



NEW TRICON INDUSTRIES ®

PLANTA DE PRODUCCIÓN DE SEVIN®



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Proyecto final de carrera

Ingeniería Química 2014

VOLUMEN III

9. DIAGRAMAS **E IMPLANTACIÓN**

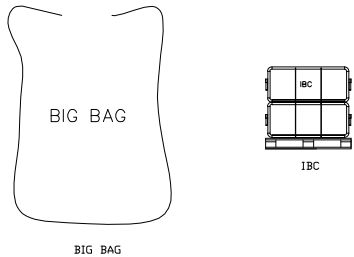
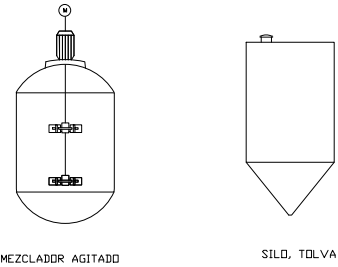
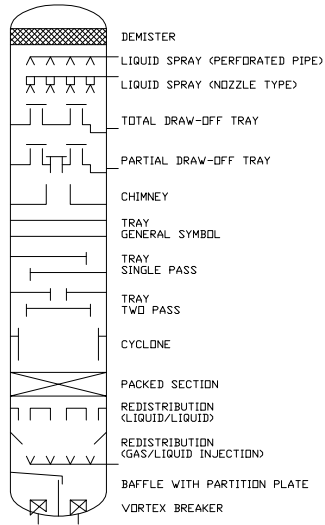
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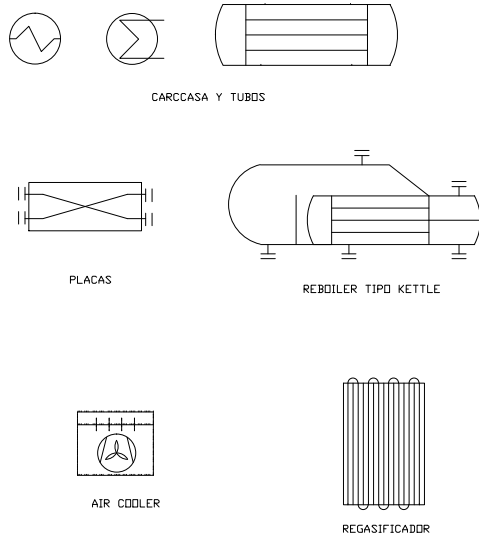
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9.1. SIMBOLOGÍA

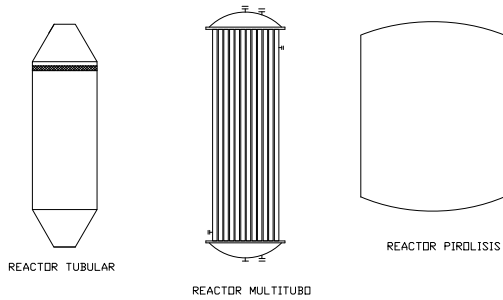
TANQUES, TORRES Y DEPOSITOS



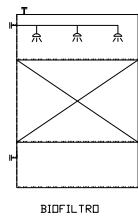
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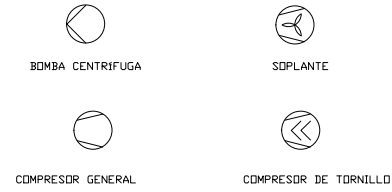
REACTORES



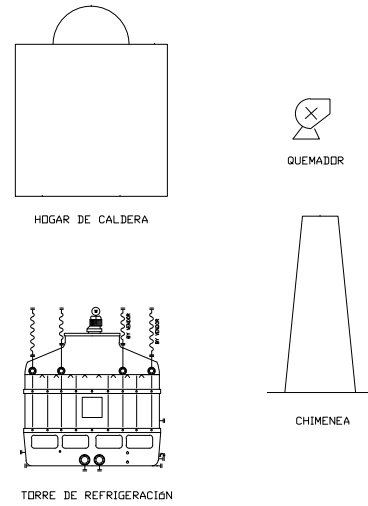
BIOFILTRO



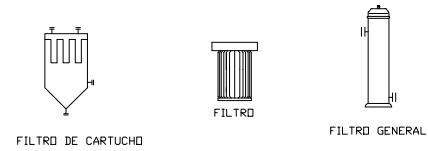
BOMBAS Y COMPRESORES



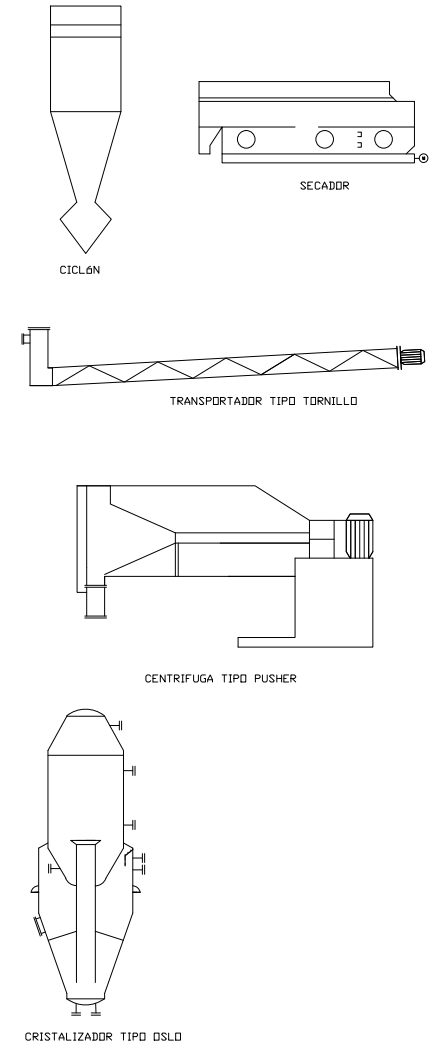
COMPRESORES



FILTROS DE GASES



EQUIPOS PARA SÓLIDOS



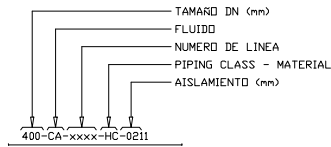
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Checked	CB	TITULO			
Date	21.05.14	SIMBOLOGIA EQUIPOS			
Issued	AD	Company Doc. Ref. 000-101			
Date	21.05.14	000 101 A			
Scale		Project number	Unit	Doc. Type	Mat. Code
Rev.	01.05.14	ISSUED FOR INFORMATION			
Date		Status			

GENERAL PIPING SYMBOLS

- VALVULA GENERAL
- VALVULA DE BOLA
- VALVULA DE GLOBO
- VALVULA DE MARIPOSA
- VALVULA DE COMPUERTA
- VALVULA DE ANTIRRETORNO
- VALVULA DE SEGURIDAD
- TRAMPA DE VAPOR (steam trap)
- FILTRO
- AMPLIACIÓN/REDUCCIÓN
- DRENAJE
- VENTEO
- DISCO CIEGO
- TUBERIA FLEXIBLE
- ACTUADOR PISTÓN (VALVULA TODO/NADA)
- ACTUADOR DIAFRAGMA (VALVULA REGULADORA)
- VALVULA AUTORREGULADORA
-

- LO LOCKED OPEN
- LC LOCKED CLOSED
- CSO CAR SEALED OPEN
- CSC CAR SEALED CLOSED

NUMERADO DE LINEAS



- CONEXIÓN LINEAS DE PROCESO
- CONEXIÓN LINEAS DE SERVICIOS

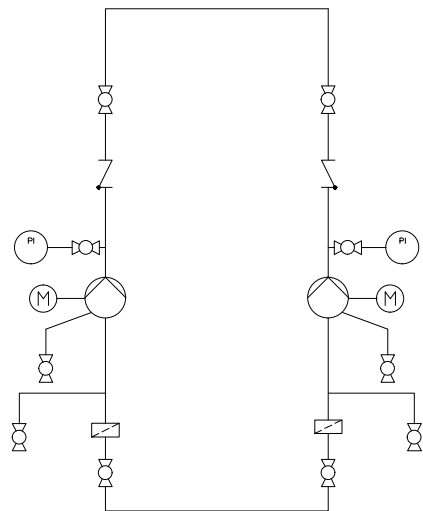
INSTRUMENT SYMBOLS AND NOTES

- LOCAL
- CONTROL EN SALA

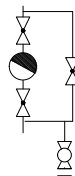
LETRAS IDENTIFICATIVAS PARA INSTRUMENTACIÓN

	FIRST-LETTER		SUCCEEDING-LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	Analysis		alarm		
B	Burner, Combustion		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE			CONTROL	
D	USER'S CHOICE	DIFFERENTIAL			
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE(1)		GLASS VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT(ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	USER'S CHOICE(1)	MOMENTARY			MIDDLE, INTERMEDIATE
N	USER'S CHOICE(1)		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE(1)		ORIFICE RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY		INTEGRATE, TOTALIZE		
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE(6)		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS (19)			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED(2)	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE (20)	Y AXIS		RELAY, COMPUTE, CONVERT, STORE/DISPLAY	
Z	POSITION, DIMENSION	Z AXIS		UNCLASSIFIED FINAL CONTROL ELEMENT	

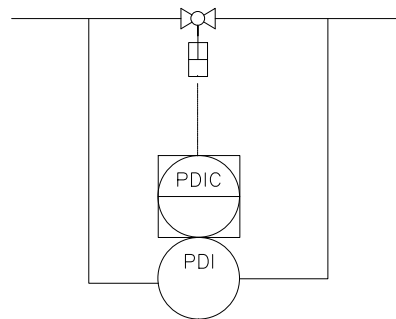
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A		01.05.14		ISSUED FOR INFORMATION		Scale		GRP3		000 PID 000 102 A	
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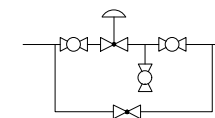
ESTACIÓN DE BOMBEO (PUMP STATION)





