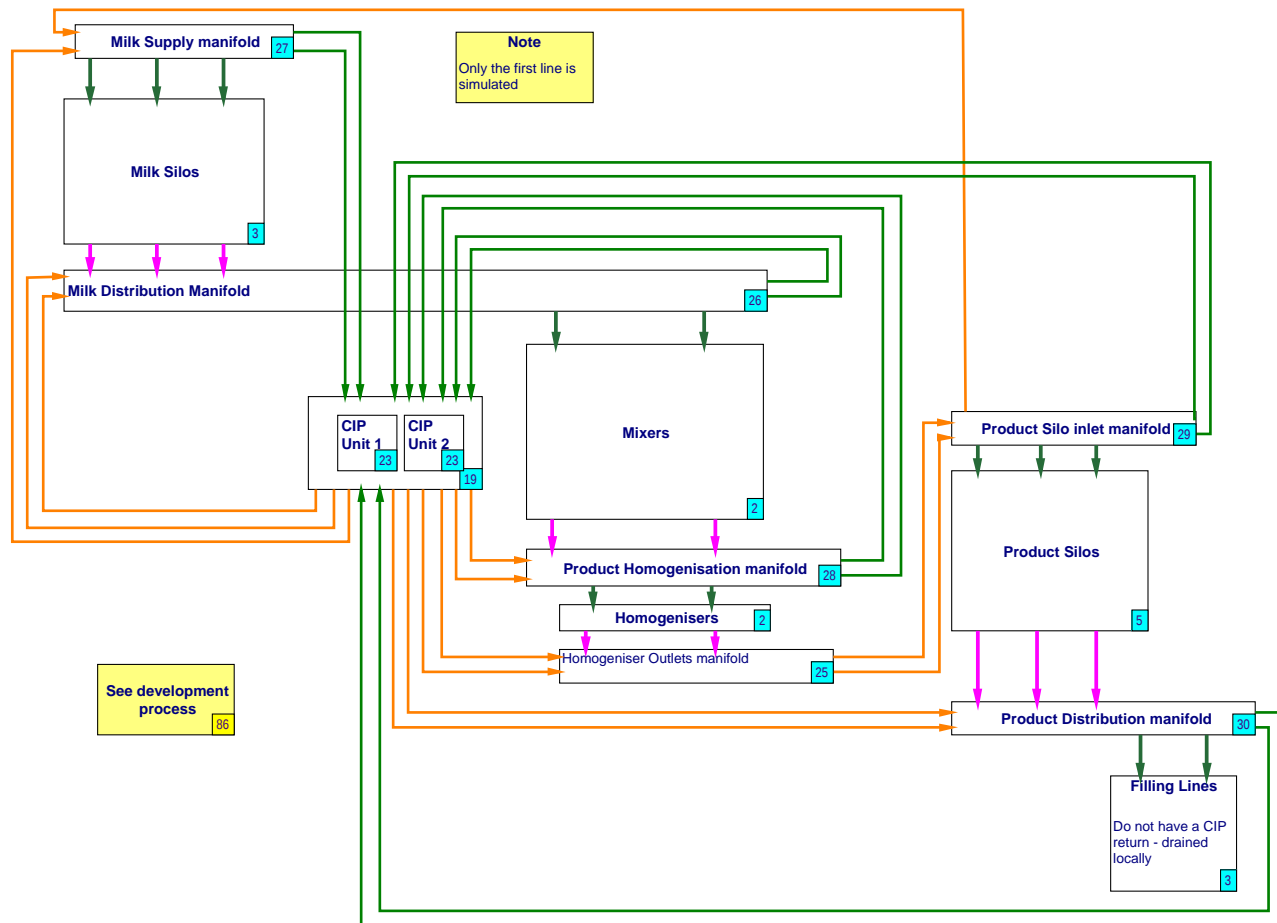




Diagram Description 86 - CIP Routing diagram snapshot 2

This diagram is a snapshot of the process of developing the CIP routing diagram. The P&ID (process flowsheet really) was pasted into the diagram background and the objects and routes developed by overlaying the background.

Sheet Version: 515 Class: None Sheet 86 of 89 PageID: 319

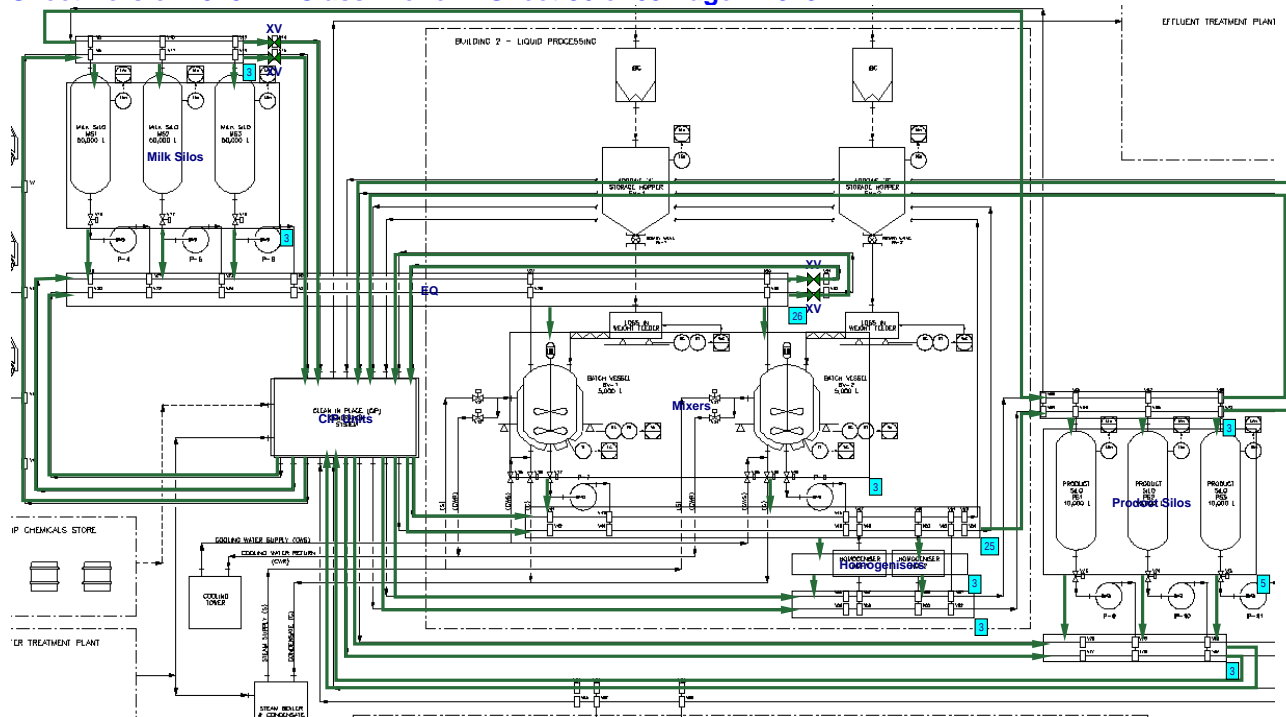




Diagram 87 - Complete CIP Graphic

Sheet Version: 522

Class: None

Sheet 87 of 89 PageID: 317

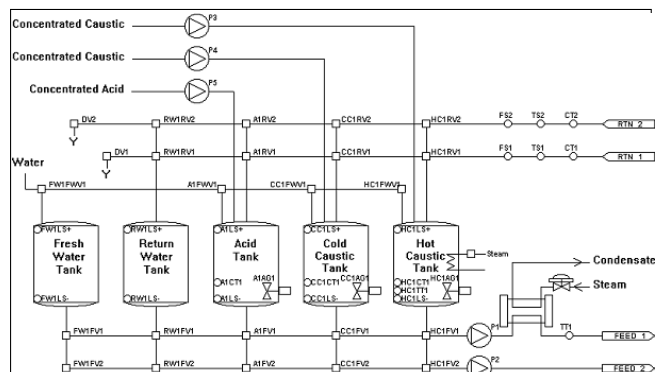
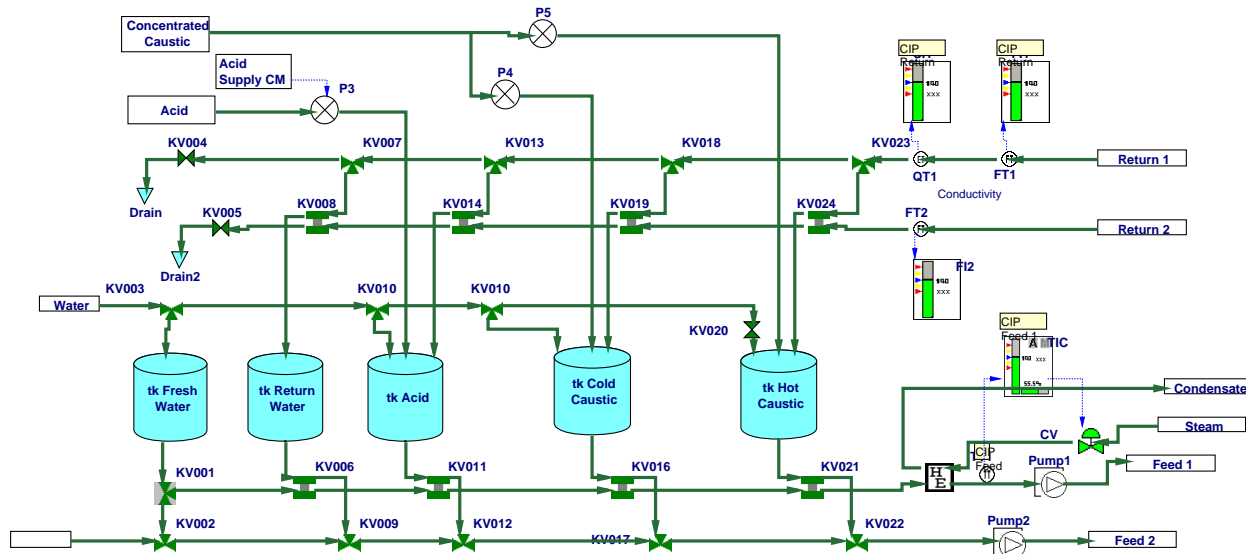




