

The Danish Society of Dairy Technology CIP Seminar – Insight and Content

OEM – how to incorporate CIP into new process equipment for dairies

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18th November 2020

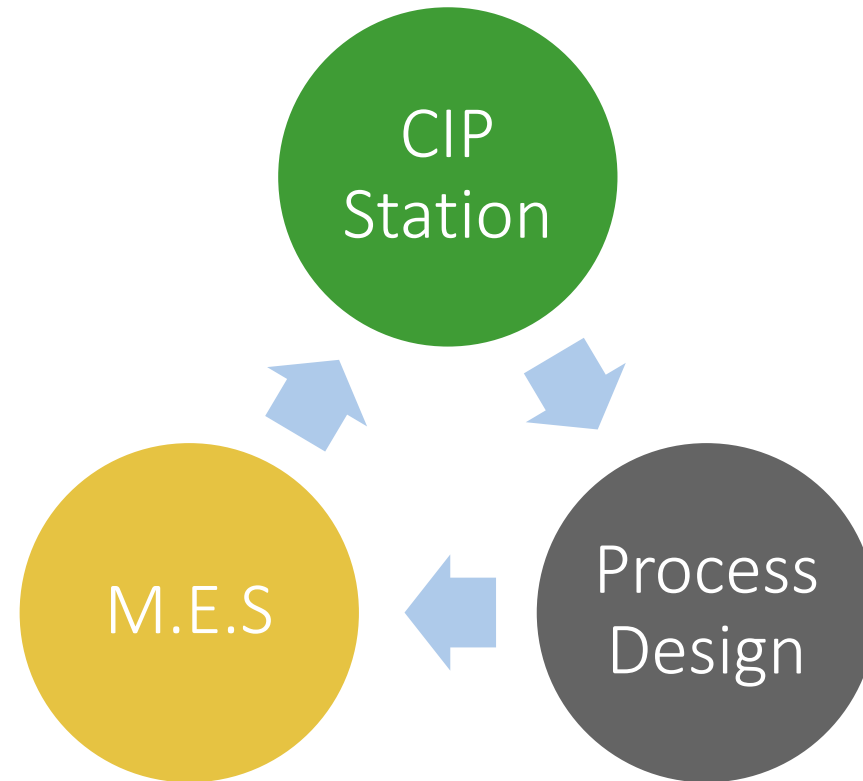


CIP Station – SPX FLOW Concept

Efficient Design