TRAMPA DE VAPOR



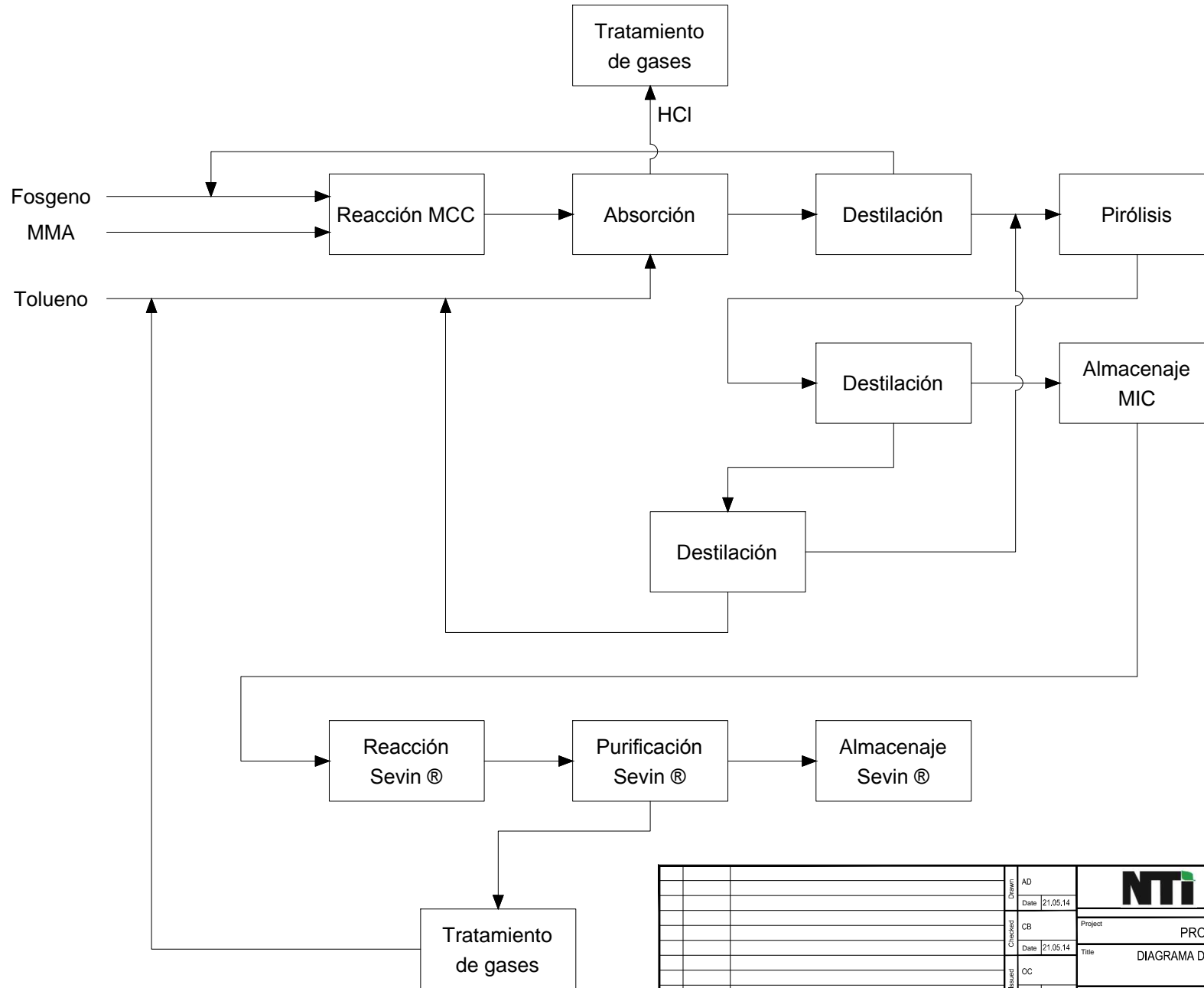
CONTROL DE BACKFLOW



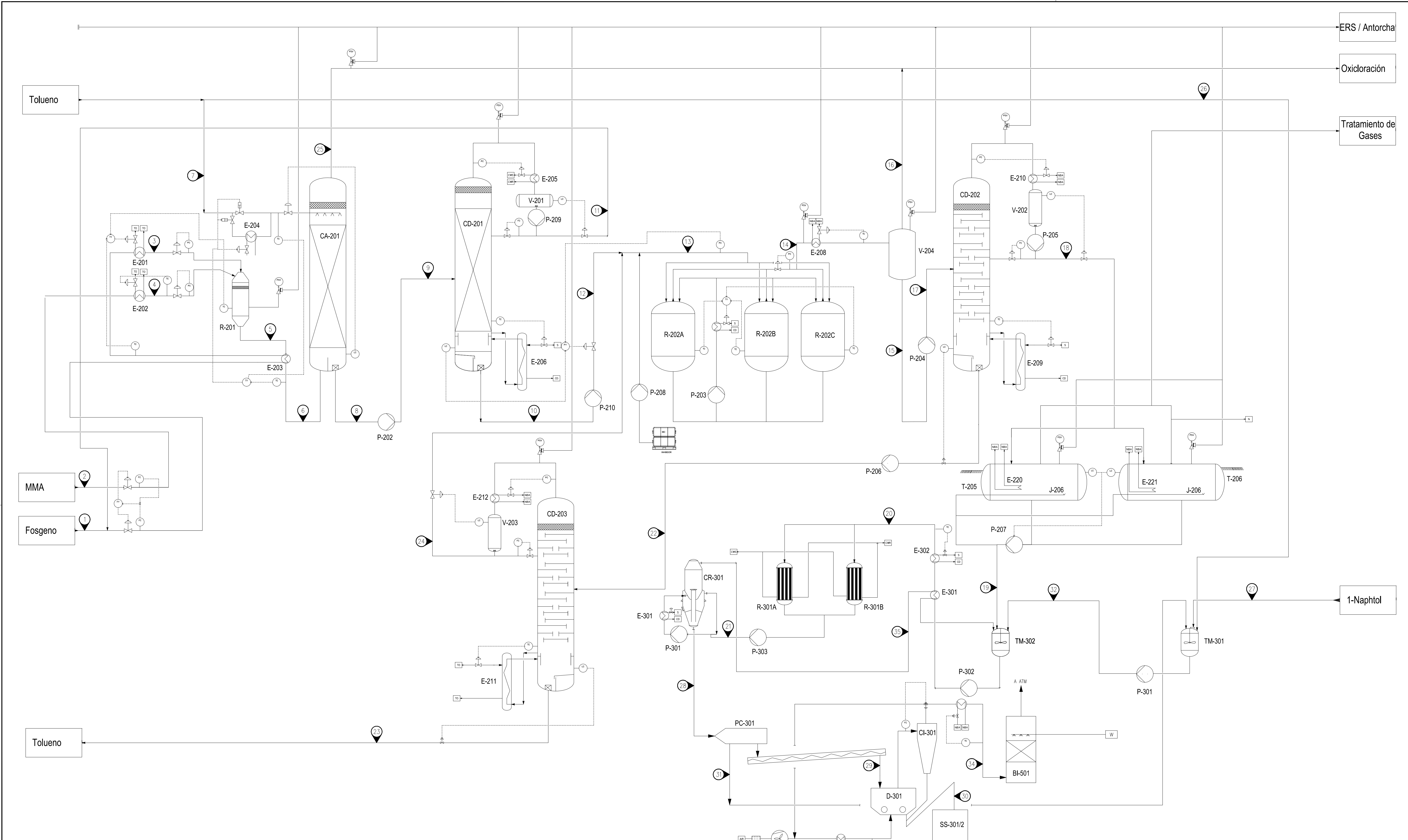
VALVULA DE CONTROL

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			CB	Project					
			Date	21.05.14	PROYECTO SEVIN				
			AD	Title					
			Date	21.05.14	SIMBOLOGIA TÍPICOS				
			Company Doc. Ref.						
			000-103						
Rev.	Date	Status	Scale	Project number	Unit	Doc. Type	Mat. Code	Serial Num.	Revision
A	01.05.14	ISSUED FOR INFORMATION		GRP3	000	PID	000	103	A

9.2. DIAGRAMA DE BLOQUES Y PFD



AD		NTI		e escuela d'enginyeria	
Date	21.05.14	Project: PROYECTO SEVIN			
Date	21.05.14	Title: DIAGRAMA DE BLOQUES DE PROCESO			
Date	21.05.14	Company Doc. Ref.: 000-101			
Scale		GRP3	000	BFD	000 101 A
Rev.	Date	Status		Project number	Unit
A	01.05.14	ISSUED FOR INFORMATION		Doc. Type	Mat. Code
				Serial Num.	Revision



ERS / Antorcha
 Oxidación
 Tratamiento de Gases

Tolueno

MMA

Fosgeno

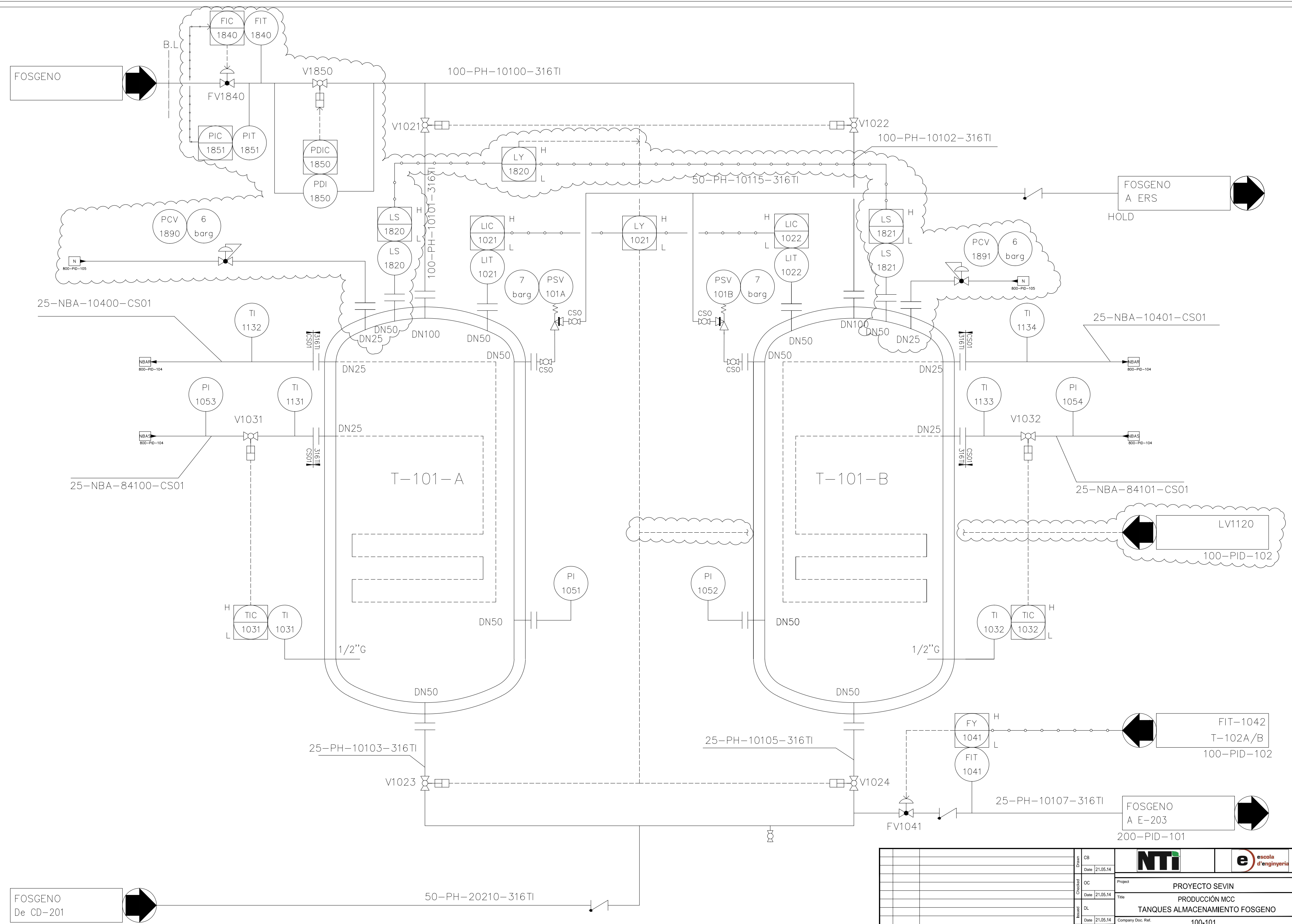
Tolueno

1-Naphtol

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Presión	bar	5	5	1.2	1.2	1.2	1.0	1.0	1.0	1.5	1.5	6.2	1.5	1.5	1.3	1.1	1.1	10	10	2.5	3	2.5	5	1	5	1	1.0	1	1.2	1.5	1.5	1.5	1	1.5	3	
Temperatura	°C	20	25	240	240	280	150	25	70	76	192	21	110	110	116	20	20	21	26	-7	88	95	96	178	95	22	25	20	30	30	20	30	38	30		
Densidad	kg/m ³	1354.19	644.10	2.73	0.87	1.85	1.97	864.21	811.54	811.74	867.07	1325.80	782.51	779.15	3.33	862.41	1.77	862.32	810.98	800.00	826.90	926.80	687	701.73	683.04	1.68	864.21	1095.4	970.6	1185	1200	863.6	866	1.2	1.2	865.3
Caudal volumétrico	m ³ /h	0.68	0.44	423.08	324.85	777.08	730.61	7.46	9.27	10.92	0.18	9.31	9.73	2276.91	8.50	144.81	8.50	0.63	0.63	7.60	6.85	9.92	9.29	0.44	225.00	5.50	1.05	4.02	1.30	1.30	2.77	6.5	2504	2504	2.82	
Fosgeno	% w	1.00	0.00	0.99	0.00	0.17	0.00	0.03	0.03	0.00	0.95	0.00	0.00	0.00	0.00	0.01	0.00	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
MMA	% w	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
MCC	% w	0.00	0.00	0.00	0.00	0.59	0.59	0.00	0.11	0.11	0.12	0.00	0.12	0.12	0.02	0.02	0.00	0.02	0.00	0.00	0.00	0.03	0.02	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HCl	% w	0.00	0.00	0.01	0.00	0.24	0.24	0.00	0.00	0.00	0.05	0.00	0.00	0.04	0.01	0.85	0.01	0.14	0.04	0.00	0.00	0.00	0.00	0.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
MIC	% w	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.09	0.09	0.09	0.09	0.09	0.83	0.93	0.07	0.01	0.03	0.00	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Tolueno	% w	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.85	0.85	0.88	0.00	0.88	0.85	0.85	0.87	0.05	0.87	0.00	0.00	0.75	0.75	0.94	0.98	0.00	0.07	1.00	0.00	0.60	0.03	0.00	0.95	0.850	0.00	0.00	
1-Naphtol	% w	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.02	0.00	0.00	0.00	0.00	0.00	1.00	0.03	0.00	0.00	0.04	0.150	0.00	0.00		
Carbonyl	% w	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.37	0.97	1.00	0.00	0.00	0.00	0.00		
Aire	% w	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00		

