

Alarm Conditions

Trip Conditions

AAH1239 [ ]

FAL1294 [ ]

TAH1294 [ ]

TAL1500A [ ]

TAL1500B [ ]

LAH1601 [ ]

LAH1661 [ ]

TAH1520 [ ]

PAH1510A [ ]

PAL1510B [ ]

TAL1510A [ ]

TAL1510B [ ]

MANUAL TRIP

	TRIP_	First Out
HL1000	[ ]	●
AAHH1239	[ ]	●
HL1282	[ ]	●
HL1500	[ ]	●
HL1630	[ ]	
HL1660	[ ]	
FALL1294	[ ]	
TAHH1294	[ ]	●
TALL1500A	[ ]	●
TALL1500B	[ ]	
LAHH1601	[ ]	●
LAHH1661	[ ]	●
TAHH1520	[ ]	●
PAHH1510A	[ ]	●
TALL1510A	[ ]	●
TALL1510B	[ ]	
HSL1295	[ ]	●

12P01  
COLD BOX

Interlock

COOL DOWN  
DEFROST  
INFO

RESET

MANUAL  
TRIP

S  
A  
B  
C  
D

Current

MENU

Main Air  
Compr.

Booster  
Turbine

Nitrogen  
Compr.

Main H.  
Exch.

Booster  
Compr.

Air  
Purif.  
Unit

O2 / N2  
Column

Argon  
Rectif.

TRENDS

# Cold Box Load Adaptation

Load Adaptation Mode [ ]

## Remote Setpoints

MP Air [ ]  
GOX [ ]  
GAR [ ]  
Air Turbine [ ]  
Air Booster [ ]  
HP Air [ ]  
Air Meas [ ]  
LIN May [ ]

## Cold Box Demand

GOX 12-HIC1297A [ ]  
GAR 12-HIC1297B [ ]  
LIN 12-HIC1297C [ ]  
GOX 12-HIC1297D [ ]  
LAR 12-HIC1297E [ ]  
AG To Booster 12-HIC1299 [ ]%

## Actual Setpoints

FIC1213 [ ]  
FIC1294 [ ]  
FIC1500A [ ]  
FIC1510A [ ]  
FIC1515A [ ]  
PIC1515 [ ]  
FIC1520 [ ]  
FIC1530 [ ]  
FIC1557 [ ]  
LIC1601 [ ]  
FIC1628 [ ]  
FIC1630A [ ]  
LIC1701 [ ]  
FIC1704A [ ]  
FIC1712 [ ]

12E09  
12GAI\_F  
12GI\_F  
12GAI\_F  
12B06  
12K02  
12LI\_F  
12K10  
12K11

S

Current

A

B

C

D

MENU

Main Air  
Compr.

Booster  
Turbine

Nitrogen  
Compr.

Main H.  
Exch.

Booster  
Compr.

Air  
Purif.  
Unit

O2 / N2  
Column

Argon  
Rectif.

TRENDS

P L A N T 1 2  
A L C O P E R A T I N G D I S P L A Y

PRODUCT	DESCRIPTION	MODEL	TARGET	INPUT
<div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">GOX-PRODUCT</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">LOX-PRODUCT</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">LIN-PRODUCT</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">LAR-PRODUCT</div>	<p>RUNTIME</p> <p>AIR TO K02</p> <p>TURBINE FLOW</p> <p>AIR TO K02</p> <p>LINEQUIVALENT</p> <p>LAR-PRODUCT</p> <p>GAN-PRODUCT</p>			
<div style="border: 1px solid black; padding: 5px; display: inline-block;">HOST</div>				
ALC-STATUS DISPLAY				

EL7099	C01	RUNNING	●	<div style="border: 1px solid black; padding: 5px; display: inline-block;">TRANSIT</div>
EL7299	C05	RUNNING	●	
ZLL7499	D01	RUNNING	●	
ZLL7599	D02	RUNNING	●	
EL7399	C50	RUNNING	●	
EL8399	C51	RUNNING	●	

MENU

Main Air Compr.

Booster Turbine

Nitrogen Compr.

Main H. Exch.

Booster Compr.

Air Purif. Unit

O2 / N2 Column

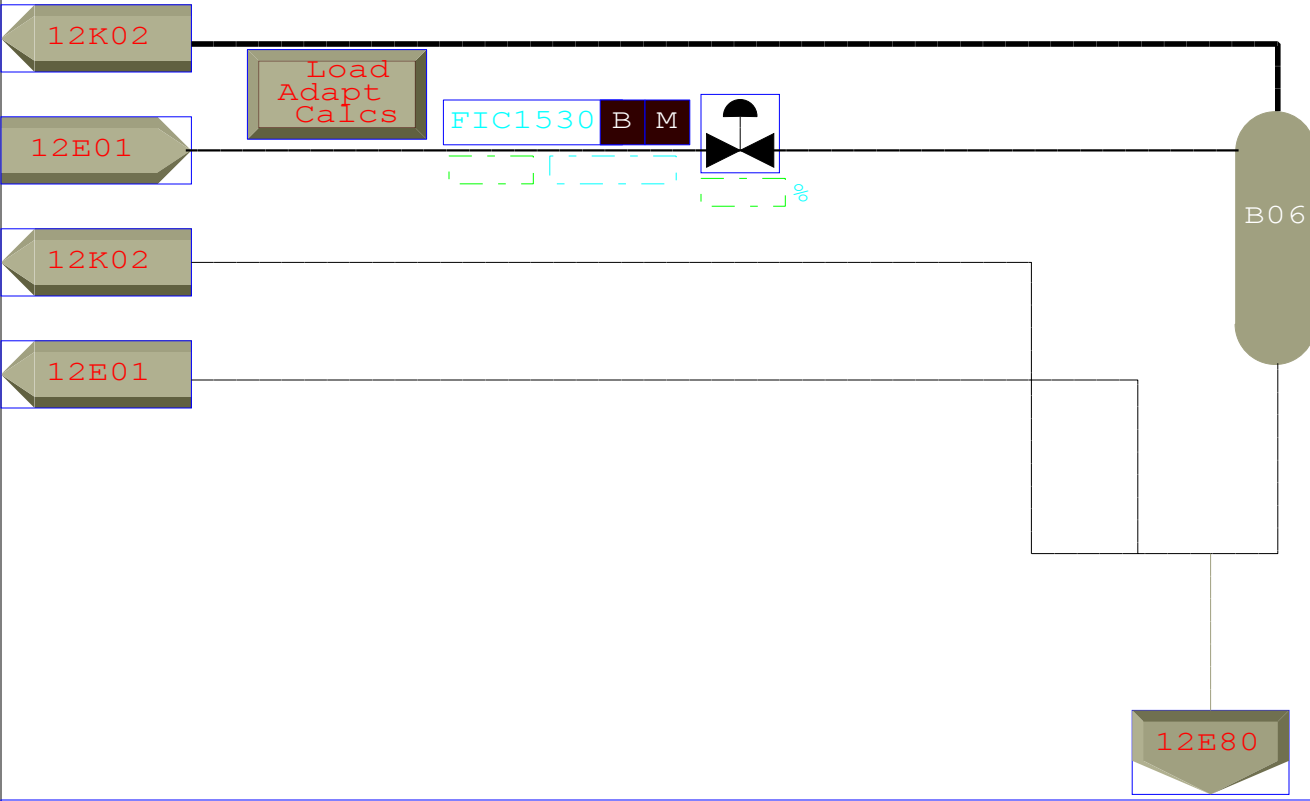
Argon Rectif.

TRENDS

P L A N T 1 2  
A L C C O N T R O L L E R D I S P L A Y

TAGNAME	DESCRIPTION	MODE	ACT.PV	ACT.SP	MODEL	TARGET	INPUT	DEV	HST	HST-SWITCH
FIC1520	AIR EXPANDER	M B								
FIC1530	AIR FROM E01 TO K01	M B								
FIC1510A	GOX PRODUCT	M B								
FIC1630A	LIN PRODUCT	M B								
FIC1630B	LIN BLOWOFF	M B								
PIC1754A	BYPASS P10A	M B								
PIC1754B	BYPASS P10A	M B								
PIC1764A	BYPASS P10B	M B								
PIC1764B	BYPASS P10B	M B								
FIC1628	LIQ AIR B02 TO K02	M B								
FIC1510B	GOX BLOWOFF	M B								
FIC1515A	AR PRODUCT	M B								
FIC1515B	AR BLOWOFF	M B								
FIC1704A	ARGON IN K11	M B								
FIC1704B	ARGON BLOWOFF	M B								
LIC1726B	LIQ ARGON	M B								
LIC1701	LOX IN K10	M B								
LIC1660B	LOX BLOWOFF	M B								
FIC1500A	GAN PRODUCT	M B								
FIC1500B	GAN BLOWOFF	M B								
PIC1626	WASTE N2 OUTLET K02	M B								
LIC1601	LR IN K01	M B								
FIC1712	LR VAPOR TO K02	M B								
PIC1712	LR VAPOR TO K02	M B								
FIC1557	LEAN LIQ TO K02	M B								
FIC1294	E09 CB AIR	M B								
PDIC7408	D01C BOOST ANTISURGE	M B								
PDIC7508	D02C BOOST ANTISURGE	M B								
FIC1213	R01/R02 RESIDUAL GAS	M B								
PIC1213A	R01/R02 RESIDUAL GAS	M B								
PIC1213B	R01/R02 RESIDUAL GAS	M B								

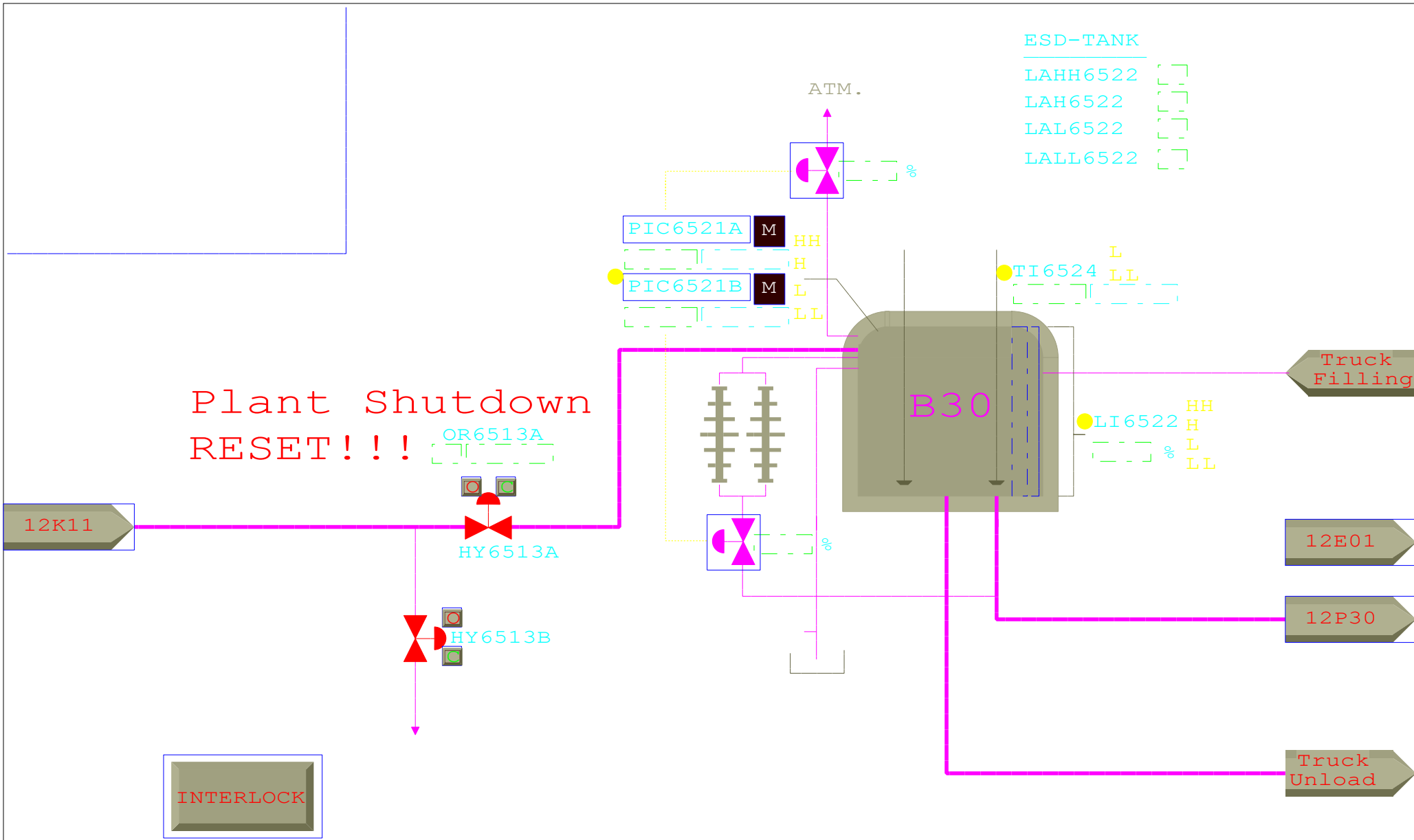
MENU	Main Air Compr.	Booster Turbine	Nitrogen Compr.	Main H. Exch.	Booster Compr.	Air Purif. Unit	O2 / N2 Column	Argon Rectif.	TRENDS
------	-----------------	-----------------	-----------------	---------------	----------------	-----------------	----------------	---------------	--------



S  
A  
B  
C  
D

Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS



S  
A  
B  
C  
D

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS

ESD-TANK

LAHH6122 [ ]

LAH6122 [ ]

LAL6122 [ ]

LALL6122 [ ]

ATM.

PIC6121A M HH  
PIC6121B M L  
LL

TI6124 L  
LL

LI6122 HH  
H  
L  
LL

Plant Shutdown  
RESET!!! OR6113A

12LI\_F

HY6113A

Plant Shutdown  
RESET!!! OR6113B

HY6113B

12P40

Truck  
Unload

INTERLOCK

Current

S

A

B

C

D

MENU

Main Air  
Compr.

Booster  
Turbine

Nitrogen  
Compr.

Main H.  
Exch.

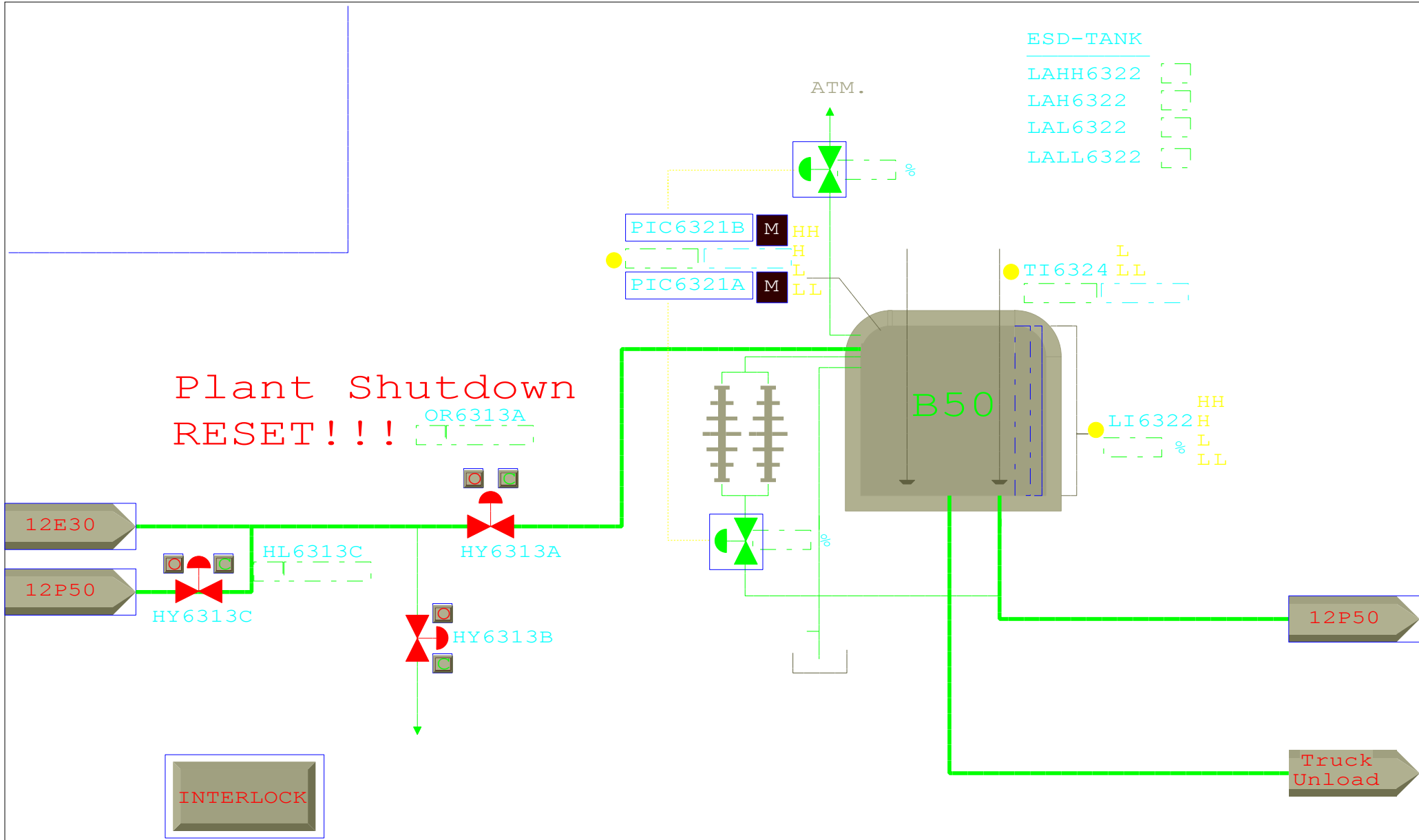
Booster  
Compr.

Air  
Purif.  
Unit

O2 / N2  
Column

Argon  
Rectif.

TRENDS



Current

S

A

B

C

D

MENU

Main Air Compr.

Booster Turbine

Nitrogen Compr.

Main H. Exch.

Booster Compr.

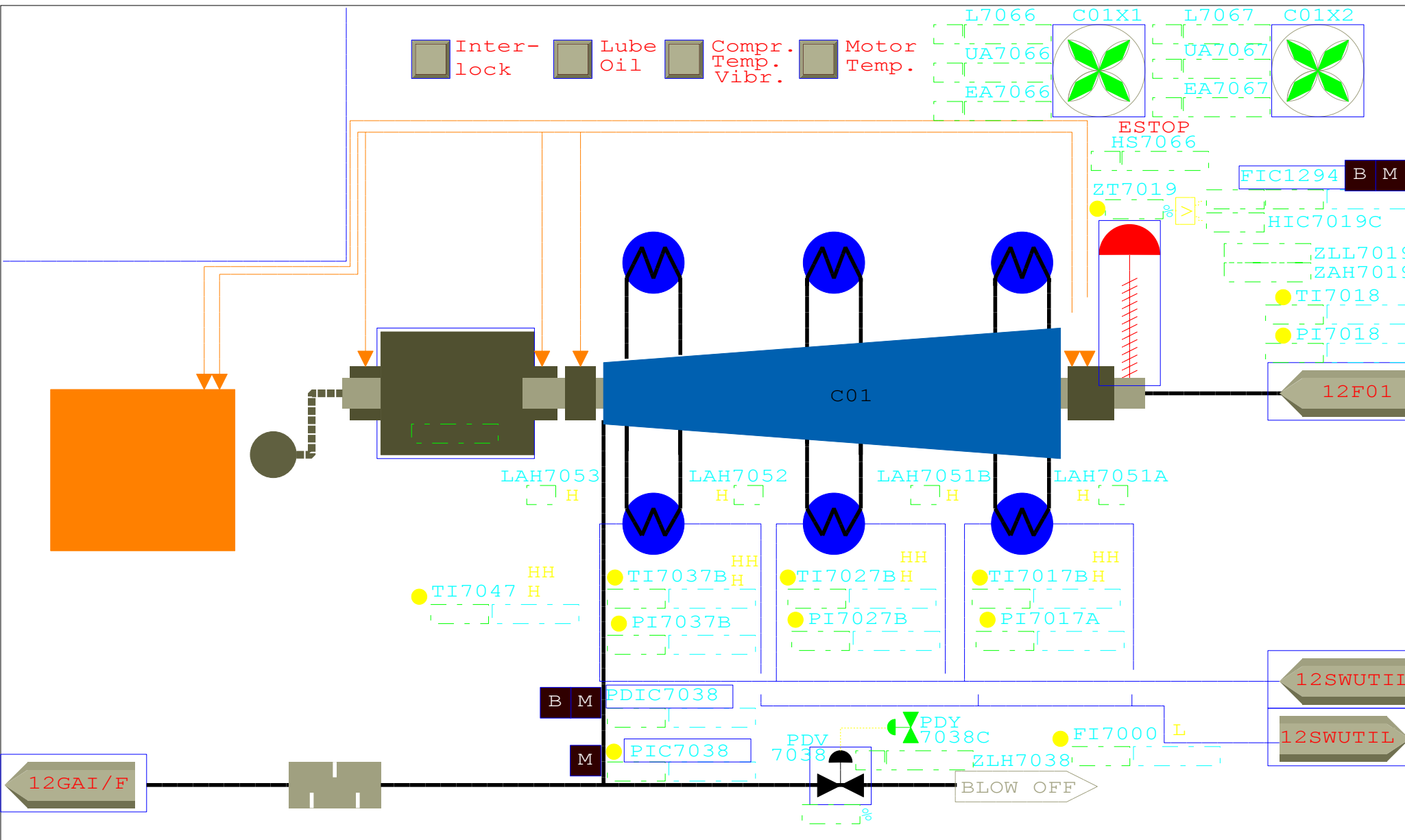
Air Purif. Unit

O2 / N2 Column

Argon Rectif.

TRENDS





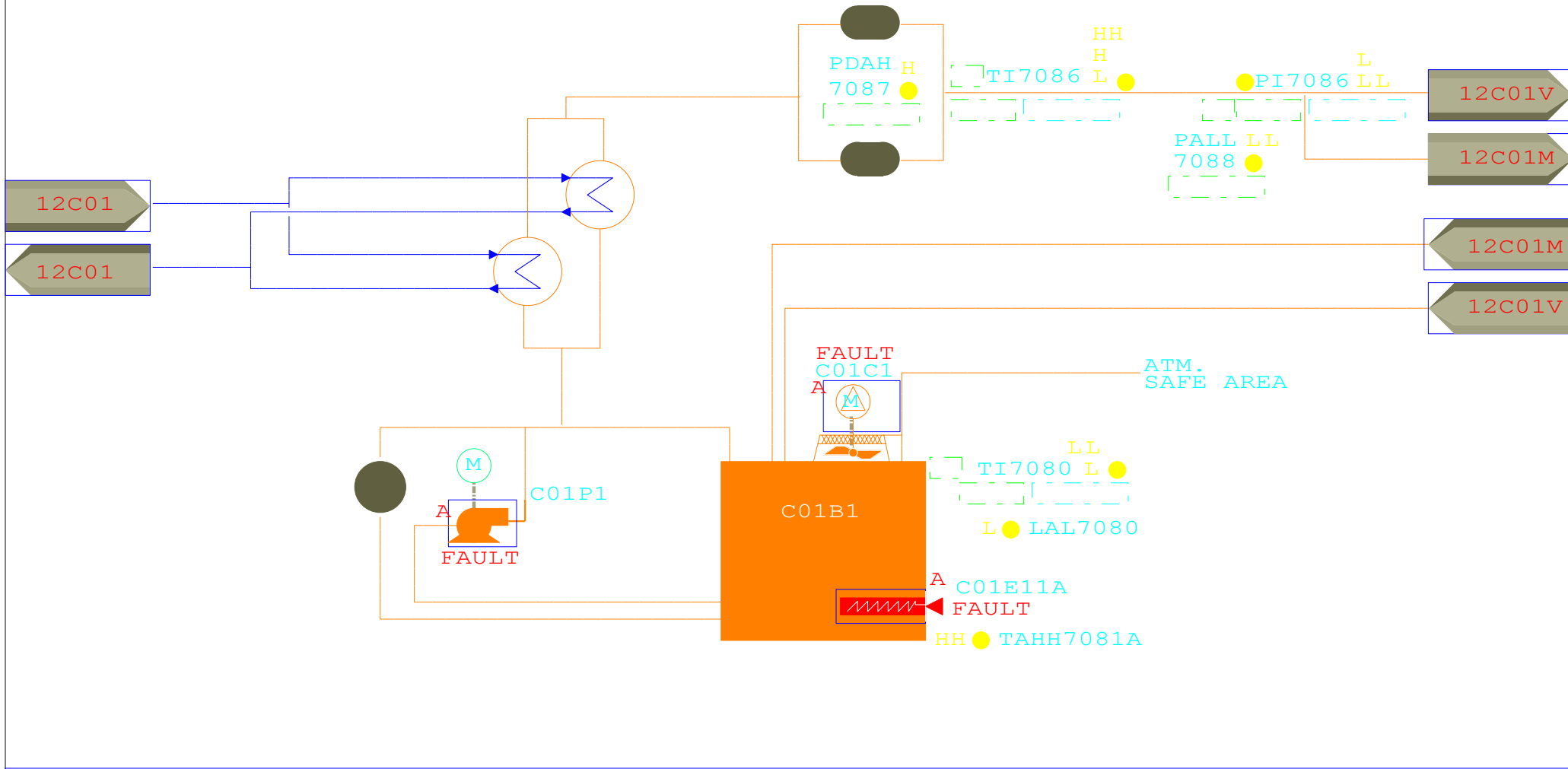
S  
A  
B  
C  
D

Current

MENU Main Air Compr. Booster Turbine Nitrogen Compr. Main H. Exch. Booster Compr. Air Purif. Unit O2 / N2 Column Argon Rectif. TRENDS

# C01 Compressor Lube Oil

Inter-lock  
  Proc. Temp.  
  Compr. Temp.  
  Motor Temp.



S

Current

A  
B  
C  
D

MENU

Main Air  
Compr.

Booster  
Turbine

Nitrogen  
Compr.

Main H.  
Exch.

Booster  
Compr.