Three Pillars

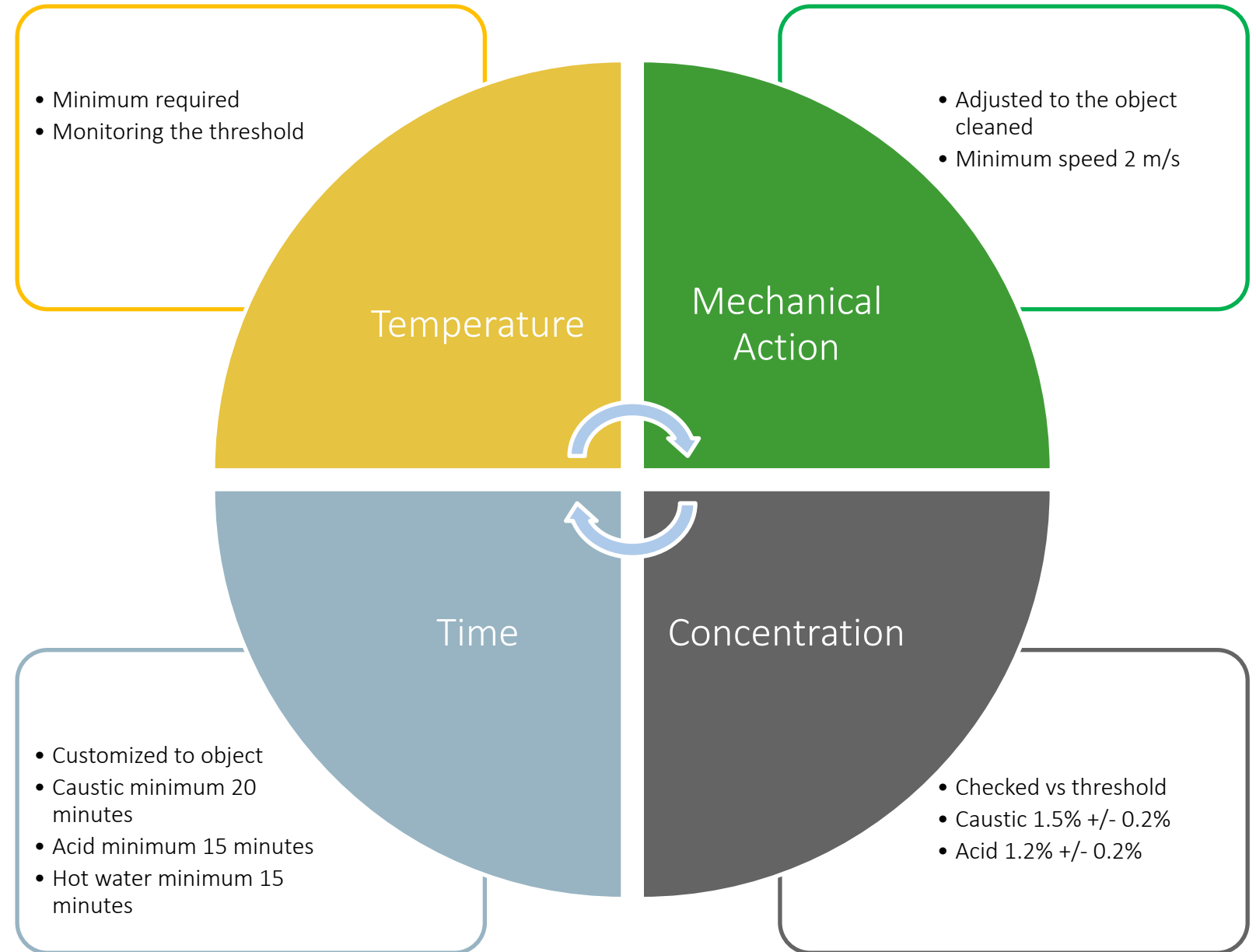
Three
Pillars



CIP STATION CONCEPT

T.A.C.T.

- Location (altitude)
- Raw CIP / Clean CIP (Disinfection)
- Lines occupation
- Instrumentation feed / return line
- Flexible / customized cleaning cycle
 - short
 - long
- Energy recovery