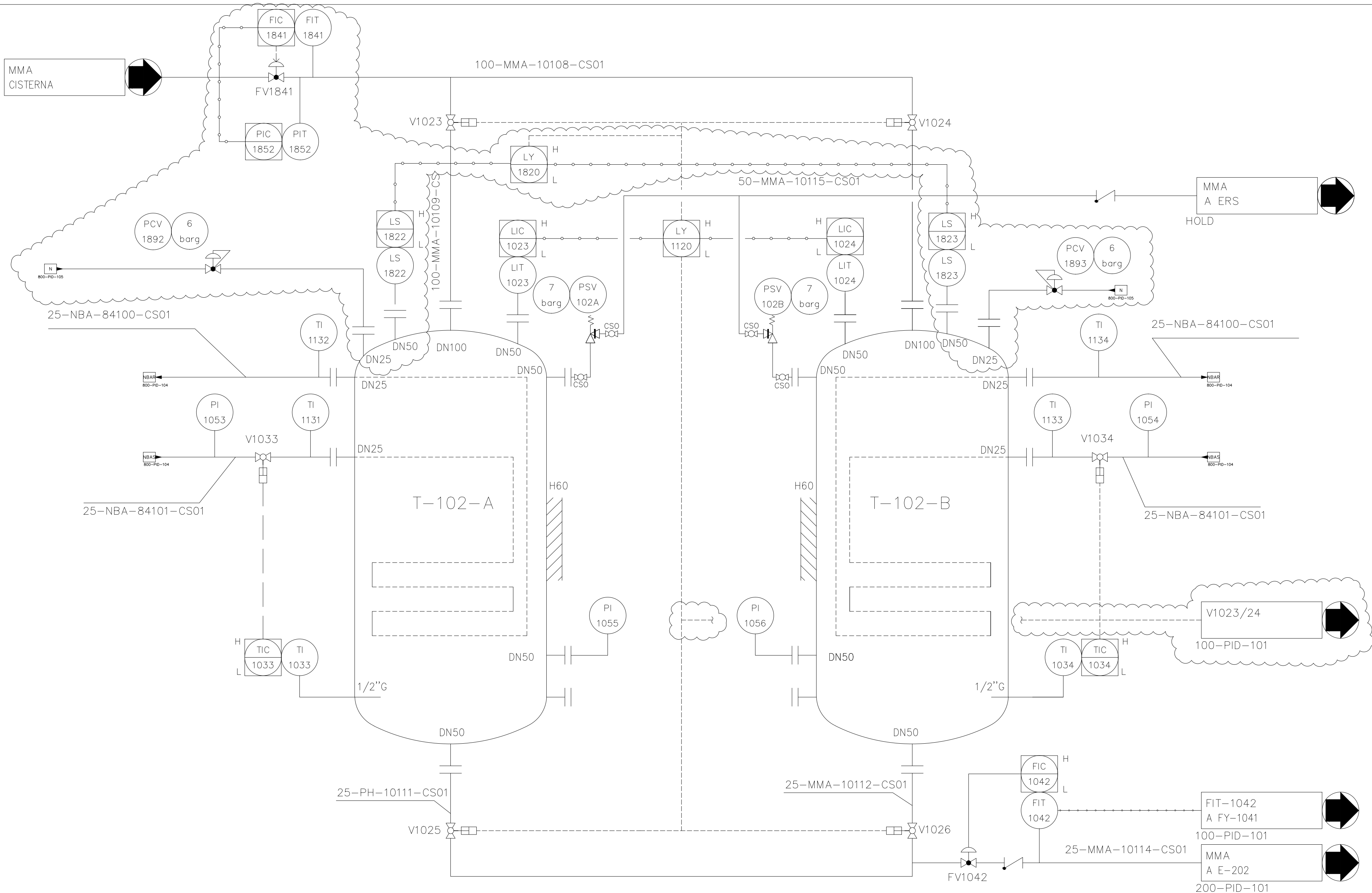
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Proyecto: INGENIERIA BASICA NUEVA PLANTA DE SEVIN Título del Plano: DIAGRAMA DE PROCESO						
GRP3	000	PFD	000	01	A	
Escala	Contrato	Unidad	Tipo Documento	Código	Numero	Revisión

9.3. PID

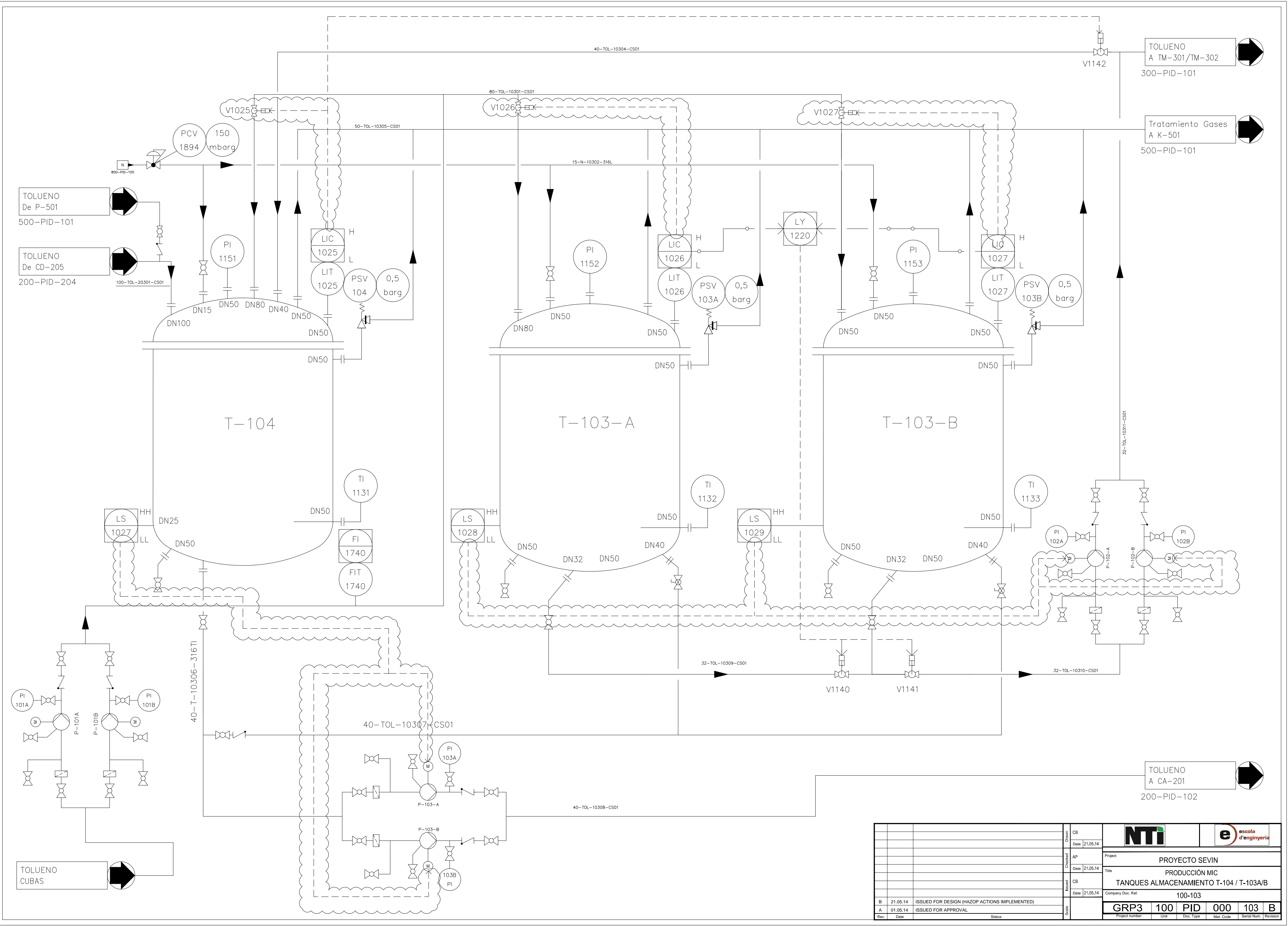


FOSGENO De CD-201
200-PID-103

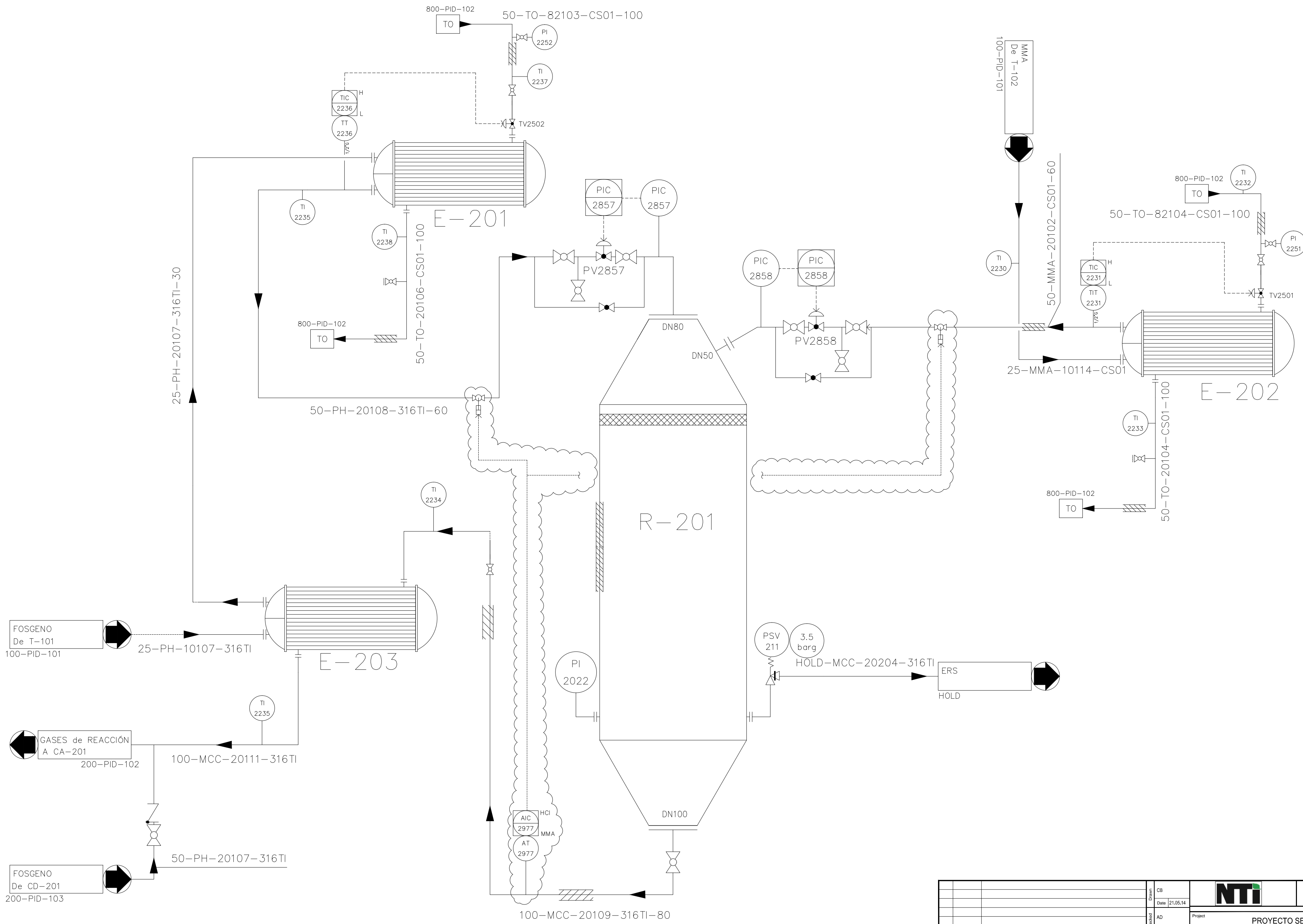
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Date	21.05.14	PROYECTO SEVIN		
Issued	DL	Title		
Date	21.05.14	PRODUCCIÓN MCC		
		TANQUES ALMACENAMIENTO FOSGENO		
		Company Doc. Ref.		
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Rev.	Date	Scale	Project number	Unit
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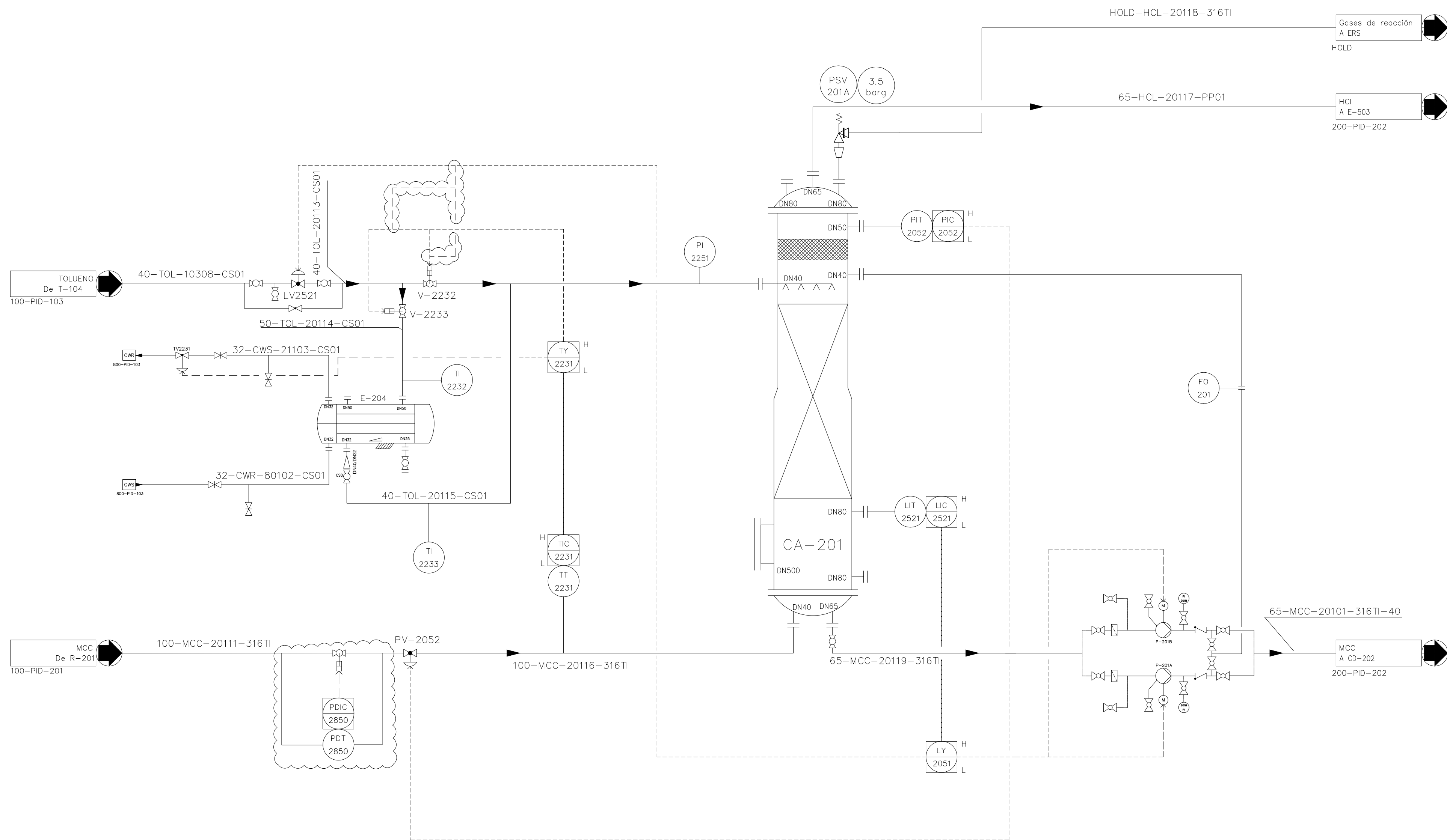
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Date	21.05.14	Title: PRODUCCIÓN MCC	
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Date	21.05.14	Company Doc. Ref: 100-102	
Rev.	Date	Status	Scale
B	21.05.14	ISSUED FOR DESIGN (HAZOP ACTIONS IMPLEMENTED)	
A	01.05.14	ISSUED FOR APPROVAL	
GRP3	100	PID	000 102 B
Project number	Unit	Doc. Type	Mat. Code Serial Num. Revision