Diagram Description 89 - Jacket Heat/Cool Type 1

Heat/Cool Changeover Logic, incomplete



Diagram 89 - Jacket Heat/Cool Type 1

Sheet Version: 515

Class: EM State changes phase

Sheet 89 of 89 PageID: 50

Raise Temp



Lower Temp



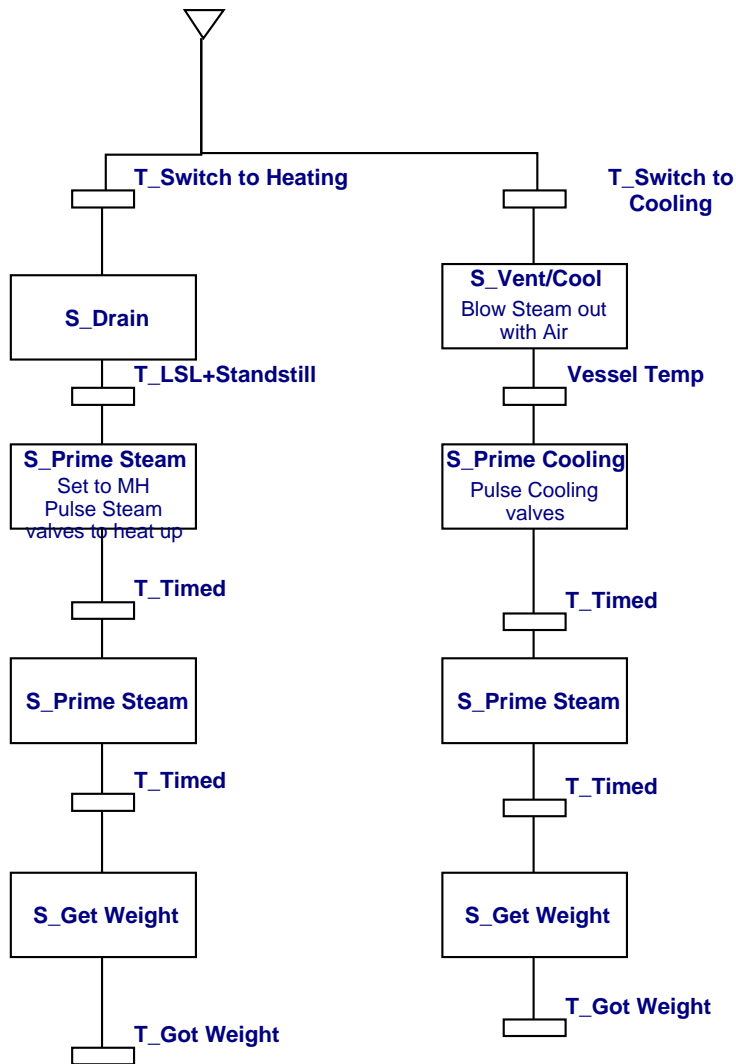
Setting for Valves
HWS Open
HWR Open
CWS Open
CWR Open
Defined by state - Setpoint matrix.
Row no in mx set by SFC State

Last State No

Set By Last Step



- State No SP**
Set By Current Step in SFC
See Matrix
- Current State**
Logically derived from Inputs





Data Report: Alarm

ObjectTag	RealTag	Message	Print	DoPrompt	Prompt
alXA	HG2.XA01		<input type="checkbox"/>	<input type="checkbox"/>	
alXA	HG1.XA01		<input type="checkbox"/>	<input type="checkbox"/>	
alXA	HG2.XA02		<input type="checkbox"/>	<input type="checkbox"/>	
alXA	HG1.XA02		<input type="checkbox"/>	<input type="checkbox"/>	
alXA	HG2.XA03		<input type="checkbox"/>	<input type="checkbox"/>	
alXA	HG1.XA03		<input type="checkbox"/>	<input type="checkbox"/>	
alXA	HG2.XA04		<input type="checkbox"/>	<input type="checkbox"/>	
alXA	HG1.XA04		<input type="checkbox"/>	<input type="checkbox"/>	
alXA	HG2.XA05		<input type="checkbox"/>	<input type="checkbox"/>	
alXA	HG1.XA05		<input type="checkbox"/>	<input type="checkbox"/>	
alXA	HG2.XA06		<input type="checkbox"/>	<input type="checkbox"/>	
alXA	HG1.XA06		<input type="checkbox"/>	<input type="checkbox"/>	
alPAHH	HG2.PAHH		<input type="checkbox"/>	<input type="checkbox"/>	
alPAHH	HG1.PAHH		<input type="checkbox"/>	<input type="checkbox"/>	
alPAL	HG2.PAL		<input type="checkbox"/>	<input type="checkbox"/>	
alPAL	HG1.PAL		<input type="checkbox"/>	<input type="checkbox"/>	
alPLCFail	HG2.PLCFail		<input type="checkbox"/>	<input type="checkbox"/>	
alPLCFail	HG1.PLCFail		<input type="checkbox"/>	<input type="checkbox"/>	
alStopped	Solids Processing.Controller 5.Stopped		<input type="checkbox"/>	<input type="checkbox"/>	
alStopped	Milk Silos.Controller 1.Stopped		<input type="checkbox"/>	<input type="checkbox"/>	
alStopped	CIP Generation System.Controller 6.Stopped		<input type="checkbox"/>	<input type="checkbox"/>	
alStopped	Liquids.Controller 2.Stopped		<input type="checkbox"/>	<input type="checkbox"/>	
alStopped	Packaging Bldng.Controller 4.Stopped		<input type="checkbox"/>	<input type="checkbox"/>	
alStopped	Product Silos.Controller 3.Stopped		<input type="checkbox"/>	<input type="checkbox"/>	
alComms Fail	Solids Processing.Controller 5.Comms Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alComms Fail	Milk Silos.Controller 1.Comms Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alComms Fail	CIP Generation System.Controller 6.Comms Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alComms Fail	Liquids.Controller 2.Comms Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alComms Fail	Packaging Bldng.Controller 4.Comms Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alComms Fail	Product Silos.Controller 3.Comms Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alPLC Warning	Solids Processing.Controller 5.PLC Warning		<input type="checkbox"/>	<input type="checkbox"/>	
alPLC Warning	Milk Silos.Controller 1.PLC Warning		<input type="checkbox"/>	<input type="checkbox"/>	
alPLC Warning	CIP Generation System.Controller 6.PLC Warning		<input type="checkbox"/>	<input type="checkbox"/>	
alPLC Warning	Liquids.Controller 2.PLC Warning		<input type="checkbox"/>	<input type="checkbox"/>	
alPLC Warning	Packaging Bldng.Controller 4.PLC Warning		<input type="checkbox"/>	<input type="checkbox"/>	
alPLC Warning	Product Silos.Controller 3.PLC Warning		<input type="checkbox"/>	<input type="checkbox"/>	
alLine Fail Alarm	cr04.Line Control.Line Fail Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAH	CIP Unit1.FT2.AH		<input type="checkbox"/>	<input type="checkbox"/>	
alAH	CIP Unit1.QT2.AH		<input type="checkbox"/>	<input type="checkbox"/>	
alAH	CIP Unit1.TT02.AH		<input type="checkbox"/>	<input type="checkbox"/>	
alAH	CIP Unit1.TT01.AH		<input type="checkbox"/>	<input type="checkbox"/>	
alAH	CIP Unit2.FT2.AH		<input type="checkbox"/>	<input type="checkbox"/>	
alAH	CIP Unit2.QT2.AH		<input type="checkbox"/>	<input type="checkbox"/>	
alAH	CIP Unit2.TT02.AH		<input type="checkbox"/>	<input type="checkbox"/>	
alAH	CIP Unit2.TT01.AH		<input type="checkbox"/>	<input type="checkbox"/>	
alAH	PS1.LT.AH		<input type="checkbox"/>	<input type="checkbox"/>	
alAH	PS2.LT.AH		<input type="checkbox"/>	<input type="checkbox"/>	
alAH	PS3.LT.AH		<input type="checkbox"/>	<input type="checkbox"/>	
alAHH	CIP Unit1.FT2.AHH		<input type="checkbox"/>	<input type="checkbox"/>	
alAHH	CIP Unit1.QT2.AHH		<input type="checkbox"/>	<input type="checkbox"/>	
alAHH	CIP Unit1.TT02.AHH		<input type="checkbox"/>	<input type="checkbox"/>	



ObjectTag	RealTag	Message	Print	DoPrompt	Prompt
alAHH	CIP Unit1.TT01.AHH		<input type="checkbox"/>	<input type="checkbox"/>	
alAHH	CIP Unit2.FT2.AHH		<input type="checkbox"/>	<input type="checkbox"/>	
alAHH	CIP Unit2.QT2.AHH		<input type="checkbox"/>	<input type="checkbox"/>	
alAHH	CIP Unit2.TT02.AHH		<input type="checkbox"/>	<input type="checkbox"/>	
alAHH	CIP Unit2.TT01.AHH		<input type="checkbox"/>	<input type="checkbox"/>	
alAHH	PS1.LT.AHH		<input type="checkbox"/>	<input type="checkbox"/>	
alAHH	PS2.LT.AHH		<input type="checkbox"/>	<input type="checkbox"/>	
alAHH	PS3.LT.AHH		<input type="checkbox"/>	<input type="checkbox"/>	
alAL	CIP Unit1.FT2.AL		<input type="checkbox"/>	<input type="checkbox"/>	
alAL	CIP Unit1.QT2.AL		<input type="checkbox"/>	<input type="checkbox"/>	
alAL	CIP Unit1.TT02.AL		<input type="checkbox"/>	<input type="checkbox"/>	
alAL	CIP Unit1.TT01.AL		<input type="checkbox"/>	<input type="checkbox"/>	
alAL	CIP Unit2.FT2.AL		<input type="checkbox"/>	<input type="checkbox"/>	
alAL	CIP Unit2.QT2.AL		<input type="checkbox"/>	<input type="checkbox"/>	
alAL	CIP Unit2.TT02.AL		<input type="checkbox"/>	<input type="checkbox"/>	
alAL	CIP Unit2.TT01.AL		<input type="checkbox"/>	<input type="checkbox"/>	
alAL	PS1.LT.AL		<input type="checkbox"/>	<input type="checkbox"/>	
alAL	PS2.LT.AL		<input type="checkbox"/>	<input type="checkbox"/>	
alAL	PS3.LT.AL		<input type="checkbox"/>	<input type="checkbox"/>	
alALL	CIP Unit1.FT2.ALL		<input type="checkbox"/>	<input type="checkbox"/>	
alALL	CIP Unit1.QT2.ALL		<input type="checkbox"/>	<input type="checkbox"/>	
alALL	CIP Unit1.TT02.ALL		<input type="checkbox"/>	<input type="checkbox"/>	
alALL	CIP Unit1.TT01.ALL		<input type="checkbox"/>	<input type="checkbox"/>	
alALL	CIP Unit2.FT2.ALL		<input type="checkbox"/>	<input type="checkbox"/>	
alALL	CIP Unit2.QT2.ALL		<input type="checkbox"/>	<input type="checkbox"/>	
alALL	CIP Unit2.TT02.ALL		<input type="checkbox"/>	<input type="checkbox"/>	
alALL	CIP Unit2.TT01.ALL		<input type="checkbox"/>	<input type="checkbox"/>	
alALL	PS1.LT.ALL		<input type="checkbox"/>	<input type="checkbox"/>	
alALL	PS2.LT.ALL		<input type="checkbox"/>	<input type="checkbox"/>	
alALL	PS3.LT.ALL		<input type="checkbox"/>	<input type="checkbox"/>	
altxFail	CIP Unit1.FT2.txFail		<input type="checkbox"/>	<input type="checkbox"/>	
altxFail	CIP Unit1.QT2.txFail		<input type="checkbox"/>	<input type="checkbox"/>	
altxFail	CIP Unit1.TT02.txFail		<input type="checkbox"/>	<input type="checkbox"/>	
altxFail	CIP Unit1.TT01.txFail		<input type="checkbox"/>	<input type="checkbox"/>	
altxFail	CIP Unit2.FT2.txFail		<input type="checkbox"/>	<input type="checkbox"/>	
altxFail	CIP Unit2.QT2.txFail		<input type="checkbox"/>	<input type="checkbox"/>	
altxFail	CIP Unit2.TT02.txFail		<input type="checkbox"/>	<input type="checkbox"/>	
altxFail	CIP Unit2.TT01.txFail		<input type="checkbox"/>	<input type="checkbox"/>	
altxFail	PS1.LT.txFail		<input type="checkbox"/>	<input type="checkbox"/>	
altxFail	PS2.LT.txFail		<input type="checkbox"/>	<input type="checkbox"/>	
altxFail	PS3.LT.txFail		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	Solids Prep Line 1.LSL.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	Solids Prep Line 1.LSH.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	Solids Prep Line 2.LSL.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	Solids Prep Line 2.LSH.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	Blending.LAH.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	Blending.LAL.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	MS1.LAH.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	MS1.ZSA.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	MS2.LAH.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	MS2.ZSA.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	MS3.LAH.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	