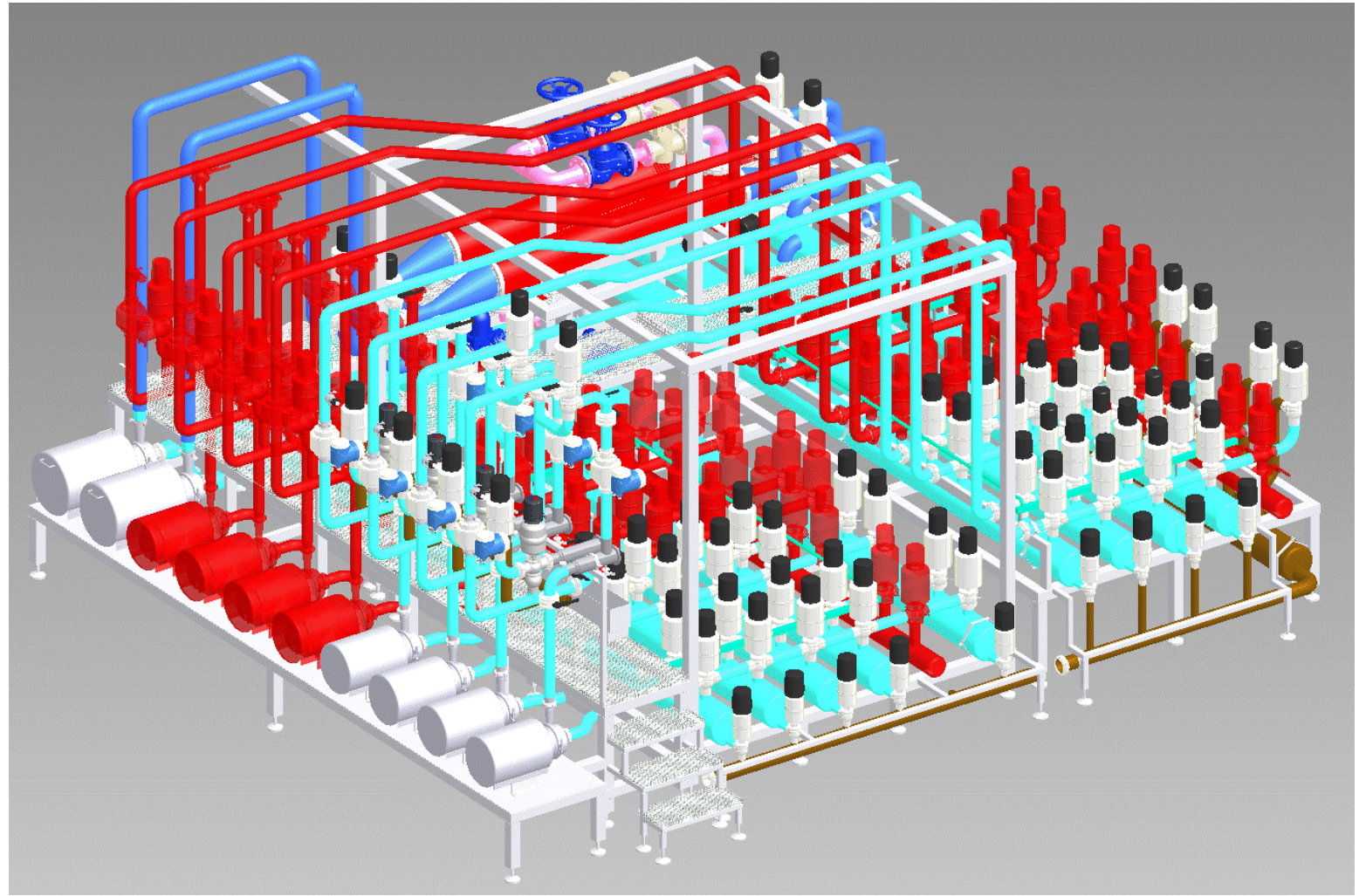
Process Design Concept

Special Features

- Filter feed / return line
- Auto-cleaning return line filter
- Hibernation mode