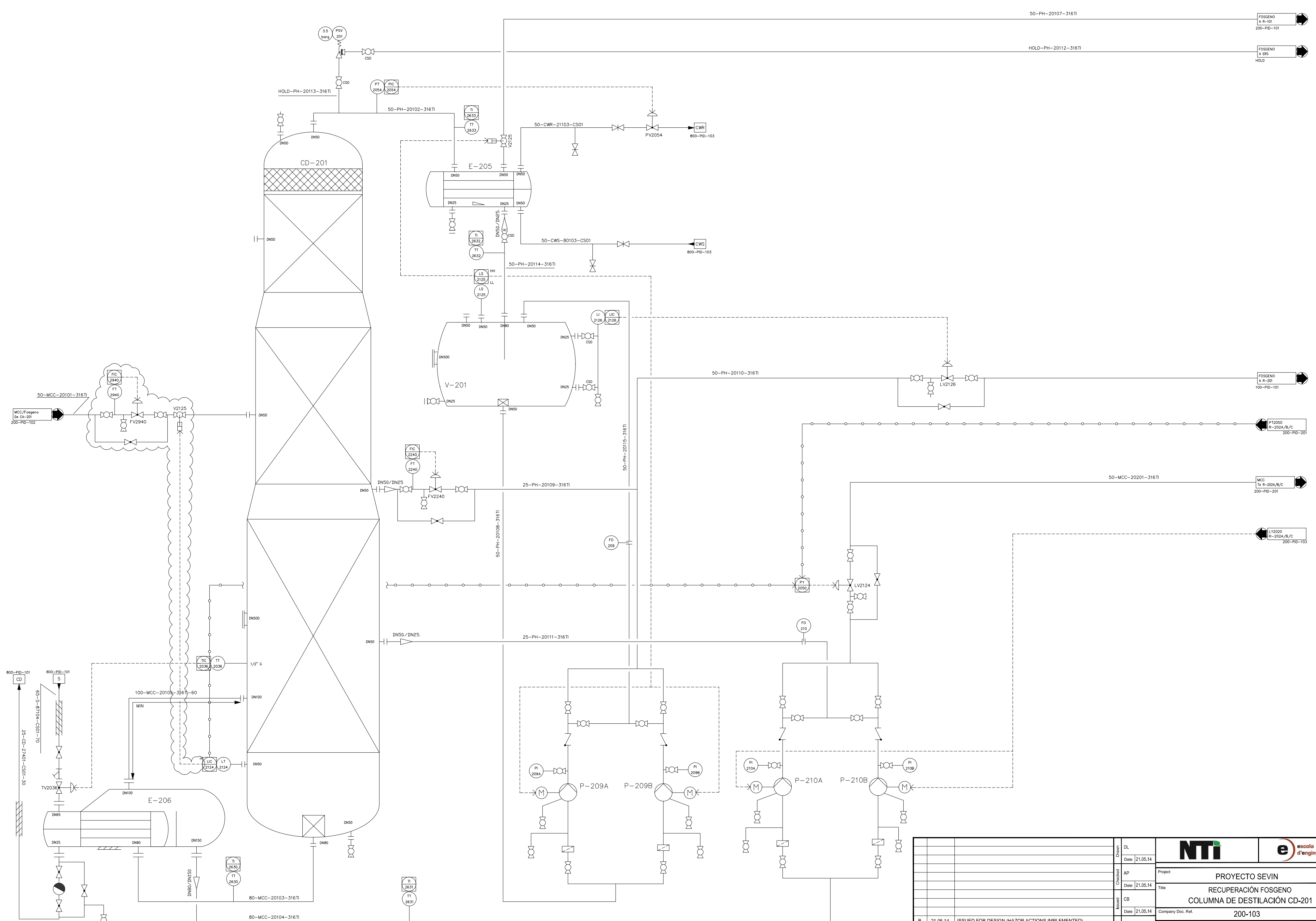
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Checked		AP	PRODUCCIÓN MIC			
Date		21.05.14	TANQUES ALMACENAMIENTO T-104 / T-103A/B			
Issued		CB	Company Doc. Ref. 100-103			
Date		21.05.14	GRP3 100 PID 000 103 B			
Rev.		B	21.05.14 ISSUED FOR DESIGN (HAZOP ACTIONS IMPLEMENTED)			
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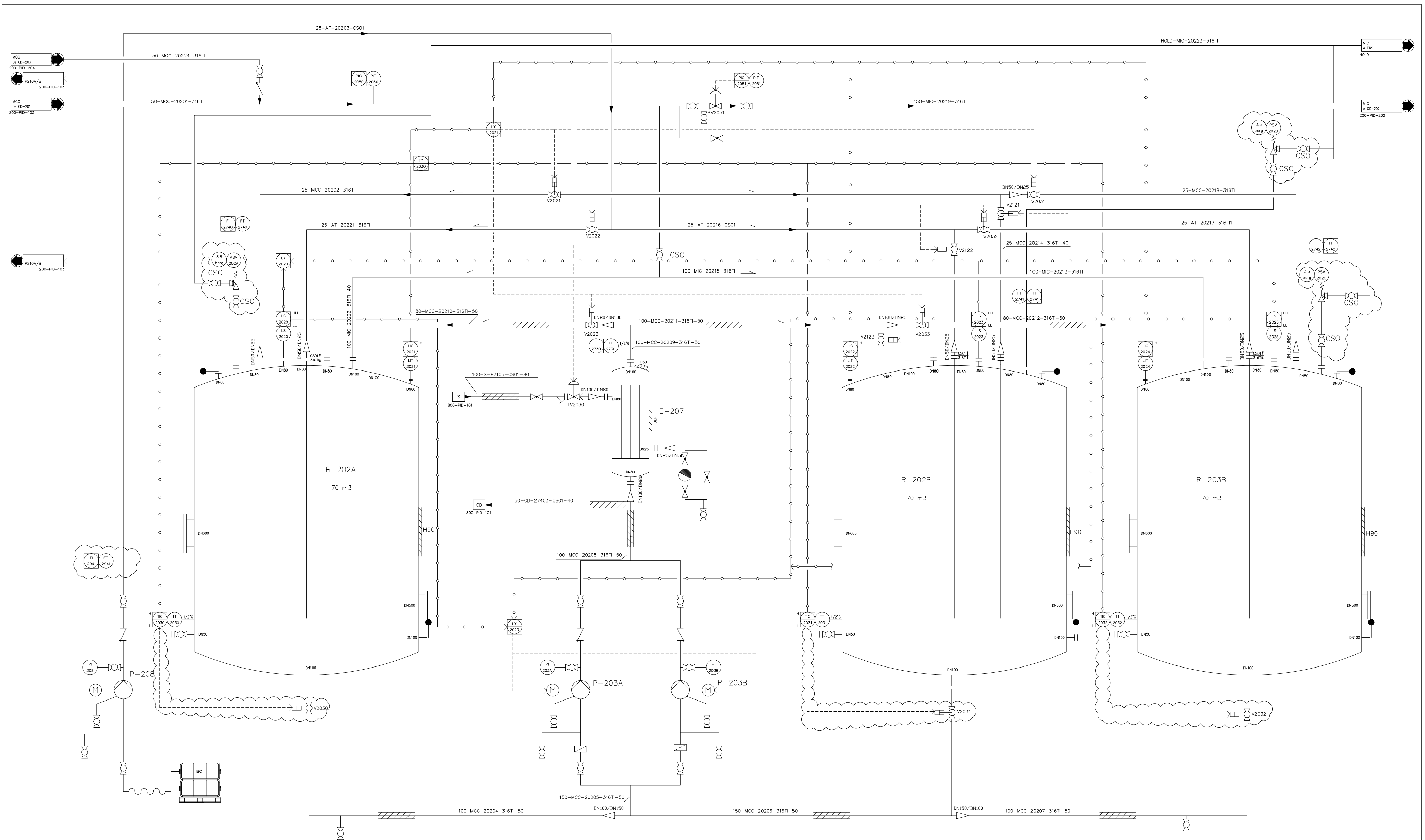
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21.05.14	21.05.14	21.05.14	Company Doc. Ref.					
21.05.14	21.05.14	21.05.14	200-101					
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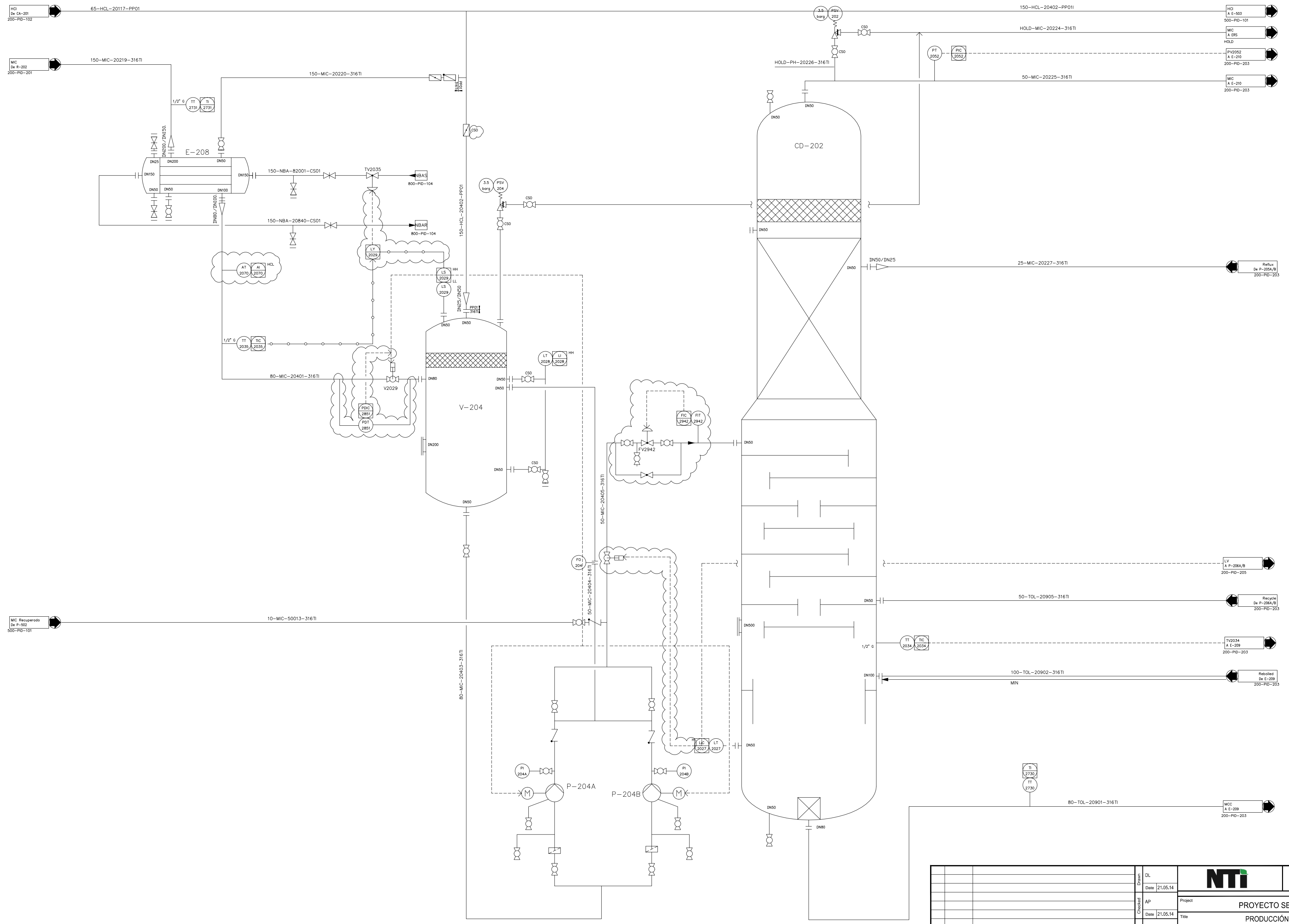
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Rev.	Date	Status	Scale
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			Project number Unit Doc. Type Mat. Code Serial Num. Revision