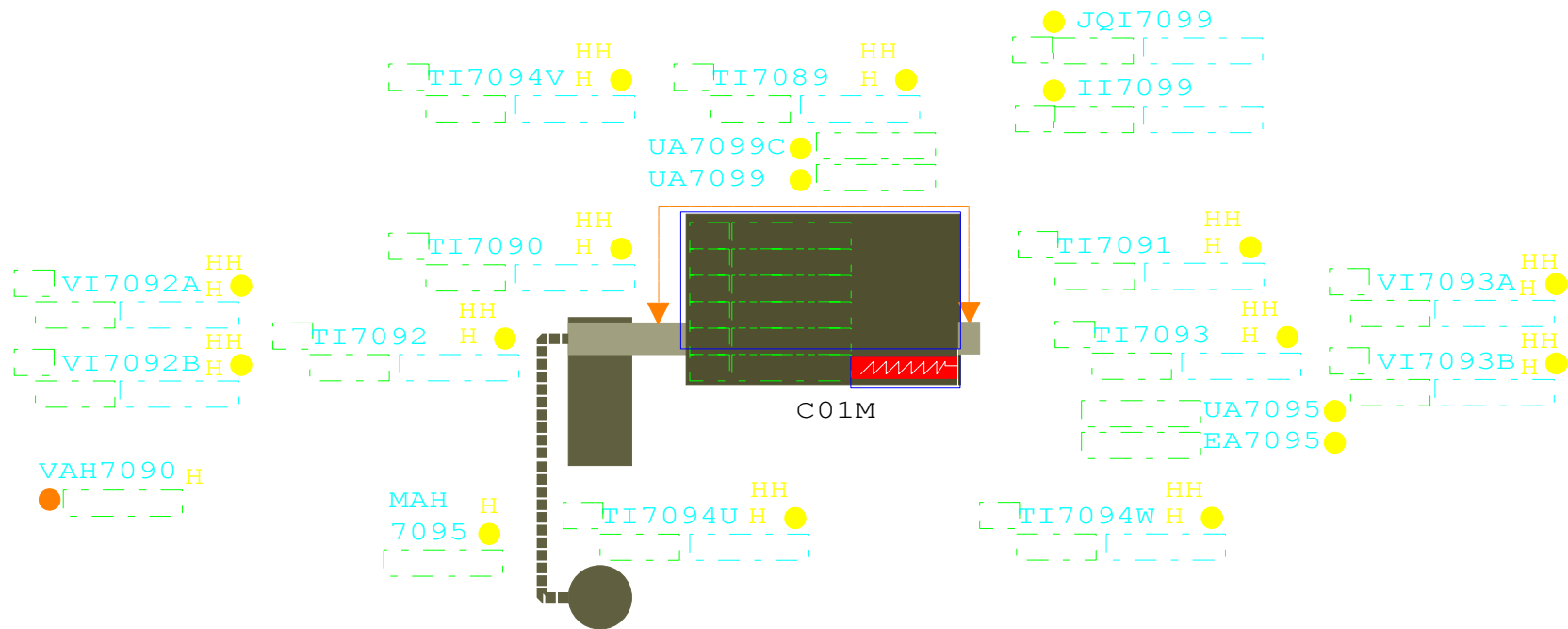
Air  
Purif.  
Unit

O2 / N2  
Column

Argon  
Rectif.

TRENDS

Inter-lock  
  Proc. ess  
  Lube Oil  
  Compr. Temp.



S  
A  
B  
C  
D

Current

MENU

Main Air  
Compr.

Booster  
Turbine

Nitrogen  
Compr.

Main H.  
Exch.

Booster  
Compr.

Air  
Purif.  
Unit

O2 / N2  
Column

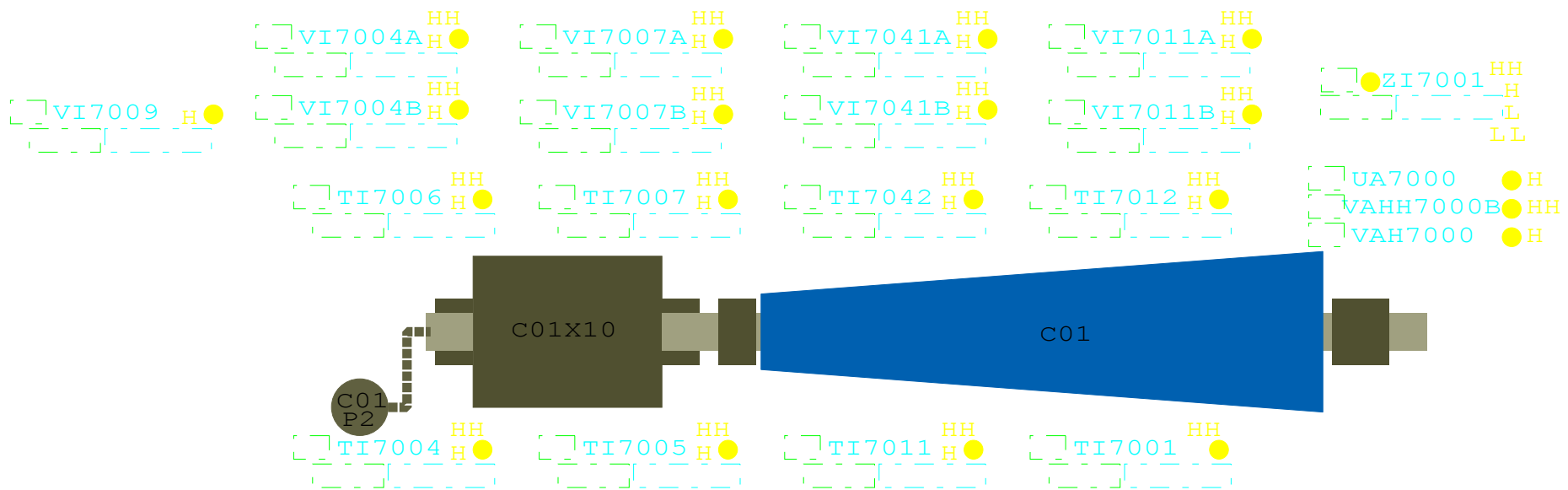
Argon  
Rectif.

TRENDS





Inter-lock  
  Proc ess  
  Lube Oil  
  Motor Temp.



S

Current

A

B

C

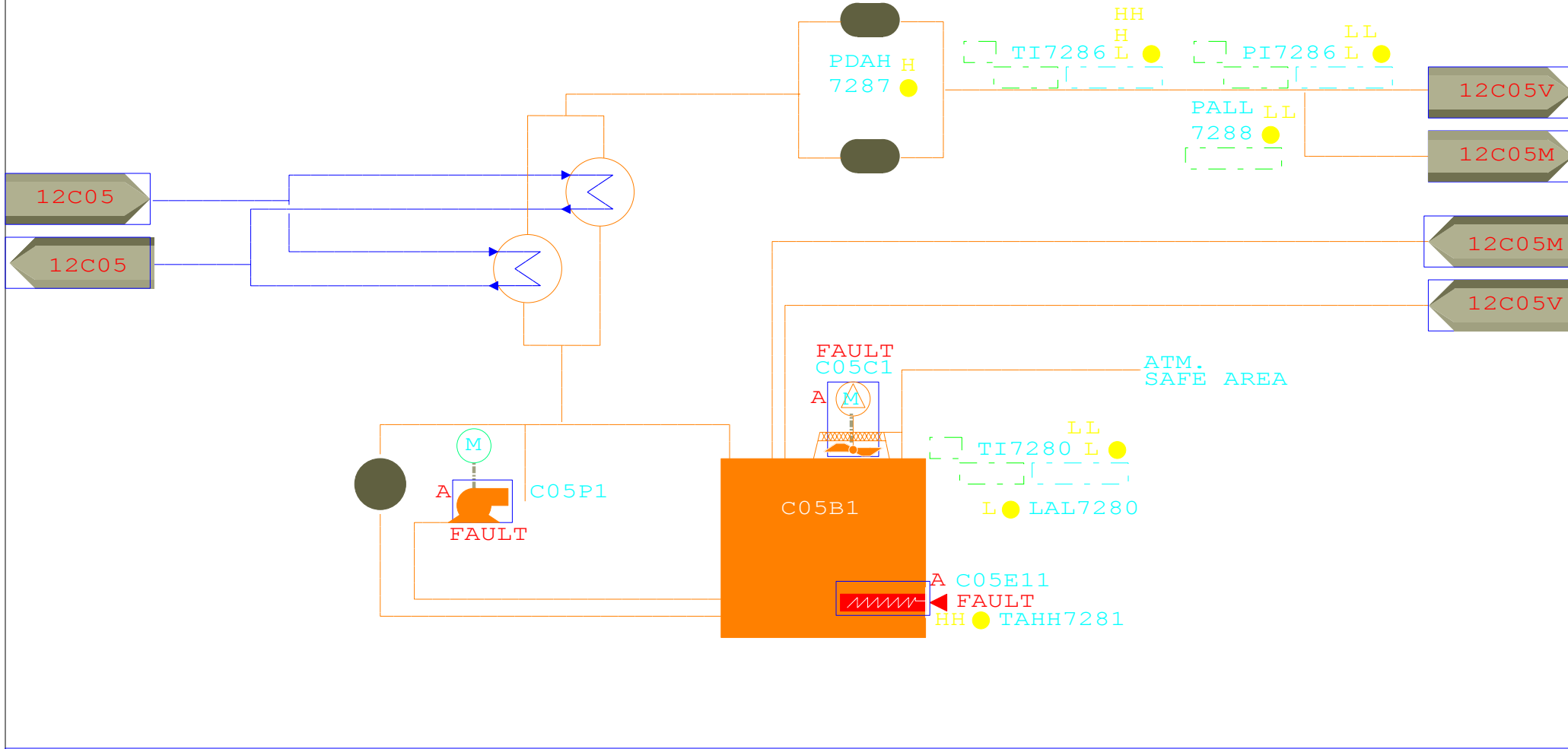
D

- 
- 
- 
- 
- 
- 
- 
- 
- 
-



# C05 Compressor Lube Oil

Inter-lock   
  Process   
  Compr. Temp.   
  Motor Temp.



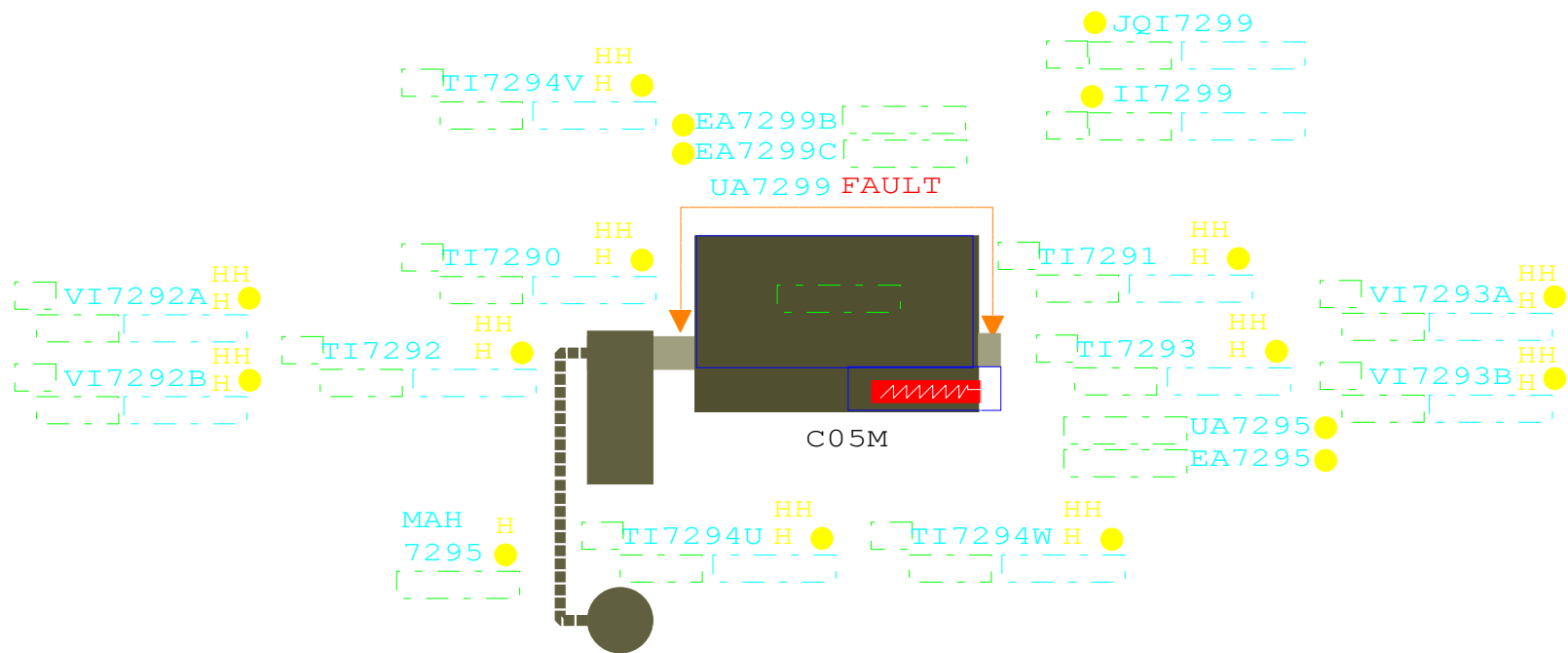
S  
A  
B  
C  
D

Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS



Inter-lock  
  Proc ess  
  Lube Oil  
  Compr. Temp.



S

Current

A  
B  
C  
D

MENU

Main Air Compr.

Booster Turbine

Nitrogen Compr.

Main H. Exch.

Booster Compr.

Air Purif. Unit

O2 / N2 Column

Argon Rectif.

TRENDS

Start up Conditions

Alarm Conditions

Trip Conditions

Out First

READY TO START

UA7298C SD

UL7297

L7297

FAL7200

PAL7216

ZSL7219

ZLH7228

LAL7280

EL7283

EL7285A

TAL7286

MAH7295

EL7299

VAH7200

ZAH7201

VAH7203A

VAH7203B

TAH7204

VAH7204A

VAH7204B

TAH7205

TAH7206

TAH7207

VAH7209

VAH7211A

VSH7211B

TAH7212

ZAH7219

PAL7216

VAH7221A

VSH7221B

TAH7222

TAH7226

VAH7231A

VSH7231B

TAH7232

TAH7236

VAH7241A

VAH7241B

TAH7242

TAH7246

TAH7268

PAL7286

TAH7286

VAH7290

TAH7290

TAH7291

TAH7292

VAH7292A

VAH7292B

VAH7293A

VAH7293B

TAH7293

TAH7294U

TAH7294V

TAH7294W

VAHH7200

ZAHH7201

VAHH7203A

VAHH7203B

TAHH7204

VAHH7204A

VAHH7204B

TAHH7205

TAHH7206

TAHH7207

VAHH7211A

VAHH7211B

TAHH7212

ZAHH7219

PALL7216

VAHH7221A

VAHH7221B

TAHH7222

TAHH7226

VAHH7231A

VAHH7231B

TAHH7232

TAHH7236

VAHH7241A

VAHH7241B

TAHH7242

TAHH7246

TAHH7268

PALL7286

TAHH7286

PALL7288A

VAHH7290

TAHH7290

TAHH7291

TAHH7292

VAHH7292A

VAHH7292B

VAHH7293A

VAHH7293B

TAHH7293

TAHH7294U

TAHH7294V

TAHH7294W

RESET

C05

Operate

Control

Start up Conditions

Alarm Conditions

Trip Conditions

Out First

READY TO START

UA7298C SD

UL7297

L7297

FAL7200

PAL7216

ZSL7219

ZLH7228

LAL7280

EL7283

EL7285A

TAL7286

MAH7295

EL7299

VAH7200

ZAH7201

VAH7203A

VAH7203B

TAH7204

VAH7204A

VAH7204B

TAH7205

TAH7206

TAH7207

VAH7209

VAH7211A

VSH7211B

TAH7212

ZAH7219

PAL7216

VAH7221A

VSH7221B

TAH7222

TAH7226

VAH7231A

VSH7231B

TAH7232

TAH7236

VAH7241A

VAH7241B

TAH7242

TAH7246

TAH7268

PAL7286

TAH7286

VAH7290

TAH7290

TAH7291

TAH7292

VAH7292A

VAH7292B

VAH7293A

VAH7293B

TAH7293

TAH7294U

TAH7294V

TAH7294W

Bypass

VAHH7200

ZAHH7201

VAHH7203A

VAHH7203B

TAHH7204

VAHH7204A

VAHH7204B

TAHH7205

TAHH7206

TAHH7207

VAHH7211A

VAHH7211B

TAHH7212

ZAHH7219

PALL7216

VAHH7221A

VAHH7221B

TAHH7222

TAHH7226

VAHH7231A

VAHH7231B

TAHH7232

TAHH7236

VAHH7241A

VAHH7241B

TAHH7242

TAHH7246

TAHH7268

PALL7286

TAHH7286

PALL7288A

VAHH7290

TAHH7290

TAHH7291

TAHH7292

VAHH7292A

VAHH7292B

VAHH7293A

VAHH7293B

TAHH7293

TAHH7294U

TAHH7294V

TAHH7294W

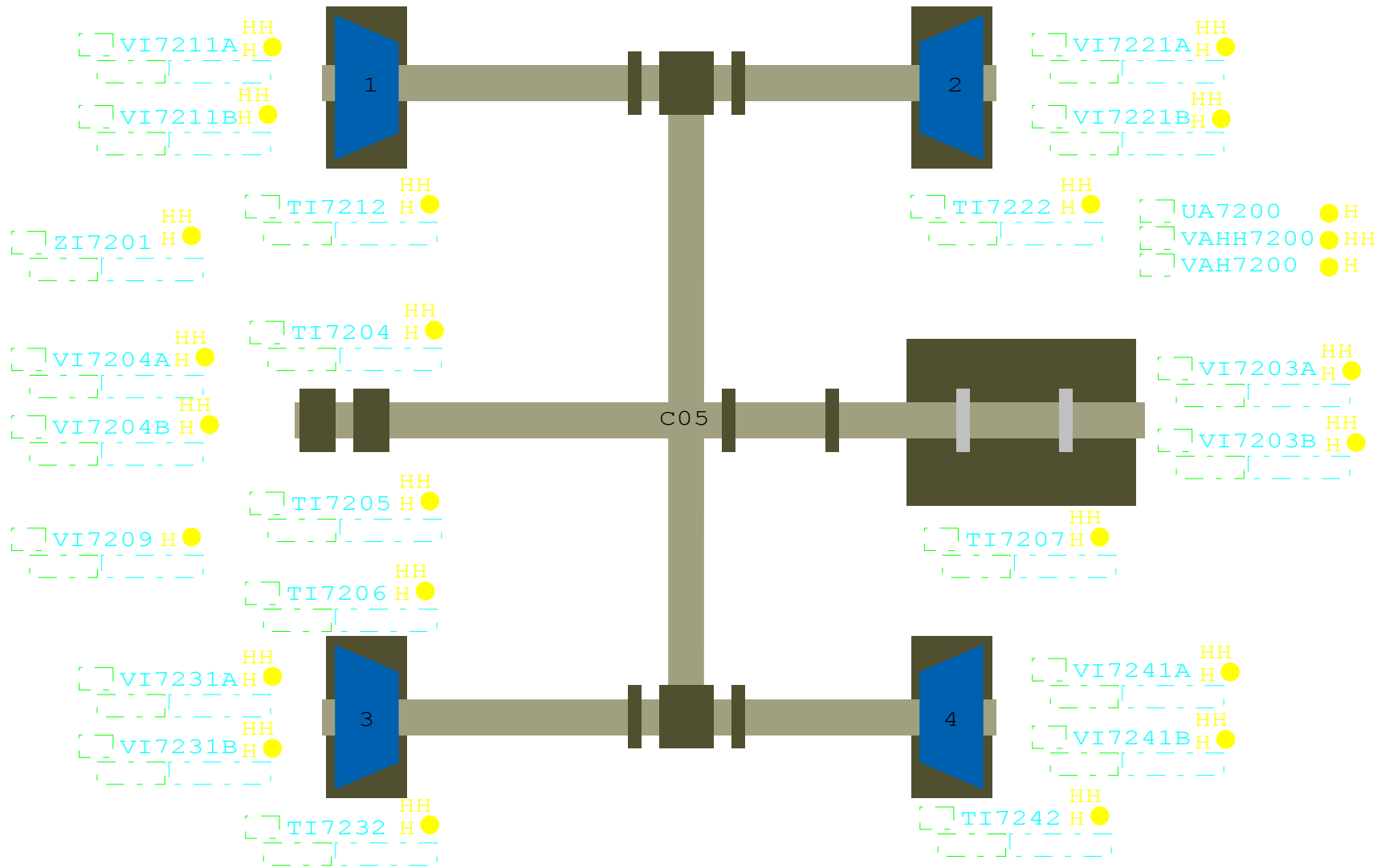
RESET

C05

Operate

Control

Inter-lock  
  Process  
  Lube Oil  
  Motor Temp.



S

Current

A  
B  
C  
D

MENU

Main Air Compr.

Booster Turbine

Nitrogen Compr.

Main H. Exch.

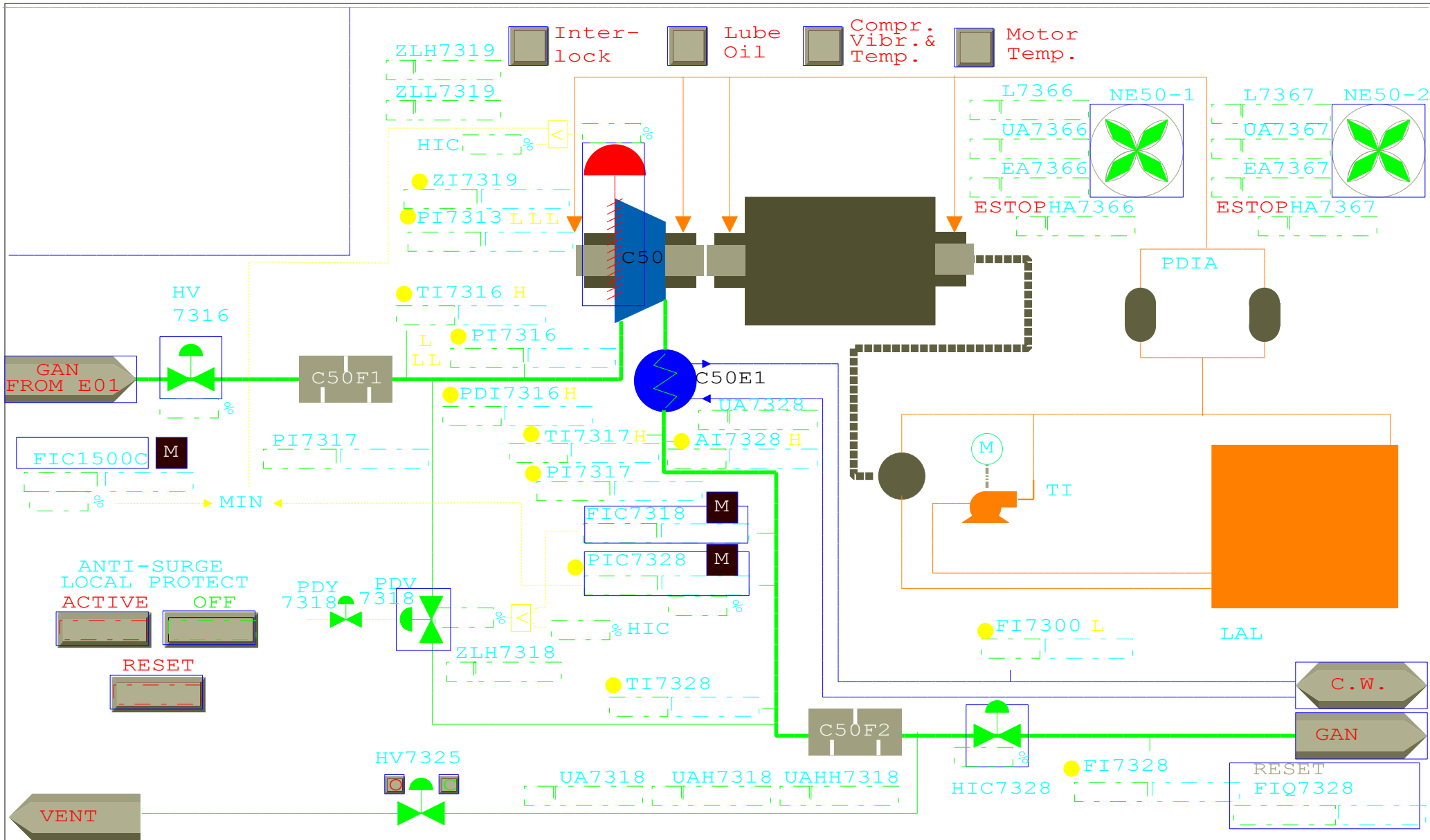
Booster Compr.

Air Purif. Unit

O2 / N2 Column

Argon Rectif.