ObjectTag	RealTag	Message	Print	DoPrompt	Prompt
alAlarm	MS3.ZSA.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	Milk Reception 1.LAL.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	Milk Reception 2.LAL.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	Milk Reception 3.LAL.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	tk Acid.LAL.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	tk Acid.LAH.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	tk Cold Caustic.LAL.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	tk Cold Caustic.LAH.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	tk Hot Caustic.LAL.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	tk Hot Caustic.LAH.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	tk Return Water.LAH01.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	tk Return Water.LAL02.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	tk Fresh Water.LSL.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	tk Fresh Water.LSH.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	tk Fresh Water.LSM.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	BV1.LAH.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	BV1.LAL.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	SH1.LSH.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	SH1.LSL.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	SH2.LSH.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	SH2.LSL.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	BV2.LAH.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	BV2.LAL.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	PS1.LAH.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	PS1.LAL.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	PS1.ZSA.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	PS2.LAH.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	PS2.LAL.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	PS2.ZSA.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	PS3.LAH.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	PS3.LAL.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alAlarm	PS3.ZSA.Alarm		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	Solids Prep Line 1.RV1.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	Solids Prep Line 1.Conveyor.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	Solids Prep Line 1.RV2.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	Solids Prep Line 2.RV1.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	Solids Prep Line 2.Conveyor.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	Solids Prep Line 2.RV2.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	Blending.Blender Drive.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	Blending.RV1.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	MS1.Pump.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	MS1.FM01.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	MS2.Pump.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	MS2.FM01.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	MS3.Pump.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	MS3.FM01.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	Milk Reception 1.Pump.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	Milk Reception 2.Pump.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	Milk Reception 3.Pump.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	tk Acid.AG1.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	tk Acid.P3.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	tk Cold Caustic.AG1.Fail		<input type="checkbox"/>	<input type="checkbox"/>	



ObjectTag	RealTag	Message	Print	DoPrompt	Prompt
alFail	tk Cold Caustic.P3.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	tk Hot Caustic.AG1.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	tk Hot Caustic.P3.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	CIP Unit1.CIP Supply Pump.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	CIP Unit2.CIP Supply Pump.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	BV1.Pump.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	BV2.Pump.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	HG2.PD Pump.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	HG1.PD Pump.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	PS1.Pump.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	PS1.FM01.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	PS2.Pump.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	PS2.FM01.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	PS3.Pump.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	PS3.FM01.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS1.V07.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS1.V04.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS2.V07.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS2.V04.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS3.V07.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS3.V04.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Acid.V07.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Acid.V04.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Cold Caustic.V07.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Cold Caustic.V04.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Hot Caustic.V07.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Hot Caustic.V04.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Return Water.V04.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Return Water.V01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV1.V04.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV1.V07.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV2.V04.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV2.V07.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	HG2.V02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	HG2.V07.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	HG1.V02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	HG1.V07.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr06.V04.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS1.V07.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS1.V04.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS2.V07.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS2.V04.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS3.V07.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS3.V04.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS1.V07.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS1.V04.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS2.V07.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS2.V04.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS3.V07.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS3.V04.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Acid.V07.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Acid.V04.FTC		<input type="checkbox"/>	<input type="checkbox"/>	



ObjectTag	RealTag	Message	Print	DoPrompt	Prompt
alFTC	tk Cold Caustic.V07.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Cold Caustic.V04.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Hot Caustic.V07.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Hot Caustic.V04.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Return Water.V04.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Return Water.V01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV1.V04.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV1.V07.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV2.V04.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV2.V07.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	HG2.V02.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	HG2.V07.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	HG1.V02.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	HG1.V07.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	cr06.V04.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS1.V07.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS1.V04.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS2.V07.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS2.V04.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS3.V07.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS3.V04.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	BV1.VM01.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	SH1.RV1.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	SH2.RV1.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFail	BV2.VM01.Fail		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS1.V08.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS1.V03.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS1.V06.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS1.V02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS1.V01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS2.V08.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS2.V03.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS2.V06.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS2.V02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS2.V01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS3.V08.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS3.V03.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS3.V06.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS3.V02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	MS3.V01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr04.V01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr04.V05.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr04.V09.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr05.V04.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr05.V03.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr05.V02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr05.V01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	Milk Reception 1.V12.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	Milk Reception 2.V12.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	Milk Reception 3.V12.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Acid.V08.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Acid.V03.FTO		<input type="checkbox"/>	<input type="checkbox"/>	



ObjectTag	RealTag	Message	Print	DoPrompt	Prompt
alFTO	tk Acid.V06.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Acid.V05.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Cold Caustic.V08.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Cold Caustic.V03.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Cold Caustic.V06.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Cold Caustic.V05.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Hot Caustic.V08.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Hot Caustic.V03.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Hot Caustic.V06.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Hot Caustic.V05.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Return Water.V02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Return Water.V03.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Fresh Water.V03.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Fresh Water.V02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	tk Fresh Water.V01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	CIP Unit1.KV005.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	CIP Unit1.XV02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	CIP Unit1.XV01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	CIP Unit2.KV005.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	CIP Unit2.XV02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	CIP Unit2.XV01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV1.V12.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV1.V10.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV1.V09.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV1.V11.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV1.V03.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV1.V06.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV1.V08.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV1.V02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV1.V01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV2.V12.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV2.V10.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV2.V09.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV2.V11.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV2.V03.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV2.V06.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV2.V08.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV2.V02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	BV2.V01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	HG2.V01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	HG2.V08.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	HG1.V01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	HG1.V08.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr06.V02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr06.V01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr06.V06.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr06.V05.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr06.V03.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr07.V01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr07.V02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr08.V01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr08.V02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	



ObjectTag	RealTag	Message	Print	DoPrompt	Prompt
alFTO	PS1.V08.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS1.V03.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS1.V06.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS1.V02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS1.V01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS2.V08.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS2.V03.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS2.V06.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS2.V02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS2.V01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS3.V08.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS3.V03.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS3.V06.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS3.V02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	PS3.V01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr09.V02.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr09.V01.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr09.V04.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTO	cr09.V03.FTO		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS1.V08.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS1.V03.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS1.V06.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS1.V02.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS1.V01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS2.V08.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS2.V03.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS2.V06.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS2.V02.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS2.V01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS3.V08.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS3.V03.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	MS3.V06.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
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alFTC	MS3.V01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	cr04.V01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
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alFTC	cr05.V04.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	cr05.V03.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	cr05.V02.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	cr05.V01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	Milk Reception 1.V12.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	Milk Reception 2.V12.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	Milk Reception 3.V12.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Acid.V08.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Acid.V03.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Acid.V06.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Acid.V05.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Cold Caustic.V08.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Cold Caustic.V03.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Cold Caustic.V06.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Cold Caustic.V05.FTC		<input type="checkbox"/>	<input type="checkbox"/>	



ObjectTag	RealTag	Message	Print	DoPrompt	Prompt
alFTC	tk Hot Caustic.V08.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Hot Caustic.V03.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Hot Caustic.V06.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Hot Caustic.V05.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Return Water.V02.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Return Water.V03.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Fresh Water.V03.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Fresh Water.V02.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	tk Fresh Water.V01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	CIP Unit1.KV005.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	CIP Unit1.XV02.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	CIP Unit1.XV01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	CIP Unit2.KV005.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	CIP Unit2.XV02.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	CIP Unit2.XV01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV1.V12.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV1.V10.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV1.V09.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV1.V11.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV1.V03.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV1.V06.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV1.V08.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV1.V02.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV1.V01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV2.V12.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV2.V10.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV2.V09.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV2.V11.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV2.V03.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV2.V06.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV2.V08.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV2.V02.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	BV2.V01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	HG2.V01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	HG2.V08.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	HG1.V01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	HG1.V08.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	cr06.V02.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	cr06.V01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	cr06.V06.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	cr06.V05.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	cr06.V03.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	cr07.V01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	cr07.V02.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	cr08.V01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	cr08.V02.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS1.V08.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS1.V03.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS1.V06.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS1.V02.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS1.V01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS2.V08.FTC		<input type="checkbox"/>	<input type="checkbox"/>	



ObjectTag	RealTag	Message	Print	DoPrompt	Prompt
alFTC	PS2.V03.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS2.V06.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS2.V02.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS2.V01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS3.V08.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS3.V03.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS3.V06.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS3.V02.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	PS3.V01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	cr09.V02.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	cr09.V01.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	cr09.V04.FTC		<input type="checkbox"/>	<input type="checkbox"/>	
alFTC	cr09.V03.FTC		<input type="checkbox"/>	<input type="checkbox"/>	