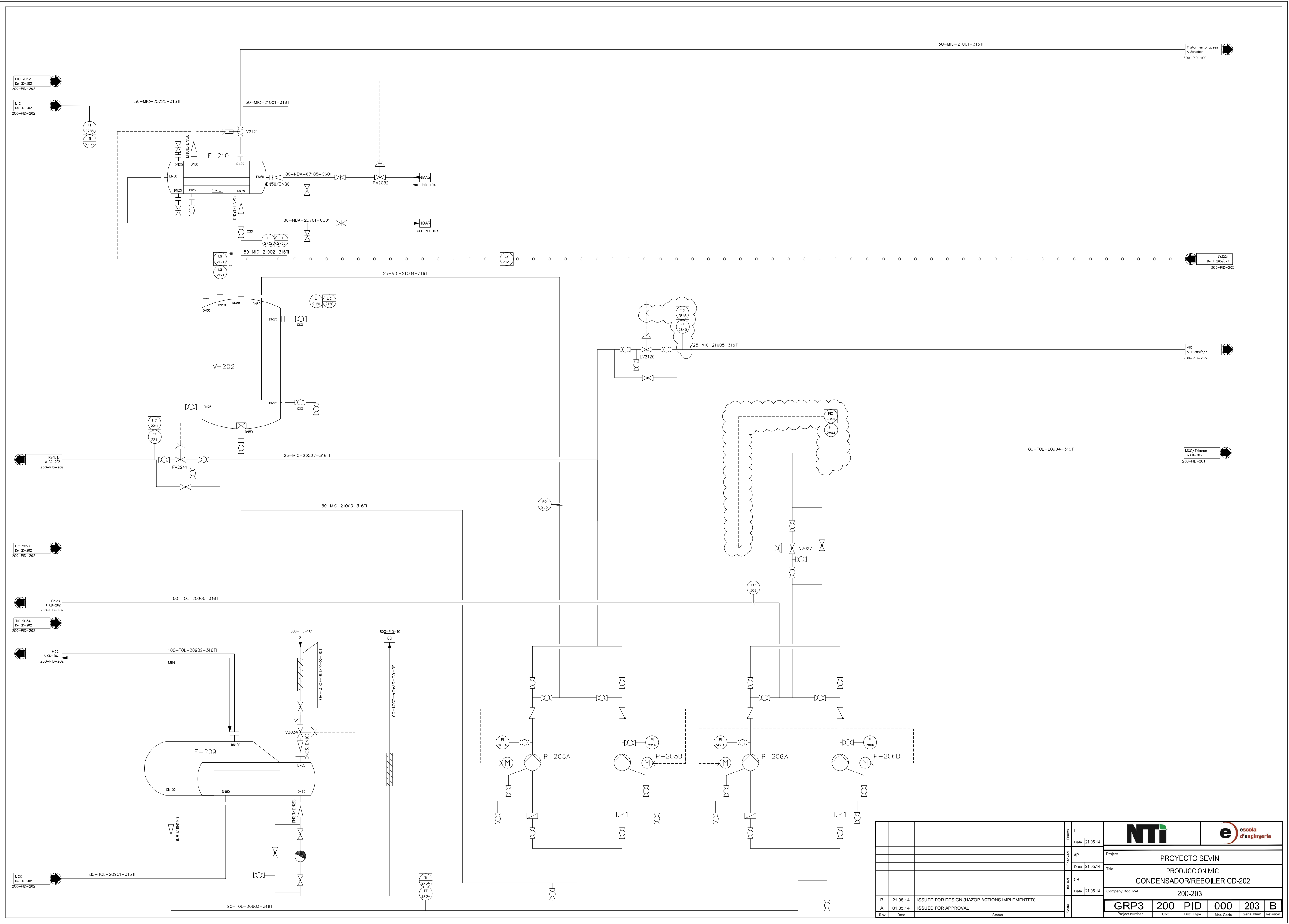
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Company Doc. Ref.		200-103														
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Project number	Unit	Doc. Type	Mat. Code	Serial Num.	Revision											
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A	01.05.14	ISSUED FOR APPROVAL														



DL	Date	21.05.14		PROYECTO SEVIN PRODUCCIÓN MIC REACTORES PIROLISIS R-203A/B/C	
AP	Date	21.05.14			
CB	Date	21.05.14			
B	Date	21.05.14			
B	Date	21.05.14	ISSUED FOR DESIGN (HAZOP ACTIONS IMPLEMENTED)		
A	Date	01.05.14	ISSUED FOR APPROVAL		
Rev.	Date		Status		
Company Doc. Ref.			200-201		
GRP3	200	PID	000	201	B
Project number		Unit	Doc. Type	Mat. Code	Serial Num



DL		21.05.14						
Date	21.05.14							
Checked	21.05.14							
Approved	21.05.14							
Project		PROYECTO SEVIN						
Title		PRODUCCIÓN MIC COLUMNA DE DESTILACIÓN CD-202						
Company Doc. Ref.		200-202						
Rev.	Date	Status	Project number	Unit	Doc. Type	Mat. Code	Serial Num.	Revision
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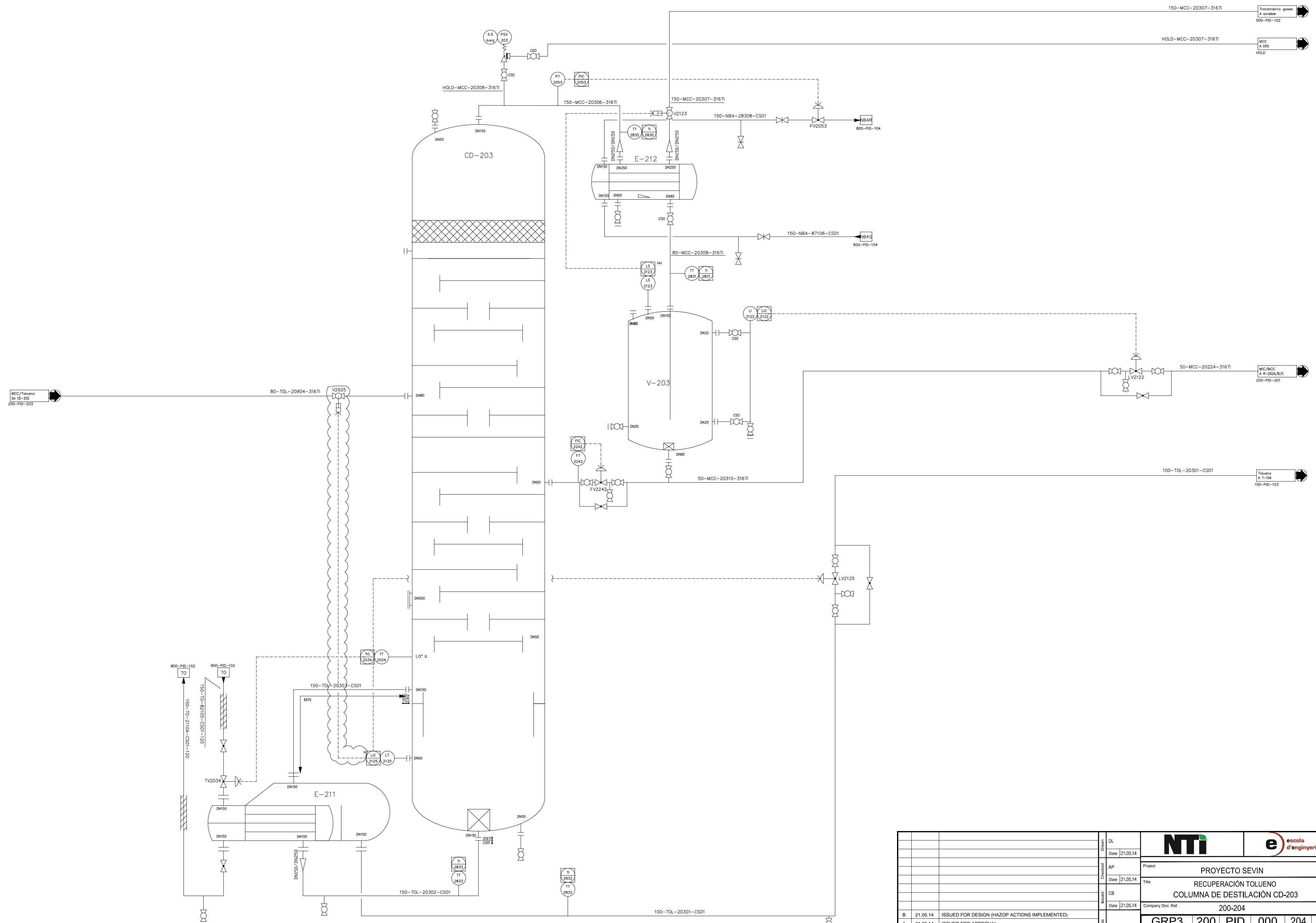
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CB		Date		21.05.14	
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Rev		Date		Status	
B		21.05.14		ISSUED FOR DESIGN (HAZOP ACTIONS IMPLEMENTED)	
A		01.05.14		ISSUED FOR APPROVAL	
Scale		Project number		200-203	
Scale		Unit		200	
Scale		Doc. Type		PID	
Scale		Mat. Code		000	
Scale		Serial Num.		203	
Scale		Revision		B	