TRENDS

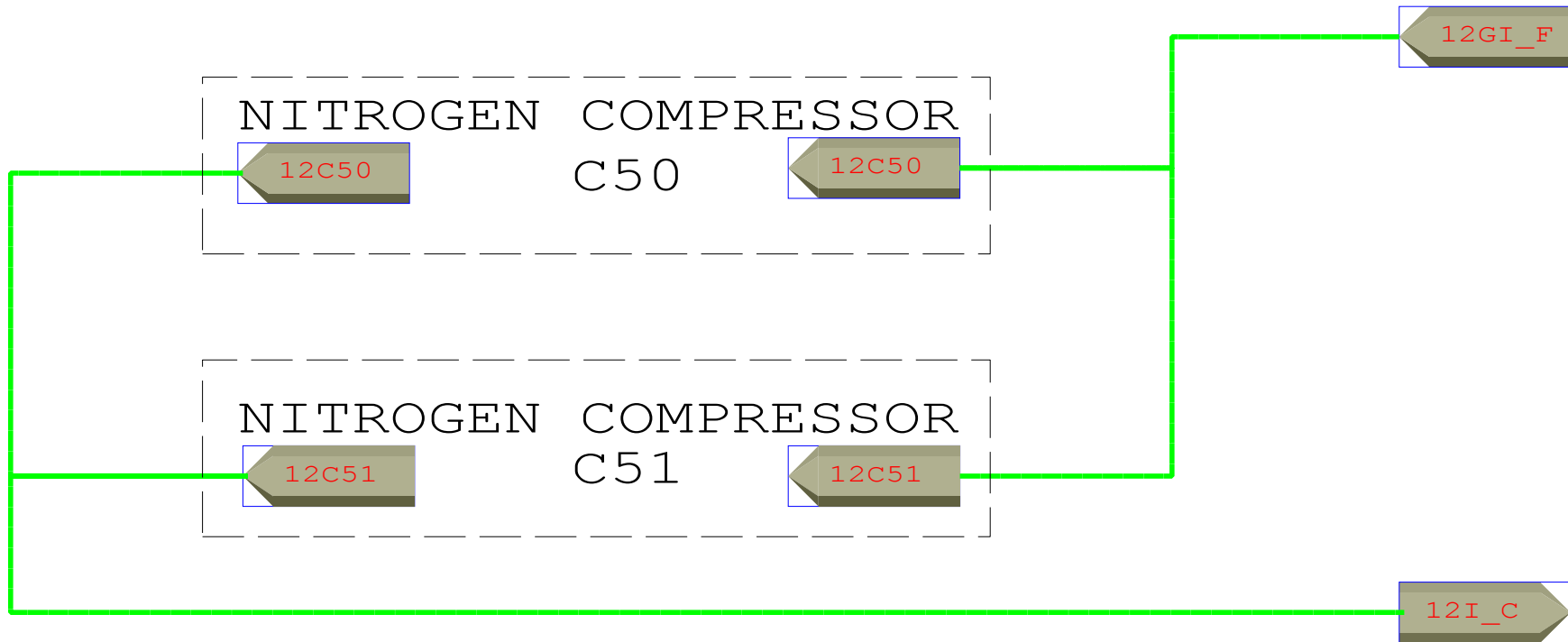


S	Current									
A										
B										
C										
D										

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS

Date Printed: Monday, March 22, 2004 at 7:44:30 PM

Date Last Modified: Thursday, March 18, 2004 at 9:14:00 PM



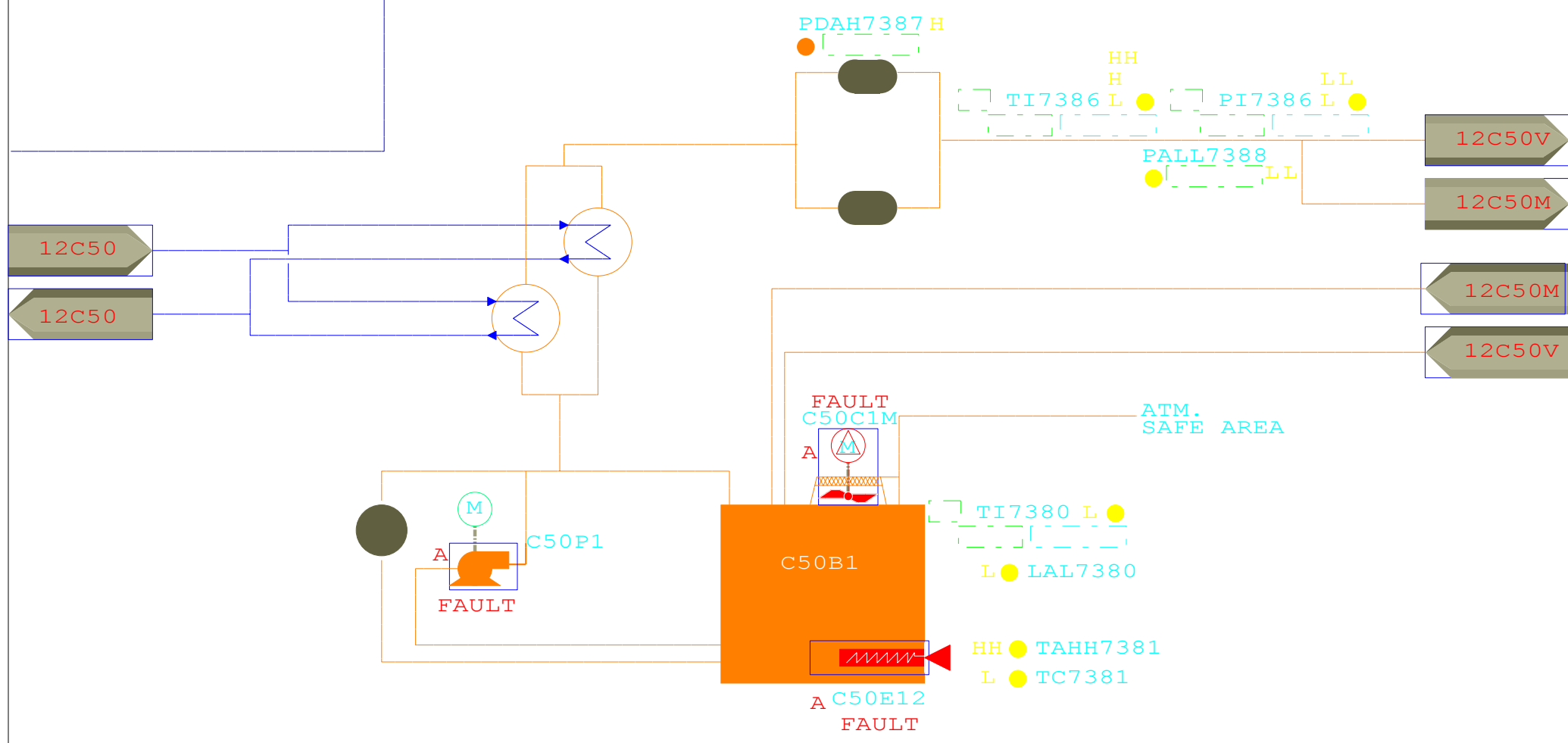
S  
A  
B  
C  
D

Current

MENU	Main Air Compr.	Booster Turbine	Nitrogen Compr.	Main H. Exch.	Booster Compr.	Air Purif. Unit	O2 / N2 Column	Argon Rectif.	TRENDS
------	-----------------	-----------------	-----------------	---------------	----------------	-----------------	----------------	---------------	--------

# C50 N2 Compressor Lube Oil

Inter-lock  
  Proc. Temp.  
  Compr. Temp.  
  Motor Temp.



S  
A  
B  
C  
D

Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS

Inter-lock Proc Lube Compr.  
lock ess Oil Temp.

UL7397 READY TO  
START

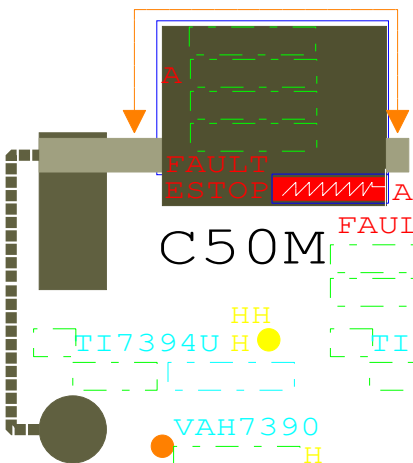
UA7398C TRIP

TI7394V HH  
H

JQI7399  
II7399

VI7392A HH  
H  
VI7392B HH  
H

TI7392 HH  
H



TI7393 HH  
H

VI7393A HH  
H  
VI7393B HH  
H

UA7395  
EA7395  
TI7394W HH  
H

VAH7390 H  
VAHH7390 HH

S  
A  
B  
C  
D

Current

MENU

Main Air  
Compr.

Booster  
Turbine

Nitrogen  
Compr.

Main H.  
Exch.

Booster  
Compr.

Air  
Purif.  
Unit

O2 / N2  
Column

Argon  
Rectif.

TRENDS



# C50

## Start up Conditions

READY TO  
START

UA7398C	SD	
UL7397		
FAL7300		
ZLH7318		●
ZLL7319		●
LAL7380		●
EL7385		●
TAL7386		
EL7399		●
PAL7316		
EL7383		●

## Alarm Conditions

TAH7306		
PAL7313		
VAH7311B		
TAH7312		
VAH7321B		
TAH7304		
TAH7305		
VAH7311A		
VAH7321A		
PAL7386		
TAH7392		
TAH7393		
TAH7394U		
TAH7394V		
TAH7394W		
PAL7316		
TAH7322		
VAH7390		●
VAH7392A		
VAH7392B		
VAH7393A		
VAH7393B		
ZAH7301		
TAH7303		
TAH7386		
UAH7318		●
VAH7300		●

## Trip Conditions

First  
Out

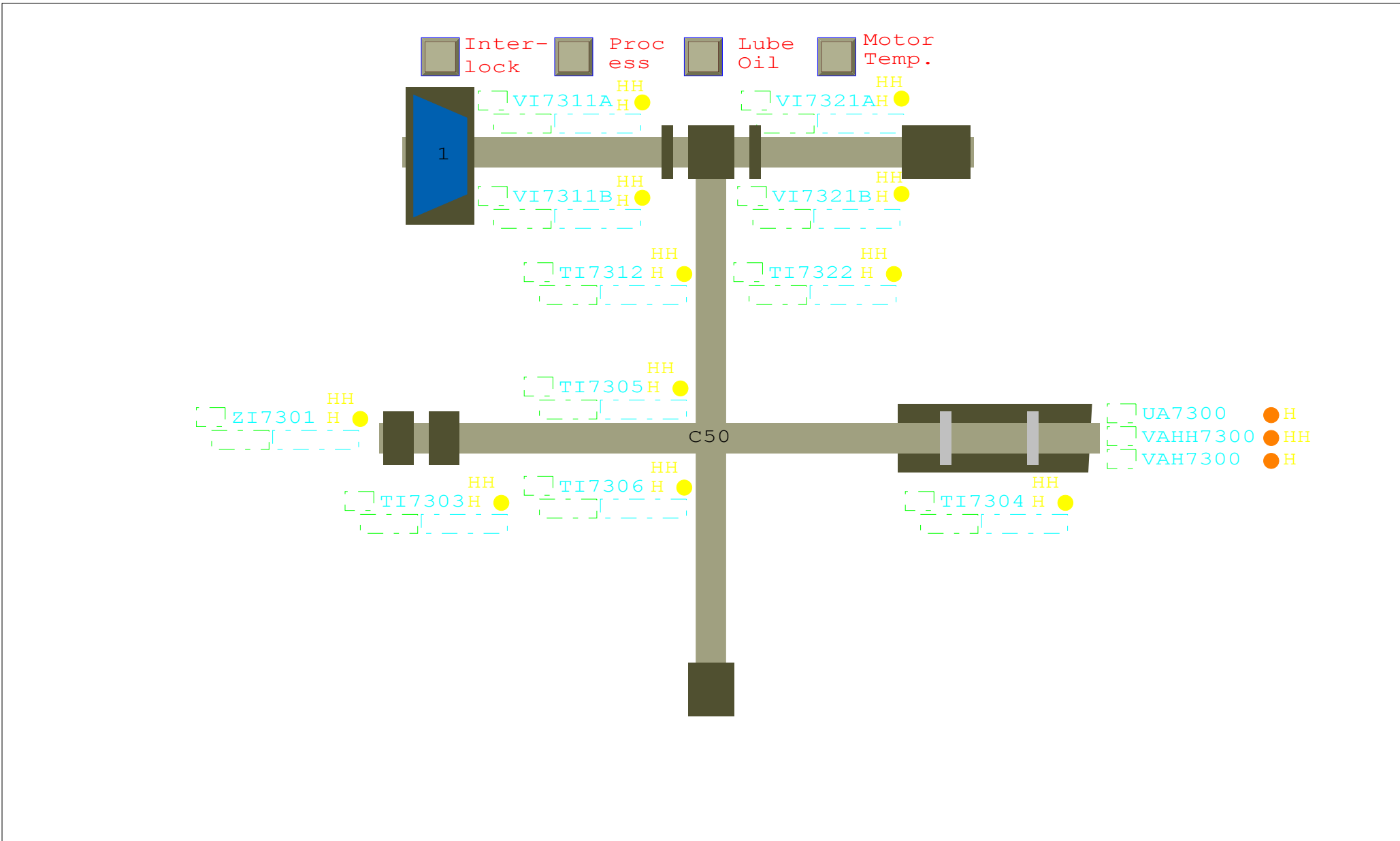
TAHH7306			●
PALL7313			●
VAHH7311B			●
TAHH7312			●
VAHH7321B			●
TAHH7304			●
TAHH7305			●
VAHH7311A			●
VAHH7321A			●
PALL7386			●
PALL7388		●	●
TAHH7392			●
TAHH7393			●
TAHH7394U			●
TAHH7394V			●
TAHH7394W			●
PALL7316			●
TAHH7322			●
VAHH7390		●	●
VAHH7392A			●
VAHH7392B			●
VAHH7393A			●
VAHH7393B			●
ZAHH7301			●
TAHH7303			●
TAHH7386			●
UAHH7318		●	●
VAHH7300		●	●

RESET

C50

Operate

Control



S

Current

A

B

C

D

MENU

Main Air  
Compr.

Booster  
Turbine

Nitrogen  
Compr.

Main H.  
Exch.

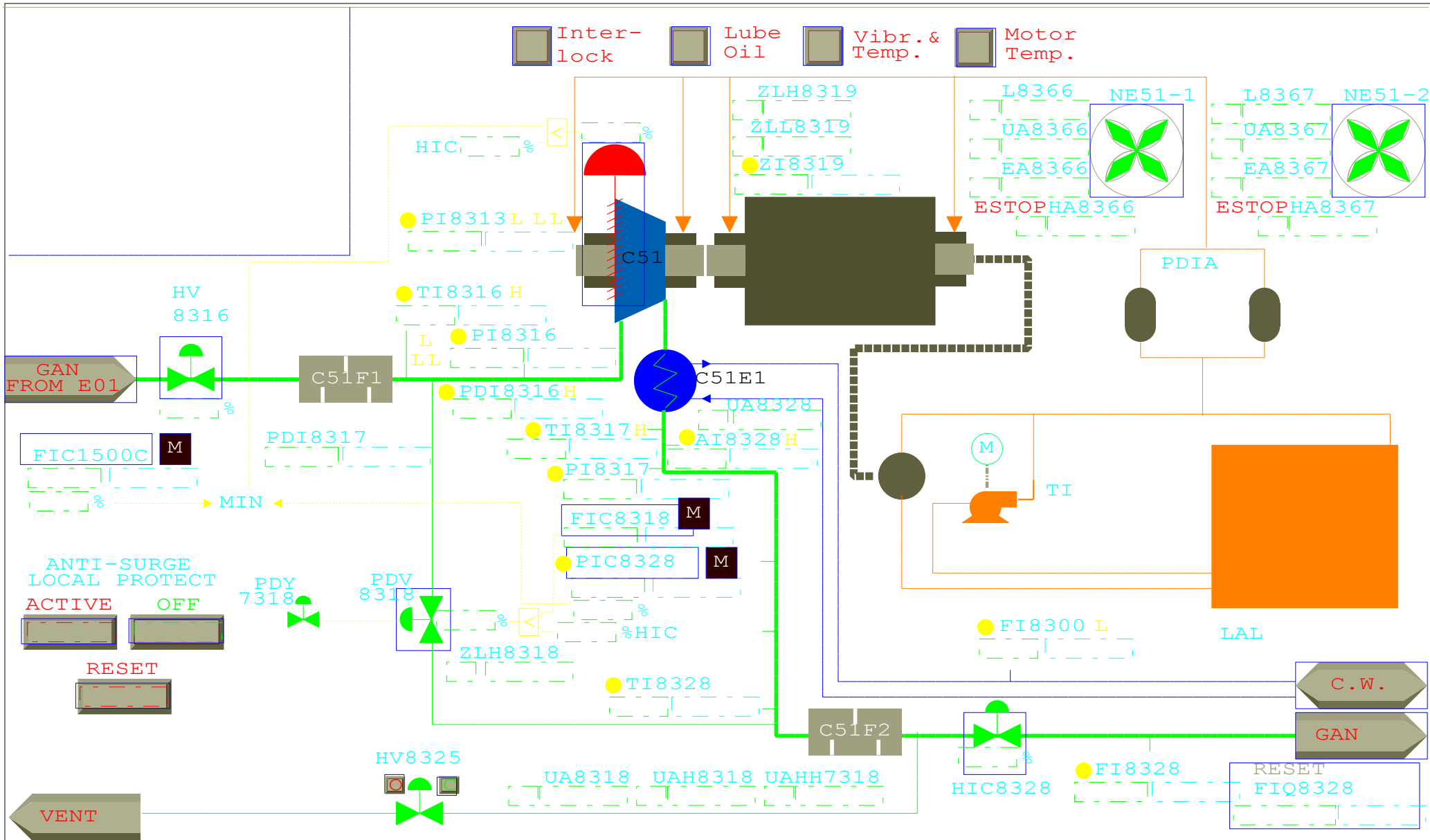
Booster  
Compr.

Air  
Purif.  
Unit

O2 / N2  
Column

Argon  
Rectif.

TRENDS



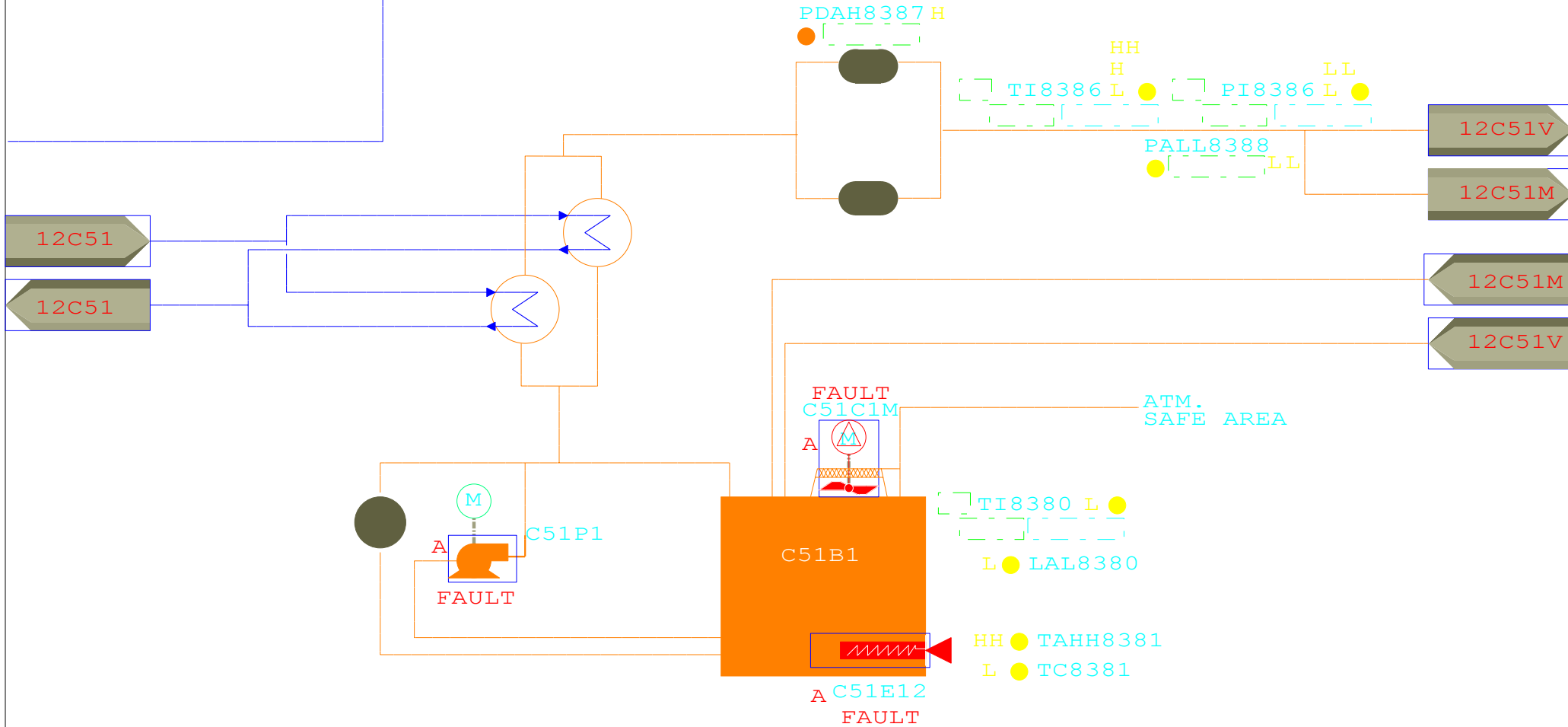
S  
A  
B  
C  
D

Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS

# C51 N2 Compressor Lube Oil

Inter-lock  
  Proc. Temp.  
  Compr. Temp.  
  Motor Temp.



S  
A  
B  
C  
D

Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS

Inter-lock Proc Lube Compr.  
lock ess Oil Temp.

UL8397 READY TO  
START

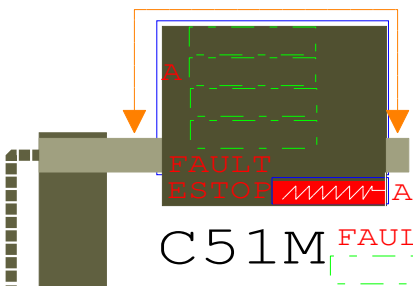
UA8398C TRIP

TI8394V HH  
H ●

JQI8399  
II8399

VI8392A HH  
H ●  
VI8392B HH  
H ●

TI8392 HH  
H ●



TI8393 HH  
H ●

VI8393A HH  
H ●  
VI8393B HH  
H ●

TI8394U HH  
H ●  
TI8394W HH  
H ●

VAH8390  
H ●

VAHH8390  
HH ●

S

Current

A  
B  
C  
D

MENU

Main Air  
Compr.

Booster  
Turbine

Nitrogen  
Compr.

Main H.  
Exch.

Booster  
Compr.

Air  
Purif.  
Unit

O2 / N2  
Column

Argon  
Rectif.

TRENDS

# C51

## Start up Conditions

READY TO  
START

UA8398C	SD		
UL8397			
FAL8300			
ZLH8318		●	
ZLL8319		●	
LAL8380		●	
EL8385		●	
TAL8386			
EL8399		●	
PAL7316			
EL7383		●	

## Alarm Conditions

TAH8306			
PAL8313			
VAH8311B			
TAH8312			
VAH8321B			
TAH8304			
TAH8305			
VAH8311A			
VAH8321A			
PAL8386			
TAH8392			
TAH8393			
TAH8394U			
TAH8394V			
TAH8394W			
PAL8316			
TAH8322			
VAH8390		●	
VAH8392A			
VAH8392B			
VAH8393A			
VAH8393B			
ZAH8301			
TAH8303			
TAH8386			
UAH8318		●	
VAH8300		●	

## Trip Conditions

First  
Out

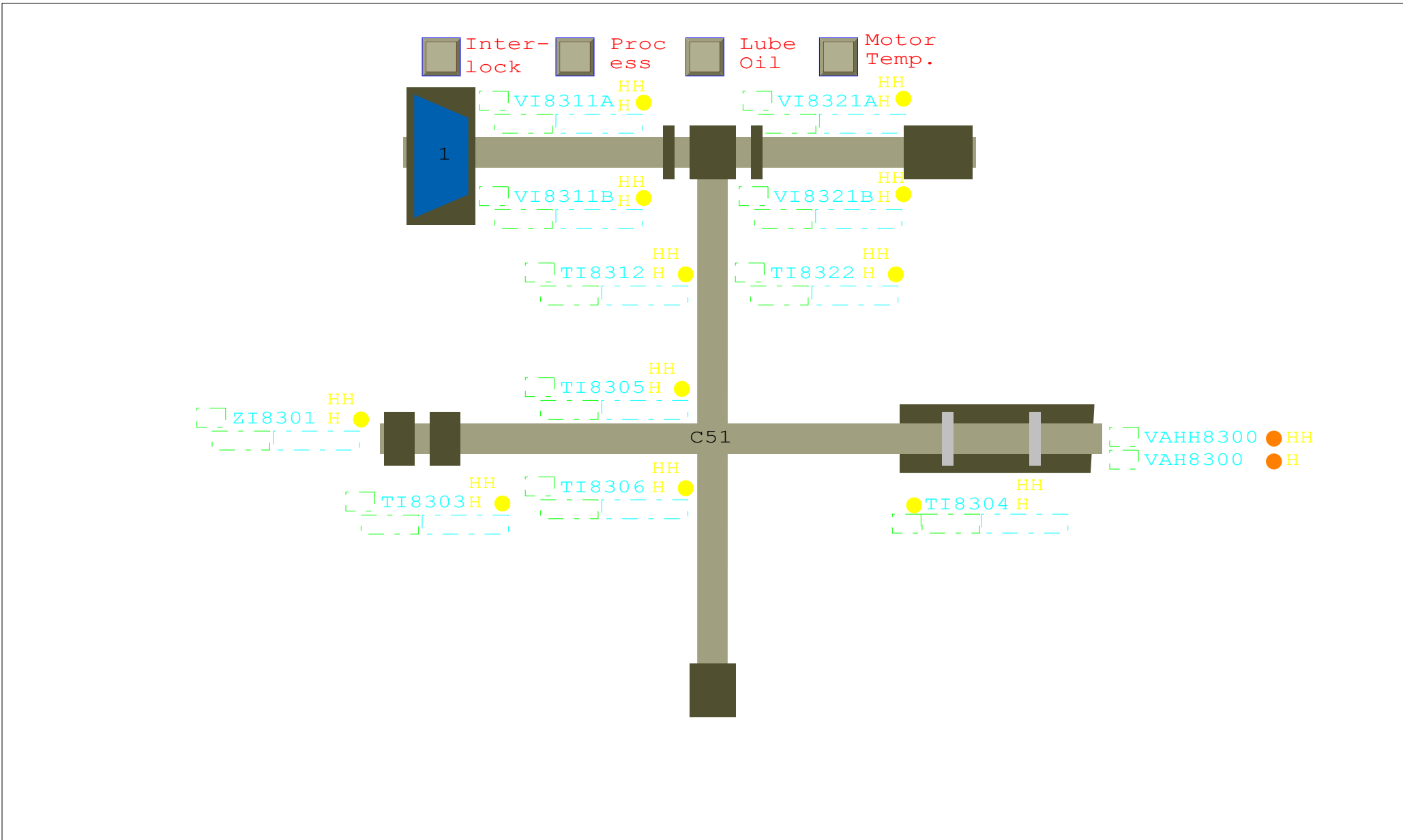
TAHH8306			●
PALL8313			●
VAHH8311B			●
TAHH8312			●
VAHH8321B			●
TAHH8304			●
TAHH8305			●
VAHH8311A			●
VAHH8321A			●
PALL8386			●
PALL8388		●	●
TAHH8392			●
TAHH8393			●
TAHH8394U			●
TAHH8394V			●
TAHH8394W			●
PALL8316			●
TAHH8322			●
VAHH8390		●	●
VAHH8392A			●
VAHH8392B			●
VAHH8393A			●
VAHH8393B			●
ZAHH8301			●
TAHH8303			●
TAHH8386			●
UAHH8318		●	●
VAHH8300		●	●

RESET

C51

Operate

Control



S

Current

A

B

C

D

MENU

Main Air  
Compr.

Booster  
Turbine

Nitrogen  
Compr.

Main H.  
Exch.

Booster  
Compr.

Air  
Purif.  
Unit

O2 / N2  
Column

Argon  
Rectif.