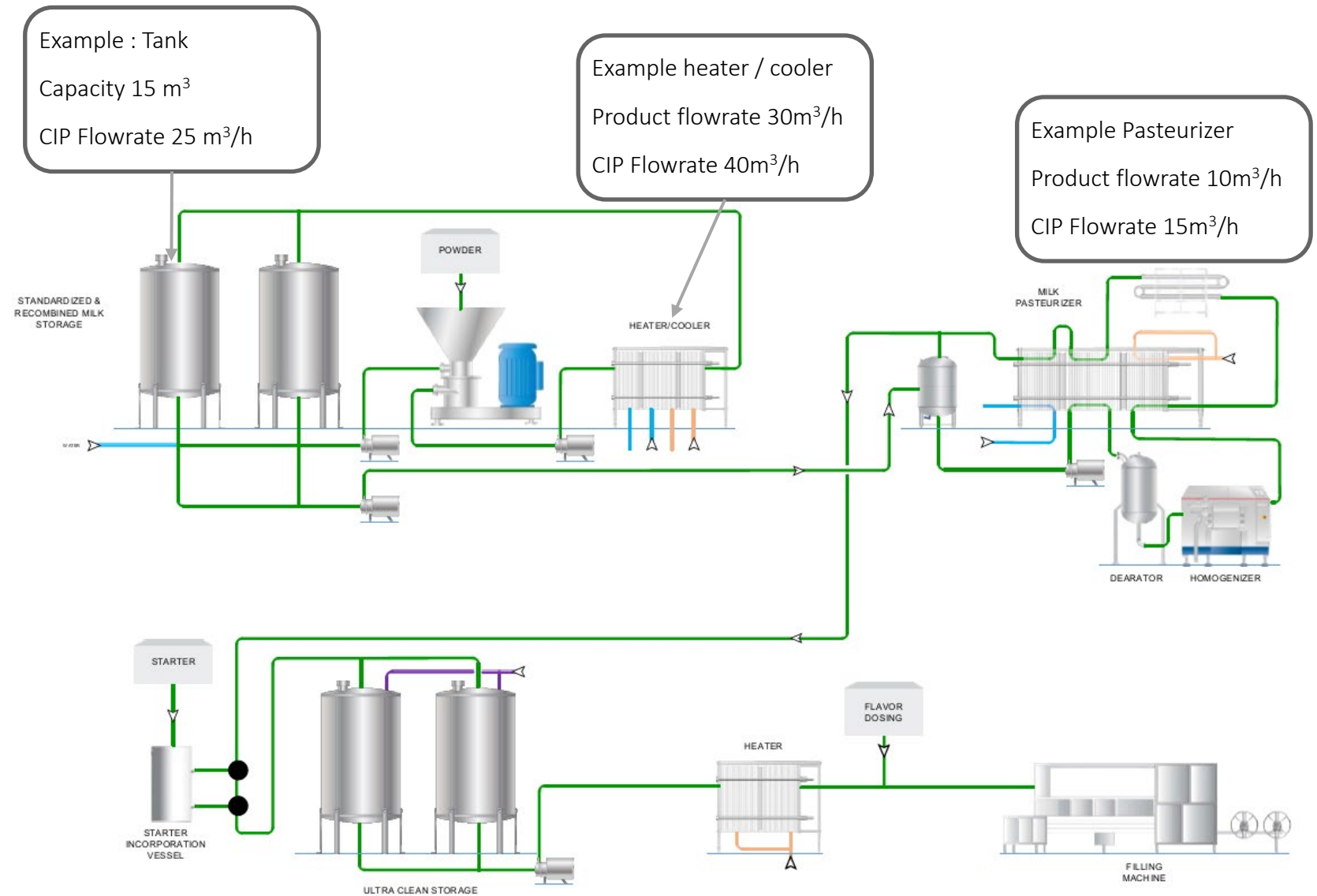
3D Model – CIP Station: Feed / Return



Process Equipment Integration

Equipment CIP requirements: Tank, Line, Heat Exchanger...

- Analysis to understand the equipment on the process line
- Checklist:
 - Flowrate
 - Temperature
 - Pressure drop
 - Max Concentration