NTI **escuela d'enginyeria**

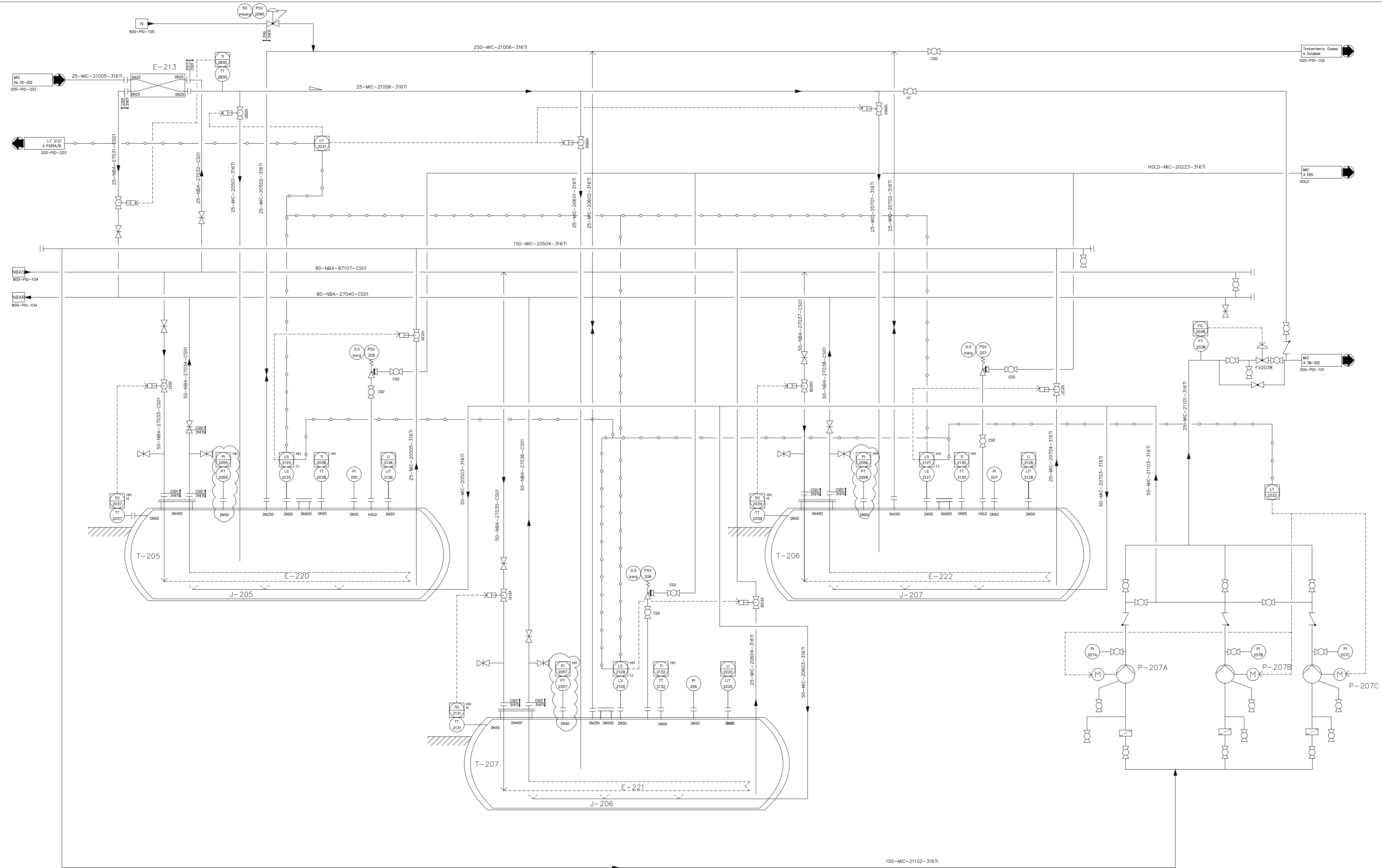
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Title: **PRODUCCIÓN MIC CONDENSADOR/REBOILER CD-202**

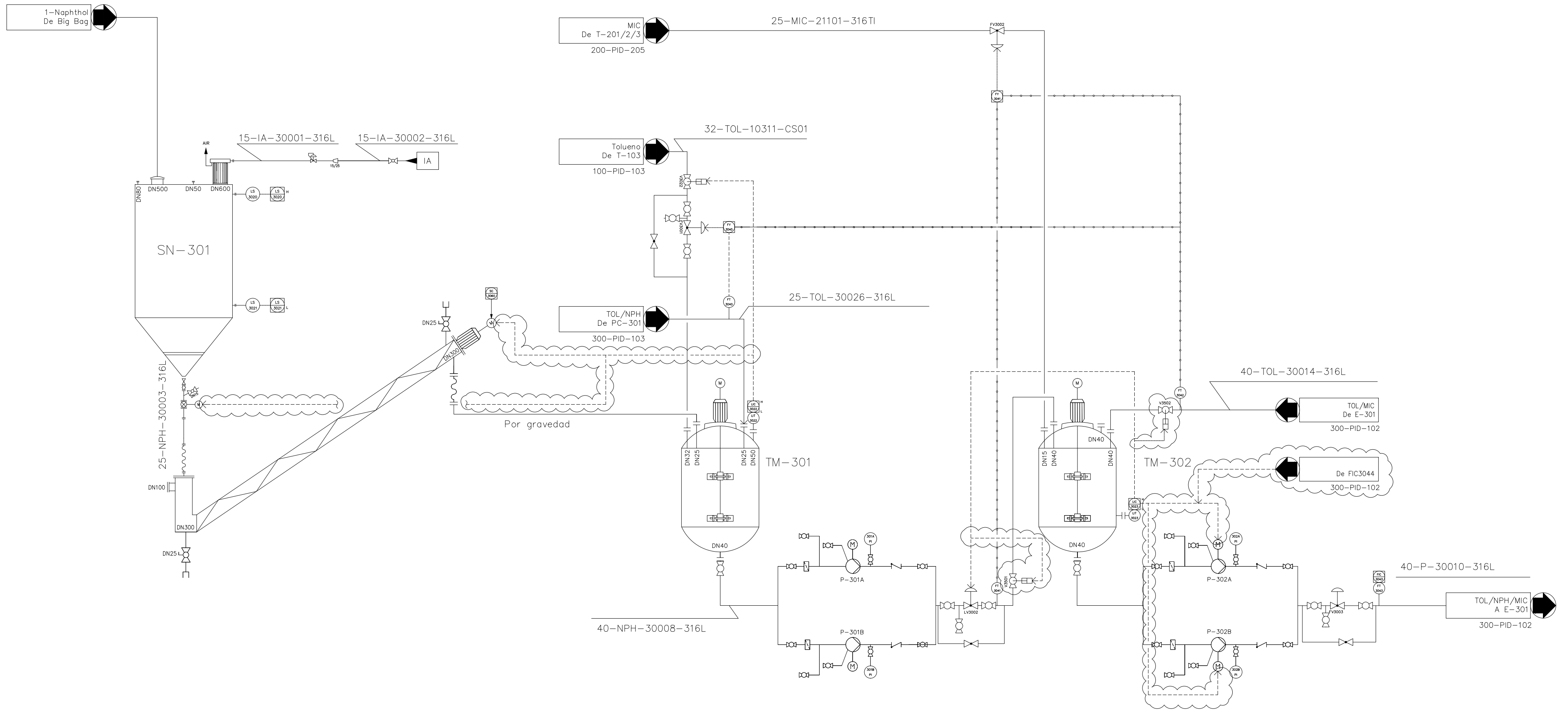
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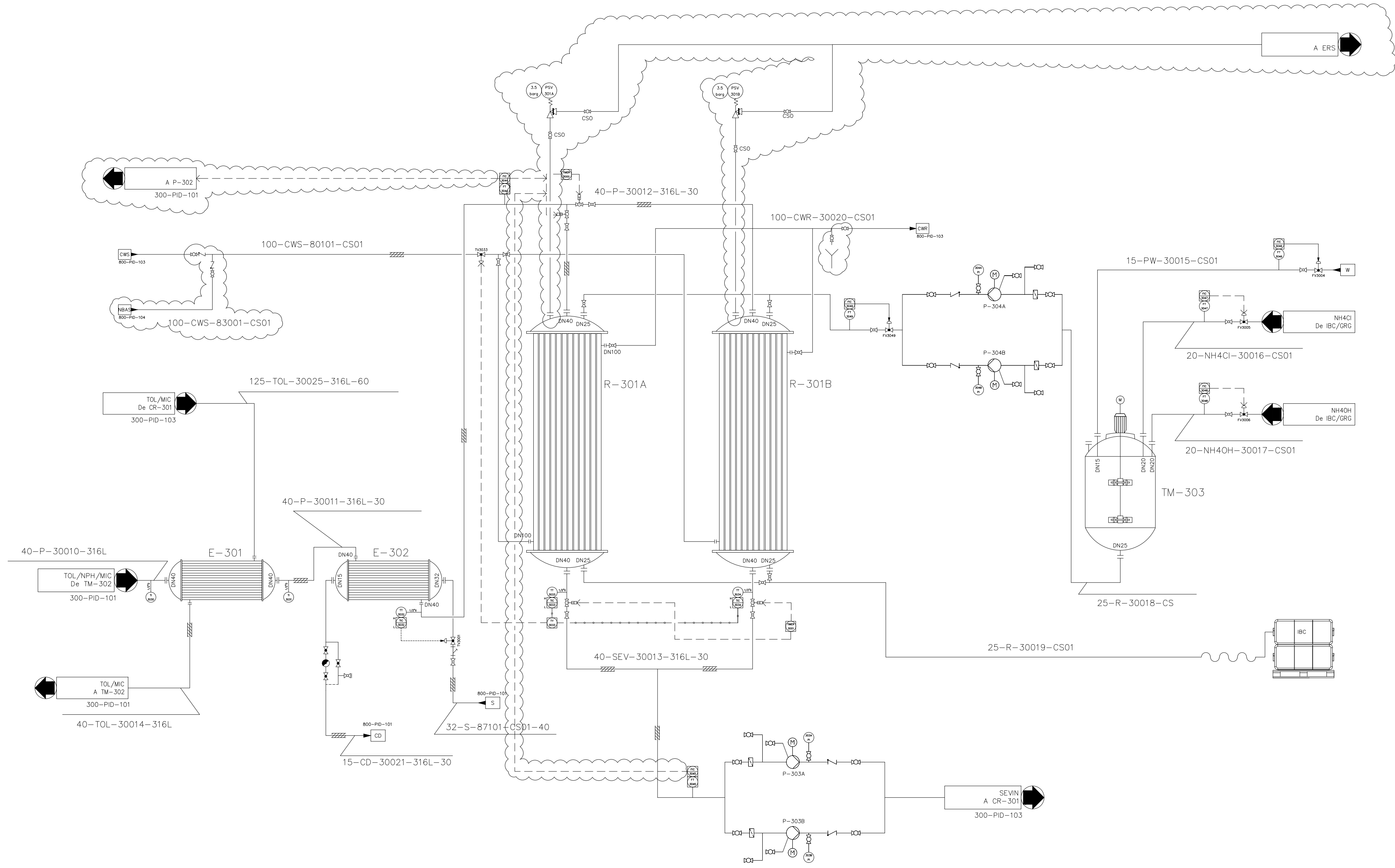
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Date	21.05.14	Project						
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Date	21.05.14	Title						
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Date	21.05.14	COLUMNA DE DESTILACIÓN CD-203						
Company Doc. Ref.		200-204						
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Rev.	Date	Status						



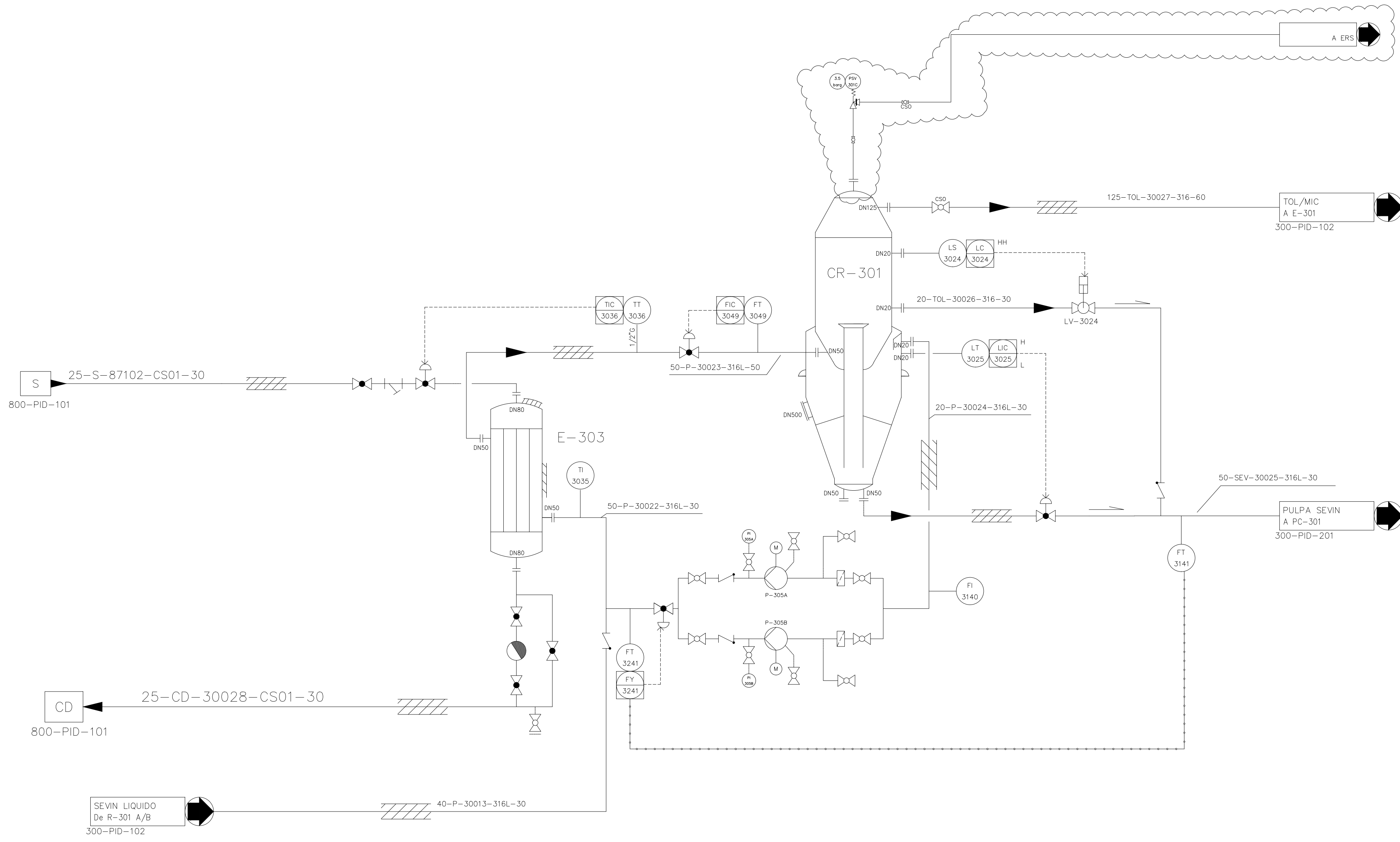
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CB	01.05.14		Company Doc. Ref.	200-205
Issued	01.05.14		Scale	GRP3 200 PID 000 205 B
Rev	Date	Status		
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A	01.05.14	ISSUED FOR APPROVAL		