Data Report: Motor

page	RealTag	External Tag	VSD	Power Units	Power	Logged
15	Blending.Blender Drive		<input type="checkbox"/>	Kw		<input type="checkbox"/>
15	Blending.RV1		<input type="checkbox"/>	Kw		<input type="checkbox"/>
11	SH1.RV1		<input type="checkbox"/>	Kw		<input type="checkbox"/>
11	SH2.RV1		<input type="checkbox"/>	Kw		<input type="checkbox"/>
33	Milk Reception 1.Pump		<input type="checkbox"/>	Kw		<input type="checkbox"/>
33	Milk Reception 2.Pump		<input type="checkbox"/>	Kw		<input type="checkbox"/>
33	Milk Reception 3.Pump		<input type="checkbox"/>	Kw		<input type="checkbox"/>
32	tk Acid.AG1		<input type="checkbox"/>	Kw		<input type="checkbox"/>
32	tk Cold Caustic.AG1		<input type="checkbox"/>	Kw		<input type="checkbox"/>
32	tk Hot Caustic.AG1		<input type="checkbox"/>	Kw		<input type="checkbox"/>
16	Solids Prep Line 1.RV1		<input type="checkbox"/>	Kw		<input type="checkbox"/>
16	Solids Prep Line 2.RV1		<input type="checkbox"/>	Kw		<input type="checkbox"/>
16	Solids Prep Line 1.Conveyor		<input type="checkbox"/>	Kw		<input type="checkbox"/>
16	Solids Prep Line 2.Conveyor		<input type="checkbox"/>	Kw		<input type="checkbox"/>
16	Solids Prep Line 1.RV2		<input type="checkbox"/>	Kw		<input type="checkbox"/>
16	Solids Prep Line 2.RV2		<input type="checkbox"/>	Kw		<input type="checkbox"/>
34	MS1.FM01		<input type="checkbox"/>	Kw		<input type="checkbox"/>
34	MS2.FM01		<input type="checkbox"/>	Kw		<input type="checkbox"/>
34	MS3.FM01		<input type="checkbox"/>	Kw		<input type="checkbox"/>
34	PS1.FM01		<input type="checkbox"/>	Kw		<input type="checkbox"/>
34	PS2.FM01		<input type="checkbox"/>	Kw		<input type="checkbox"/>
34	PS3.FM01		<input type="checkbox"/>	Kw		<input type="checkbox"/>
38	MS1.Pump		<input type="checkbox"/>	Kw		<input type="checkbox"/>
38	MS2.Pump		<input type="checkbox"/>	Kw		<input type="checkbox"/>
38	MS3.Pump		<input type="checkbox"/>	Kw		<input type="checkbox"/>
38	BV1.Pump		<input type="checkbox"/>	Kw		<input type="checkbox"/>
38	BV2.Pump		<input type="checkbox"/>	Kw		<input type="checkbox"/>
38	PS1.Pump		<input type="checkbox"/>	Kw		<input type="checkbox"/>
38	PS2.Pump		<input type="checkbox"/>	Kw		<input type="checkbox"/>
38	PS3.Pump		<input type="checkbox"/>	Kw		<input type="checkbox"/>
34	BV1.VM01		<input type="checkbox"/>	Kw		<input type="checkbox"/>
34	BV2.VM01		<input type="checkbox"/>	Kw		<input type="checkbox"/>
41	HG2.PD Pump		<input type="checkbox"/>	Kw		<input type="checkbox"/>
41	HG1.PD Pump		<input type="checkbox"/>	Kw		<input type="checkbox"/>
32	tk Acid.P3		<input type="checkbox"/>	Kw		<input type="checkbox"/>
32	tk Cold Caustic.P3		<input type="checkbox"/>	Kw		<input type="checkbox"/>
32	tk Hot Caustic.P3		<input type="checkbox"/>	Kw		<input type="checkbox"/>
37	CIP Unit1.CIP Supply Pump		<input type="checkbox"/>	Kw		<input type="checkbox"/>
37	CIP Unit2.CIP Supply Pump		<input type="checkbox"/>	Kw		<input type="checkbox"/>



Data Report: Control System IOList

ObjectTag	RealTag	External Tag	Node	Card	Channel
csController	Solids Processing.Controller 5				
csController	Milk Silos.Controller 1				
csLocal Display	Milk Silos.Local Display				
csController	Liquids.Controller 2				
csLocal Display	Liquids.Local Display				
csController	Product Silos.Controller 3				
csLocal Display	Product Silos.Local Display				
csController	Packaging Bldng.Controller 4				
csLocal Display	Packaging Bldng.Local Display				
csWS	Additive Warehouse.WS01				
csWS	Additive Warehouse.WS02				
csBCP	Additive Warehouse.BCP01				
csBCR	Additive Warehouse.BCR				
csBCP	Additive Warehouse.BCP02				
csWS	Intermediate Store.WS01				
csBCP	Intermediate Store.BCP01				
csBCR	Intermediate Store.BCR				
csWS	CIP Chemical Store.WS01				
csBCP	CIP Chemical Store.BCP01				
csBCR	CIP Chemical Store.BCR				
csWS	Packaging Store.WS01				
csBCP	Packaging Store.BCP01				
csBCR	Packaging Store.BCR				
csPT	HG2.PT01				
csPT	HG1.PT01				
csPT	HG2.PT02				
csPT	HG1.PT02				
csHS	HG2.HS03				
csHS	HG1.HS03				
csHS	HG2.HS04				
csHS	HG1.HS04				
csPBO	HG2.PBO01				
csPBO	HG1.PBO01				
csPBO	HG2.PBO02				
csPBO	HG1.PBO02				
csHS	HG2.HS02				
csHS	HG1.HS02				
csPLC	HG2.PLC				
csPLC	HG1.PLC				
csSI	HG2.SI				
csSI	HG1.SI				
csController	CIP Generation System.Controller 6				
csLocal Display	CIP Generation System.Local Display				
csController	BV1.Controller 7				
csController	BV2.Controller 7				
csSI	BV1.SI				
csSI	BV2.SI				
csWS	Quarantine Store.WS01				
csBCP	Quarantine Store.BCP01				
csBCR	Quarantine Store.BCR				
csLocal Display	Packaging Line 1.Local Display				



ObjectTag	RealTag	External Tag	Node	Card	Channel
csLocal Display	Packaging Line 2.Local Display				
csText Display	Packaging Line 1.Text Display				
csText Display	Packaging Line 2.Text Display				
csAI	CIP Unit1.FT2.AI				
csAI	CIP Unit1.QT2.AI				
csAI	CIP Unit1.TT02.AI				
csAI	CIP Unit1.TT01.AI				
csAI	CIP Unit2.FT2.AI				
csAI	CIP Unit2.QT2.AI				
csAI	CIP Unit2.TT02.AI				
csAI	CIP Unit2.TT01.AI				
csAI	PS1.LT.AI				
csAI	PS2.LT.AI				
csAI	PS3.LT.AI				
csDI	Solids Prep Line 1.LSL.DI				
csDI	Solids Prep Line 1.LSH.DI				
csDI	Solids Prep Line 2.LSL.DI				
csDI	Solids Prep Line 2.LSH.DI				
csDI	Blending.LAH.DI				
csDI	Blending.LAL.DI				
csDI	MS1.LAH.DI				
csDI	MS1.ZSA.DI				
csDI	MS2.LAH.DI				
csDI	MS2.ZSA.DI				
csDI	MS3.LAH.DI				
csDI	MS3.ZSA.DI				
csDI	Milk Reception 1.LAL.DI				
csDI	Milk Reception 2.LAL.DI				
csDI	Milk Reception 3.LAL.DI				
csDI	tk Acid.LAL.DI				
csDI	tk Acid.LAH.DI				
csDI	tk Cold Caustic.LAL.DI				
csDI	tk Cold Caustic.LAH.DI				
csDI	tk Hot Caustic.LAL.DI				
csDI	tk Hot Caustic.LAH.DI				
csDI	tk Return Water.LAH01.DI				
csDI	tk Return Water.LAL02.DI				
csDI	tk Fresh Water.LSL.DI				
csDI	tk Fresh Water.LSH.DI				
csDI	tk Fresh Water.LSM.DI				
csDI	BV1.LAH.DI				
csDI	BV1.LAL.DI				
csDI	SH1.LSH.DI				
csDI	SH1.LSL.DI				
csDI	SH2.LSH.DI				
csDI	SH2.LSL.DI				
csDI	BV2.LAH.DI				
csDI	BV2.LAL.DI				
csDI	PS1.LAH.DI				
csDI	PS1.LAL.DI				
csDI	PS1.ZSA.DI				
csDI	PS2.LAH.DI				



ObjectTag	RealTag	External Tag	Node	Card	Channel
csDI	PS2.LAL.DI				
csDI	PS2.ZSA.DI				
csDI	PS3.LAH.DI				
csDI	PS3.LAL.DI				
csDI	PS3.ZSA.DI				
csDO	Solids Prep Line 1.RV1.DO				
csDO	Solids Prep Line 1.Conveyor.DO				
csDO	Solids Prep Line 1.RV2.DO				
csDO	Solids Prep Line 2.RV1.DO				
csDO	Solids Prep Line 2.Conveyor.DO				
csDO	Solids Prep Line 2.RV2.DO				
csDO	Blending.Blender Drive.DO				
csDO	Blending.RV1.DO				
csDO	MS1.Pump.DO				
csDO	MS1.FM01.DO				
csDO	MS2.Pump.DO				
csDO	MS2.FM01.DO				
csDO	MS3.Pump.DO				
csDO	MS3.FM01.DO				
csDO	Milk Reception 1.Pump.DO				
csDO	Milk Reception 2.Pump.DO				
csDO	Milk Reception 3.Pump.DO				
csDO	tk Acid.AG1.DO				
csDO	tk Acid.P3.DO				
csDO	tk Cold Caustic.AG1.DO				
csDO	tk Cold Caustic.P3.DO				
csDO	tk Hot Caustic.AG1.DO				
csDO	tk Hot Caustic.P3.DO				
csDO	CIP Unit1.CIP Supply Pump.DO				
csDO	CIP Unit2.CIP Supply Pump.DO				
csDO	BV1.Pump.DO				
csDO	BV2.Pump.DO				
csDO	HG2.PD Pump.DO				
csDO	HG1.PD Pump.DO				
csDO	PS1.Pump.DO				
csDO	PS1.FM01.DO				
csDO	PS2.Pump.DO				
csDO	PS2.FM01.DO				
csDO	PS3.Pump.DO				
csDO	PS3.FM01.DO				
csDIRun	Solids Prep Line 1.RV1.DIRun				
csDIRun	Solids Prep Line 1.Conveyor.DIRun				
csDIRun	Solids Prep Line 1.RV2.DIRun				
csDIRun	Solids Prep Line 2.RV1.DIRun				
csDIRun	Solids Prep Line 2.Conveyor.DIRun				
csDIRun	Solids Prep Line 2.RV2.DIRun				
csDIRun	Blending.Blender Drive.DIRun				
csDIRun	Blending.RV1.DIRun				
csDIRun	MS1.Pump.DIRun				
csDIRun	MS1.FM01.DIRun				
csDIRun	MS2.Pump.DIRun				
csDIRun	MS2.FM01.DIRun				



ObjectTag	RealTag	External Tag	Node	Card	Channel
csDIRun	MS3.Pump.DIRun				
csDIRun	MS3.FM01.DIRun				
csDIRun	Milk Reception 1.Pump.DIRun				
csDIRun	Milk Reception 2.Pump.DIRun				
csDIRun	Milk Reception 3.Pump.DIRun				
csDIRun	tk Acid.AG1.DIRun				
csDIRun	tk Acid.P3.DIRun				
csDIRun	tk Cold Caustic.AG1.DIRun				
csDIRun	tk Cold Caustic.P3.DIRun				
csDIRun	tk Hot Caustic.AG1.DIRun				
csDIRun	tk Hot Caustic.P3.DIRun				
csDIRun	CIP Unit1.CIP Supply Pump.DIRun				
csDIRun	CIP Unit2.CIP Supply Pump.DIRun				
csDIRun	BV1.Pump.DIRun				
csDIRun	BV2.Pump.DIRun				
csDIRun	HG2.PD Pump.DIRun				
csDIRun	HG1.PD Pump.DIRun				
csDIRun	PS1.Pump.DIRun				
csDIRun	PS1.FM01.DIRun				
csDIRun	PS2.Pump.DIRun				
csDIRun	PS2.FM01.DIRun				
csDIRun	PS3.Pump.DIRun				
csDIRun	PS3.FM01.DIRun				
csSov	MS1.V07.Sov				
csSov	MS1.V04.Sov				
csSov	MS2.V07.Sov				
csSov	MS2.V04.Sov				
csSov	MS3.V07.Sov				
csSov	MS3.V04.Sov				
csSov	tk Acid.V07.Sov				
csSov	tk Acid.V04.Sov				
csSov	tk Cold Caustic.V07.Sov				
csSov	tk Cold Caustic.V04.Sov				
csSov	tk Hot Caustic.V07.Sov				
csSov	tk Hot Caustic.V04.Sov				
csSov	tk Return Water.V04.Sov				
csSov	tk Return Water.V01.Sov				
csSov	BV1.V04.Sov				
csSov	BV1.V07.Sov				
csSov	BV2.V04.Sov				
csSov	BV2.V07.Sov				
csSov	HG2.V02.Sov				
csSov	HG2.V07.Sov				
csSov	HG1.V02.Sov				
csSov	HG1.V07.Sov				
csSov	cr06.V04.Sov				
csSov	PS1.V07.Sov				
csSov	PS1.V04.Sov				
csSov	PS2.V07.Sov				
csSov	PS2.V04.Sov				
csSov	PS3.V07.Sov				
csSov	PS3.V04.Sov				