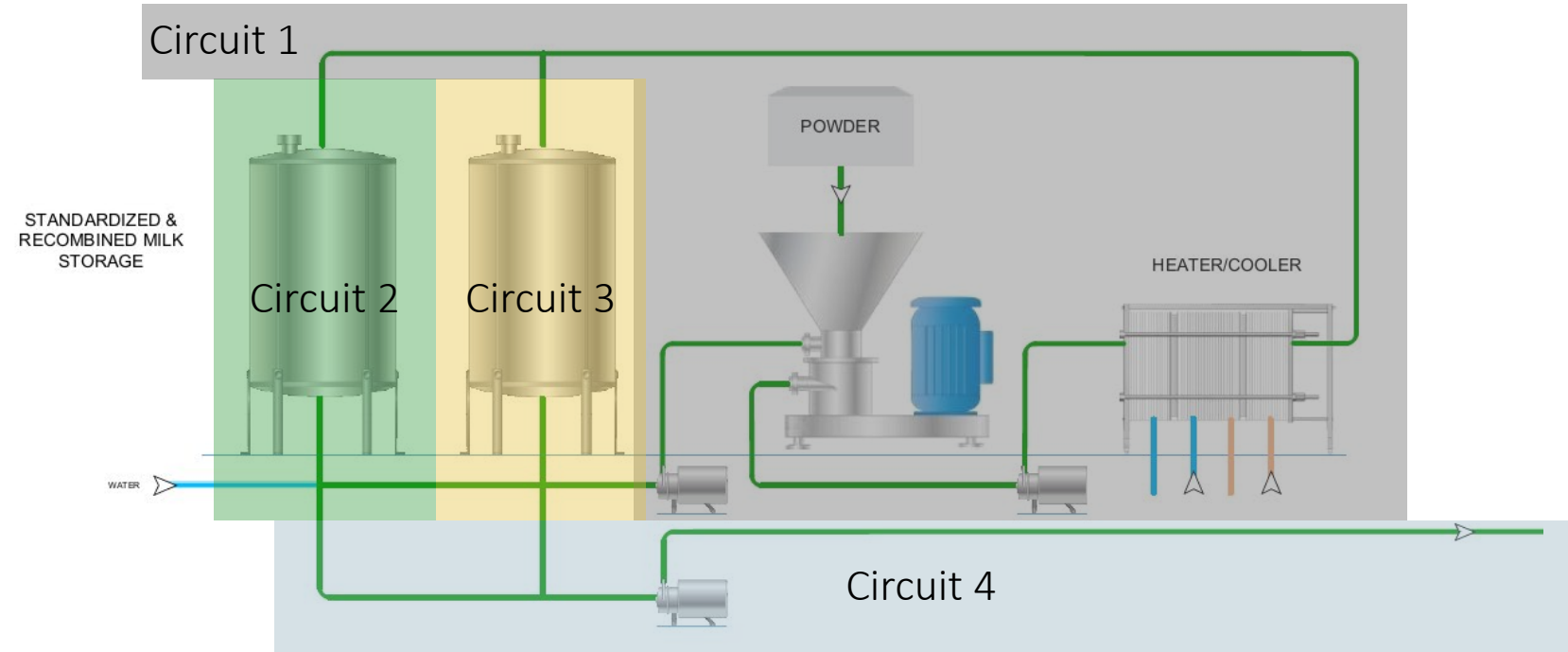


Process Equipment Integration

Equipment allocation to the right cleaning circuit

Focus on critical items :

- High flowrate compared to remaining process line.
- Check compatibility with remaining process line and ability to absorb the flowrate or any other T.A.C.T parameter
- Pressure drop, return flowrate
- Check the safety items around the process line



Process Equipment Integration

Food Safety

Complete segregation / physical break :