TRENDS

Tag-No.	Description	ON DEMAND-RESET	Current	Prev. Day
FIQ6001		RESET	⌈ KNm3	⌈ KNm3
FIQ6032		RESET	⌈ KNm3	⌈ KNm3
FIQ6036		RESET	⌈ KNm3	⌈ KNm3
FIQ6171		RESET	⌈ KNm3	⌈ KNm3
FIQ6174		RESET	⌈ KNm3	⌈ KNm3
FIQ6371		RESET	⌈ KNm3	⌈ KNm3
FIQ6374		RESET	⌈ KNm3	⌈ KNm3
FIQ6571		RESET	⌈ KNm3	⌈ KNm3
FIQ6574		RESET	⌈ KNm3	⌈ KNm3



S

Current

A

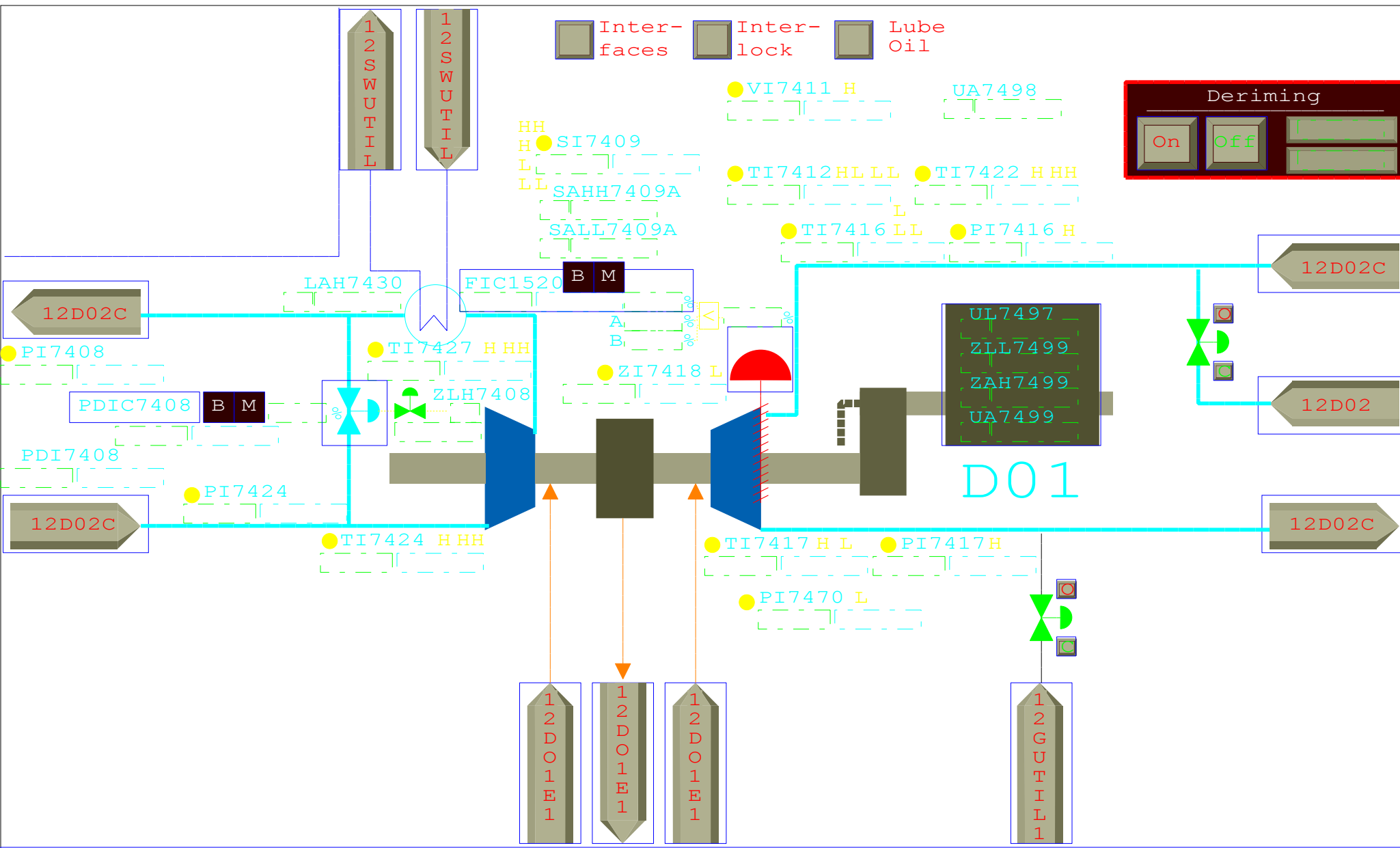
B

C

D

MENU Main Air Compr. Booster Turbine Nitrogen Compr. Main H. Exch. Booster Compr. Air Purif. Unit O2 / N2 Column Argon Rectif. TRENDS

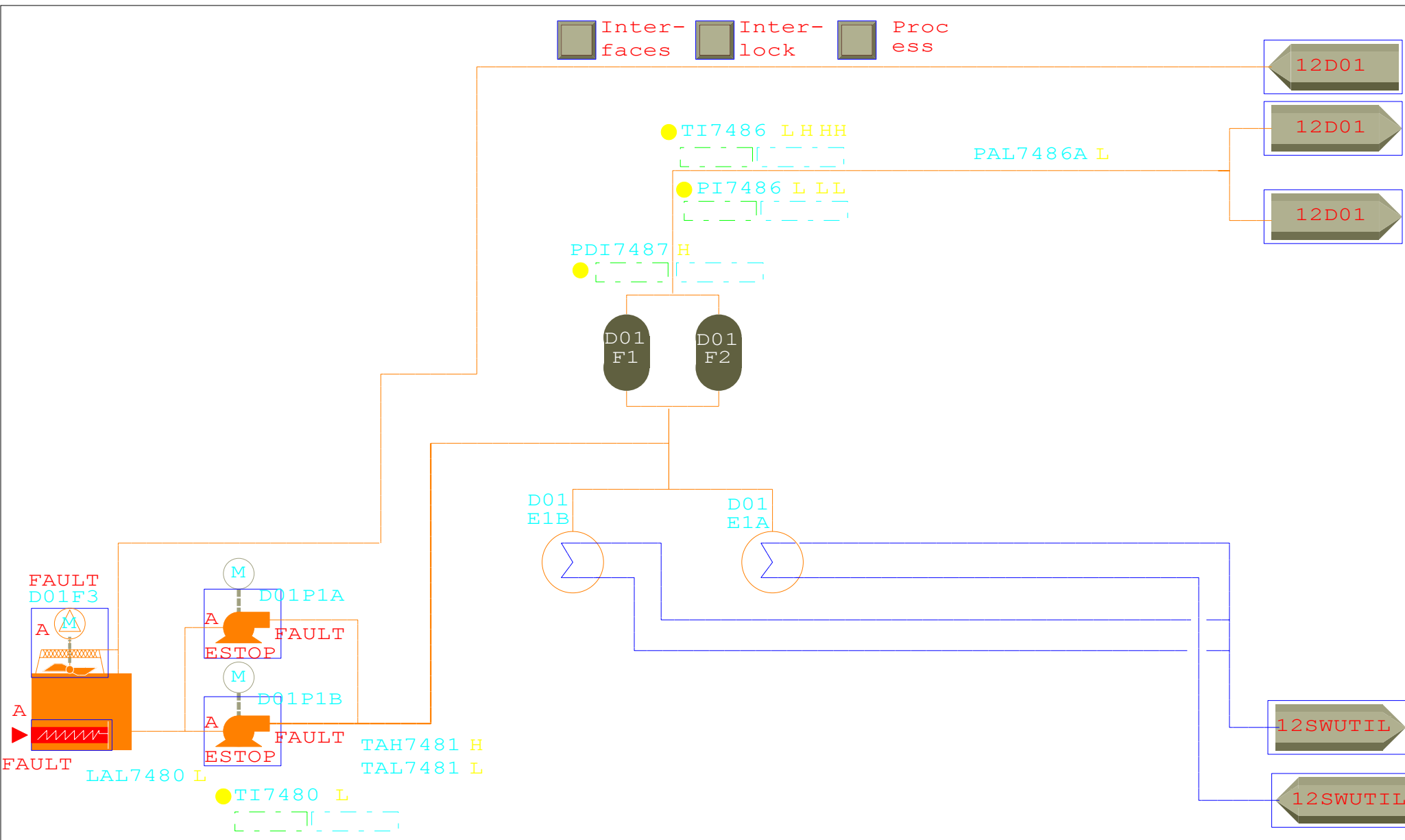




S Current

A  
B  
C  
D

- MENU
- Air Compr.
- Booster Compr.
- Nitrogen Compr.
- Main H. Exch.
- LIN/LOX LAR Storage
- I/F&I/C Utility
- O2 / N2 Column
- Argon Rectif.
- TRENDS

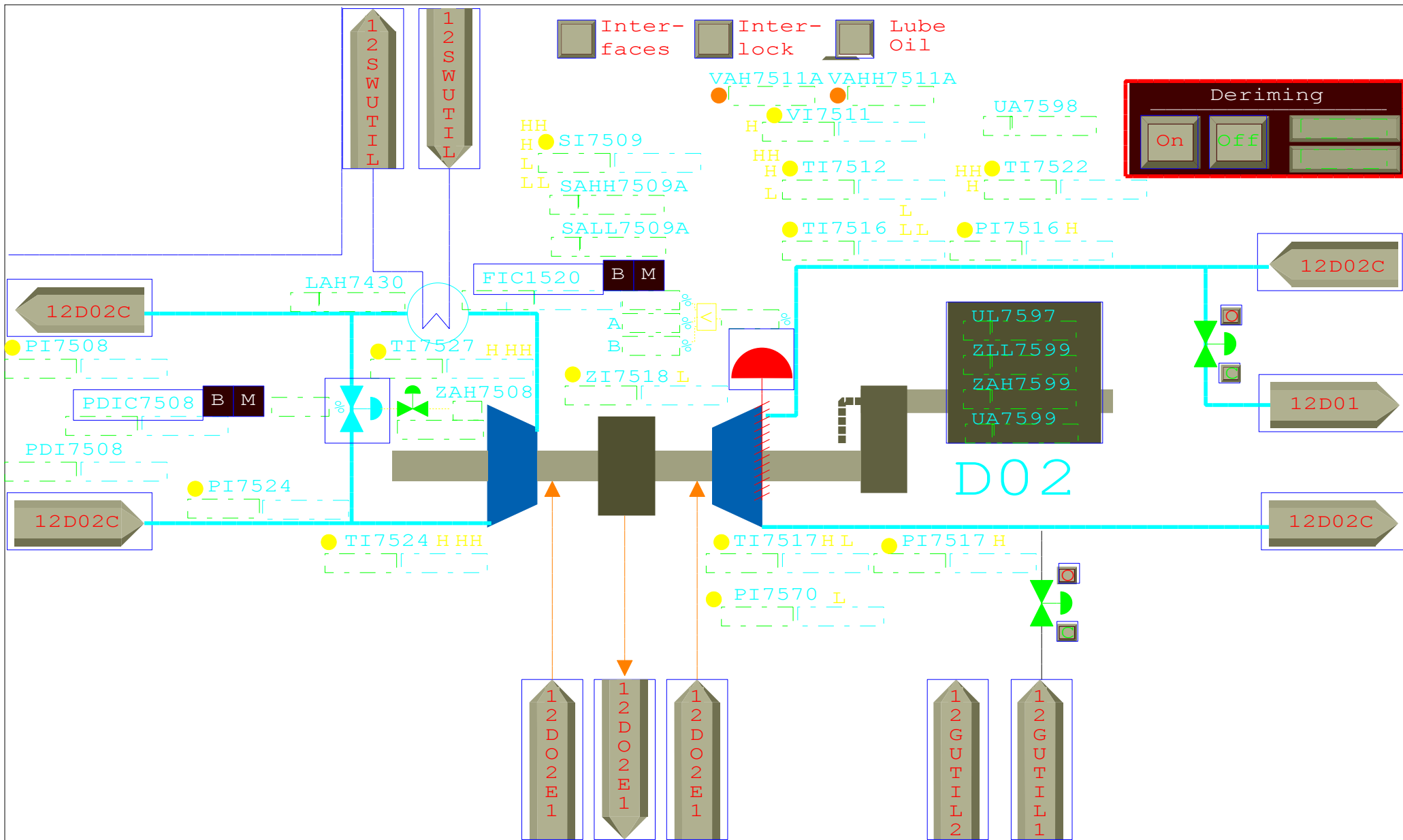


S  
A  
B  
C  
D

Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS

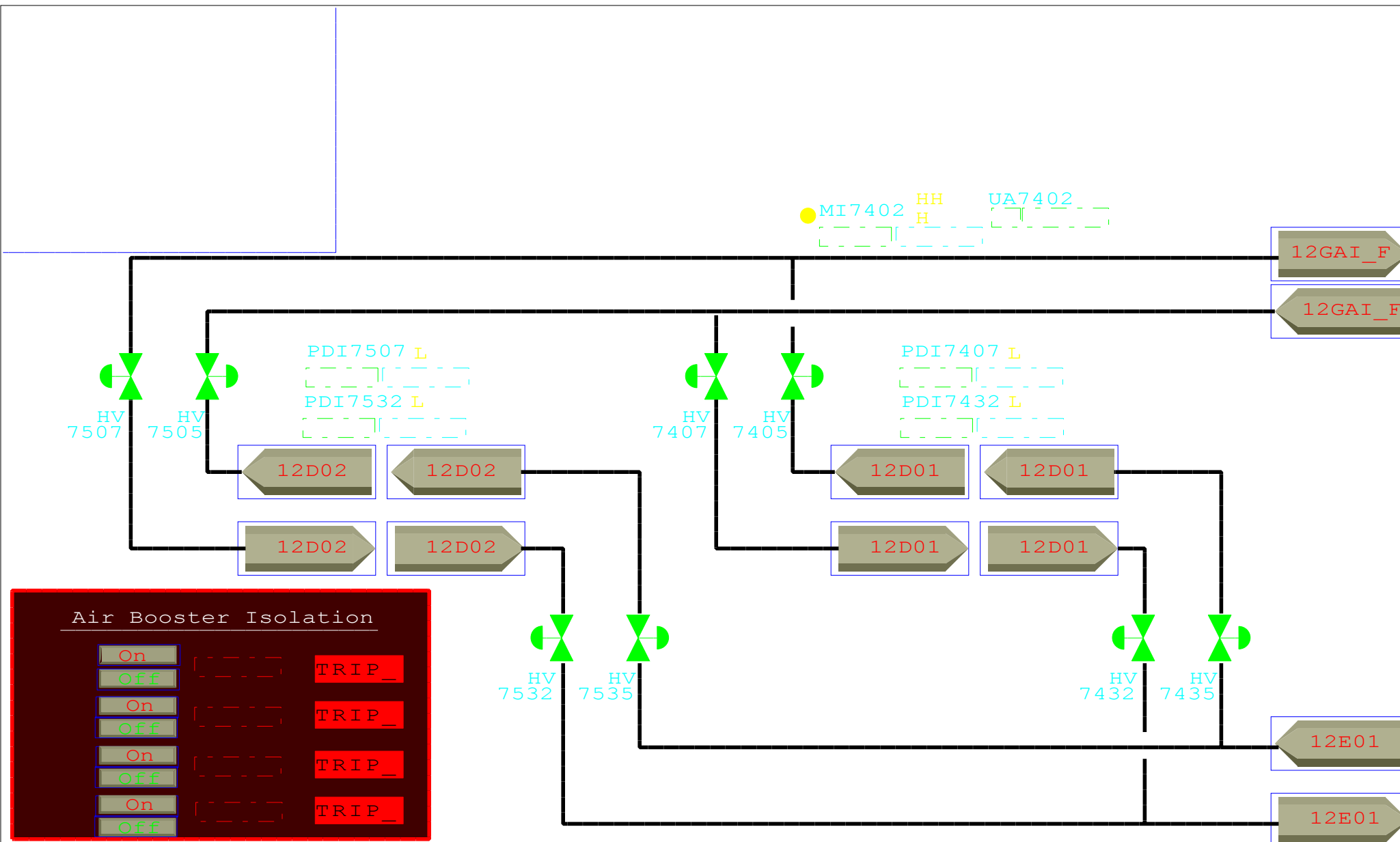




S  
A  
B  
C  
D

Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS



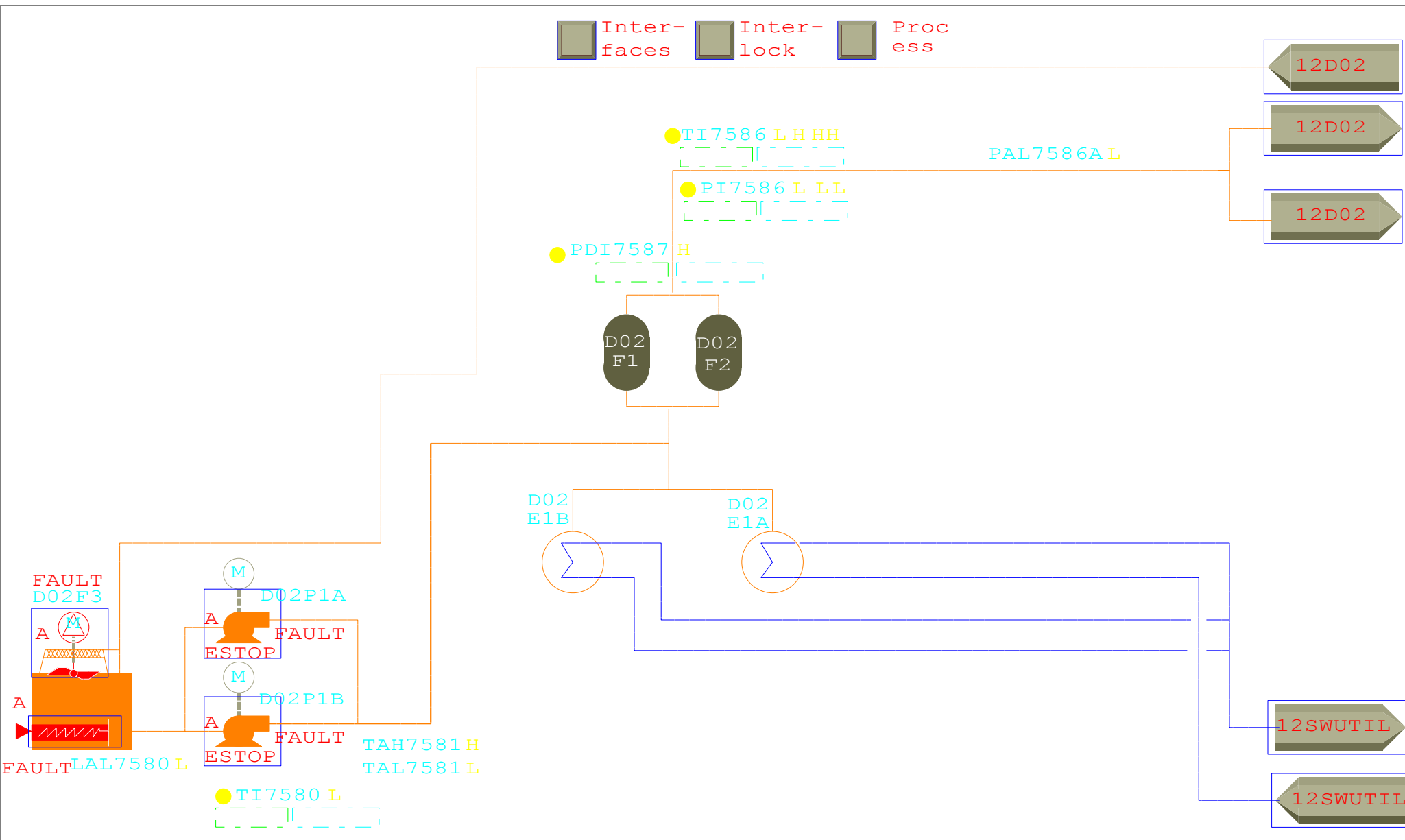
**Air Booster Isolation**

On		TRIP_
Off		
On		TRIP_
Off		
On		TRIP_
Off		
On		TRIP_
Off		

S  
A  
B  
C  
D

Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS

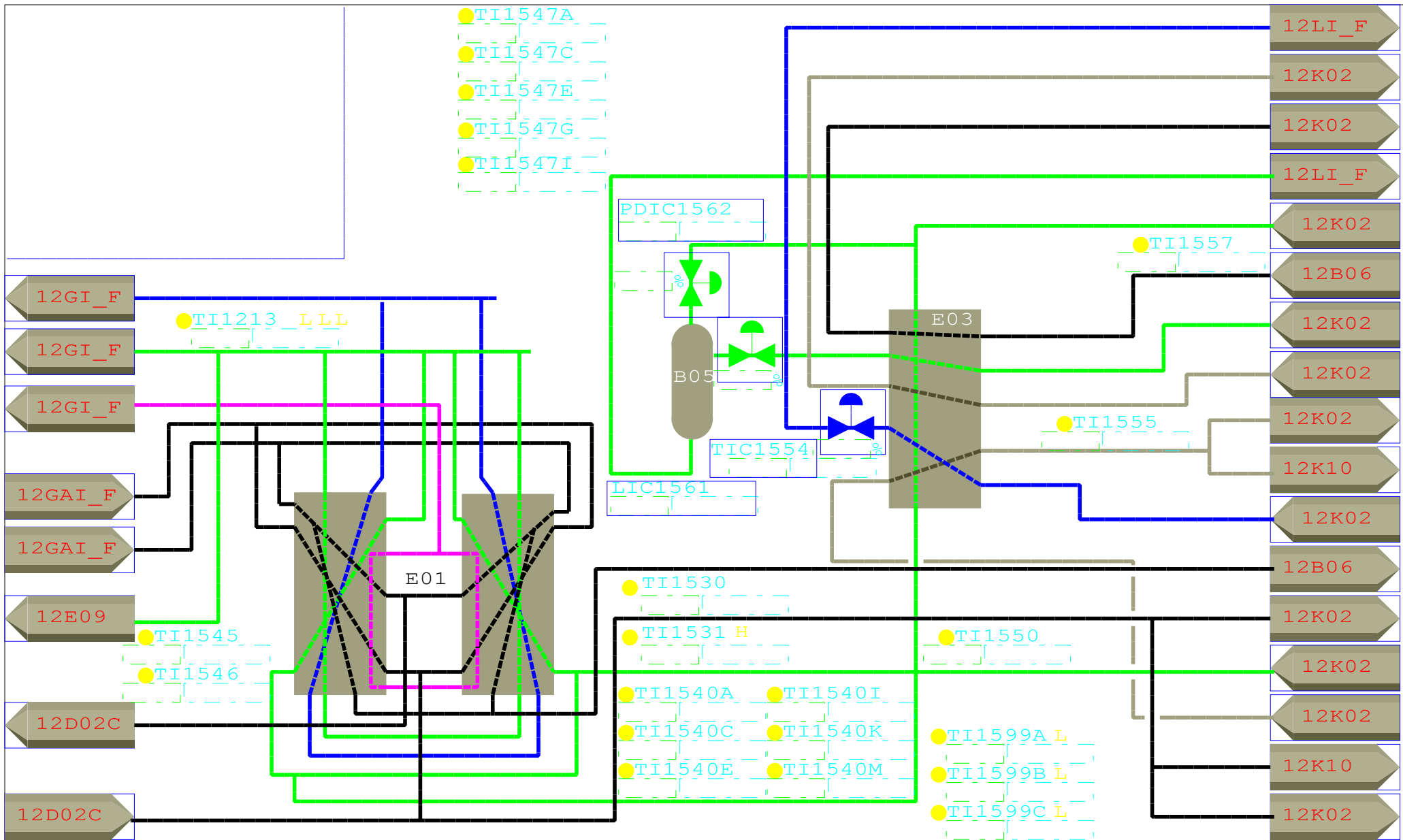


S  
 A  
 B  
 C  
 D

Current

MENU	Air Compr.	Booster Compr.	Nitrogen Compr.	Main H. Exch.	LIN/LOX LAR Storage	I/F&I/C Utility	O2 / N2 Column	Argon Rectif.	TRENDS
------	------------	----------------	-----------------	---------------	---------------------	-----------------	----------------	---------------	--------





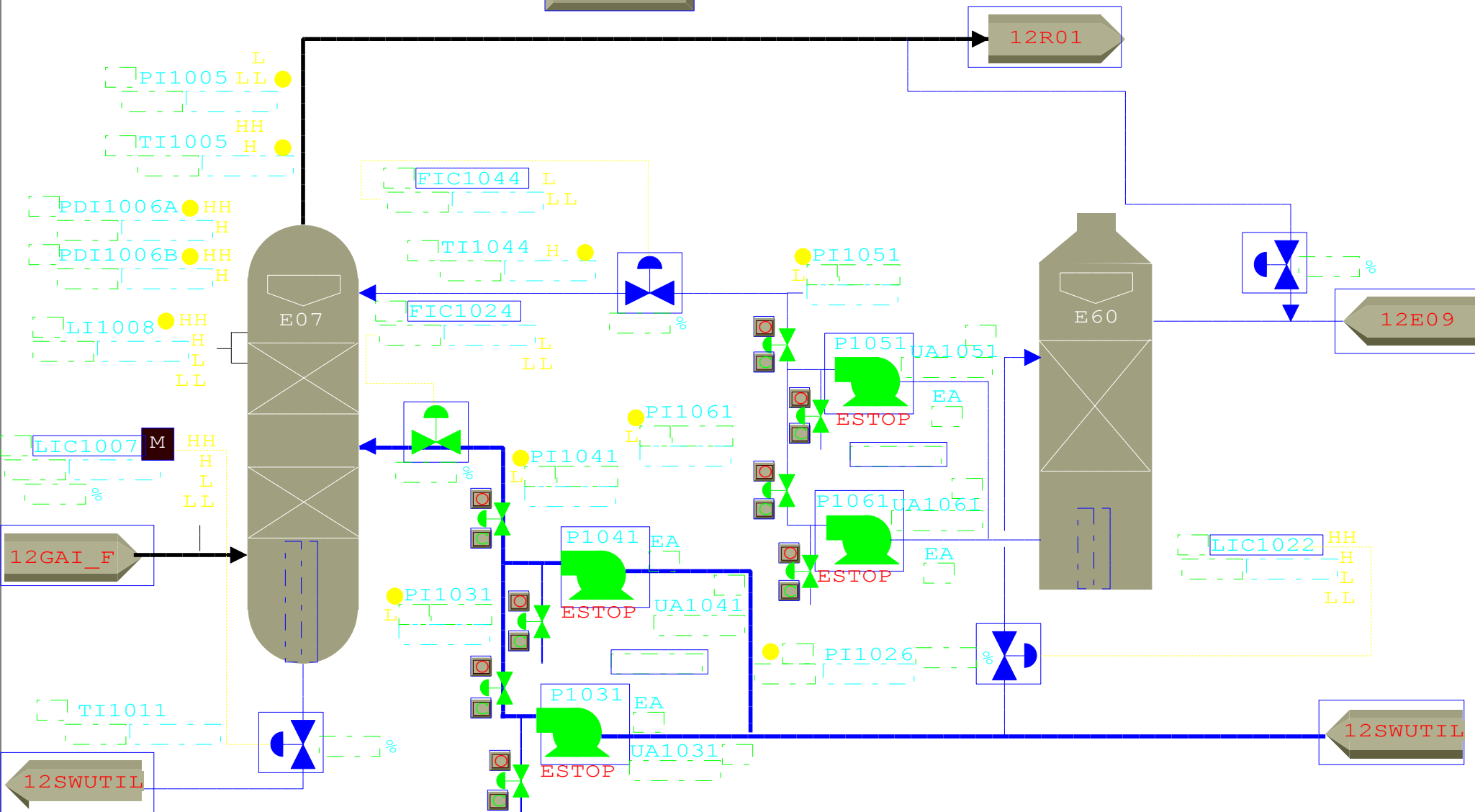
Current

S  
A  
B  
C  
D

- MENU
- Air Compr.
- Booster Compr.
- Nitrogen Compr.
- Main H. Exch.
- LIN/LOX LAR Storage
- I/F&I/C Utility
- O2 / N2 Column
- Argon Rectif.
- TRENDS



ASU  
START UP



S  
A  
B  
C  
D

Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS

Date Printed: Monday, March 22, 2004 at 9:52:56 PM

Date Last Modified: Thursday, March 18, 2004 at 1:10:10 PM

Start up Conditions

READY TO  
START

HL1000 SD

Alarm Conditions

PAL1005

TAH1005

PDAH1006A

PDAH1006B

LAH1007

LAL1007

MANUAL TRIP

LAH1008

LAL1008

Trip Conditions

Bypass

PALL1005

EA7099C

TAHH1005

PDAHH1006A

PDAHH1006B

LAHH1007

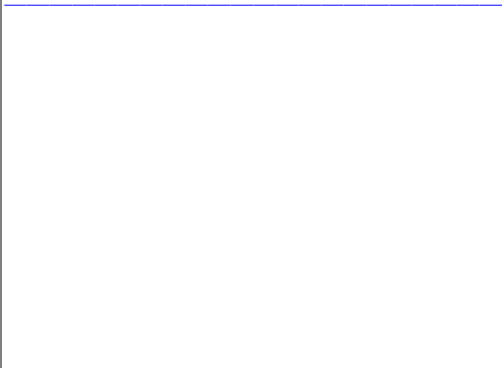
LALL1007

HSL1000

LAHH1008

LALL1008

First  
Out



E07/E60    RESET    MANUAL TRIP

S

Current

A

B

C

D

MENU    Main Air Compr.    Booster Turbine    Nitrogen Compr.    Main H. Exch.    Booster Compr.    Air Purif. Unit    O2 / N2 Column    Argon Rectif.    TRENDS