ObjectTag	RealTag	External Tag	Node	Card	Channel
csDIClosed	MS1.V07.DIClosed				
csDIClosed	MS1.V04.DIClosed				
csDIClosed	MS2.V07.DIClosed				
csDIClosed	MS2.V04.DIClosed				
csDIClosed	MS3.V07.DIClosed				
csDIClosed	MS3.V04.DIClosed				
csDIClosed	tk Acid.V07.DIClosed				
csDIClosed	tk Acid.V04.DIClosed				
csDIClosed	tk Cold Caustic.V07.DIClosed				
csDIClosed	tk Cold Caustic.V04.DIClosed				
csDIClosed	tk Hot Caustic.V07.DIClosed				
csDIClosed	tk Hot Caustic.V04.DIClosed				
csDIClosed	tk Return Water.V04.DIClosed				
csDIClosed	tk Return Water.V01.DIClosed				
csDIClosed	BV1.V04.DIClosed				
csDIClosed	BV1.V07.DIClosed				
csDIClosed	BV2.V04.DIClosed				
csDIClosed	BV2.V07.DIClosed				
csDIClosed	HG2.V02.DIClosed				
csDIClosed	HG2.V07.DIClosed				
csDIClosed	HG1.V02.DIClosed				
csDIClosed	HG1.V07.DIClosed				
csDIClosed	cr06.V04.DIClosed				
csDIClosed	PS1.V07.DIClosed				
csDIClosed	PS1.V04.DIClosed				
csDIClosed	PS2.V07.DIClosed				
csDIClosed	PS2.V04.DIClosed				
csDIClosed	PS3.V07.DIClosed				
csDIClosed	PS3.V04.DIClosed				
csDlst	MS1.WIA.Dlst				
csDlst	MS2.WIA.Dlst				
csDlst	MS3.WIA.Dlst				
csDlst	BV1.WT1.Dlst				
csDlst	BV1.WT.Dlst				
csDlst	BV2.WT1.Dlst				
csDlst	BV2.WT.Dlst				
csSI	MS1.WIA.SI				
csSI	MS2.WIA.SI				
csSI	MS3.WIA.SI				
csSI	BV1.WT1.SI				
csSI	BV1.WT.SI				
csSI	BV2.WT1.SI				
csSI	BV2.WT.SI				
csLoad Cell Amplifier	MS1.WIA.Load Cell Amplifier				
csLoad Cell Amplifier	MS2.WIA.Load Cell Amplifier				
csLoad Cell Amplifier	MS3.WIA.Load Cell Amplifier				
csLoad Cell Amplifier	BV1.WT1.Load Cell Amplifier				
csLoad Cell Amplifier	BV1.WT.Load Cell Amplifier				
csLoad Cell Amplifier	BV2.WT1.Load Cell Amplifier				
csLoad Cell Amplifier	BV2.WT.Load Cell Amplifier				
csDIwt	MS1.WIA.DIwt				
csDIwt	MS2.WIA.DIwt				



ObjectTag	RealTag	External Tag	Node	Card	Channel
csDIwt	MS3.WIA.DIwt				
csDIwt	BV1.WT1.DIwt				
csDIwt	BV1.WT.DIwt				
csDIwt	BV2.WT1.DIwt				
csDIwt	BV2.WT.DIwt				
csDOSovUpper	MS1.V07.DOSovUpper				
csDOSovUpper	MS1.V04.DOSovUpper				
csDOSovUpper	MS2.V07.DOSovUpper				
csDOSovUpper	MS2.V04.DOSovUpper				
csDOSovUpper	MS3.V07.DOSovUpper				
csDOSovUpper	MS3.V04.DOSovUpper				
csDOSovUpper	tk Acid.V07.DOSovUpper				
csDOSovUpper	tk Acid.V04.DOSovUpper				
csDOSovUpper	tk Cold Caustic.V07.DOSovUpper				
csDOSovUpper	tk Cold Caustic.V04.DOSovUpper				
csDOSovUpper	tk Hot Caustic.V07.DOSovUpper				
csDOSovUpper	tk Hot Caustic.V04.DOSovUpper				
csDOSovUpper	tk Return Water.V04.DOSovUpper				
csDOSovUpper	tk Return Water.V01.DOSovUpper				
csDOSovUpper	BV1.V04.DOSovUpper				
csDOSovUpper	BV1.V07.DOSovUpper				
csDOSovUpper	BV2.V04.DOSovUpper				
csDOSovUpper	BV2.V07.DOSovUpper				
csDOSovUpper	HG2.V02.DOSovUpper				
csDOSovUpper	HG2.V07.DOSovUpper				
csDOSovUpper	HG1.V02.DOSovUpper				
csDOSovUpper	HG1.V07.DOSovUpper				
csDOSovUpper	cr06.V04.DOSovUpper				
csDOSovUpper	PS1.V07.DOSovUpper				
csDOSovUpper	PS1.V04.DOSovUpper				
csDOSovUpper	PS2.V07.DOSovUpper				
csDOSovUpper	PS2.V04.DOSovUpper				
csDOSovUpper	PS3.V07.DOSovUpper				
csDOSovUpper	PS3.V04.DOSovUpper				
csDOSovLower	MS1.V07.DOSovLower				
csDOSovLower	MS1.V04.DOSovLower				
csDOSovLower	MS2.V07.DOSovLower				
csDOSovLower	MS2.V04.DOSovLower				
csDOSovLower	MS3.V07.DOSovLower				
csDOSovLower	MS3.V04.DOSovLower				
csDOSovLower	tk Acid.V07.DOSovLower				
csDOSovLower	tk Acid.V04.DOSovLower				
csDOSovLower	tk Cold Caustic.V07.DOSovLower				
csDOSovLower	tk Cold Caustic.V04.DOSovLower				
csDOSovLower	tk Hot Caustic.V07.DOSovLower				
csDOSovLower	tk Hot Caustic.V04.DOSovLower				
csDOSovLower	tk Return Water.V04.DOSovLower				
csDOSovLower	tk Return Water.V01.DOSovLower				
csDOSovLower	BV1.V04.DOSovLower				
csDOSovLower	BV1.V07.DOSovLower				
csDOSovLower	BV2.V04.DOSovLower				
csDOSovLower	BV2.V07.DOSovLower				



ObjectTag	RealTag	External Tag	Node	Card	Channel
csDOSovLower	HG2.V02.DOSovLower				
csDOSovLower	HG2.V07.DOSovLower				
csDOSovLower	HG1.V02.DOSovLower				
csDOSovLower	HG1.V07.DOSovLower				
csDOSovLower	cr06.V04.DOSovLower				
csDOSovLower	PS1.V07.DOSovLower				
csDOSovLower	PS1.V04.DOSovLower				
csDOSovLower	PS2.V07.DOSovLower				
csDOSovLower	PS2.V04.DOSovLower				
csDOSovLower	PS3.V07.DOSovLower				
csDOSovLower	PS3.V04.DOSovLower				
csAO	BV1.VM01.AO				
csAO	SH1.RV1.AO				
csAO	SH2.RV1.AO				
csAO	BV2.VM01.AO				
csDO	BV1.VM01.DO				
csDO	SH1.RV1.DO				
csDO	SH2.RV1.DO				
csDO	BV2.VM01.DO				
csDIClosed	BV1.VM01.DIClosed				
csDIClosed	SH1.RV1.DIClosed				
csDIClosed	SH2.RV1.DIClosed				
csDIClosed	BV2.VM01.DIClosed				
csAO	CIP Unit1.CV.AO				
csAO	CIP Unit2.CV.AO				
csDOSov	MS1.V08.DOSov				
csDOSov	MS1.V03.DOSov				
csDOSov	MS1.V06.DOSov				
csDOSov	MS1.V02.DOSov				
csDOSov	MS1.V01.DOSov				
csDOSov	MS2.V08.DOSov				
csDOSov	MS2.V03.DOSov				
csDOSov	MS2.V06.DOSov				
csDOSov	MS2.V02.DOSov				
csDOSov	MS2.V01.DOSov				
csDOSov	MS3.V08.DOSov				
csDOSov	MS3.V03.DOSov				
csDOSov	MS3.V06.DOSov				
csDOSov	MS3.V02.DOSov				
csDOSov	MS3.V01.DOSov				
csDOSov	cr04.V01.DOSov				
csDOSov	cr04.V05.DOSov				
csDOSov	cr04.V09.DOSov				
csDOSov	cr05.V04.DOSov				
csDOSov	cr05.V03.DOSov				
csDOSov	cr05.V02.DOSov				
csDOSov	cr05.V01.DOSov				
csDOSov	Milk Reception 1.V12.DOSov				
csDOSov	Milk Reception 2.V12.DOSov				
csDOSov	Milk Reception 3.V12.DOSov				
csDOSov	tk Acid.V08.DOSov				
csDOSov	tk Acid.V03.DOSov				



ObjectTag	RealTag	External Tag	Node	Card	Channel
csDOSov	tk Acid.V06.DOSov				
csDOSov	tk Acid.V05.DOSov				
csDOSov	tk Cold Caustic.V08.DOSov				
csDOSov	tk Cold Caustic.V03.DOSov				
csDOSov	tk Cold Caustic.V06.DOSov				
csDOSov	tk Cold Caustic.V05.DOSov				
csDOSov	tk Hot Caustic.V08.DOSov				
csDOSov	tk Hot Caustic.V03.DOSov				
csDOSov	tk Hot Caustic.V06.DOSov				
csDOSov	tk Hot Caustic.V05.DOSov				
csDOSov	tk Return Water.V02.DOSov				
csDOSov	tk Return Water.V03.DOSov				
csDOSov	tk Fresh Water.V03.DOSov				
csDOSov	tk Fresh Water.V02.DOSov				
csDOSov	tk Fresh Water.V01.DOSov				
csDOSov	CIP Unit1.KV005.DOSov				
csDOSov	CIP Unit1.XV02.DOSov				
csDOSov	CIP Unit1.XV01.DOSov				
csDOSov	CIP Unit2.KV005.DOSov				
csDOSov	CIP Unit2.XV02.DOSov				
csDOSov	CIP Unit2.XV01.DOSov				
csDOSov	BV1.V12.DOSov				
csDOSov	BV1.V10.DOSov				
csDOSov	BV1.V09.DOSov				
csDOSov	BV1.V11.DOSov				
csDOSov	BV1.V03.DOSov				
csDOSov	BV1.V06.DOSov				
csDOSov	BV1.V08.DOSov				
csDOSov	BV1.V02.DOSov				
csDOSov	BV1.V01.DOSov				
csDOSov	BV2.V12.DOSov				
csDOSov	BV2.V10.DOSov				
csDOSov	BV2.V09.DOSov				
csDOSov	BV2.V11.DOSov				
csDOSov	BV2.V03.DOSov				
csDOSov	BV2.V06.DOSov				
csDOSov	BV2.V08.DOSov				
csDOSov	BV2.V02.DOSov				
csDOSov	BV2.V01.DOSov				
csDOSov	HG2.V01.DOSov				
csDOSov	HG2.V08.DOSov				
csDOSov	HG1.V01.DOSov				
csDOSov	HG1.V08.DOSov				
csDOSov	cr06.V02.DOSov				
csDOSov	cr06.V01.DOSov				
csDOSov	cr06.V06.DOSov				
csDOSov	cr06.V05.DOSov				
csDOSov	cr06.V03.DOSov				
csDOSov	cr07.V01.DOSov				
csDOSov	cr07.V02.DOSov				
csDOSov	cr08.V01.DOSov				
csDOSov	cr08.V02.DOSov				