- Each circuit
- CIP line / Product line
- Protected from chemical solutions

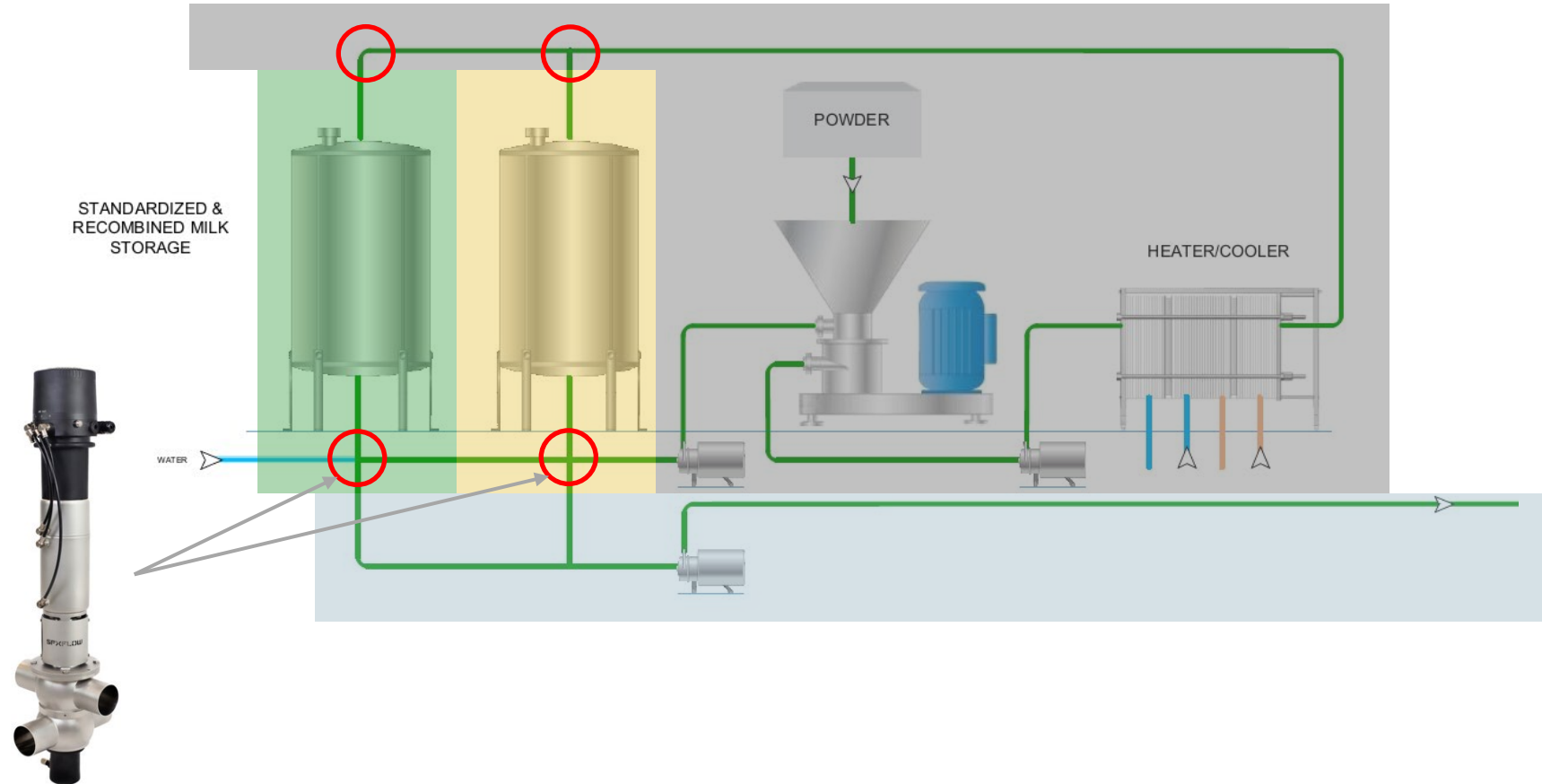
Using SPX FLOW **D4 double seat mix proof valve**

Health Safety

Specific Risk Assessment

Specific actions :