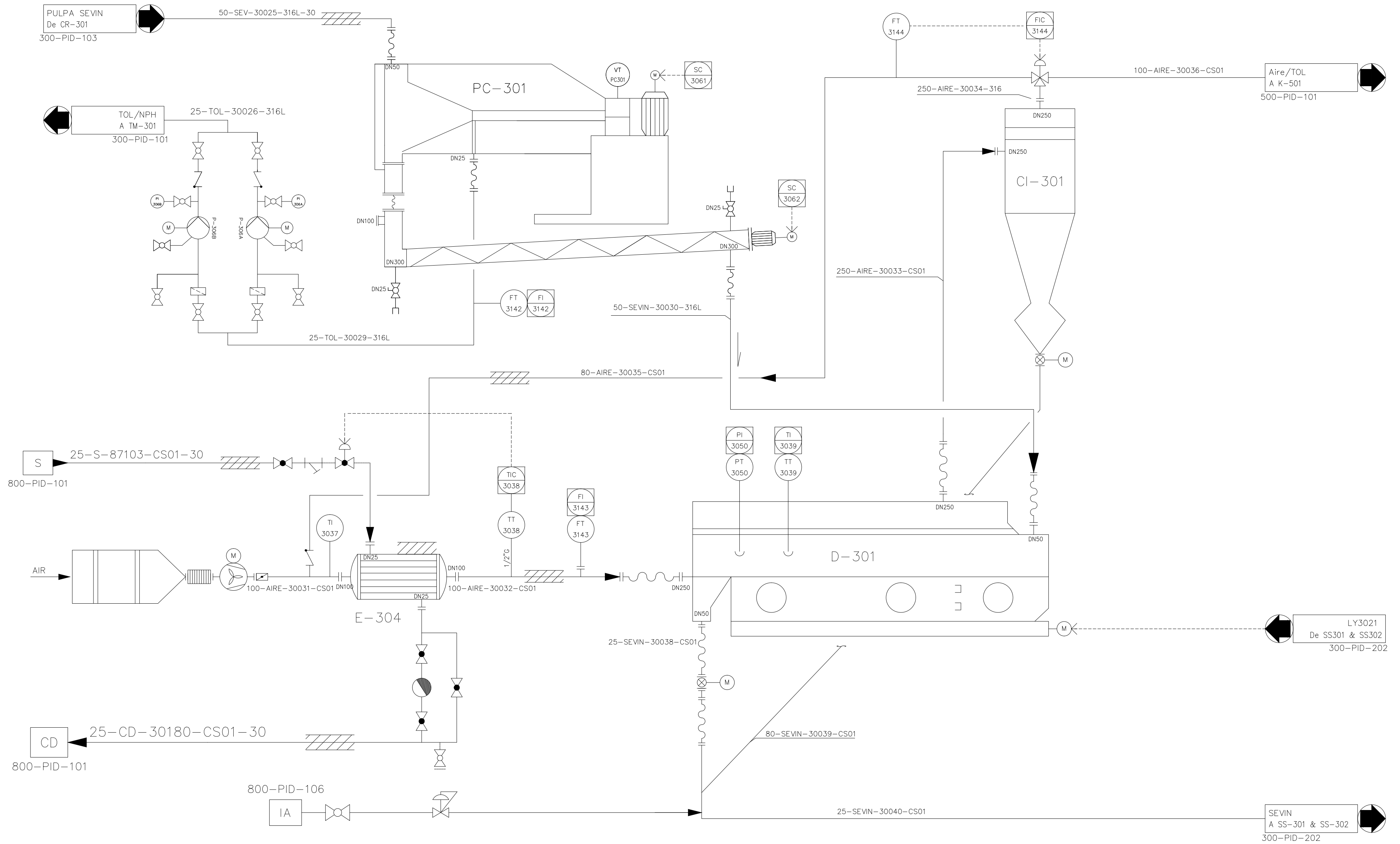
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B 21.05.14 ISSUED FOR DESIGN (HAZOP ACTIONS IMPLEMENTED)		Company Doc. Ref. 300-101			
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Rev.	Date	Status	Project number	Unit	Doc. Type
			101	B	Mat. Code Serial Num. Revision



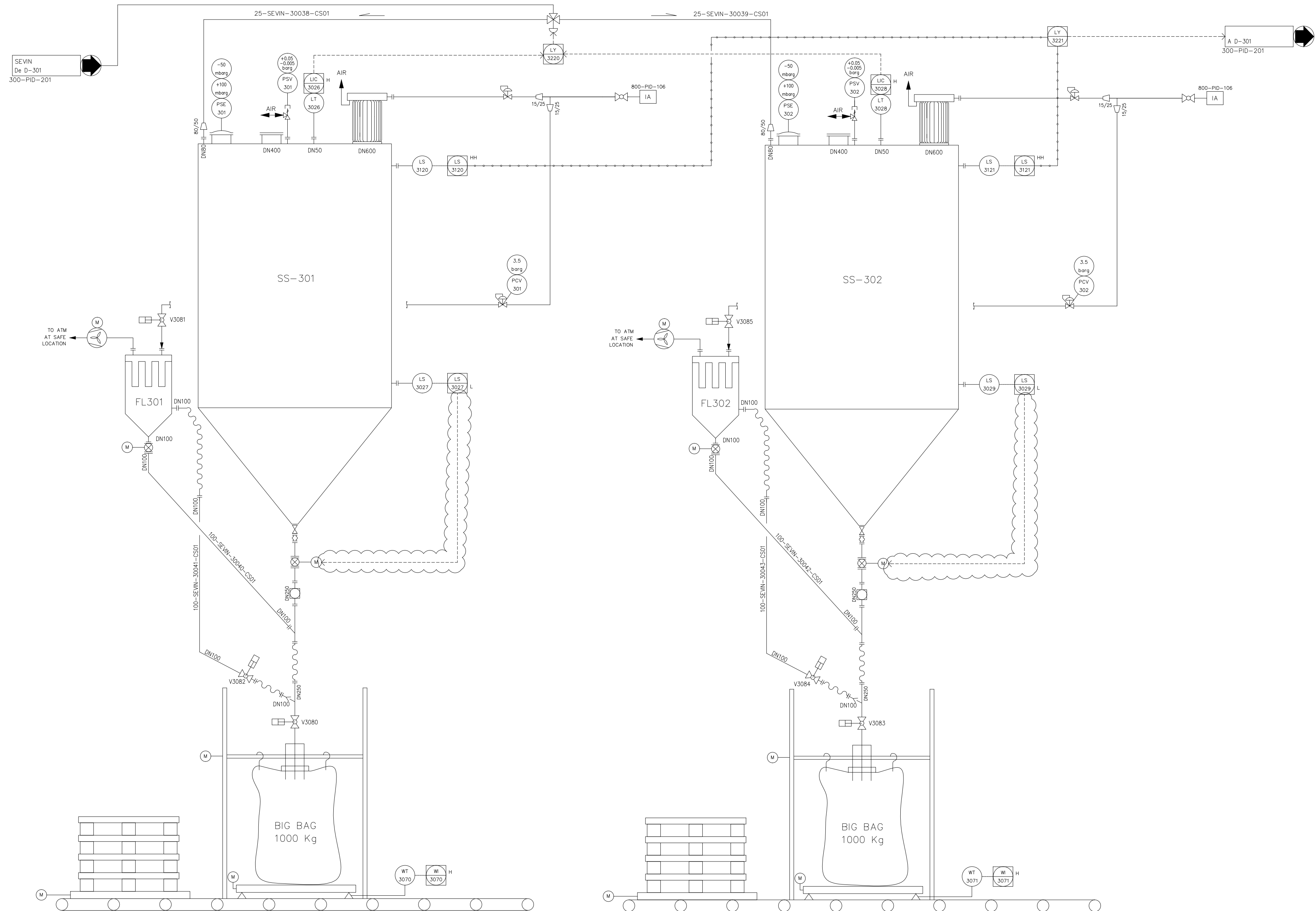
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Checked	DL	Project													
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Date	21.05.14	Company Doc. Ref.													
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Project number	Unit	Doc. Type	Mat. Code	Serial Num.	Revision										



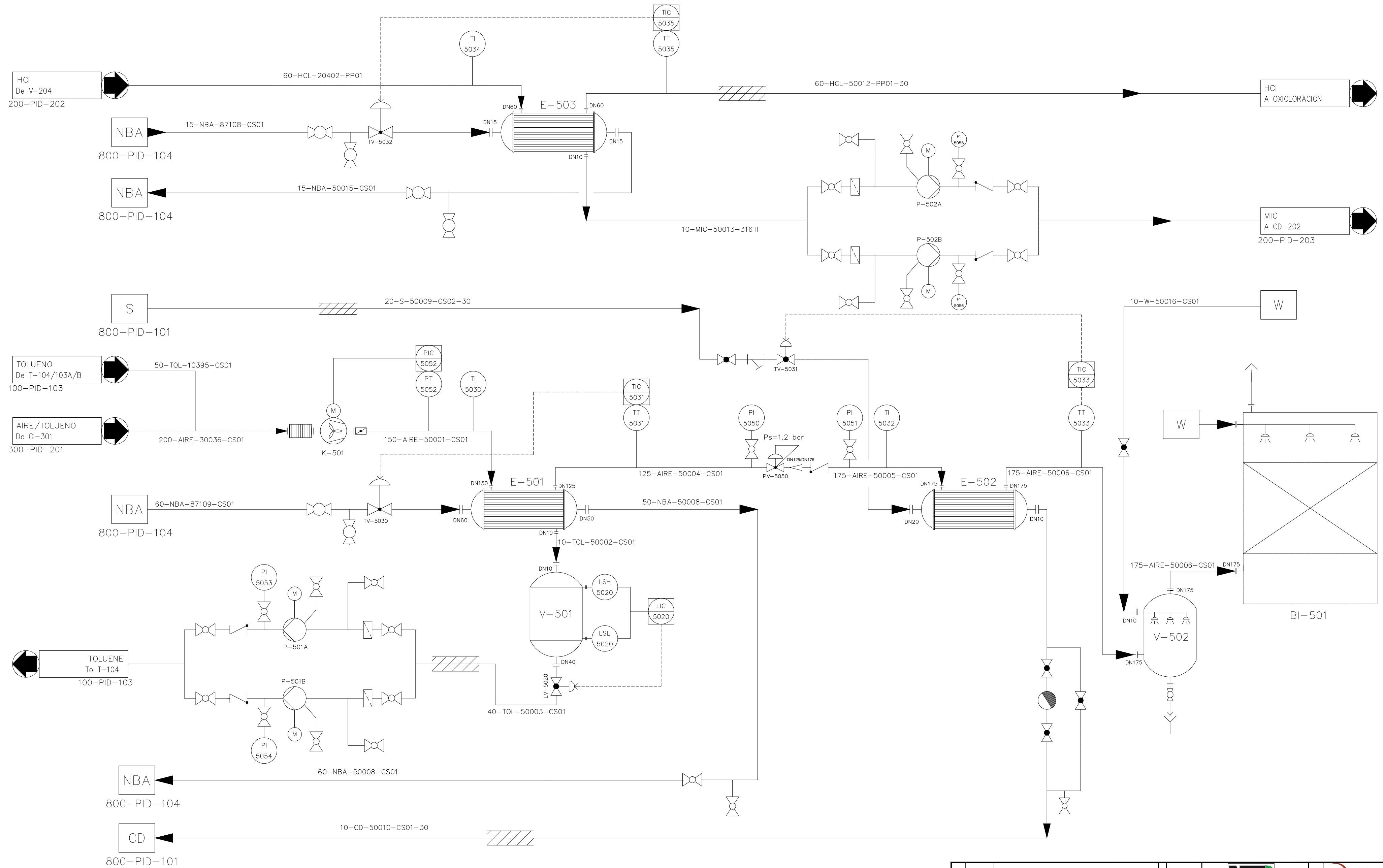
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Checked	DL	Project: PROYECTO SEVIN	
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Issued	DG	Company Doc. Ref.: 300-103	
Date	21.05.14	Scale: GRP3 300 PID 000 103 B	
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A	01.05.14	ISSUED FOR APPROVAL	