ObjectTag	RealTag	External Tag	Node	Card	Channel
csDOSov	PS1.V08.DOSov				
csDOSov	PS1.V03.DOSov				
csDOSov	PS1.V06.DOSov				
csDOSov	PS1.V02.DOSov				
csDOSov	PS1.V01.DOSov				
csDOSov	PS2.V08.DOSov				
csDOSov	PS2.V03.DOSov				
csDOSov	PS2.V06.DOSov				
csDOSov	PS2.V02.DOSov				
csDOSov	PS2.V01.DOSov				
csDOSov	PS3.V08.DOSov				
csDOSov	PS3.V03.DOSov				
csDOSov	PS3.V06.DOSov				
csDOSov	PS3.V02.DOSov				
csDOSov	PS3.V01.DOSov				
csDOSov	cr09.V02.DOSov				
csDOSov	cr09.V01.DOSov				
csDOSov	cr09.V04.DOSov				
csDOSov	cr09.V03.DOSov				
csDIClosed	MS1.V08.DIClosed				
csDIClosed	MS1.V03.DIClosed				
csDIClosed	MS1.V06.DIClosed				
csDIClosed	MS1.V02.DIClosed				
csDIClosed	MS1.V01.DIClosed				
csDIClosed	MS2.V08.DIClosed				
csDIClosed	MS2.V03.DIClosed				
csDIClosed	MS2.V06.DIClosed				
csDIClosed	MS2.V02.DIClosed				
csDIClosed	MS2.V01.DIClosed				
csDIClosed	MS3.V08.DIClosed				
csDIClosed	MS3.V03.DIClosed				
csDIClosed	MS3.V06.DIClosed				
csDIClosed	MS3.V02.DIClosed				
csDIClosed	MS3.V01.DIClosed				
csDIClosed	cr04.V01.DIClosed				
csDIClosed	cr04.V05.DIClosed				
csDIClosed	cr04.V09.DIClosed				
csDIClosed	cr05.V04.DIClosed				
csDIClosed	cr05.V03.DIClosed				
csDIClosed	cr05.V02.DIClosed				
csDIClosed	cr05.V01.DIClosed				
csDIClosed	Milk Reception 1.V12.DIClosed				
csDIClosed	Milk Reception 2.V12.DIClosed				
csDIClosed	Milk Reception 3.V12.DIClosed				
csDIClosed	tk Acid.V08.DIClosed				
csDIClosed	tk Acid.V03.DIClosed				
csDIClosed	tk Acid.V06.DIClosed				
csDIClosed	tk Acid.V05.DIClosed				
csDIClosed	tk Cold Caustic.V08.DIClosed				
csDIClosed	tk Cold Caustic.V03.DIClosed				
csDIClosed	tk Cold Caustic.V06.DIClosed				
csDIClosed	tk Cold Caustic.V05.DIClosed				



ObjectTag	RealTag	External Tag	Node	Card	Channel
csDIClosed	tk Hot Caustic.V08.DIClosed				
csDIClosed	tk Hot Caustic.V03.DIClosed				
csDIClosed	tk Hot Caustic.V06.DIClosed				
csDIClosed	tk Hot Caustic.V05.DIClosed				
csDIClosed	tk Return Water.V02.DIClosed				
csDIClosed	tk Return Water.V03.DIClosed				
csDIClosed	tk Fresh Water.V03.DIClosed				
csDIClosed	tk Fresh Water.V02.DIClosed				
csDIClosed	tk Fresh Water.V01.DIClosed				
csDIClosed	CIP Unit1.KV005.DIClosed				
csDIClosed	CIP Unit1.XV02.DIClosed				
csDIClosed	CIP Unit1.XV01.DIClosed				
csDIClosed	CIP Unit2.KV005.DIClosed				
csDIClosed	CIP Unit2.XV02.DIClosed				
csDIClosed	CIP Unit2.XV01.DIClosed				
csDIClosed	BV1.V12.DIClosed				
csDIClosed	BV1.V10.DIClosed				
csDIClosed	BV1.V09.DIClosed				
csDIClosed	BV1.V11.DIClosed				
csDIClosed	BV1.V03.DIClosed				
csDIClosed	BV1.V06.DIClosed				
csDIClosed	BV1.V08.DIClosed				
csDIClosed	BV1.V02.DIClosed				
csDIClosed	BV1.V01.DIClosed				
csDIClosed	BV2.V12.DIClosed				
csDIClosed	BV2.V10.DIClosed				
csDIClosed	BV2.V09.DIClosed				
csDIClosed	BV2.V11.DIClosed				
csDIClosed	BV2.V03.DIClosed				
csDIClosed	BV2.V06.DIClosed				
csDIClosed	BV2.V08.DIClosed				
csDIClosed	BV2.V02.DIClosed				
csDIClosed	BV2.V01.DIClosed				
csDIClosed	HG2.V01.DIClosed				
csDIClosed	HG2.V08.DIClosed				
csDIClosed	HG1.V01.DIClosed				
csDIClosed	HG1.V08.DIClosed				
csDIClosed	cr06.V02.DIClosed				
csDIClosed	cr06.V01.DIClosed				
csDIClosed	cr06.V06.DIClosed				
csDIClosed	cr06.V05.DIClosed				
csDIClosed	cr06.V03.DIClosed				
csDIClosed	cr07.V01.DIClosed				
csDIClosed	cr07.V02.DIClosed				
csDIClosed	cr08.V01.DIClosed				
csDIClosed	cr08.V02.DIClosed				
csDIClosed	PS1.V08.DIClosed				
csDIClosed	PS1.V03.DIClosed				
csDIClosed	PS1.V06.DIClosed				
csDIClosed	PS1.V02.DIClosed				
csDIClosed	PS1.V01.DIClosed				
csDIClosed	PS2.V08.DIClosed				



ObjectTag	RealTag	External Tag	Node	Card	Channel
csDIClosed	PS2.V03.DIClosed				
csDIClosed	PS2.V06.DIClosed				
csDIClosed	PS2.V02.DIClosed				
csDIClosed	PS2.V01.DIClosed				
csDIClosed	PS3.V08.DIClosed				
csDIClosed	PS3.V03.DIClosed				
csDIClosed	PS3.V06.DIClosed				
csDIClosed	PS3.V02.DIClosed				
csDIClosed	PS3.V01.DIClosed				
csDIClosed	cr09.V02.DIClosed				
csDIClosed	cr09.V01.DIClosed				
csDIClosed	cr09.V04.DIClosed				
csDIClosed	cr09.V03.DIClosed				
csDIOpen	MS1.V08.DIOpen				
csDIOpen	MS1.V03.DIOpen				
csDIOpen	MS1.V06.DIOpen				
csDIOpen	MS1.V02.DIOpen				
csDIOpen	MS1.V01.DIOpen				
csDIOpen	MS2.V08.DIOpen				
csDIOpen	MS2.V03.DIOpen				
csDIOpen	MS2.V06.DIOpen				
csDIOpen	MS2.V02.DIOpen				
csDIOpen	MS2.V01.DIOpen				
csDIOpen	MS3.V08.DIOpen				
csDIOpen	MS3.V03.DIOpen				
csDIOpen	MS3.V06.DIOpen				
csDIOpen	MS3.V02.DIOpen				
csDIOpen	MS3.V01.DIOpen				
csDIOpen	cr04.V01.DIOpen				
csDIOpen	cr04.V05.DIOpen				
csDIOpen	cr04.V09.DIOpen				
csDIOpen	cr05.V04.DIOpen				
csDIOpen	cr05.V03.DIOpen				
csDIOpen	cr05.V02.DIOpen				
csDIOpen	cr05.V01.DIOpen				
csDIOpen	Milk Reception 1.V12.DIOpen				
csDIOpen	Milk Reception 2.V12.DIOpen				
csDIOpen	Milk Reception 3.V12.DIOpen				
csDIOpen	tk Acid.V08.DIOpen				
csDIOpen	tk Acid.V03.DIOpen				
csDIOpen	tk Acid.V06.DIOpen				
csDIOpen	tk Acid.V05.DIOpen				
csDIOpen	tk Cold Caustic.V08.DIOpen				
csDIOpen	tk Cold Caustic.V03.DIOpen				
csDIOpen	tk Cold Caustic.V06.DIOpen				
csDIOpen	tk Cold Caustic.V05.DIOpen				
csDIOpen	tk Hot Caustic.V08.DIOpen				
csDIOpen	tk Hot Caustic.V03.DIOpen				
csDIOpen	tk Hot Caustic.V06.DIOpen				
csDIOpen	tk Hot Caustic.V05.DIOpen				
csDIOpen	tk Return Water.V02.DIOpen				
csDIOpen	tk Return Water.V03.DIOpen				



ObjectTag	RealTag	External Tag	Node	Card	Channel
csDIOpen	tk Fresh Water.V03.DIOpen				
csDIOpen	tk Fresh Water.V02.DIOpen				
csDIOpen	tk Fresh Water.V01.DIOpen				
csDIOpen	CIP Unit1.KV005.DIOpen				
csDIOpen	CIP Unit1.XV02.DIOpen				
csDIOpen	CIP Unit1.XV01.DIOpen				
csDIOpen	CIP Unit2.KV005.DIOpen				
csDIOpen	CIP Unit2.XV02.DIOpen				
csDIOpen	CIP Unit2.XV01.DIOpen				
csDIOpen	BV1.V12.DIOpen				
csDIOpen	BV1.V10.DIOpen				
csDIOpen	BV1.V09.DIOpen				
csDIOpen	BV1.V11.DIOpen				
csDIOpen	BV1.V03.DIOpen				
csDIOpen	BV1.V06.DIOpen				
csDIOpen	BV1.V08.DIOpen				
csDIOpen	BV1.V02.DIOpen				
csDIOpen	BV1.V01.DIOpen				
csDIOpen	BV2.V12.DIOpen				
csDIOpen	BV2.V10.DIOpen				
csDIOpen	BV2.V09.DIOpen				
csDIOpen	BV2.V11.DIOpen				
csDIOpen	BV2.V03.DIOpen				
csDIOpen	BV2.V06.DIOpen				
csDIOpen	BV2.V08.DIOpen				
csDIOpen	BV2.V02.DIOpen				
csDIOpen	BV2.V01.DIOpen				
csDIOpen	HG2.V01.DIOpen				
csDIOpen	HG2.V08.DIOpen				
csDIOpen	HG1.V01.DIOpen				
csDIOpen	HG1.V08.DIOpen				
csDIOpen	cr06.V02.DIOpen				
csDIOpen	cr06.V01.DIOpen				
csDIOpen	cr06.V06.DIOpen				
csDIOpen	cr06.V05.DIOpen				
csDIOpen	cr06.V03.DIOpen				
csDIOpen	cr07.V01.DIOpen				
csDIOpen	cr07.V02.DIOpen				
csDIOpen	cr08.V01.DIOpen				
csDIOpen	cr08.V02.DIOpen				
csDIOpen	PS1.V08.DIOpen				
csDIOpen	PS1.V03.DIOpen				
csDIOpen	PS1.V06.DIOpen				
csDIOpen	PS1.V02.DIOpen				
csDIOpen	PS1.V01.DIOpen				
csDIOpen	PS2.V08.DIOpen				
csDIOpen	PS2.V03.DIOpen				
csDIOpen	PS2.V06.DIOpen				
csDIOpen	PS2.V02.DIOpen				
csDIOpen	PS2.V01.DIOpen				
csDIOpen	PS3.V08.DIOpen				
csDIOpen	PS3.V03.DIOpen				