- Insulation
- labelling
- Safety switch



M.E.S – SPX FLOW Factory Expert

Embedded Solution



CIP Overview

Between 09/11/2020 0:00:00 and 09/11/2020 23:59:59

ID	Line	Route	Type	Status	Alarms	Start	End	Duration	Previous CIP
20201109/144025/C209	CIP 2 LINEA 9	SICCADANIA CIRCUITO 15 – LINEA ALIMENTACION CRISTALIZADORES	CORTA SOSA 1	Running	0	09/11/2020 15:40:25			07/11/2020 21:27:00
20201109/142834/C103	CIP 1 LINEA 3	LIMPIEZA CISTERNA GRANDE LINEA 1	CORTA SOSA 1	Running	1	09/11/2020 15:28:34			09/11/2020 13:41:02
20201109/141245/C209	CIP 2 LINEA 9	SICCADANIA CIRCUITO 15 – LINEA VACIADO TPC HACIA EVAPO 3	CORTA SOSA 1	Complete	0	09/11/2020 15:12:45	09/11/2020 15:33:12	00:20:27	09/11/2020 14:35:20
20201109/140959/C101	CIP 1 LINEA 1	RECEPCION LINEA 4	LARGO 1	Running	0	09/11/2020 15:09:59			08/11/2020 14:10:10
20201109/140345/C104	CIP 1 LINEA 4	LIMPIEZA CISTERNA GRANDE LINEA 2	CORTA SOSA 1	Complete	0	09/11/2020 15:03:45	09/11/2020 15:40:03	00:36:18	09/11/2020 14:25:10
20201109/135932/C105	CIP 1 LINEA 5	LIMPIEZA CISTERNA GRANDE LINEA 3	CORTA SOSA 1	Aborted	0	09/11/2020 14:59:32	09/11/2020 15:16:35	00:17:03	09/11/2020 13:46:00
20201109/134406/C209	CIP 2 LINEA 9	SICCADANIA CIRCUITO 10 – LINEA TANQUE TCP3	CORTA SOSA 1	Complete	0	09/11/2020 14:44:06	09/11/2020 15:12:01	00:27:55	06/11/2020 3:57:46
20201109/133832/C207	CIP 2 LINEA 7	THH 4	LARGO 4	Complete	0	09/11/2020 14:38:32	09/11/2020 15:24:53	00:46:21	09/11/2020 12:11:14
20201109/133520/C209	CIP 2 LINEA 9	SICCADANIA CIRCUITO 1 – LINEA VACIADO TPC HACIA EVAPO 3	CORTA SOSA 1	Aborted	1	09/11/2020 14:35:20	09/11/2020 14:38:50	00:03:30	07/11/2020 20:51:46
20201109/133251/C102	CIP 1 LINEA 2	TNP 3	LARGO 2	Complete	0	09/11/2020 14:32:51	09/11/2020 15:37:18	01:04:27	07/11/2020 21:00:34
20201109/132838/C101	CIP 1 LINEA 1	RECEPCION LINEA 2	LARGO 1	Complete	0	09/11/2020 14:28:38	09/11/2020 15:09:28	00:40:50	08/11/2020 16:37:23
20201109/132510/C104	CIP 1 LINEA 4	LIMPIEZA CISTERNA GRANDE LINEA 2	CORTA SOSA 1	Complete	0	09/11/2020 14:25:10	09/11/2020 14:57:29	00:32:19	09/11/2020 13:36:52
20201109/130011/C203	CIP 2 LINEA 3	LINEA TPUs HACIA RO 1	LARGO 1	Complete	0	09/11/2020 14:00:11	09/11/2020 14:43:38	00:43:27	09/11/2020 2:30:55
20201109/124600/C105	CIP 1 LINEA 5	LIMPIEZA CISTERNA GRANDE LINEA 3	CORTA SOSA 1	Complete	0	09/11/2020 13:46:00	09/11/2020 14:22:16	00:36:16	09/11/2020 13:02:39
20201109/124102/C103	CIP 1 LINEA 3	LIMPIEZA CISTERNA GRANDE LINEA 1	CORTA SOSA 1	Complete	6	09/11/2020 13:41:02	09/11/2020 14:57:07	01:16:05	08/11/2020 18:09:04
20201109/123652/C104	CIP 1 LINEA 4	LIMPIEZA CISTERNA GRANDE LINEA 2	CORTA SOSA 1	Complete	0	09/11/2020 13:36:52	09/11/2020 14:17:54	00:41:02	09/11/2020 12:43:20
20201109/120239/C105	CIP 1 LINEA 5	LIMPIEZA CISTERNA GRANDE LINEA 3	CORTA SOSA 1	Complete	0	09/11/2020 13:02:39	09/11/2020 13:43:21	00:40:42	09/11/2020 12:15:49
20201109/114957/C102	CIP 1 LINEA 2	TNP 1	LARGO 2	Complete	0	09/11/2020 12:49:57	09/11/2020 13:46:29	00:56:32	06/11/2020 9:54:09
20201109/114320/C104	CIP 1 LINEA 4	LIMPIEZA CISTERNA GRANDE LINEA 2	CORTA SOSA 1	Complete	0	09/11/2020 12:43:20	09/11/2020 13:15:54	00:32:34	09/11/2020 9:37:53
20201109/113440/C207	CIP 2 LINEA 7	TPC 1	LARGO 1	Complete	0	09/11/2020 12:34:40	09/11/2020 13:33:12	00:58:32	07/11/2020 21:40:07
20201109/111734/C102	CIP 1 LINEA 2	LINEA TPCs HACIA CISTERNA	LARGO 2	Complete	0	09/11/2020 12:17:34	09/11/2020 12:49:16	00:31:42	09/11/2020 6:20:15
20201109/111549/C105	CIP 1 LINEA 5	LIMPIEZA CISTERNA GRANDE LINEA 3	CORTA SOSA 1	Complete	2	09/11/2020 12:15:49	09/11/2020 13:00:20	00:44:31	09/11/2020 11:29:19