Start up Conditions

READY TO  
START

HL1000 SD

Alarm Conditions

PAL1005  
TAH1005  
PDAH1006A  
PDAH1006B  
LAH1007  
LAL1007  
MANUAL TRIP  
LAH1008  
LAL1008

Trip Conditions

Bypass

PALL1005  
EA7099C  
TAHH1005  
PDAHH1006A  
PDAHH1006B  
LAHH1007  
LALL1007  
HSL1000  
LAHH1008  
LALL1008

First  
Out

●  
●  
●  
●  
●  
●  
●  
●  
●  
●

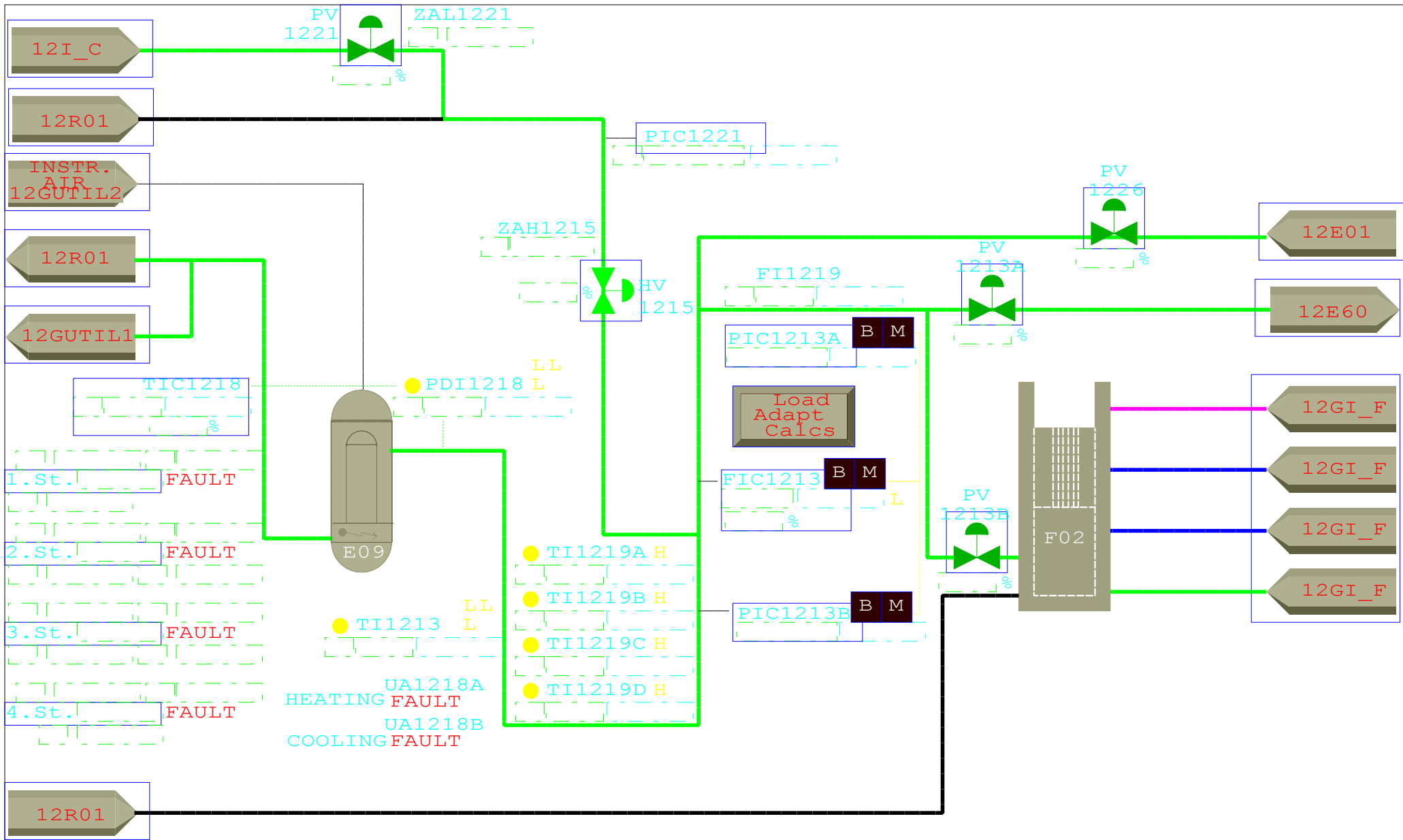


E07/E60    RESET    MANUAL TRIP

S  
A  
B  
C  
D

Current

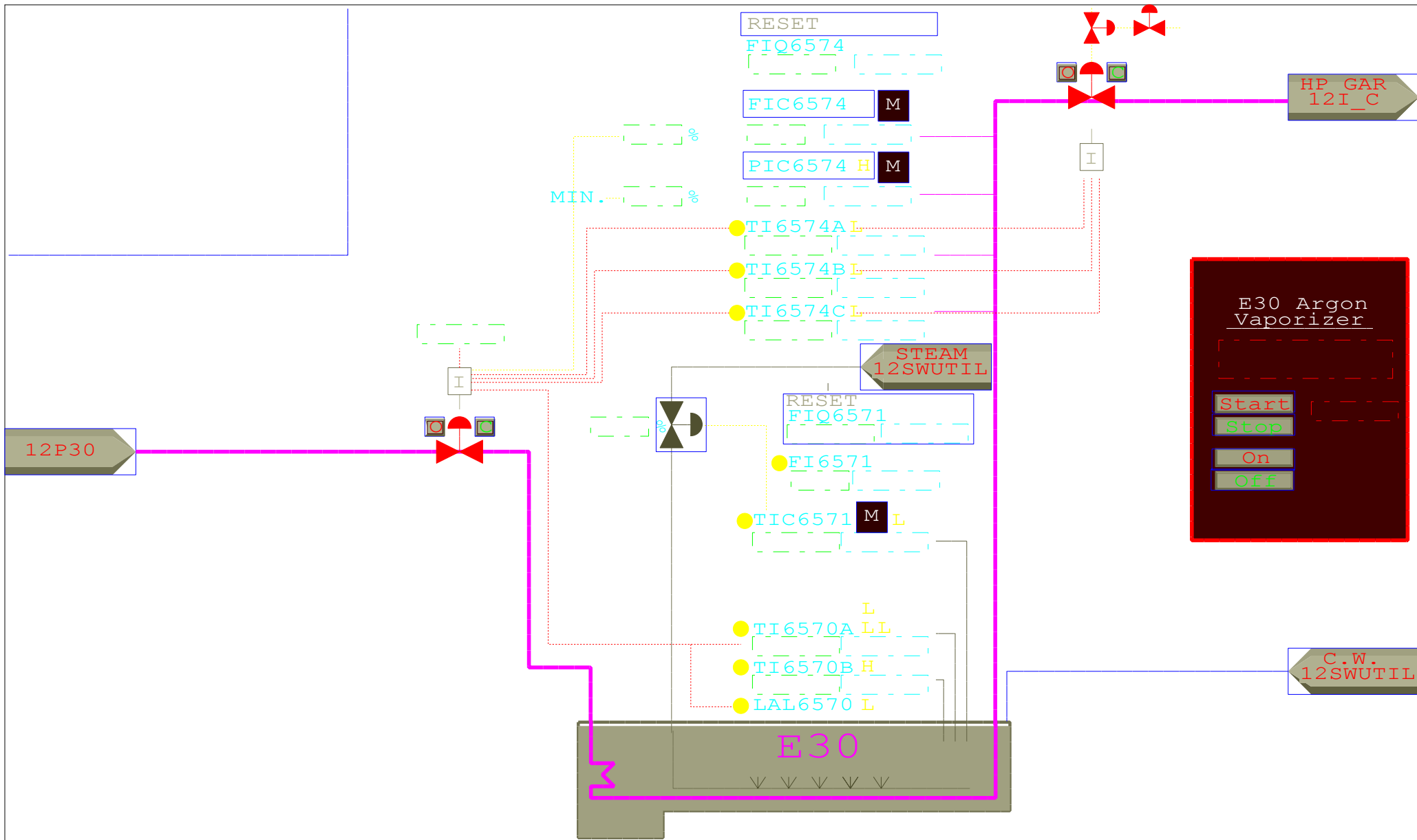
MENU    Main Air Compr.    Booster Turbine    Nitrogen Compr.    Main H. Exch.    Booster Compr.    Air Purif. Unit    O2 / N2 Column    Argon Rectif.    TRENDS



S  
A  
B  
C  
D

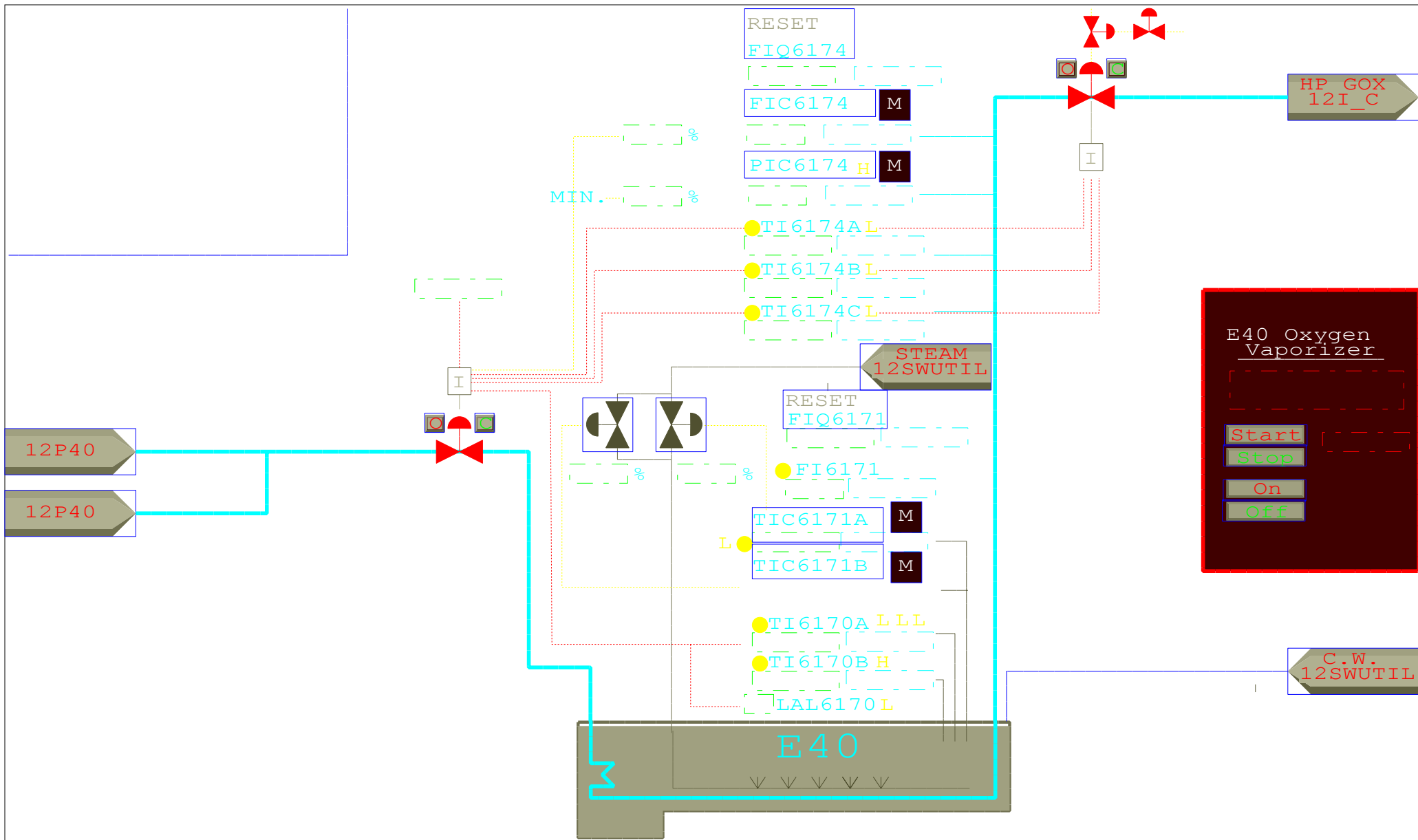
Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS



S  
A  
B  
C  
D

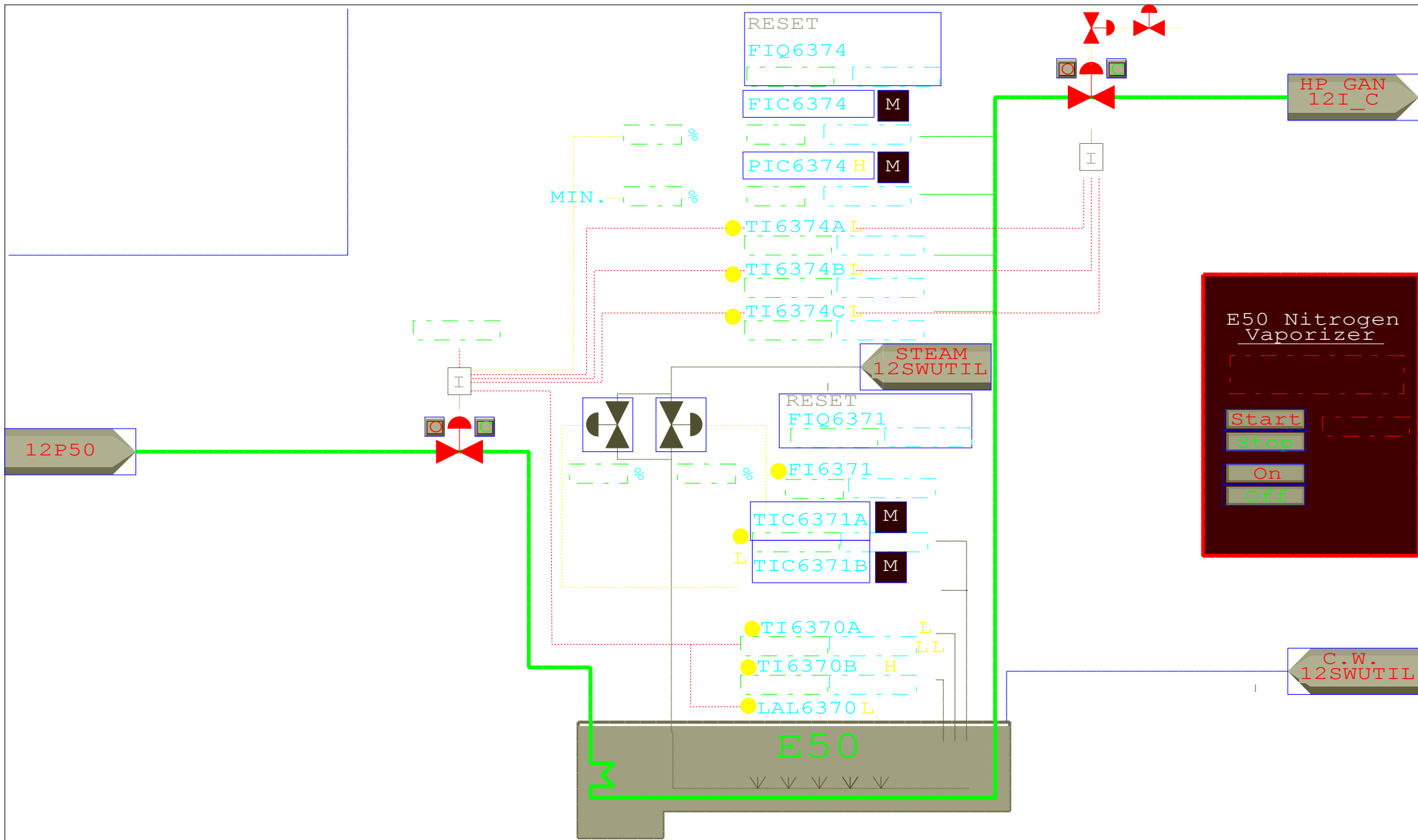
- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS



S  
A  
B  
C  
D

Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS



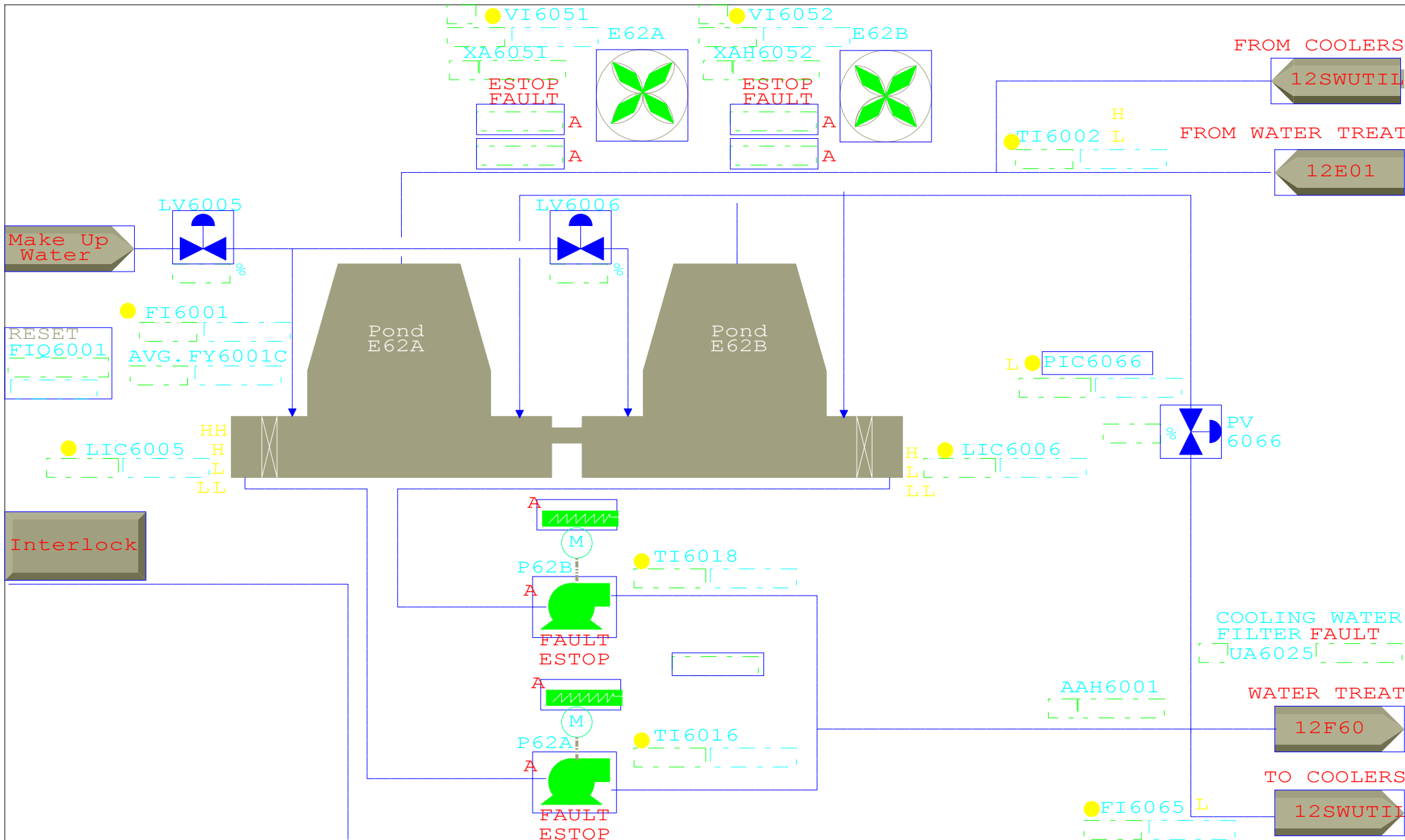
E50 Nitrogen Vaporizer

Start

Stop

On

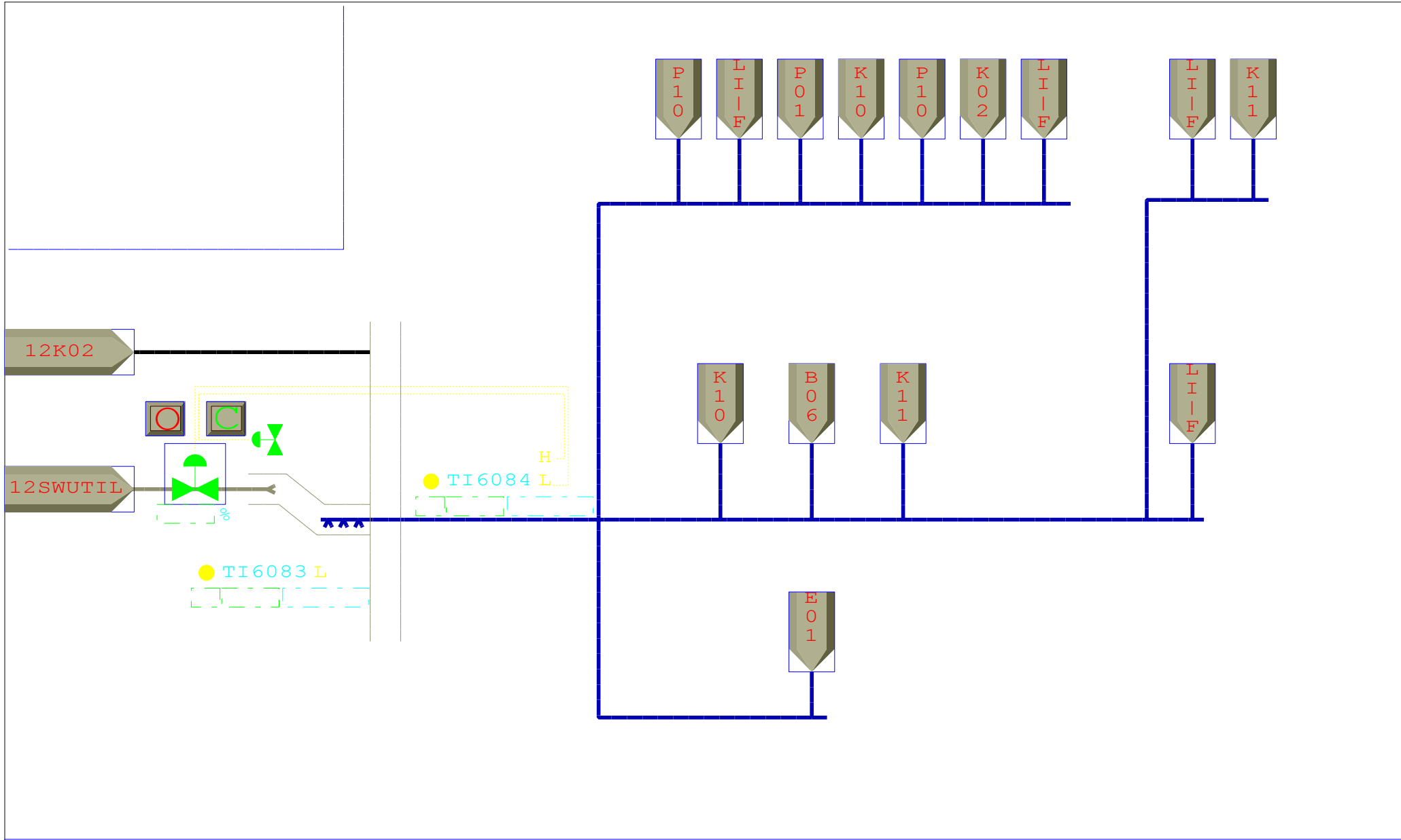
Off



S  
A  
B  
C  
D

MENU	Main Air Compr.	Booster Turbine	Nitrogen Compr.	Main H. Exch.	Booster Compr.	Air Purif. Unit	O2 / N2 Column	Argon Rectif.	TRENDS
------	-----------------	-----------------	-----------------	---------------	----------------	-----------------	----------------	---------------	--------