ObjectTag	RealTag	External Tag	Node	Card	Channel
csDIOpen	PS3.V06.DIOpen				
csDIOpen	PS3.V02.DIOpen				
csDIOpen	PS3.V01.DIOpen				
csDIOpen	cr09.V02.DIOpen				
csDIOpen	cr09.V01.DIOpen				
csDIOpen	cr09.V04.DIOpen				
csDIOpen	cr09.V03.DIOpen				
csDIOpen	MS1.V07.DIOpen				
csDIOpen	MS1.V04.DIOpen				
csDIOpen	MS2.V07.DIOpen				
csDIOpen	MS2.V04.DIOpen				
csDIOpen	MS3.V07.DIOpen				
csDIOpen	MS3.V04.DIOpen				
csDIOpen	tk Acid.V07.DIOpen				
csDIOpen	tk Acid.V04.DIOpen				
csDIOpen	tk Cold Caustic.V07.DIOpen				
csDIOpen	tk Cold Caustic.V04.DIOpen				
csDIOpen	tk Hot Caustic.V07.DIOpen				
csDIOpen	tk Hot Caustic.V04.DIOpen				
csDIOpen	tk Return Water.V04.DIOpen				
csDIOpen	tk Return Water.V01.DIOpen				
csDIOpen	BV1.V04.DIOpen				
csDIOpen	BV1.V07.DIOpen				
csDIOpen	BV2.V04.DIOpen				
csDIOpen	BV2.V07.DIOpen				
csDIOpen	HG2.V02.DIOpen				
csDIOpen	HG2.V07.DIOpen				
csDIOpen	HG1.V02.DIOpen				
csDIOpen	HG1.V07.DIOpen				
csDIOpen	cr06.V04.DIOpen				
csDIOpen	PS1.V07.DIOpen				
csDIOpen	PS1.V04.DIOpen				
csDIOpen	PS2.V07.DIOpen				
csDIOpen	PS2.V04.DIOpen				
csDIOpen	PS3.V07.DIOpen				
csDIOpen	PS3.V04.DIOpen				



Data Report: Equipment Parameter Real

ObjectTag	page	RealTag	Min	Value	Max	AllowChange
epStart_Level	34	MS1.emAgitator.epStart_Level				<input type="checkbox"/>
epStart_Level	34	MS2.emAgitator.epStart_Level				<input type="checkbox"/>
epStart_Level	34	MS3.emAgitator.epStart_Level				<input type="checkbox"/>
epStart_Level	34	BV1.em Agitator.epStart_Level				<input type="checkbox"/>
epStart_Level	34	BV2.em Agitator.epStart_Level				<input type="checkbox"/>
epStart_Level	34	PS1.emAgitator.epStart_Level				<input type="checkbox"/>
epStart_Level	34	PS2.emAgitator.epStart_Level				<input type="checkbox"/>
epStart_Level	34	PS3.emAgitator.epStart_Level				<input type="checkbox"/>
epStop_Level	34	MS1.emAgitator.epStop_Level				<input type="checkbox"/>
epStop_Level	34	MS2.emAgitator.epStop_Level				<input type="checkbox"/>
epStop_Level	34	MS3.emAgitator.epStop_Level				<input type="checkbox"/>
epStop_Level	34	BV1.em Agitator.epStop_Level				<input type="checkbox"/>
epStop_Level	34	BV2.em Agitator.epStop_Level				<input type="checkbox"/>
epStop_Level	34	PS1.emAgitator.epStop_Level				<input type="checkbox"/>
epStop_Level	34	PS2.emAgitator.epStop_Level				<input type="checkbox"/>
epStop_Level	34	PS3.emAgitator.epStop_Level				<input type="checkbox"/>
epOn_Time	34	MS1.emAgitator.epOn_Time				<input type="checkbox"/>
epOn_Time	34	MS2.emAgitator.epOn_Time				<input type="checkbox"/>
epOn_Time	34	MS3.emAgitator.epOn_Time				<input type="checkbox"/>
epOn_Time	34	BV1.em Agitator.epOn_Time				<input type="checkbox"/>
epOn_Time	34	BV2.em Agitator.epOn_Time				<input type="checkbox"/>
epOn_Time	34	PS1.emAgitator.epOn_Time				<input type="checkbox"/>
epOn_Time	34	PS2.emAgitator.epOn_Time				<input type="checkbox"/>
epOn_Time	34	PS3.emAgitator.epOn_Time				<input type="checkbox"/>
epOff_Time	34	MS1.emAgitator.epOff_Time				<input type="checkbox"/>
epOff_Time	34	MS2.emAgitator.epOff_Time				<input type="checkbox"/>
epOff_Time	34	MS3.emAgitator.epOff_Time				<input type="checkbox"/>
epOff_Time	34	BV1.em Agitator.epOff_Time				<input type="checkbox"/>
epOff_Time	34	BV2.em Agitator.epOff_Time				<input type="checkbox"/>
epOff_Time	34	PS1.emAgitator.epOff_Time				<input type="checkbox"/>
epOff_Time	34	PS2.emAgitator.epOff_Time				<input type="checkbox"/>
epOff_Time	34	PS3.emAgitator.epOff_Time				<input type="checkbox"/>
epSpeed	34	BV1.em Agitator.epSpeed				<input type="checkbox"/>
epSpeed	34	BV2.em Agitator.epSpeed				<input type="checkbox"/>
Machine Alarm Group	39	Packaging Line 1.Accumulation Conveyor.Machine Alarm				<input type="checkbox"/>
Machine Alarm Group	39	Packaging Line 1.Packing Conveyor.Machine Alarm Group				<input type="checkbox"/>
Machine Alarm Group	39	Packaging Line 1.EM01.Machine Alarm Group				<input type="checkbox"/>
Machine Alarm Group	39	Packaging Line 1.EM02.Machine Alarm Group				<input type="checkbox"/>
Machine Alarm Group	39	Packaging Line 1.EM03.Machine Alarm Group				<input type="checkbox"/>
Machine Alarm Group	39	Packaging Line 1.EM04.Machine Alarm Group				<input type="checkbox"/>
Machine Alarm Group	39	Packaging Line 1.EM05.Machine Alarm Group				<input type="checkbox"/>
Machine Alarm Group	39	Packaging Line 1.EM06.Machine Alarm Group				<input type="checkbox"/>
Machine Alarm Group	39	Packaging Line 2.Accumulation Conveyor.Machine Alarm				<input type="checkbox"/>
Machine Alarm Group	39	Packaging Line 2.Packing Conveyor.Machine Alarm Group				<input type="checkbox"/>
Machine Alarm Group	39	Packaging Line 2.EM01.Machine Alarm Group				<input type="checkbox"/>
Machine Alarm Group	39	Packaging Line 2.EM02.Machine Alarm Group				<input type="checkbox"/>
Machine Alarm Group	39	Packaging Line 2.EM03.Machine Alarm Group				<input type="checkbox"/>
Machine Alarm Group	39	Packaging Line 2.EM04.Machine Alarm Group				<input type="checkbox"/>
Machine Alarm Group	39	Packaging Line 2.EM05.Machine Alarm Group				<input type="checkbox"/>
Machine Alarm Group	39	Packaging Line 2.EM06.Machine Alarm Group				<input type="checkbox"/>
ep Fill Time SP	47	tk Acid.em Water Feed.ep Fill Time SP				<input type="checkbox"/>



ObjectTag	page	RealTag	Min	Value	Max	AllowChange
ep Fill Time SP	47	tk Cold Caustic.em Water Feed.ep Fill Time SP				<input type="checkbox"/>
ep Fill Time SP	47	tk Hot Caustic.em Water Feed.ep Fill Time SP				<input type="checkbox"/>
epVesselEmptyLevel	65	MS1.CIP_V1.epVesselEmptyLevel				<input type="checkbox"/>
epVesselEmptyLevel	65	MS2.CIP_V1.epVesselEmptyLevel				<input type="checkbox"/>
epVesselEmptyLevel	65	MS3.CIP_V1.epVesselEmptyLevel				<input type="checkbox"/>
epVesselEmptyLevel	65	PS1.CIP_V1.epVesselEmptyLevel				<input type="checkbox"/>
epVesselEmptyLevel	65	PS2.CIP_V1.epVesselEmptyLevel				<input type="checkbox"/>
epVesselEmptyLevel	65	PS3.CIP_V1.epVesselEmptyLevel				<input type="checkbox"/>
ep Timer SP	82	Solids Prep Line 1.LSL.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	Solids Prep Line 1.LSH.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	Solids Prep Line 2.LSL.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	Solids Prep Line 2.LSH.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	Blending.LAH.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	Blending.LAL.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	MS1.LAH.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	MS1.ZSA.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	MS2.LAH.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	MS2.ZSA.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	MS3.LAH.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	MS3.ZSA.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	Milk Reception 1.LAL.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	Milk Reception 2.LAL.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	Milk Reception 3.LAL.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	tk Acid.LAL.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	tk Acid.LAH.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	tk Cold Caustic.LAL.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	tk Cold Caustic.LAH.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	tk Hot Caustic.LAL.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	tk Hot Caustic.LAH.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	tk Return Water.LAH01.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	tk Return Water.LAL02.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	tk Fresh Water.LSL.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	tk Fresh Water.LSH.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	tk Fresh Water.LSM.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	BV1.LAH.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	BV1.LAL.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	SH1.LSH.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	SH1.LSL.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	SH2.LSH.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	SH2.LSL.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	BV2.LAH.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	BV2.LAL.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	PS1.LAH.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	PS1.LAL.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	PS1.ZSA.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	PS2.LAH.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	PS2.LAL.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	PS2.ZSA.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	PS3.LAH.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	PS3.LAL.ep Timer SP				<input type="checkbox"/>
ep Timer SP	82	PS3.ZSA.ep Timer SP				<input type="checkbox"/>