Current CIPs

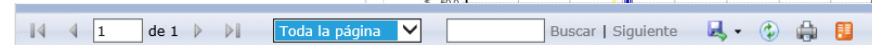
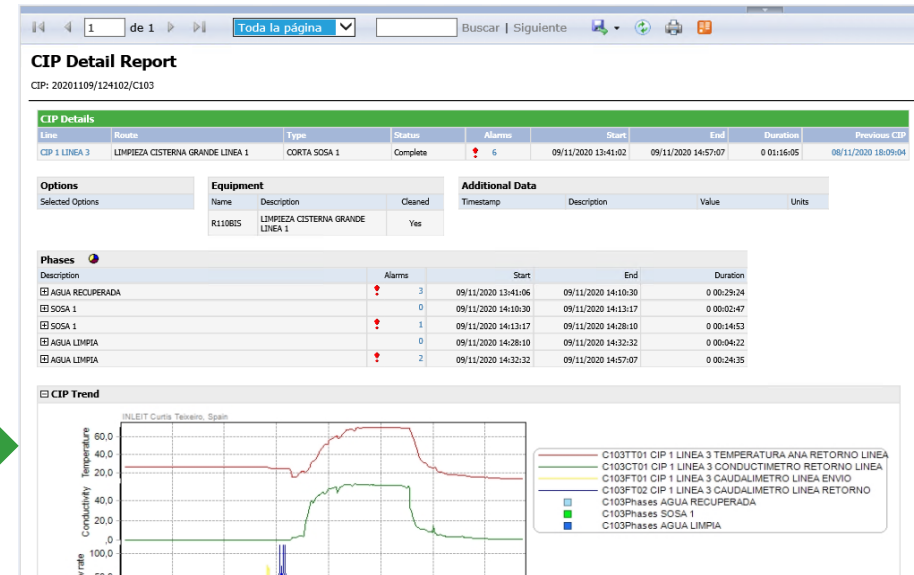
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[3] CIPs found

09/11/2020 15:52:14

Current CIPs

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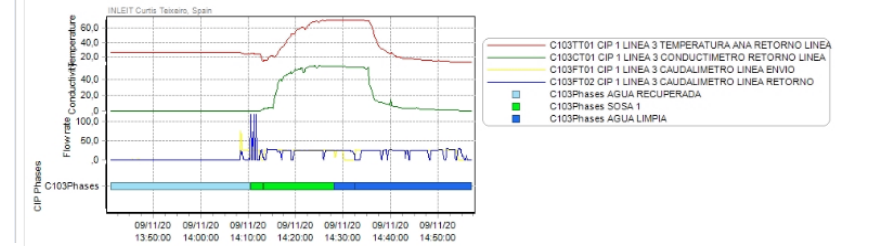


CIP Trend Comparison

Compare 20201109/124102/C103 and 20201109/142834/C103

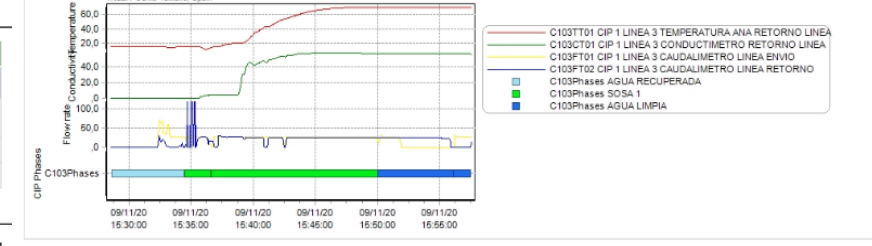
[Click here to compare the trends in the Historian Client](#)

20201109/124102/C103 LIMPIEZA CISTERNA GRANDE LINEA 1 - CORTA SOSA 1 from 09/11/2020 13:41:02



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20201109/142834/C103 LIMPIEZA CISTERNA GRANDE LINEA 1 - CORTA SOSA 1 from 09/11/2020 15:28:34



09/11/2020 15:57:31

CIP Trend Comparison

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Thank you

Q&A



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