S

Current

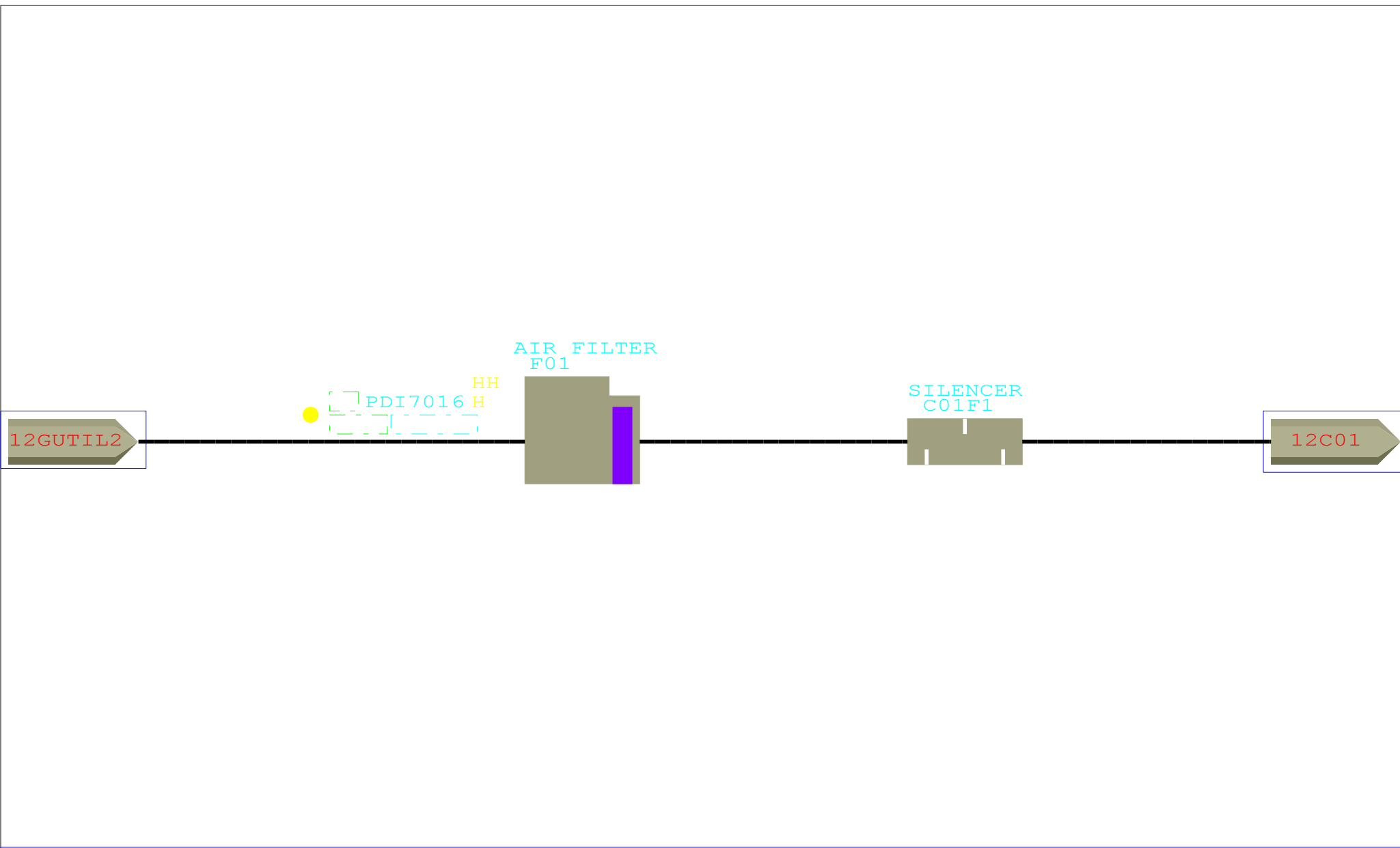
A

B

C

D

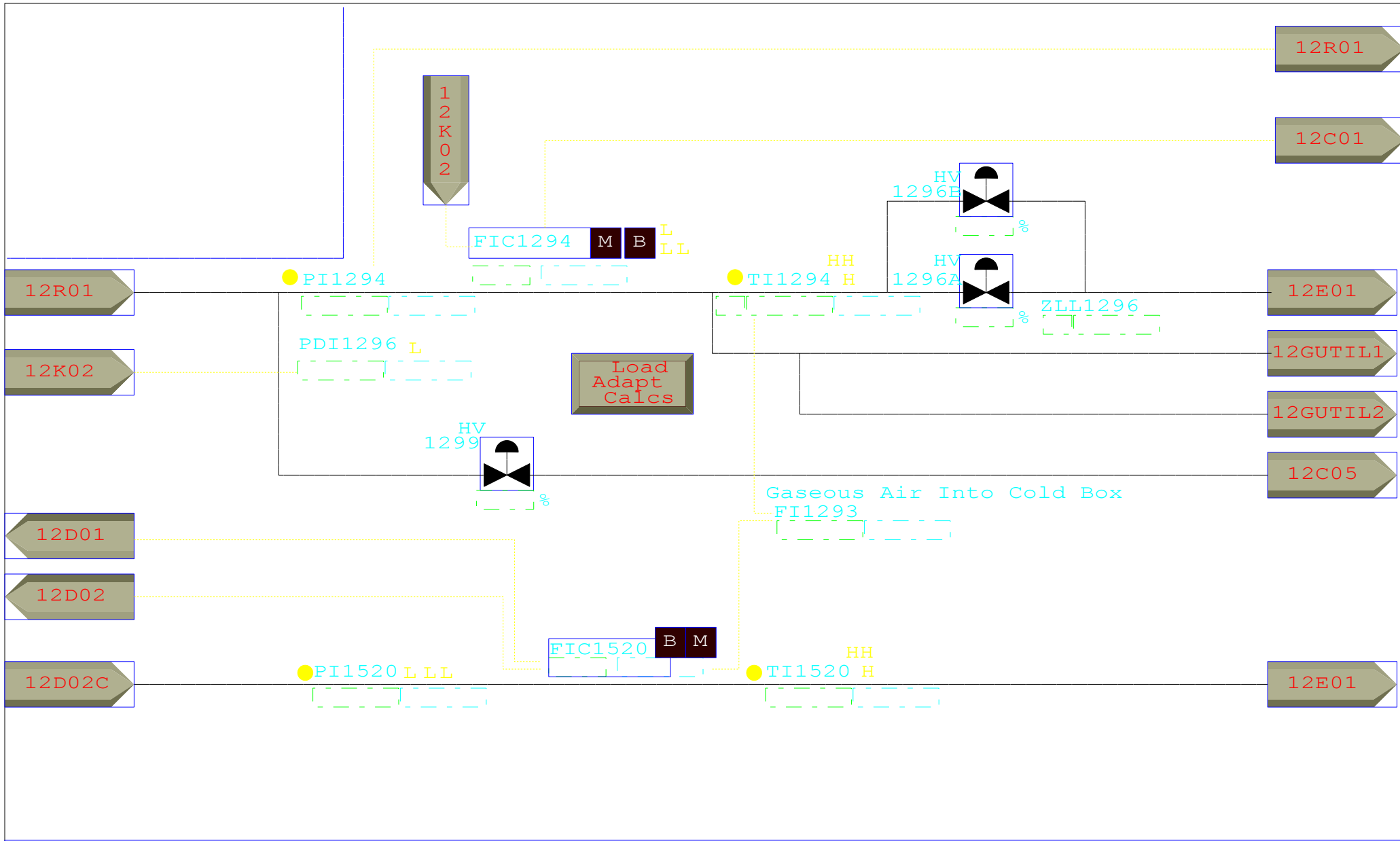
- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS



S  
A  
B  
C  
D

Current

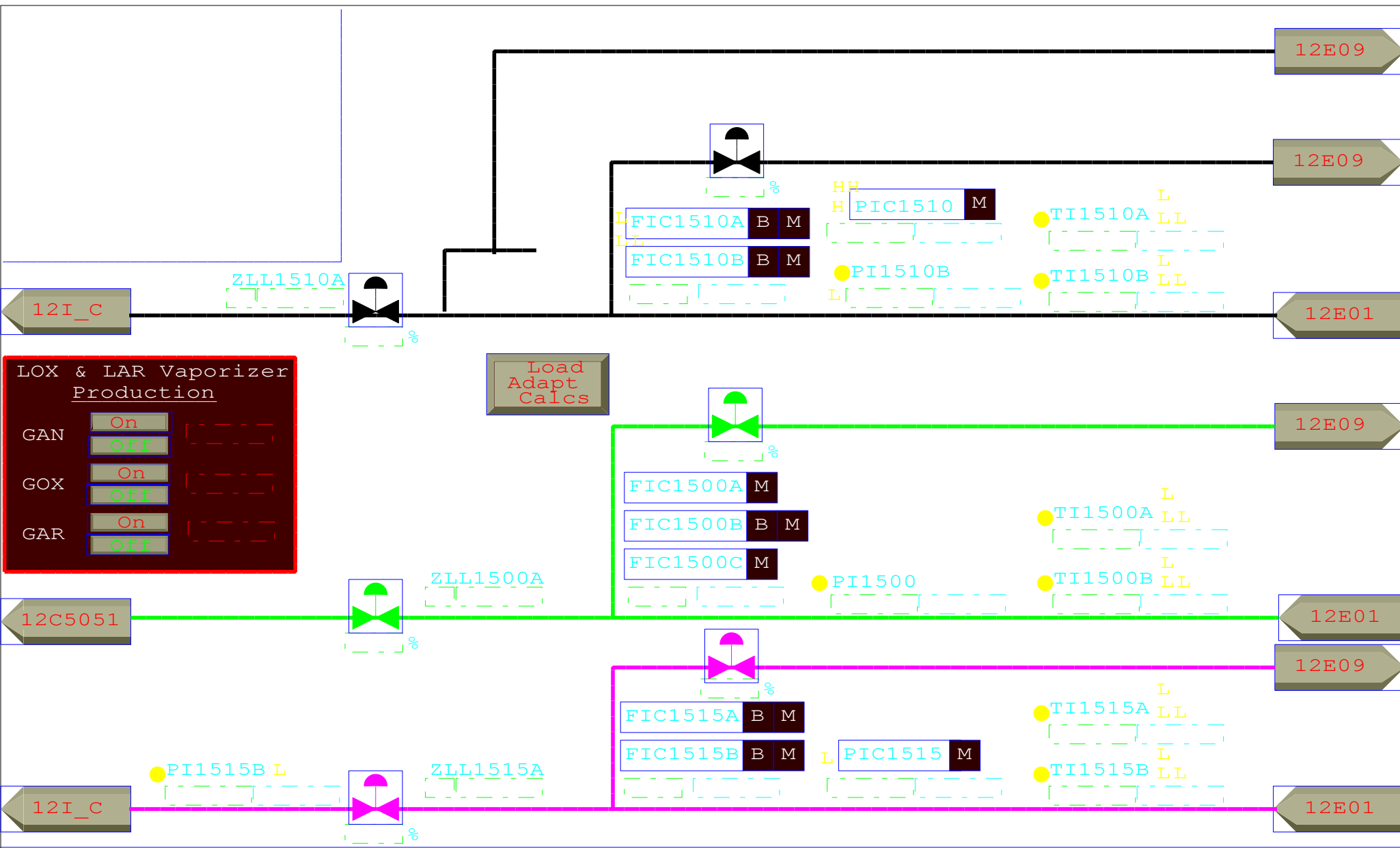
- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS



S  
A  
B  
C  
D

Current

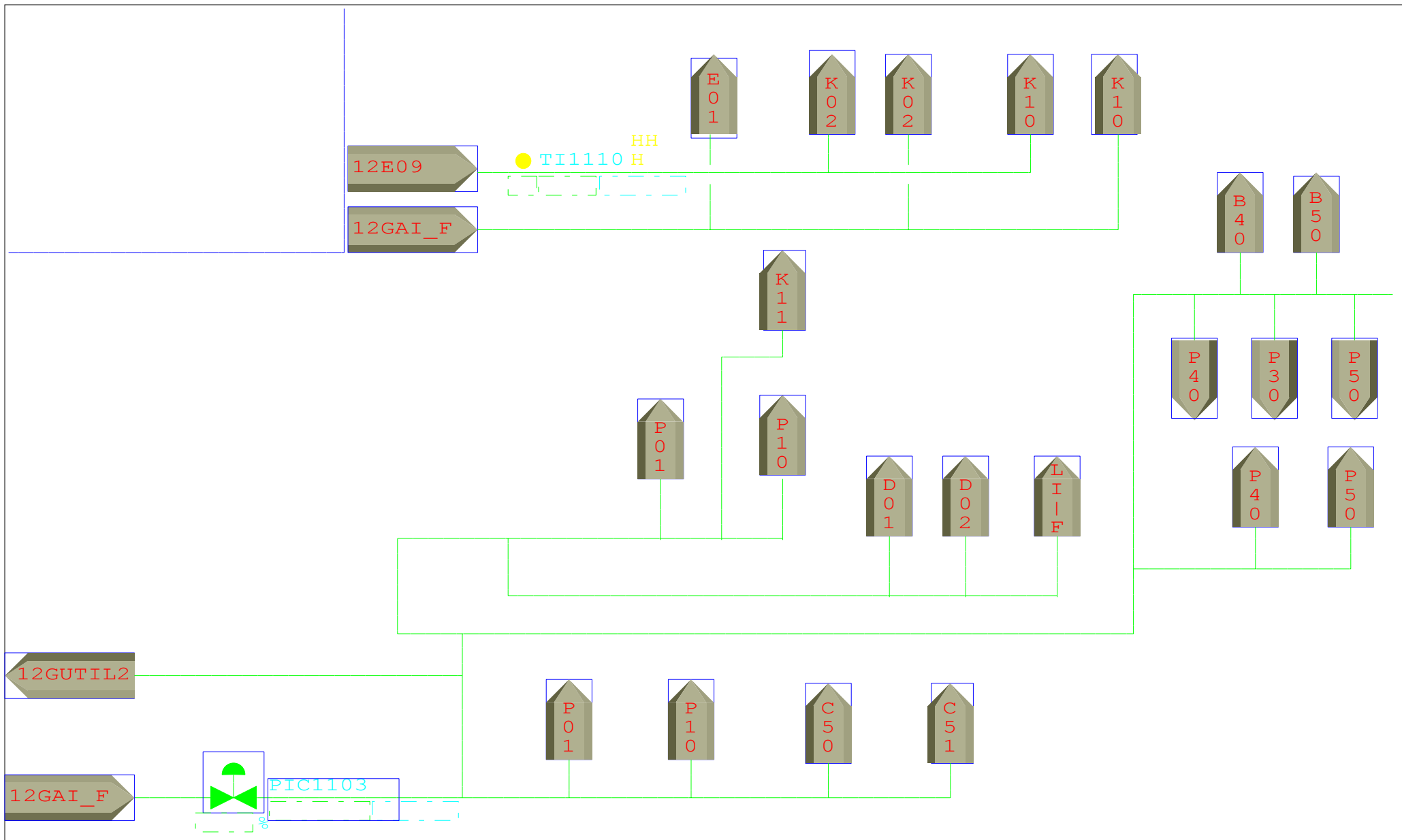
- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS



S  
A  
B  
C  
D

Current

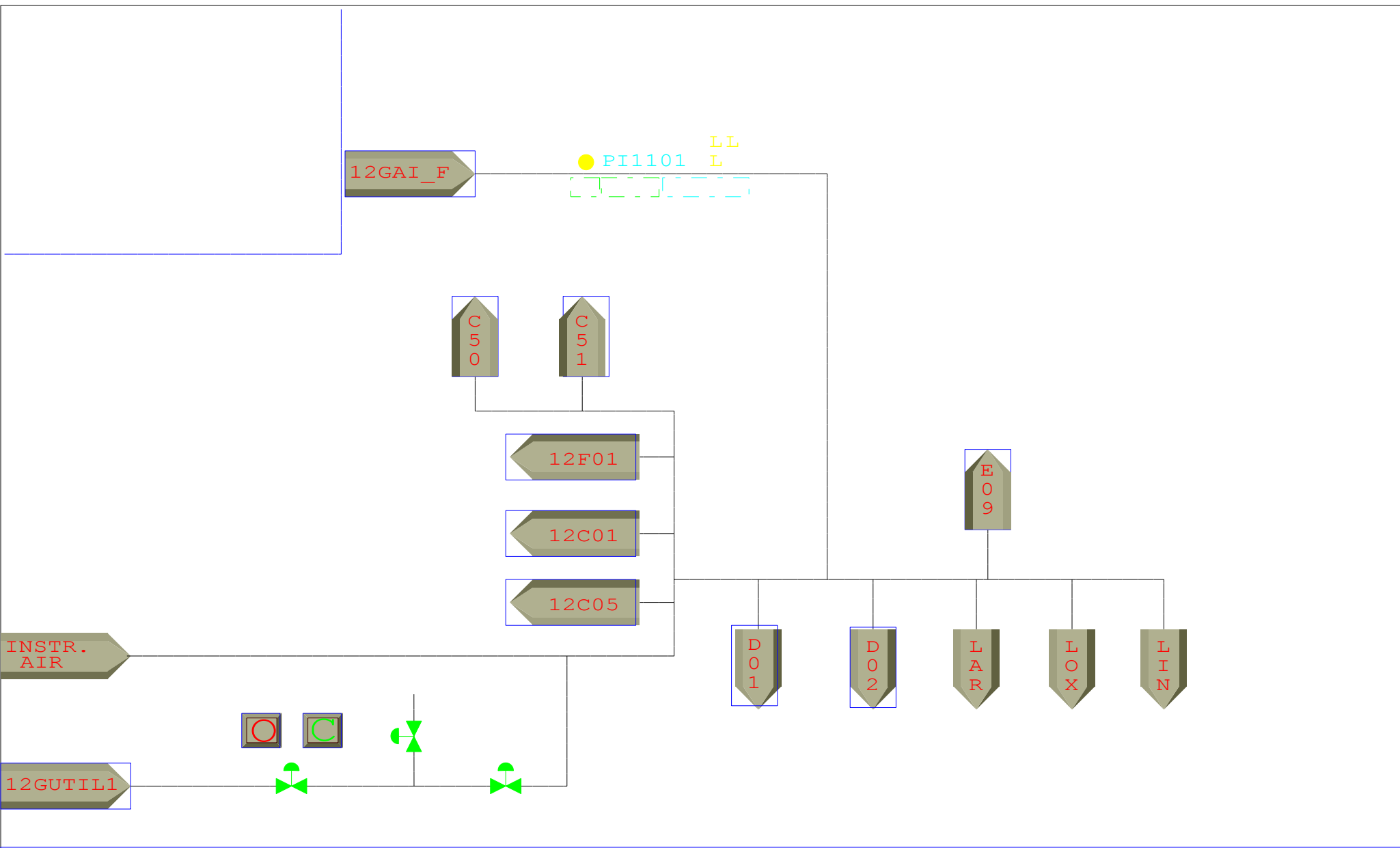
MENU	Main Air Compr.	Booster Turbine	Nitrogen Compr.	Main H. Exch.	Booster Compr.	Air Purif. Unit	O2 / N2 Column	Argon Rectif.	TRENDS
------	-----------------	-----------------	-----------------	---------------	----------------	-----------------	----------------	---------------	--------



S  
A  
B  
C  
D

Current

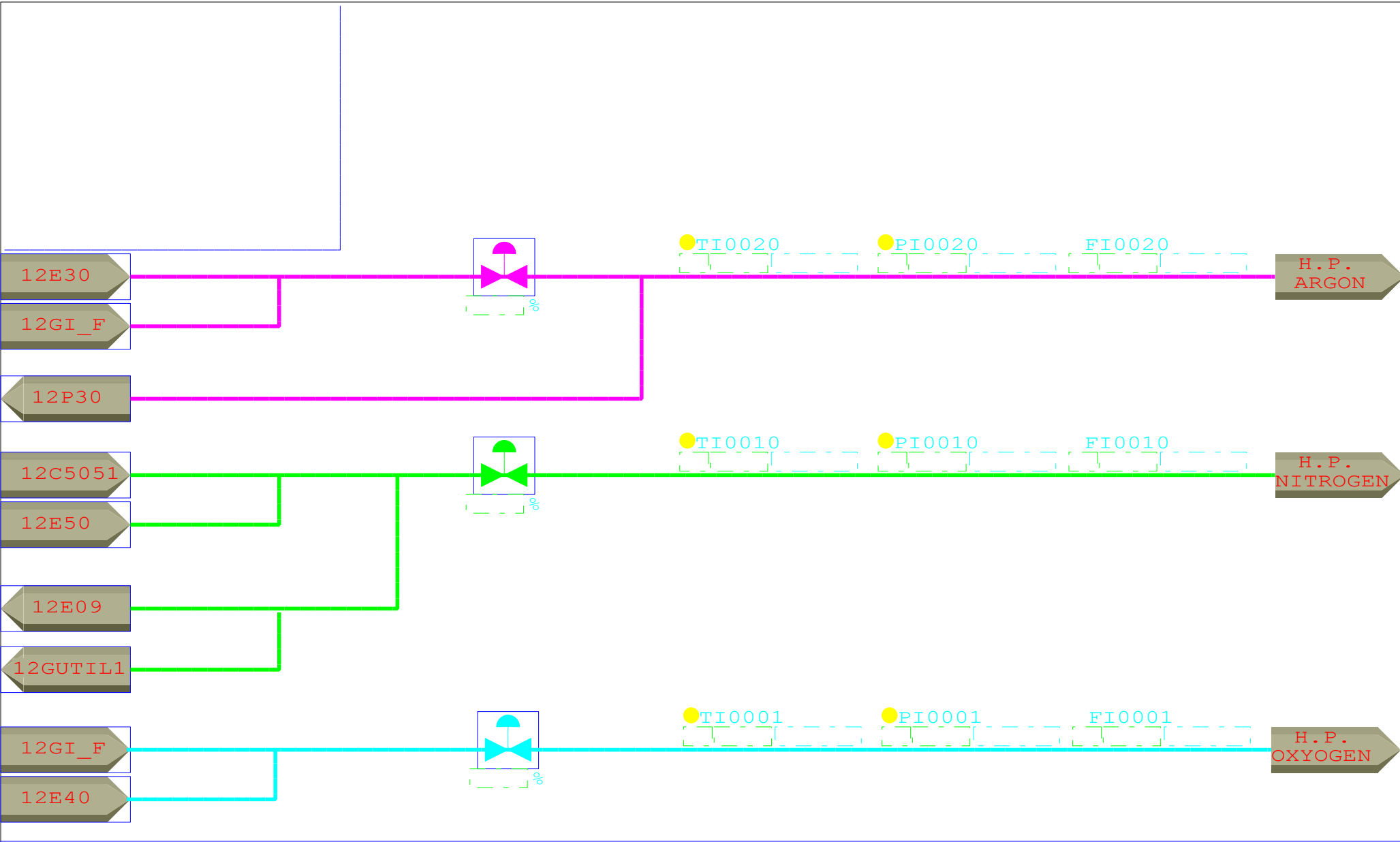
- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS



S  
A  
B  
C  
D

Current

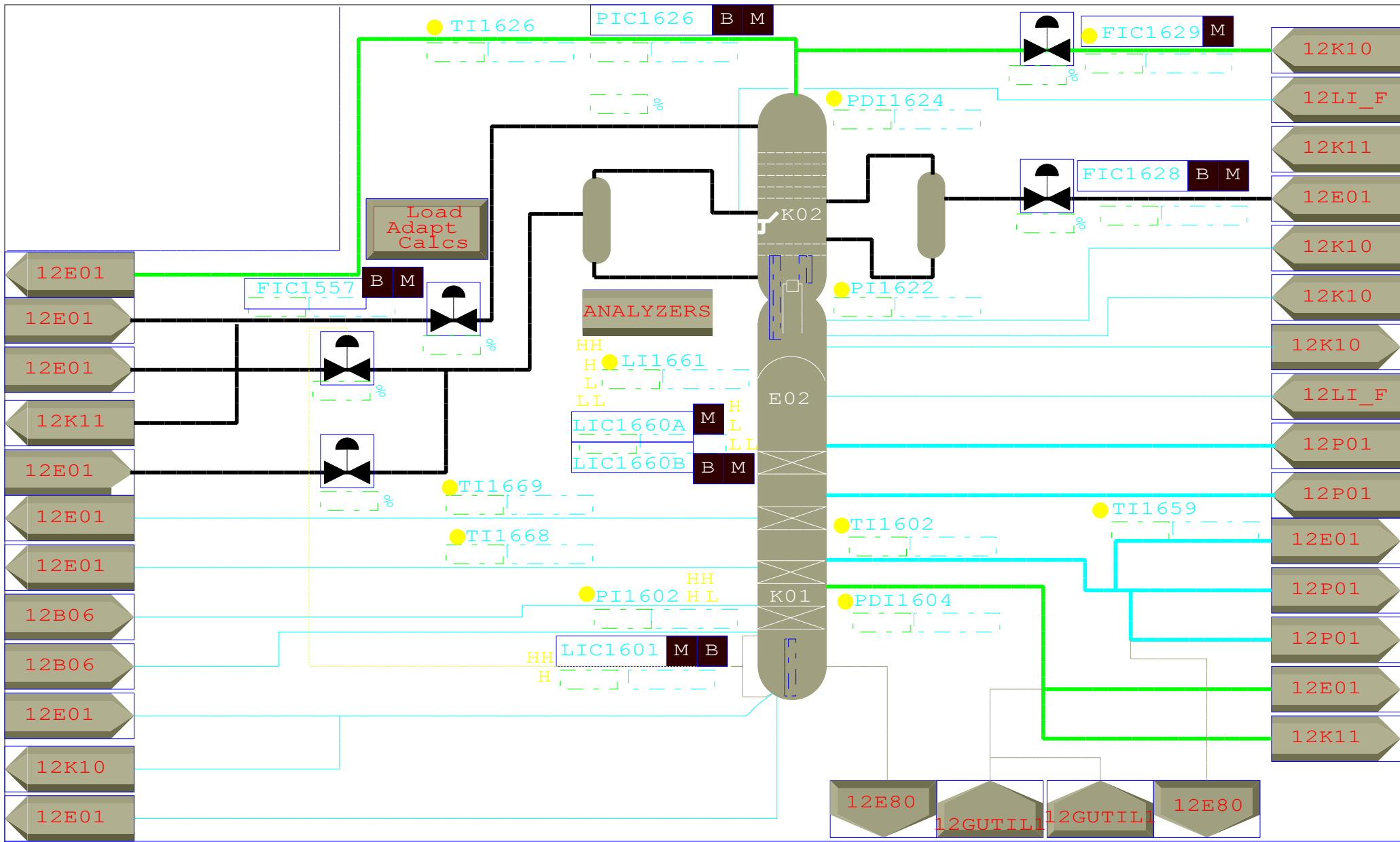
- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS



S  
A  
B  
C  
D

Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS



S  
A  
B  
C  
D

Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS



●AI1724HHH  
 A  D   
 B  E   
 C  F   
 AAHH1724A  
 AAHH1724C  
 FAL1724  
 UA1724  
 HL1724

●AI1680HHH    ●AI1681LLL    ●AI1682    ●AI1683 HHH    ●AI1689AHHH    AIC1716 M

●AI1689BHHH %  
 A   
 B   
 C

A   
 B   
 C

A   
 B   
 C   
 D   
 E

A   
 B

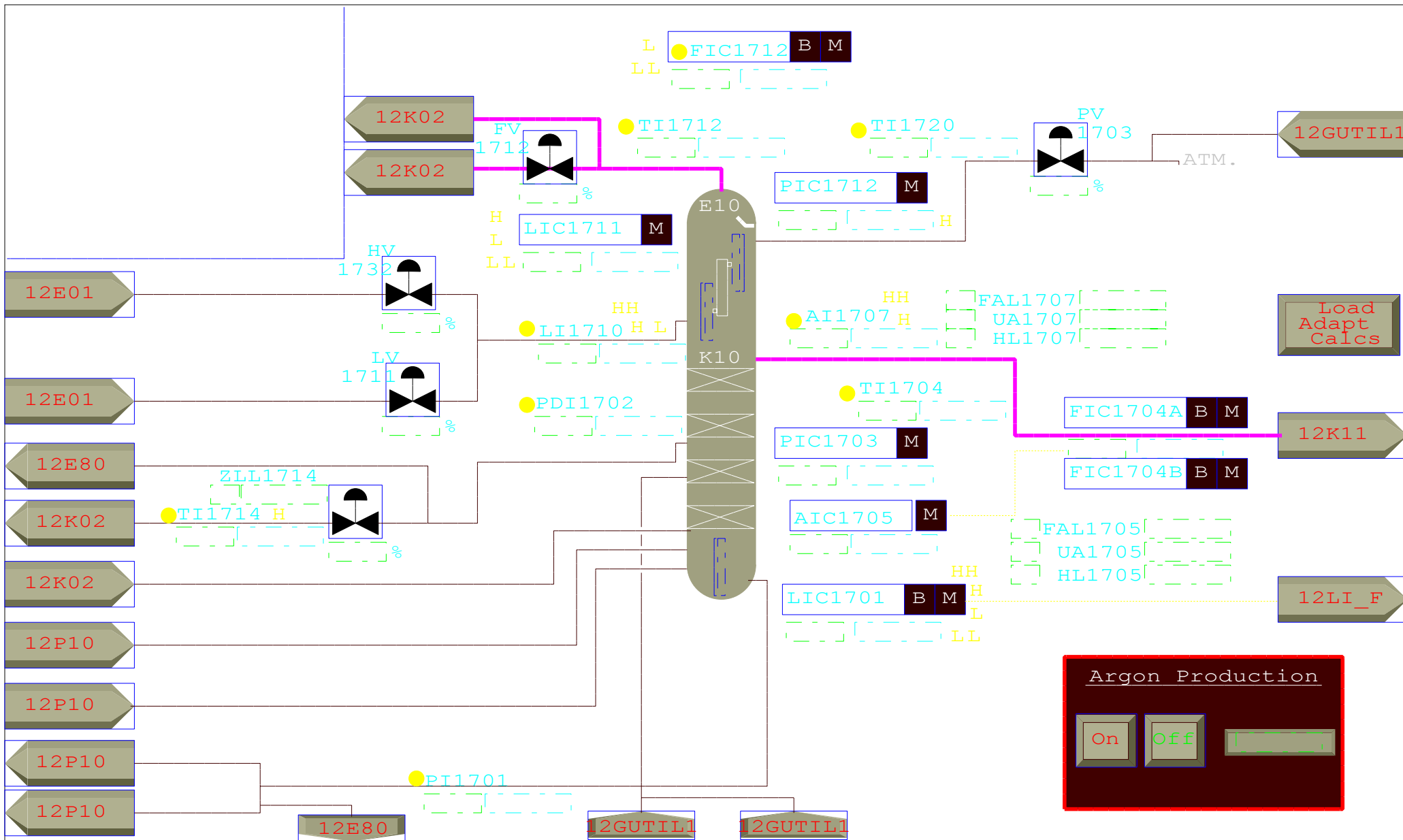
A   
 B   
 C   
 D

FAL1680	FAL1681	FAL1682	FAL1683	FAL1689	FAL1716
UAY1680	UA1681	UA1682	UA1683	HL1689A	UA1716
UA1680	HL1681	HL1682	HL1683	UA1689A	HA1716
HL1680				HA1689	HL1716