**Data Report: Effector Analog**

ObjectTag	page	Page Tag	RealTag	Fail Open
eeVFC Speed Controller	74	VFC Speed Controller	BV1.VM01.VFC Speed Controller	<input type="checkbox"/>
eeVFC Speed Controller	74	VFC Speed Controller	SH1.RV1.VFC Speed Controller	<input type="checkbox"/>
eeVFC Speed Controller	74	VFC Speed Controller	SH2.RV1.VFC Speed Controller	<input type="checkbox"/>
eeVFC Speed Controller	74	VFC Speed Controller	BV2.VM01.VFC Speed Controller	<input type="checkbox"/>
eeCV	37	CV	CIP Unit1.CV	<input type="checkbox"/>
eeCV	37	CV	CIP Unit2.CV	<input type="checkbox"/>



Page Instance Count

Page	Class	Total Instances	Additive Warehouse (Cell Common Resource)	Solids Processing (Process Cell)	Intermediate Store (Cell Common Resource)	Milk Silos (Process Cell)	CIP Chemical Store (Cell Common Resource)
1 - Milkshake Plant Overview	Plant Area	1					
2 - Liquids Processing Bldng	Process Cell	1					
3 - Milk Silos	Process Cell	1				1	
4 - Packaging Building	Process Cell	1					
5 - Product Silos	Process Cell	1					
6 - Solids Processing Bldng	Process Cell	1		1			
7 - All CIP Recipes	Recipe	1					
8 - Material Reception Recipes	Recipe	1					
9 - Milk shakes	Recipe	1					
10 - un Milk/Product Silo	Unit	6				3	
11 - un Additive Storage Hopper	Unit	2					
12 - un Batch Mixing	Unit	2					
13 - un Homogeniser	Unit	2					
14 - un Packaging Line	Unit	2					
15 - un Solids Blending	Unit	1		1			
16 - un Solids Preparation Line	Unit	2		2			
17 - Additive Warehouse	Cell Common Resource	1	1				
18 - CIP Chemical Store	Cell Common Resource	1					1
19 - CIP Generation System	Cell Common Resource	1					
20 - Intermediate Store	Cell Common Resource	1			1		
21 - Packaging Material Store	Cell Common Resource	1					
22 - Quarantine Store	Cell Common Resource	1					
23 - CIP Unit	Common Resource	2					
24 - crFreshWater	Common Resource	1					
25 - Homogeniser Outlets manifold	Common Resource	2					
26 - Milk Distribution Manifold	Common Resource	1				1	
27 - Milk Supply manifold	Common Resource	1				1	
28 - Product Homogenisation manifold	Common Resource	1					
29 - Product Silo inlet manifold	Common Resource	0					
30 - Product to packaging manifold	Common Resource	1					
31 - Recycled water	Common Resource	1					
32 - Tank, LSL,LSH,Agit, TT	Common Resource	3					
33 - Tanker unloading bay	Common Resource	3				3	
34 - em Agitator	Equipment Module	8				3	
35 - em CIP Drain	Equipment Module	2					
36 - em CIP Line Select	Equipment Module	2					
37 - em CIP Supply	Equipment Module	2					
38 - em Discharge	Equipment Module	8				3	
39 - em Generic Machine Interface	Equipment Module	16					
40 - em Heat/Cool Jacket	Equipment Module	2					
41 - em Homogeniser	Equipment Module	2					
42 - em Homogerniser in	Equipment Module	2					
43 - em Loss In Weight Feeder	Equipment Module	2					
44 - em Tanker Reception	Equipment Module	3				3	
45 - em Transfer in	Equipment Module	11				3	
46 - em Transfer out	Equipment Module	13				3	
47 - em Water Feed	Equipment Module	3					
48 - rcp Additive Preparation	Recipe Procedure	3		1			



Page	Class	CIP Generation System (Cell Common Resource)	Liquids (Process Cell)	Packaging Bldg (Process Cell)	Packaging Store (Cell Common Resource)	Product Silos (Process Cell)	Quarantine Store (Cell Common Resource)
1 - Milkshake Plant Overview	Plant Area						
2 - Liquids Processing Bldng	Process Cell		1				
3 - Milk Silos	Process Cell						
4 - Packaging Building	Process Cell			1			
5 - Product Silos	Process Cell					1	
6 - Solids Processing Bldng	Process Cell						
7 - All CIP Recipes	Recipe						1
8 - Material Reception Recipes	Recipe						1
9 - Milk shakes	Recipe					1	
10 - un Milk/Product Silo	Unit					3	
11 - un Additive Storage Hopper	Unit		2				
12 - un Batch Mixing	Unit		2				
13 - un Homogeniser	Unit		2				
14 - un Packaging Line	Unit			2			
15 - un Solids Blending	Unit						
16 - un Solids Preparation Line	Unit						
17 - Additive Warehouse	Cell Common Resource						
18 - CIP Chemical Store	Cell Common Resource						
19 - CIP Generation System	Cell Common Resource	1					
20 - Intermediate Store	Cell Common Resource						
21 - Packaging Material Store	Cell Common Resource				1		
22 - Quarantine Store	Cell Common Resource						1
23 - CIP Unit	Common Resource	2					
24 - crFreshWater	Common Resource	1					
25 - Homogeniser Outlets manifold	Common Resource		2				
26 - Milk Distribution Manifold	Common Resource						
27 - Milk Supply manifold	Common Resource						
28 - Product Homogenisation manifold	Common Resource		1				
29 - Product Silo inlet manifold	Common Resource						
30 - Product to packaging manifold	Common Resource					1	
31 - Recycled water	Common Resource	1					
32 - Tank, LSL,LSH,Agit, TT	Common Resource	3					
33 - Tanker unloading bay	Common Resource						
34 - em Agitator	Equipment Module		2			3	
35 - em CIP Drain	Equipment Module	2					
36 - em CIP Line Select	Equipment Module	2					
37 - em CIP Supply	Equipment Module	2					
38 - em Discharge	Equipment Module		2			3	
39 - em Generic Machine Interface	Equipment Module			16			
40 - em Heat/Cool Jacket	Equipment Module		2				
41 - em Homogeniser	Equipment Module		2				
42 - em Homogerniser in	Equipment Module		2				
43 - em Loss In Weight Feeder	Equipment Module		2				
44 - em Tanker Reception	Equipment Module						
45 - em Transfer in	Equipment Module	3	2			3	
46 - em Transfer out	Equipment Module	3	4			3	
47 - em Water Feed	Equipment Module	3					
48 - rcp Additive Preparation	Recipe Procedure						2



Page	Class	Total Instances	Additive Warehouse (Cell Common Resource)	Solids Processing (Process Cell)	Intermediate Store (Cell Common Resource)	Milk Silos (Process Cell)	CIP Chemical Store (Cell Common Resource)
49 - rcp Batch Mixing	Recipe Procedure	5					
50 - rcp generic Vessel CIP	Recipe Procedure	11					
51 - rcp Receive Additive	Recipe Procedure	3					
52 - rcp Receive milk	Recipe Procedure	2				1	
53 - up Fill and Pack Procedure	Unit Procedure	2					
54 - up Homogenisation	Unit Procedure	0					
55 - up Receive Milk	Unit Procedure	0					
56 - Generic Manual Operation	Operation	0					
57 - op Batch Mix and Homogenise	Operation	2					
58 - op CIP Supply to Vessel Clean	Operation	19					3
59 - op Homogenising	Operation	8					3
60 - op Line Clean	Operation	4					
61 - op Silo Deliver	Operation	6					3
62 - op Silo Receive	Operation	6					3
63 - op Transfer Milk from tanker	Operation	0					
64 - op Unload Tanker	Operation	3					3
65 - op Vessel CIP	Operation	6					3
66 - ph Add Milk	Phase	4					
67 - ph Add Milk and Solids	Phase	2					
68 - ph Homogenising	Phase	8					3
69 - ph Mix and Heat	Phase	10					3
70 - ph Vessel CIP	Phase	11					
71 - Mixproof Valve	Valve	40					9
72 - On Off Valve	Valve	101					25
73 - Fixed Speed Motor	Motor	37		8			9
74 - Variable Speed motor	Motor	10					3
75 - cm Agitator Control	Control Module	8					3
76 - cm CIP Status Control	Control Module	1					1
77 - cm Line Control	Control Module	1					1
78 - Standard PID Loop	PID Control Loop	10					3
79 - Control Valve	Effector Analog	2					
80 - Analog Input from Transmitter	Measurement Analog	14					3
81 - Weight measurement	Measurement Analog	10					3
82 - Alarm Switch Input	Measurement Switch	46		6			12
83 - Controller Status	Control System	6		1			1
84 - Interface	Interface	13					3
85 - CIP Routing diagram	None	1					
86 - CIP Routing diagram snapshot 2	None	1					
87 - Complete CIP Graphic	None	1					
88 - Equipment Requirements	None	0					
89 - Jacket Heat/Cool Type 1	EM State changes phase	2					



Page	Class	CIP Generation System (Cell Common Resource)	Liquids (Process Cell)	Packaging Bldng (Process Cell)	Packaging Store (Cell Common Resource)	Product Silos (Process Cell)	Quarantine Store (Cell Common Resource)
49 - rcp Batch Mixing	Recipe Procedure		1			4	
50 - rcp generic Vessel CIP	Recipe Procedure						11
51 - rcp Receive Additive	Recipe Procedure						3
52 - rcp Receive milk	Recipe Procedure						1
53 - up Fill and Pack Procedure	Unit Procedure			2			
54 - up Homogenisation	Unit Procedure						
55 - up Receive Milk	Unit Procedure						
56 - Generic Manual Operation	Operation						
57 - op Batch Mix and Homogenise	Operation		2				
58 - op CIP Supply to Vessel Clean	Operation	2				3	11
59 - op Homogenising	Operation		2			3	
60 - op Line Clean	Operation	2	2				
61 - op Silo Deliver	Operation					3	
62 - op Silo Receive	Operation					3	
63 - op Transfer Milk from tanker	Operation						
64 - op Unload Tanker	Operation						
65 - op Vessel CIP	Operation					3	
66 - ph Add Milk	Phase		4				
67 - ph Add Milk and Solids	Phase		2				
68 - ph Homogenising	Phase		2			3	
69 - ph Mix and Heat	Phase		4			3	
70 - ph Vessel CIP	Phase						11
71 - Mixproof Valve	Valve	11	11			9	
72 - On Off Valve	Valve	26	31			19	
73 - Fixed Speed Motor	Motor	8	6			6	
74 - Variable Speed motor	Motor		4			3	
75 - cm Agitator Control	Control Module		2			3	
76 - cm CIP Status Control	Control Module						
77 - cm Line Control	Control Module						
78 - Standard PID Loop	PID Control Loop	2	2			3	
79 - Control Valve	Effector Analog	2					
80 - Analog Input from Transmitter	Measurement Analog	8				3	
81 - Weight measurement	Measurement Analog		4			3	
82 - Alarm Switch Input	Measurement Switch	11	8			9	
83 - Controller Status	Control System	1	1	1		1	
84 - Interface	Interface	3	4			3	
85 - CIP Routing diagram	None	1					
86 - CIP Routing diagram snapshot 2	None	1					
87 - Complete CIP Graphic	None	1					
88 - Equipment Requirements	None						
89 - Jacket Heat/Cool Type 1	EM State changes phase		2				



End of Document