S  
A  
B  
C  
D

Current

MENU	Main Air Compr.	Booster Turbine	Nitrogen Compr.	Main H. Exch.	Booster Compr.	Air Purif. Unit	O2 / N2 Column	Argon Rectif.	TRENDS
------	-----------------	-----------------	-----------------	---------------	----------------	-----------------	----------------	---------------	--------

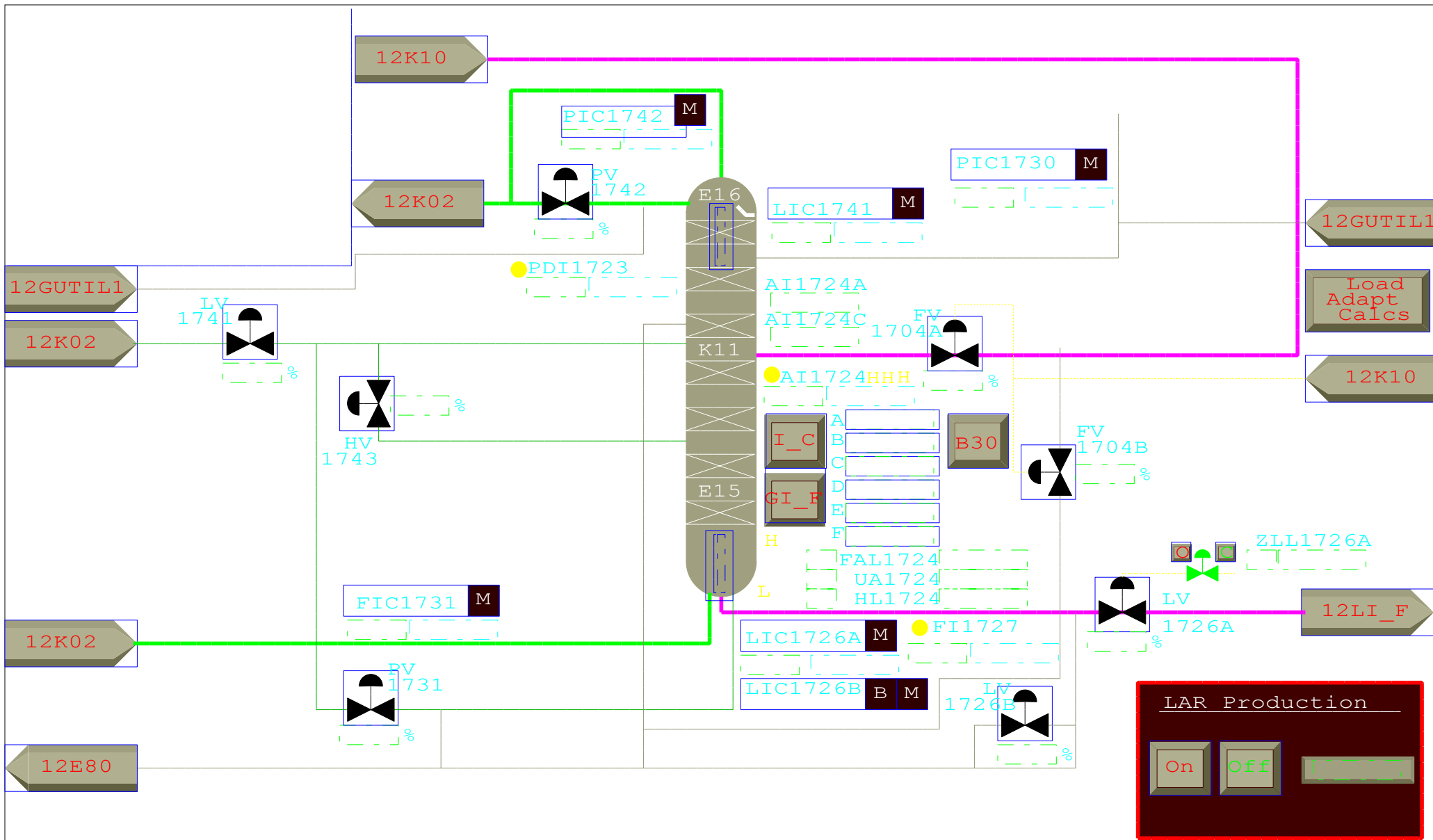


Argon Production

S  
A  
B  
C  
D

Current

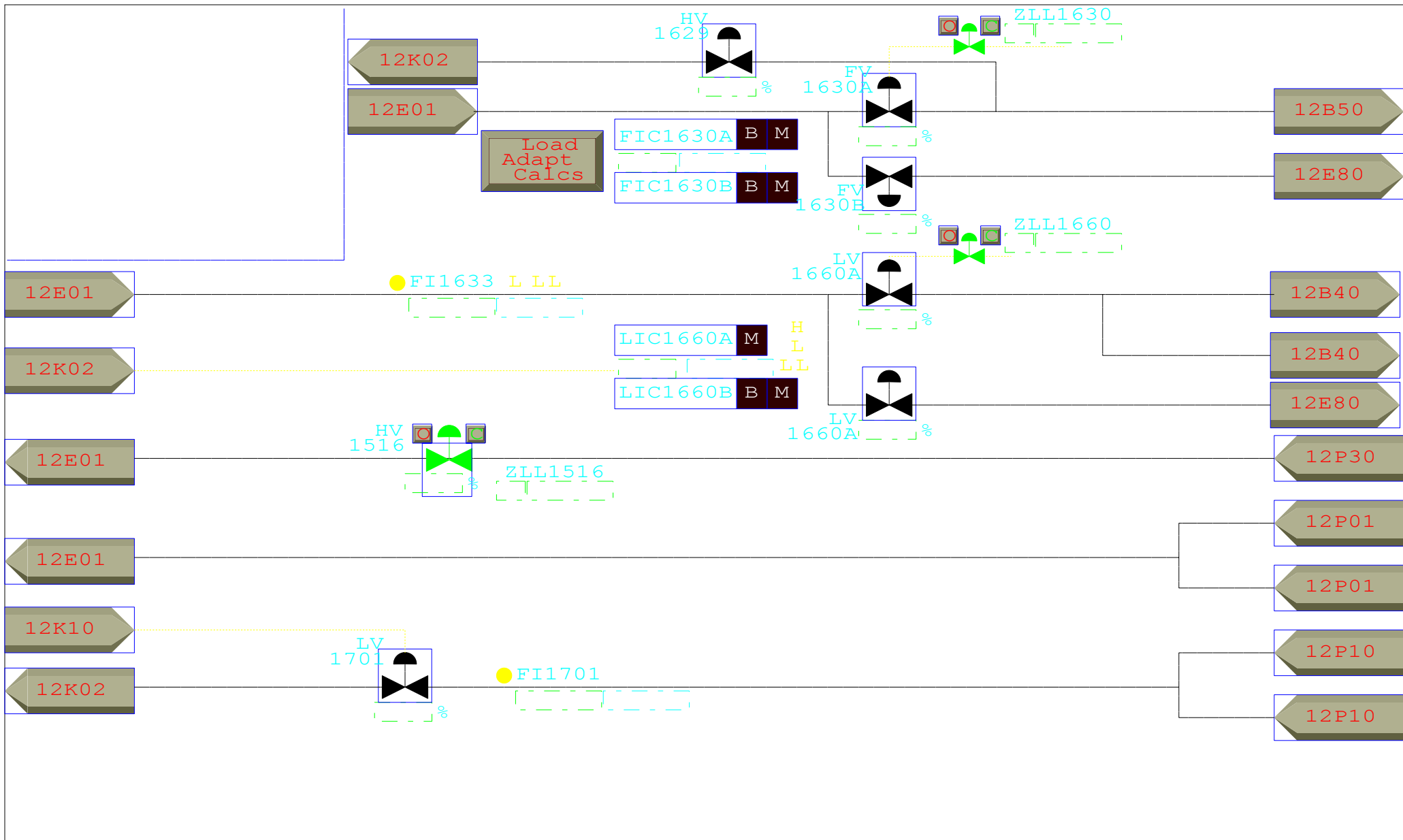
- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS



S  
A  
B  
C  
D

Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS



S  
A  
B  
C  
D

Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS

Plant #12 - Overview Operating Screens #1

Gas- Compression	C01 AirCompr.	C05 Air Booster	C50 N2-Compr.	C51 N2-Compr.		
Storage & Vaporizers	B30 LAR Storage	B40 LOX Storage	B50 LIN Storage	E30 LAR Vaporizer	E40 LOX Vaporizer	E50 LIN Vaporizer
Air Cooling	E07 Air Water Tower		R01 Air Purif.Unit	E09 Elect. React.Htr		
O2 / N2 - Separation	E01 Exchangers	K02 N2/O2 Dist.	D02C Expanders	P01A/B LOX-Pumps	P40A/B LOX-Pumps	P50A/B LIN-Pumps
Argon - Recovery	12K10 AR-Crude	12K11 AR-Recti.	P30A/B LAR-Pump	P10A/B Crude Argon		
Backup - Systems	E62 Cool.Twr	E80 Cryogenic Wastes	GOX/GAN/GAR InterConn.	Liquid LOX/LIN/LAR Interfaces	Gaseous Air Interfaces	Gaseous GOX/GAN/GAR Interfaces
Cool.Water- Utilities	Steam & Water	#1 Gas Utilities	#2 Gas Utilities	Load Adaptation Calculations	A L C Operate	A L C Control

ALC- Program

## Startup and Operation infos of Molsieve

Initial startup: The complete molecular sieve has to be pressureless  
and the MS-Sequencer in "MAN"

1. HS1281C has to be set to "RELEASE"
  2. HS1281D has to be activated "SINGLE STEP"
- > the MS-sequencer changed to 1. step (PRP DEPR)

Operation: The MS-Sequencer can be operate in AUTO- or MAN-mode.  
AUTO-mode --> switching through steps with timing and  
switch conditions. Switching to AUTO by activating  
HS1281C"RELEASE"first and then HS1281A "AUTO/MAN".  
MAN-mode --> switching through the steps by activating  
HS1281C "RELEASE" first and then HS1281D"SGLSTP".  
switching can only be done with fulfilled conditions.  
"READY" will be displayed (black on green)

Interlocks: - PLANT SHUTDOWN (US1000) will stop MS-sequencer  
- temperatures not low in COOLING (TAHH1227,TAHH1228)  
- monitoring time exceeded, are controlled in each STEP  
- electr. heater E09 STOP in heating step (4,13)

Alarms: - <DEPR.,PR. SLOW> depressurizing/pressurizing too slow  
- <DEPR.,PR. FAST> depressurizing/pressurizing too fast  
- <NOPEAK> no molsieve temperatures peak  
- regeneration temperatures TAL1218/TAH1219  
- regeneration flow too low(FAL1213) in HEATING  
- regeneration heater housing temperature too high(TAH1218)

S

Current

A

B

C

D

MENU

Main Air  
Compr.

Booster  
Turbine

Nitrogen  
Compr.

Main H.  
Exch.

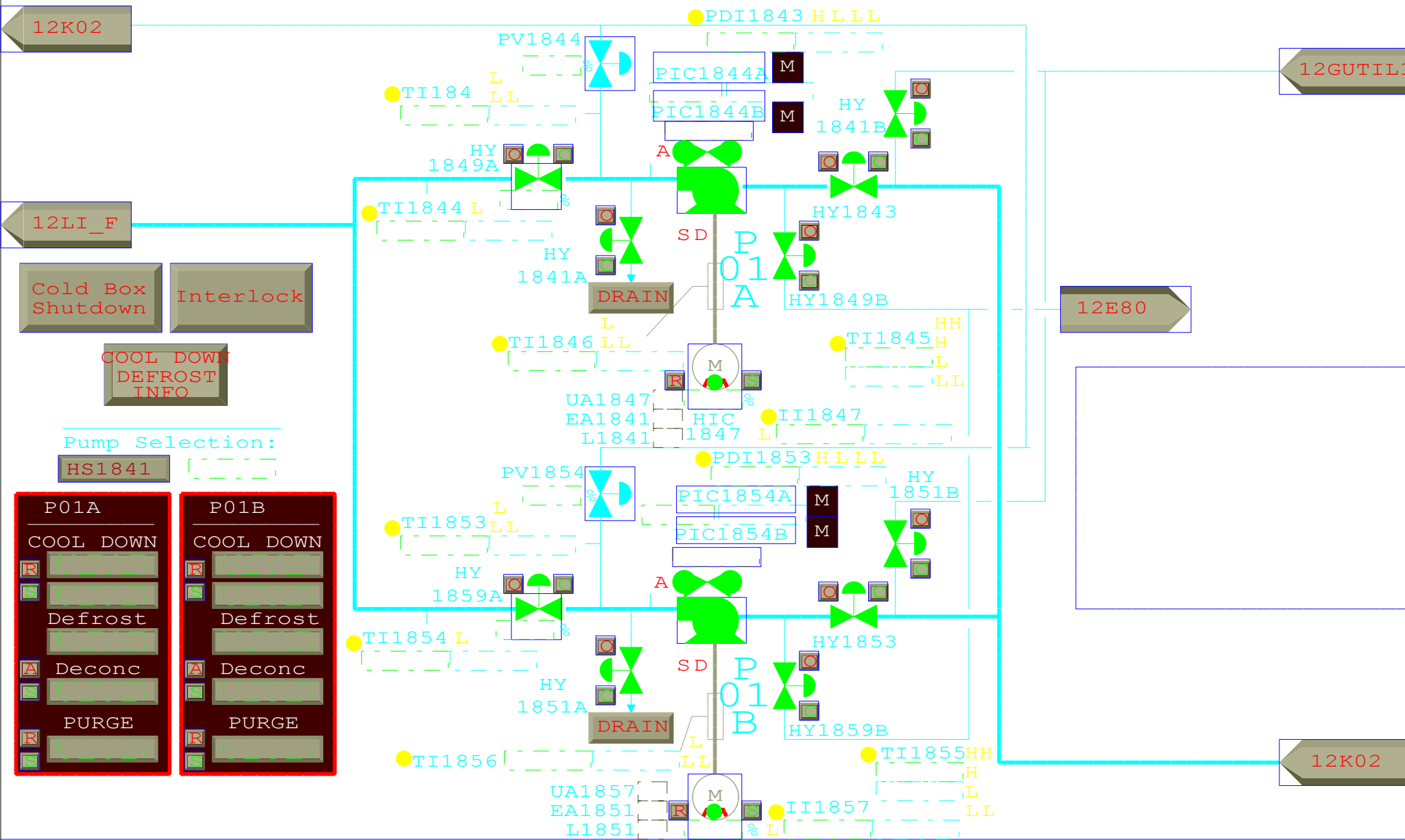
Booster  
Compr.

Air  
Purif.  
Unit

O2 / N2  
Column

Argon  
Rectif.

TRENDS



Cold Box Shutdown Interlock

COOL DOWN  
DEFROST  
INFO

Pump Selection:

HS1841

**P01A**

COOL DOWN

Defrost

Deconc

PURGE

**P01B**

COOL DOWN

Defrost

Deconc

PURGE

12E80

12GUTIL1

12K02

S  
A  
B  
C  
D

Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS

P01A - INTERLOCKING

HL1295		
LALL1660		
HL1510A		
TALL1846		
TALL1843		
TAHH1845		
TALL1845		
PDALL1843		
EA1841C		
HA1841		
IAL1847		
L1841O		

P01A - PERMISSION

TAL1845		
---------	--	--

P01B - INTERLOCKING

HL1295		
LALL1660		
HL1510A		
TALL1856		
TALL1853		
TAHH1855		
TALL1855		
PDALL1853		
EA1851C		
HA1851		
IAL1857		
L1851O		

P01B - PERMISSION

TAL1855		
---------	--	--

P01

COOL DOWN  
DEFROST  
INFO

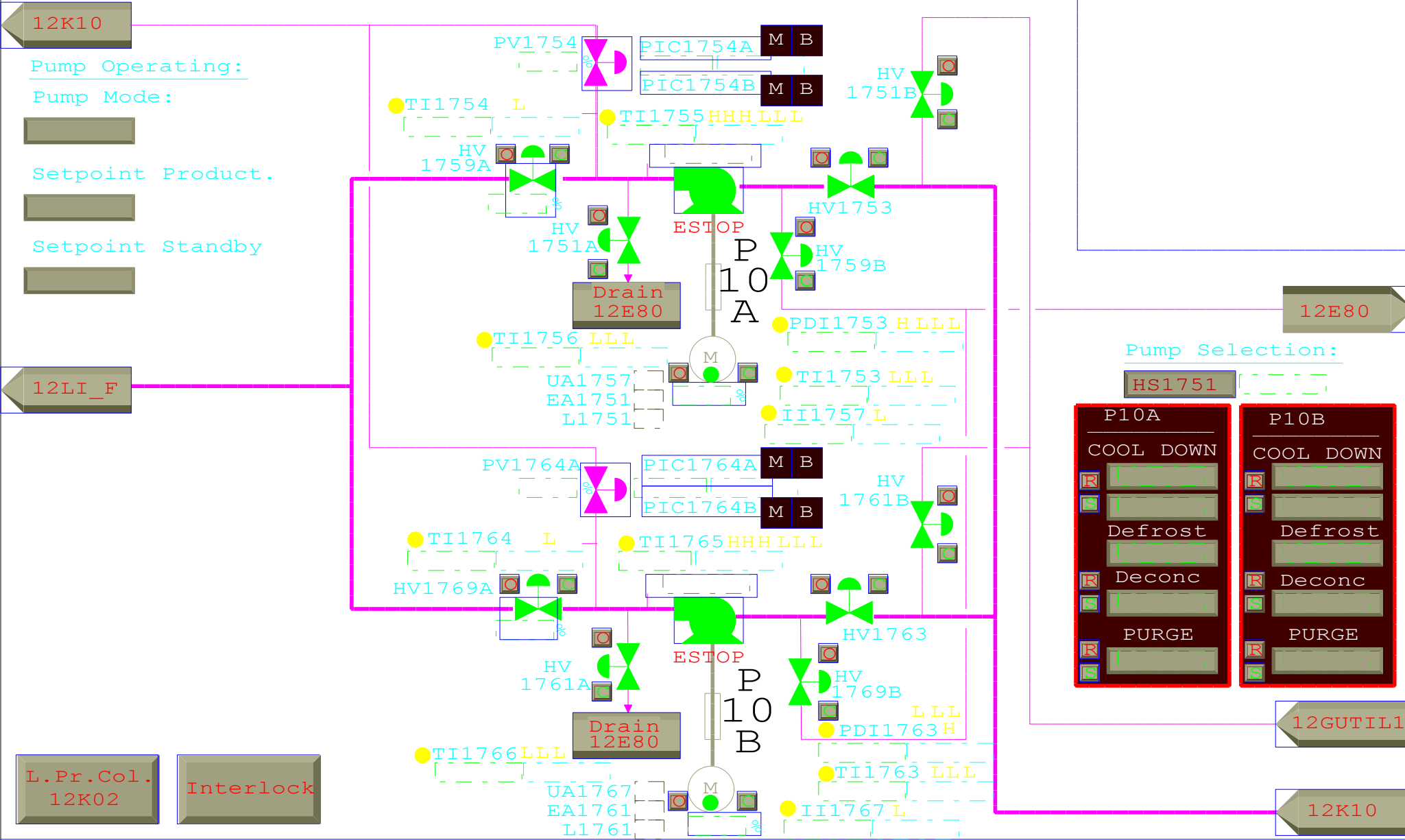
COLD BOX  
SHUTDOWN

Current

S  
A  
B  
C  
D

MENU	Main Air Compr.	Booster Turbine	Nitrogen Compr.	Main H. Exch.	Booster Compr.	Air Purif. Unit	O2 / N2 Column	Argon Rectif.	TRENDS
------	-----------------	-----------------	-----------------	---------------	----------------	-----------------	----------------	---------------	--------





12K10

Pump Operating:  
 Pump Mode:  
 Setpoint Product.  
 Setpoint Standby

12LI\_F

12E80

Pump Selection:

HS1751

P10A		P10B	
COOL DOWN		COOL DOWN	
R		R	
S		S	
Defrost		Defrost	
R		R	
S		S	
Deconc		Deconc	
R		R	
S		S	
PURGE		PURGE	
R		R	
S		S	

L.Pr.Col. 12K02  
 Interlock

12GUTIL1

12K10

Current

S  
 A  
 B  
 C  
 D

MENU Main Air Compr. Booster Turbine Nitrogen Compr. Main H. Exch. Booster Compr. Air Purif. Unit O2 / N2 Column Argon Rectif. TRENDS

P10A - INTERLOCKING

PUMP BACKUP  
SELECTOR

P10B - INTERLOCKING

HL1295		
LAHH1701		
LALL1701		
LAHH1710		
LALL1711		
TALL1756		
TALL1753		
TAHH1755		
TALL1755		
PDALL1753		
EL1757		
HA1751		
IAL1757		
L1761O		

[ ]

HL1295		
LAHH1701		
LALL1701		
LAHH1710		
LALL1711		
TALL1766		
TALL1763		
TAHH1765		
TALL1765		
PDALL1763		
EL1767		
HA1761		
IAL1767		
L1751O		

[ ]

P10A - PERMISSION

TAL1755 [ ]

P10B - PERMISSION

TAL1765 [ ]

TRENDS

P10

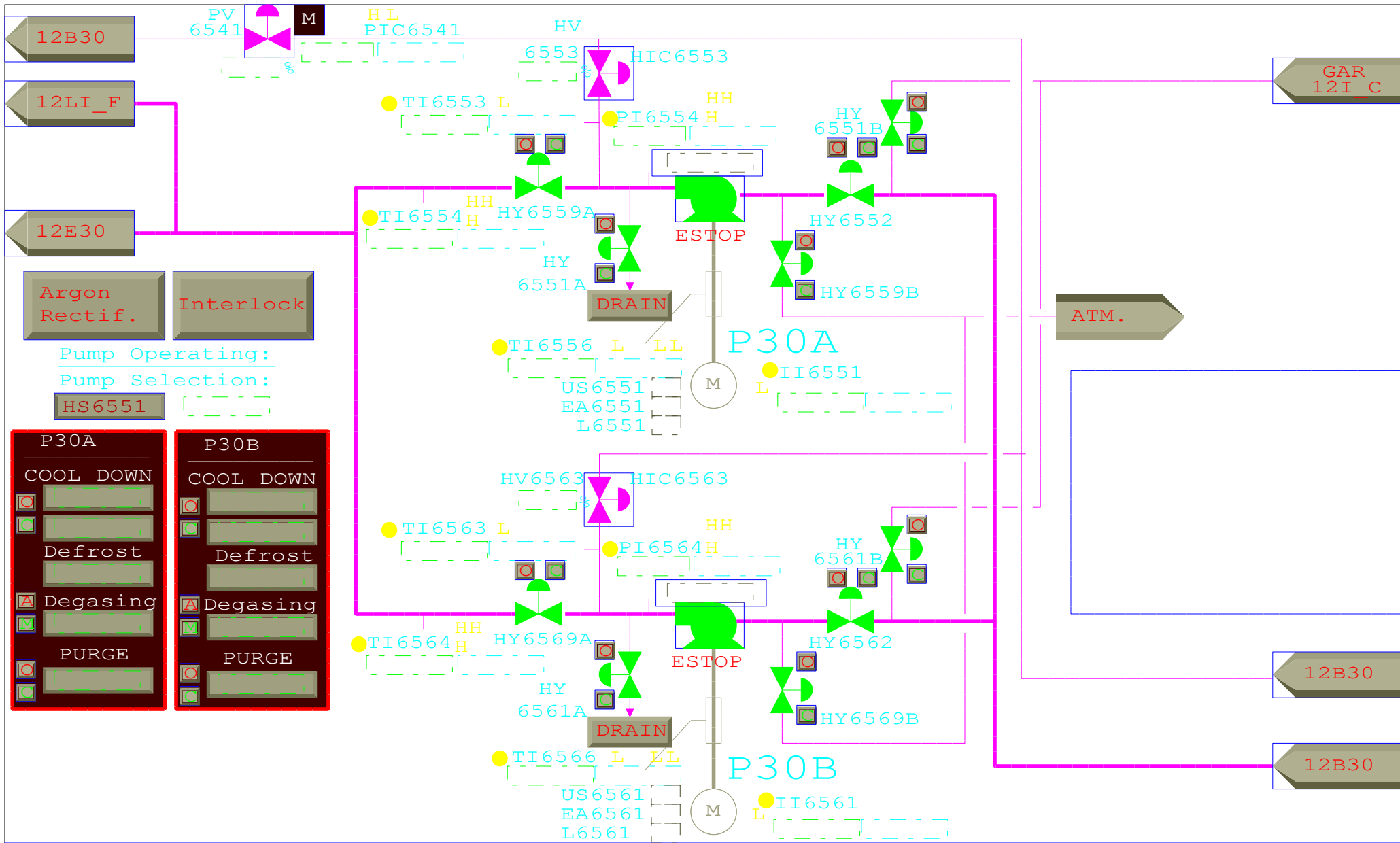
COOL DOWN - DEFROSTING  
INFO



S  
A  
B  
C  
D

Current

MENU	Main Air Compr.	Booster Turbine	Nitrogen Compr.	Main H. Exch.	Booster Compr.	Air Purif. Unit	O2 / N2 Column	Argon Rectif.	TRENDS
------	-----------------	-----------------	-----------------	---------------	----------------	-----------------	----------------	---------------	--------



Argon Rectif. Interlock

Pump Operating:  
Pump Selection:  
HS6551

P30A	P30B
COOL DOWN	COOL DOWN
Defrost	Defrost
Degasing	Degasing
PURGE	PURGE

S  
A  
B  
C  
D

Current

MENU Main Air Compr. Booster Turbine Nitrogen Compr. Main H. Exch. Booster Compr. Air Purif. Unit O2 / N2 Column Argon Rectif. TRENDS

Cool Down and Defrosting of LAR-Pumps P30A, B

Start Permissive: Pump should not run and Sealgas-Flow has to be "OK"

1. Cool Down

Starting Cool Down: HS6551 / 6561 switch to "ON" by Operator

- Action:
1. Controller HIC6553 / 6563 to "MANUAL"-Mode and Y=0%  
HV6552 / 6562 (LAR Inlet) to "OPEN"  
HV6551A / 6561A (LAR Drain) to "OPEN"
  2. Waiting Time (20 sec.)
  3. HIC6553 / 6563 to "MANUAL"-Mode and Y=100%  
HV6551A / 6561A (LAR Drain) to "CLOSE"
  4. TAL6553 / 6563 Temperature check -> -150 DEGC
  5. HS6551 / 6561 to "OFF" -> Cool Down finished

2. Defrosting

Starting Defrosting: HSH6551B / 6561B switch to "ON" by Operator

- Action:
1. Controller HIC6553 / 6563 to "MANUAL"-Mode and Y=0%  
HV6552 / 6562 (LAR Inlet) to "CLOSE"  
HV6559A / 6569A (LAR Outlet) to "CLOSE"
  2. Waiting Time (20 sec.)
  3. HV6551B / 6561B (DEFROST. In) to "OPEN"  
HV6551A / 6561A (LAR Drain) to "OPEN"
  4. Waiting Time (60 min.)
  5. HSH6551B / 6561B switch to "OFF" by Operator  
HV6551B / 6561B (DEFROST. In) to "CLOSE"  
HV6551A / 6561A (LAR Drain) to "CLOSE"
- Defrosting finished

P30

Interl.

S

Current

A

B

C

D

MENU

Main Air  
Compr.

Booster  
Turbine

Nitrogen  
Compr.

Main H.  
Exch.

Booster  
Compr.

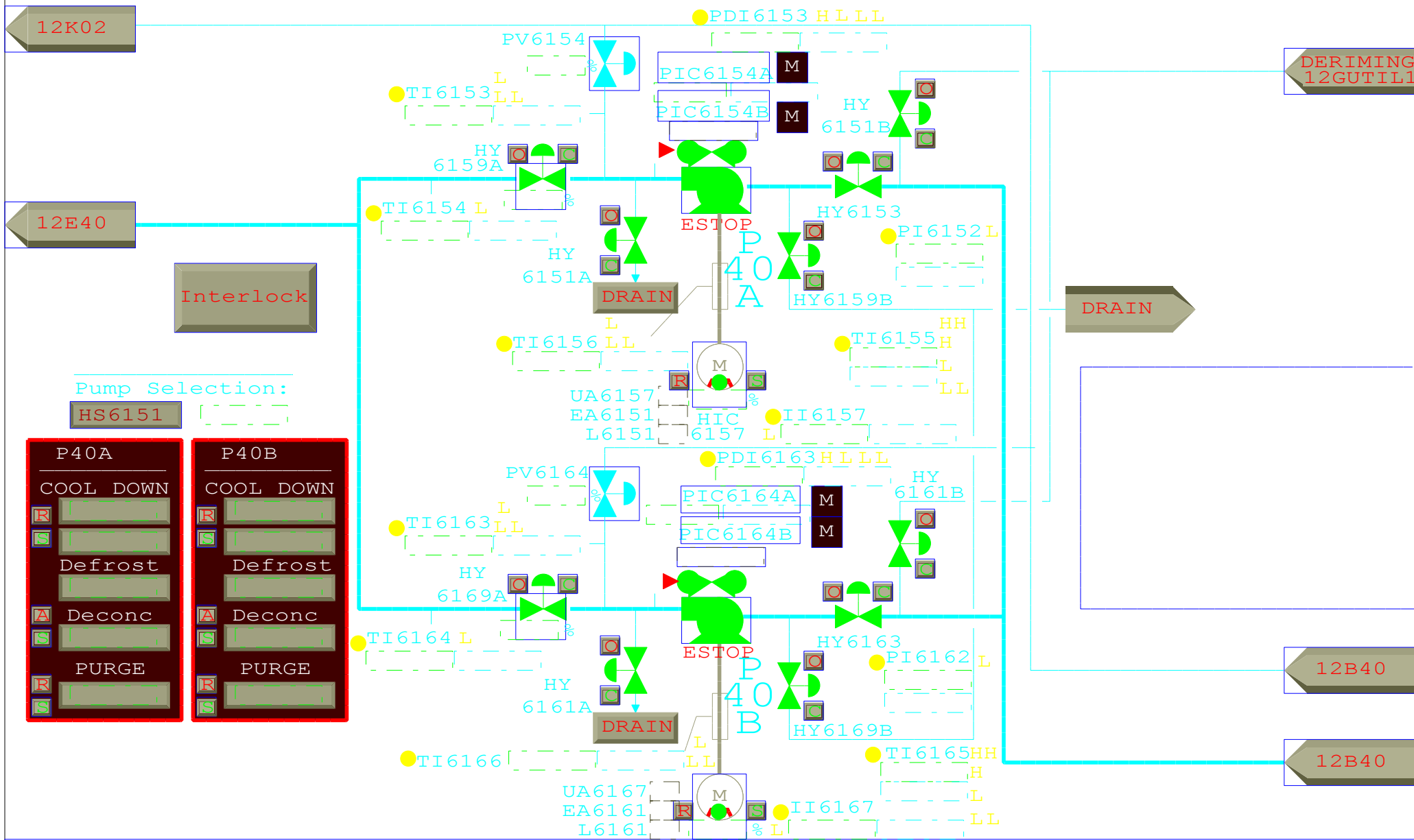
Air  
Purif.  
Unit

O2 / N2  
Column

Argon  
Rectif.

TRENDS





S  
A  
B  
C  
D

Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS

Cool Down and Defrosting of LOX-Pumps P40A, B

Start Permissive: Pump should not run and Sealgas-Flow has to be "OK"

1. Cool Down

Starting Cool Down: HS6151 / 6161 switch to "ON" by Operator

- Action:
1. Controller HIC6153 / 6563 to "MANUAL"-Mode and Y=0%  
HV6152 / 6162 (LOX Inlet) to "OPEN"  
HV6151A / 6161A (LOX Drain) to "OPEN"
  2. Waiting Time (20 sec.)
  3. HIC6153 / 6163 to "MANUAL"-Mode and Y=100%  
HV6151A / 6161A (LOX Drain) to "CLOSE"
  4. TAL6153 / 6163 Temperature check -> -150 DEGC
  5. HS6151 / 6161 to "OFF" -> Cool Down finished

2. Defrosting

Starting Defrosting: HSH6151B / 6161B switch to "ON" by Operator

- Action:
1. Controller HIC6153 / 6163 to "MANUAL"-Mode and Y=0%  
HV6152 / 6162 (LOX Inlet) to "CLOSE"  
HV6159A / 6169A (LOX Outlet) to "CLOSE"
  2. Waiting Time (20 sec.)
  3. HV6151B / 6161B (DEFROST. In) to "OPEN"  
HV6151A / 6161A (LOX Drain) to "OPEN"
  4. Waiting Time (60 min.)
  5. HSH6151B / 6161B switch to "OFF" by Operator  
HV6151B / 6161B (DEFROST. In) to "CLOSE"  
HV6151A / 6161A (LOX Drain) to "CLOSE"
- Defrosting finished

P40

Interl.

S

Current

A

B

C

D

MENU

Main Air  
Compr.

Booster  
Turbine

Nitrogen  
Compr.

Main H.  
Exch.

Booster  
Compr.

Air  
Purif.  
Unit

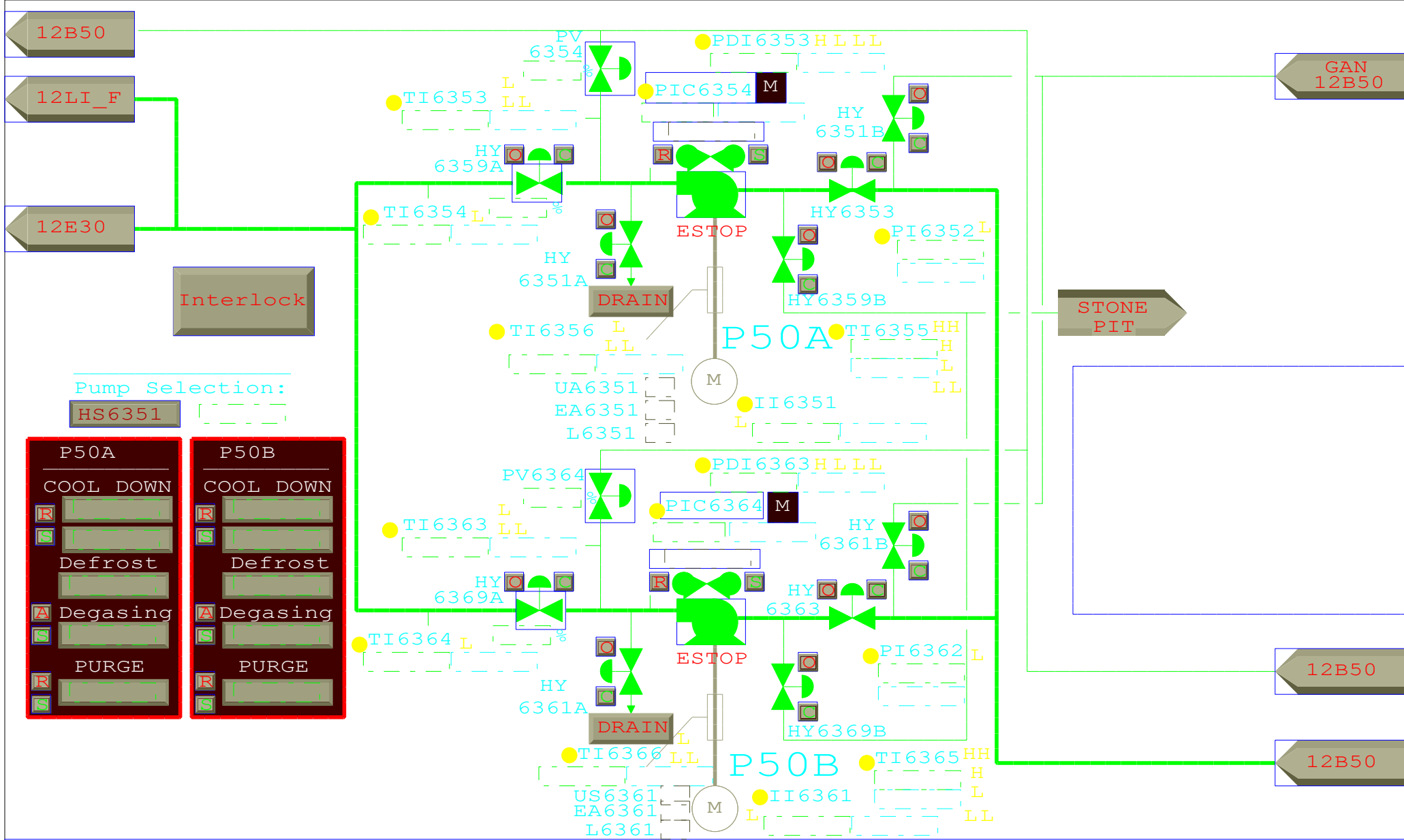
O2 / N2  
Column

Argon  
Rectif.

TRENDS







S  
A  
B  
C  
D

Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS

Cool Down and Defrosting of LIN-Pumps P50A, B

Start Permissive: Pump should not run and Sealgas-Flow has to be "OK"

1. Cool Down

Starting Cool Down: HS6351 / 6361 switch to "ON" by Operator

- Action:
1. Controller HIC6353 / 6363 to "MANUAL"-Mode and Y=0%  
HV6352 / 6362 (LIN Inlet) to "OPEN"  
HV6351A / 6361A (LIN Drain) to "OPEN"
  2. Waiting Time (20 sec.)
  3. HIC6353 / 6363 to "MANUAL"-Mode and Y=100%  
HV6351A / 6361A (LIN Drain) to "CLOSE"
  4. TAL6353 / 6363 Temperature check -> -150 DEGC
  5. HS6351 / 6361 to "OFF" -> Cool Down finished

2. Defrosting

Starting Defrosting: HSH6351B / 6361B switch to "ON" by Operator

- Action:
1. Controller HIC6353 / 6363 to "MANUAL"-Mode and Y=0%  
HV6352 / 6362 (LIN Inlet) to "CLOSE"  
HV6359A / 6369A (LIN Outlet) to "CLOSE"
  2. Waiting Time (20 sec.)
  3. HV6351B / 6361B (DEFROST. In) to "OPEN"  
HV6351A / 6361A (LIN Drain) to "OPEN"
  4. Waiting Time (60 min.)
  5. HSH6351B / 6361B switch to "OFF" by Operator  
HV6351B / 6361B (DEFROST. In) to "CLOSE"  
HV6351A / 6361A (LIN Drain) to "CLOSE"
- Defrosting finished

P50

Interl.

S

Current

A

B

C

D

MENU

Main Air  
Compr.

Booster  
Turbine

Nitrogen  
Compr.

Main H.  
Exch.

Booster  
Compr.

Air  
Purif.  
Unit

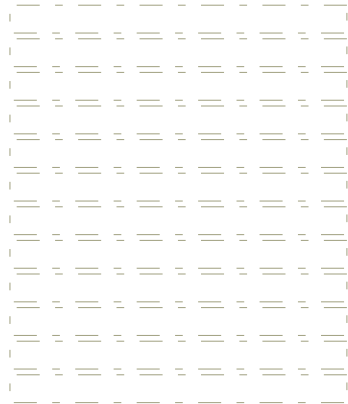
O2 / N2  
Column

Argon  
Rectif.

TRENDS

E50 NITROGEN VAPORIZER - INTERLOCKING

HL6300A  
HL6300B  
HL6300C  
UA6374A  
L6351O  
L6361O  
TALL6370A  
EL6354B  
EL6364B  
L6374A  
L6374B  
LAL6370

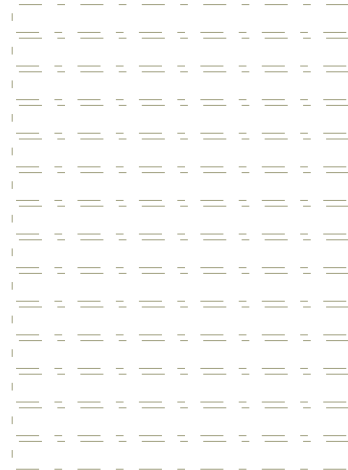


READY TO  
START

P50A - INTERLOCKING



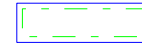
HL6300A  
TAL6354  
PAHH6321  
PALL6321  
LALL6322  
TALL6353  
TALL6356  
TAHH6355  
TALL6355  
PDALL6353  
UA6351  
HA6351A  
IAL6351  
L6361O



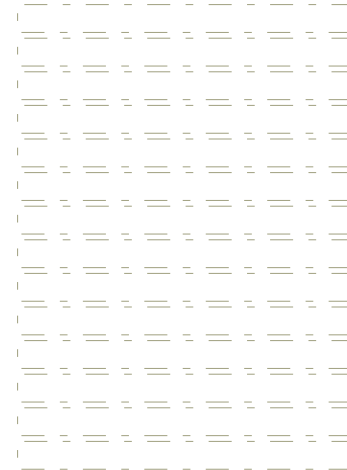
BACKUP PUMP  
SELECTOR



P50B - INTERLOCKING



HL6300A  
TAL6354  
PAHH6321  
PALL6321  
LALL6322  
TALL6363  
TALL6366  
TAHH6365  
TALL6365  
PDALL6363  
UA6361  
HA6361A  
IAL6361  
L6351O



P50A - PERMISSION

TAL6355



P50B - PERMISSION

TAL6365



TRENDS

P50

COOL DOWN - DEFROSTING  
INFO

S  
A  
B  
C  
D

Current

MENU

Main Air  
Compr.

Booster  
Turbine

Nitrogen  
Compr.

Main H.  
Exch.

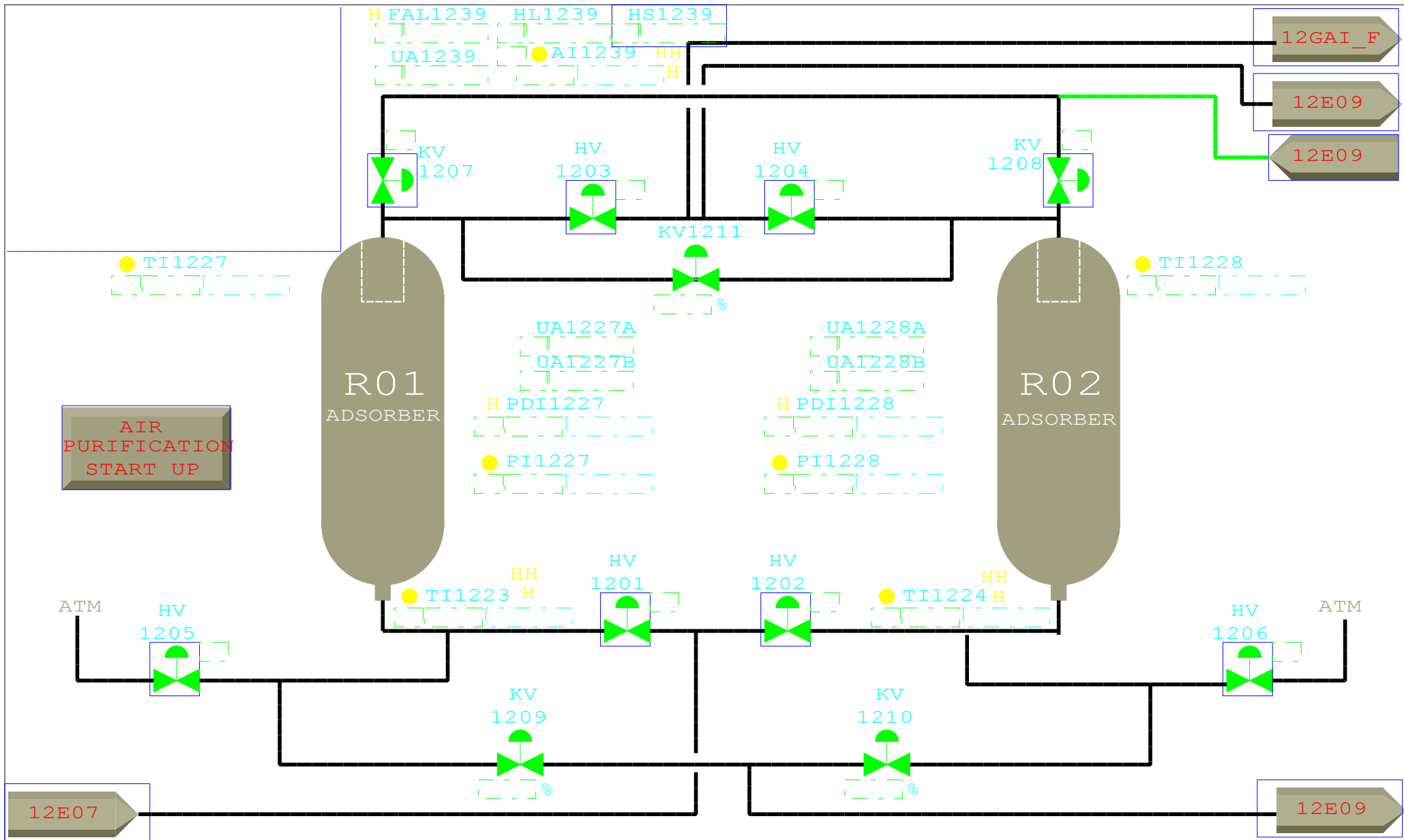
Booster  
Compr.

Air  
Purif.  
Unit

O2 / N2  
Column

Argon  
Rectif.

TRENDS



S Current

A

B

C

D

MENU	Main Air Compr.	Booster Turbine	Nitrogen Compr.	Main H. Exch.	Booster Compr.	Air Purif. Unit	O2 / N2 Column	Argon Rectif.	TRENDS
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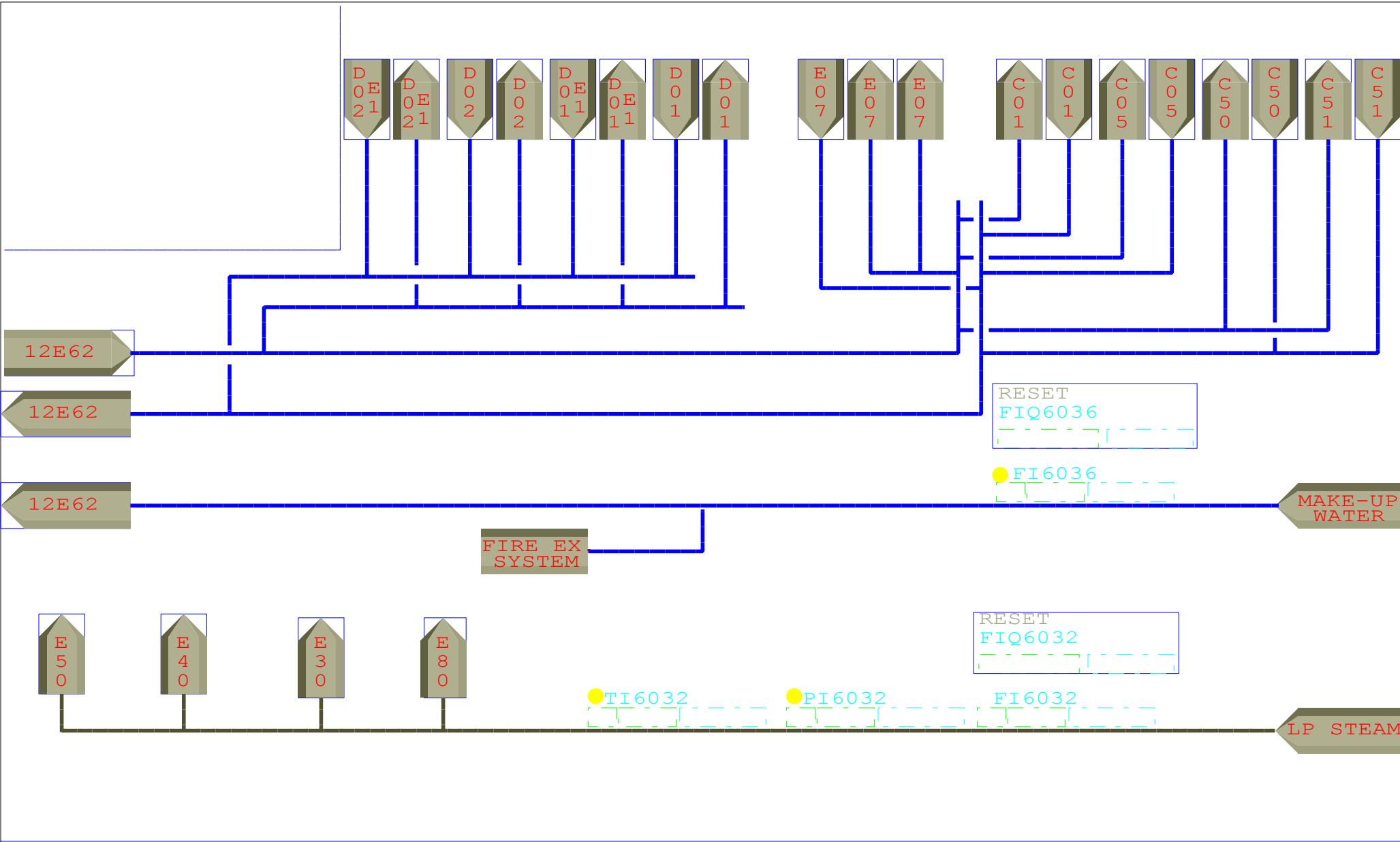
Date Last Modified: Thursday, March 18, 2004 at 9:00:00 AM

BOTTLE CHOICE		AIR PURIFICATION		CALCULATION <input type="button" value="ON"/> <input type="button" value="OFF"/>	
<input type="text"/>		<input type="text"/>		REGEX <input type="button" value="ON"/> <input type="button" value="OFF"/> EXCEPTIONAL REACTIVATION	
SEQ INIT		PHASE SEQUENCER			
<input type="text"/>					
	ONLINE	R01	R02	REQUESTED HEAT	HEAT SUPPLIED TIME
HP ISOLATION					<input type="text"/>
DEPRESSURIZATION				PROGRESS RATES	
BLOWOFF				CYCLE TIME	HEAT CYCLE
HEATING				AIR/CO2 CONTENT	CYCLE TIMES
COOLING				ALUMINA	MS CALCULATED
LP ISOLATION				<input type="text"/>	
PRESSURIZATION				WAITING TIME	
IN PARALLEL				MONITOR.TIME	
START OF REGEN				ACTUAL TIME	
FORCE NEXT STEP		NEXT STEP			
<input type="text"/>		<input type="text"/>			
		WATER MASS FLOW		<input type="text"/>	
		CO2 MASS FLOW		<input type="text"/>	
		CUMULATION OF WATER		<input type="text"/>	
		TOTAL MASS OF WATER		<input type="text"/>	
		CUMULATION OF GAS		<input type="text"/>	
		TOTAL CO2 MASS		<input type="text"/>	

S  
A  
B  
C  
D

Current

- 
- 
- 
- 
- 
- 
- 
- 
- 
-



S  
A  
B  
C  
D

Current

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS

A	[ ]	PV
B	[ ]	PV
C	[ ]	PV
D	[ ]	PV
E	[ ]	PV

A	[ ]	PV
B	[ ]	PV
C	[ ]	PV
D	[ ]	PV

MENU	Main Air Compr.	Booster Turbine	Nitrogen Compr.	Main H. Exch.	Booster Compr.	Air Purif. Unit	O2 / N2 Column	Argon Rectif.	TRENDS
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A	[ ]	PV
B	[ ] CO	
C	[ ] SP	
D	[ ] PV	
E	[ ] PV	

F	[ ] PV	
G	[ ] CO	
H	[ ] SP	
I	[ ] PV	

- MENU
- Main Air Compr.
- Booster Turbine
- Nitrogen Compr.
- Main H. Exch.
- Booster Compr.
- Air Purif. Unit
- O2 / N2 Column
- Argon Rectif.
- TRENDS



2. Air Separation Unit

2.1 Analysing Measurements:

A

B

2.2 Flow Measurements: Totalizers:

A

B

C

2.3 Liquid Level Measurements:

A

2.4 Diff.-Press. & Press. Measurements:

A Diff. Press.

B Press.

C Press.

D Press.

2.5 Temperature Measurements:

A

B

C MHE #1

D MHE #2

E MHE #3

F MHE #4

G Recti. LOX-F.

H

I Argon

TREND-1

MENU

Main Air Compr.

Booster Turbine

Nitrogen Compr.

Main H. Exch.

Booster Compr.

Air Purif. Unit

O2 / N2 Column

Argon Rectif.

TREND-2

1. Compressors and Turbines

1.1 Air Compressor C01:

A Proc  
ess B Lube  
Oil C Compr. D Motor E Vibr. F Surge Test

1.2 Air Booster D01:

A Proc  
ess B Lube  
Oil C Compr. D Motor

Air Booster D02:

E Proc  
ess F Lube  
Oil G Compr. H Motor

1.3 N2 Compressor C50:

A Proc  
ess B Lube  
Oil C Compr. D Motor E Vibr.

1.4 N2 Compressor C51:

A Proc  
ess B Lube  
Oil C Compr. D Motor E Vibr.

1.5 Air Booster Compr. C05:

A Process  
Oil B Compr.  
Vibr. C Motor

1.6

1.7 Liquid Pumps:

A P01A  
P01B B P10A  
P10B C P30A  
P30B D P40A  
P40B E P50A  
P50B

TREND-1

MENU

Main Air  
Compr.

Booster  
Turbine

Nitrogen  
Compr.

Main H.  
Exch.

Booster  
Compr.

Air  
Purif.  
Unit

O2 / N2  
Column

Argon  
Rectif.

TREND-2

12P40

S

Current

A

B

C

D

MENU

Main Air  
Compr.

Booster  
Turbine

Nitrogen  
Compr.

Main H.  
Exch.

Booster  
Compr.

Air  
Purif.  
Unit

O2 / N2  
Column

Argon  
Rectif.

TRENDS