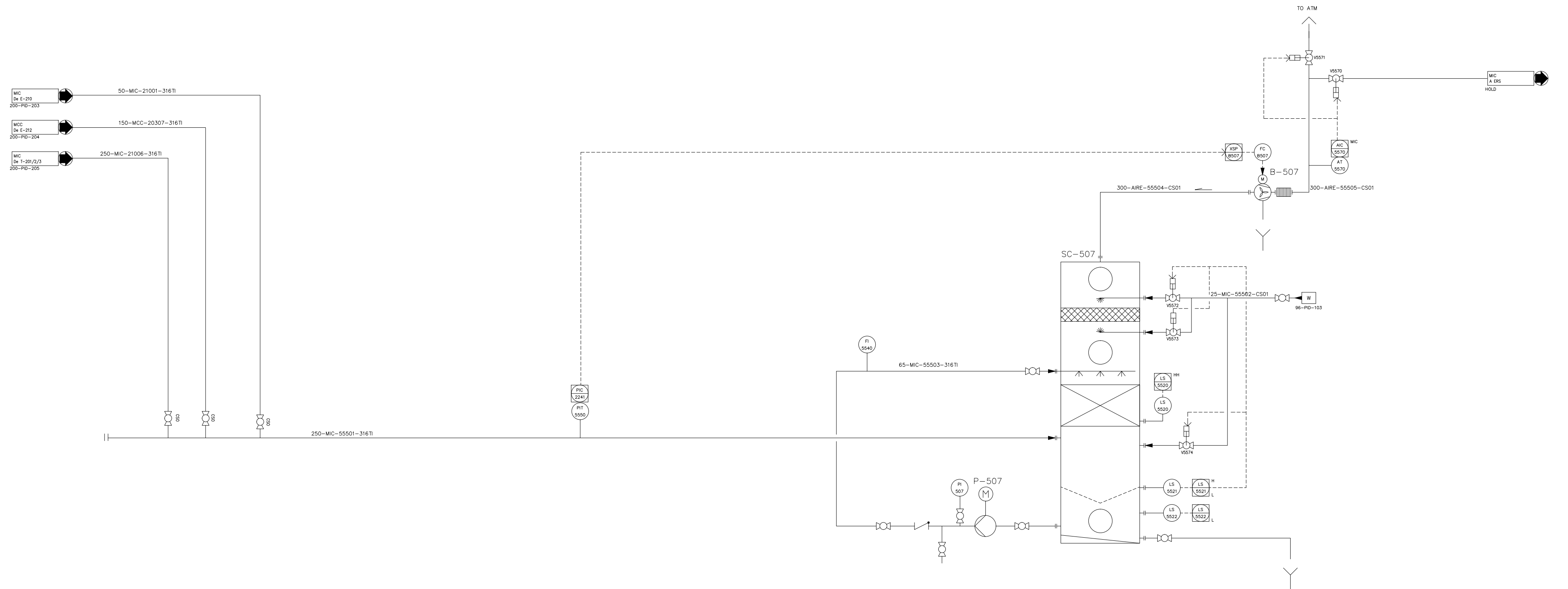
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Date	01.05.14	Title				
Designed		DG	CENTRIFUGACIÓN Y SECADO			
Date	01.05.14	Company Doc. Ref.				
Scale		300-201				
Rev.	Date	Status	GRP3	300	PID	000
A	01.05.14	ISSUED FOR APPROVAL	201	A		



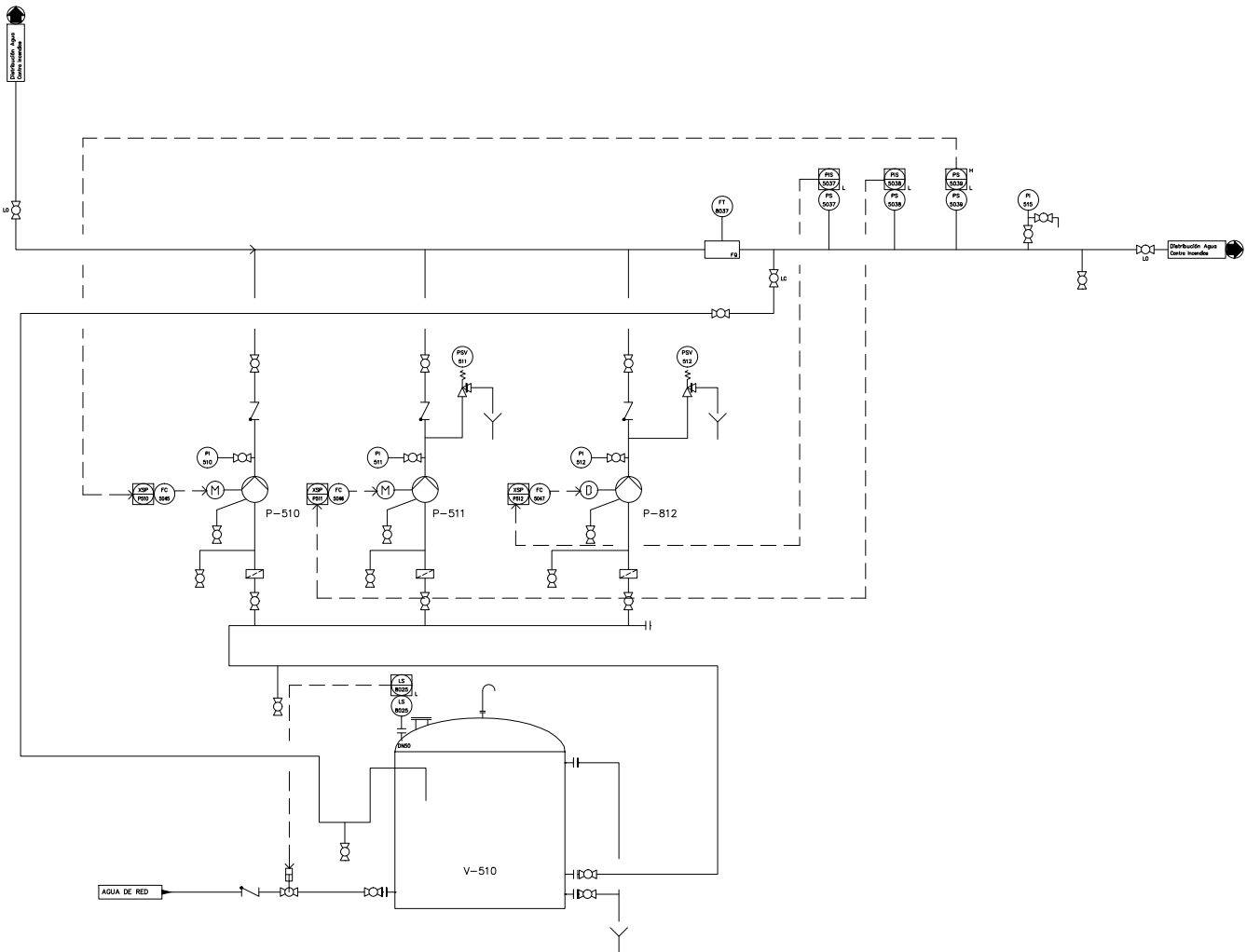
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Date	21.05.14	SILOS DE ALMACENAMIENTO SS-301/2					
Issued	DG	Company Doc. Ref.: 300-202					
Date	21.05.14	Scale: GRP3 300 PID 000 202 B					
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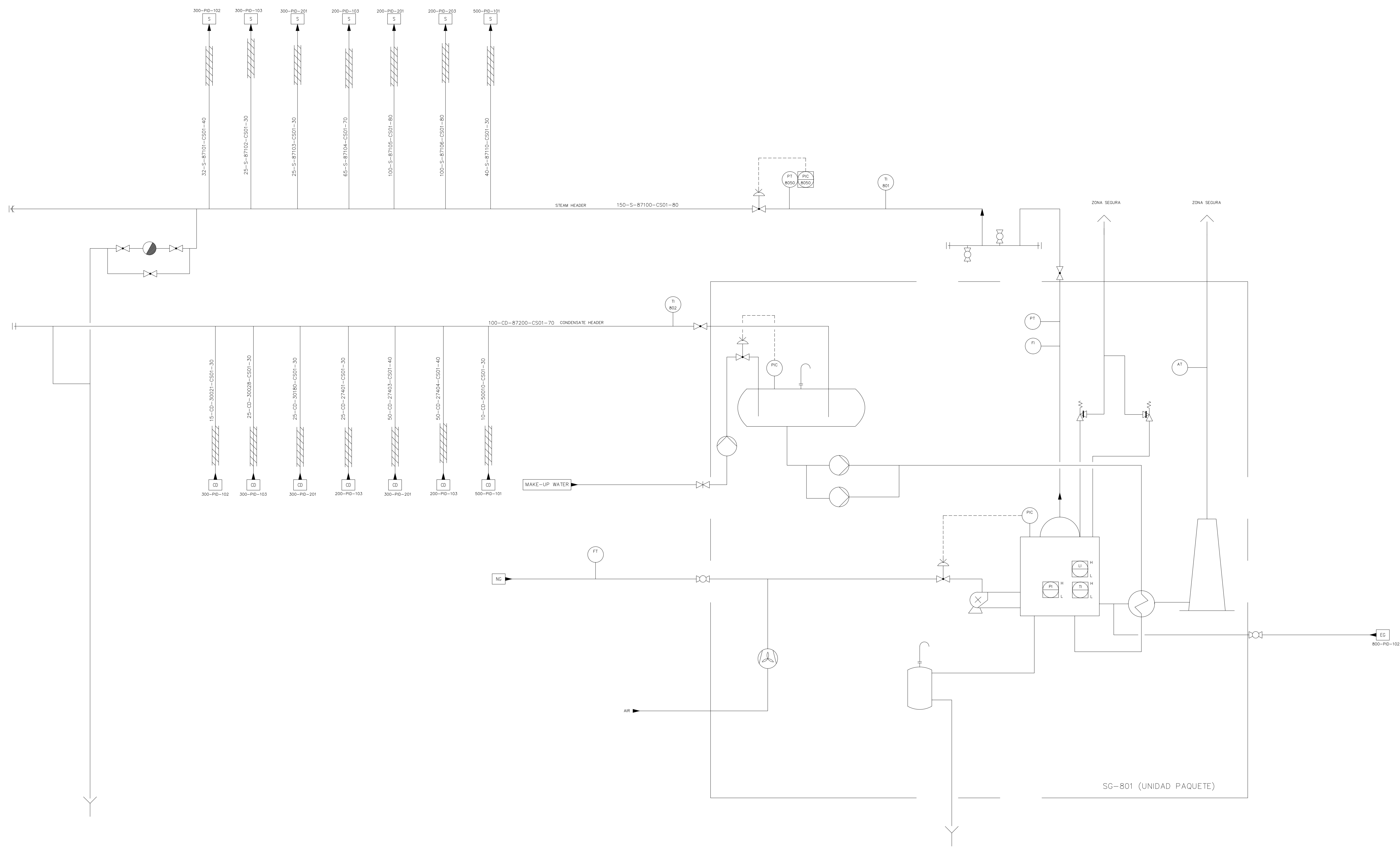
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Date	01.05.14	Title				
Issued		DL	TRATAMIENTO DE GASES RECUPERACIÓN DE TOLUENO Y MIC			
Date	01.05.14	Company Doc. Ref.				
		500-101				
Rev.	01.05.14	ISSUED FOR APPROVAL	GRP3	500	PID	000
Date		Status	Unit	Doc. Type	Mat. Code	Serial Num.
						101 A



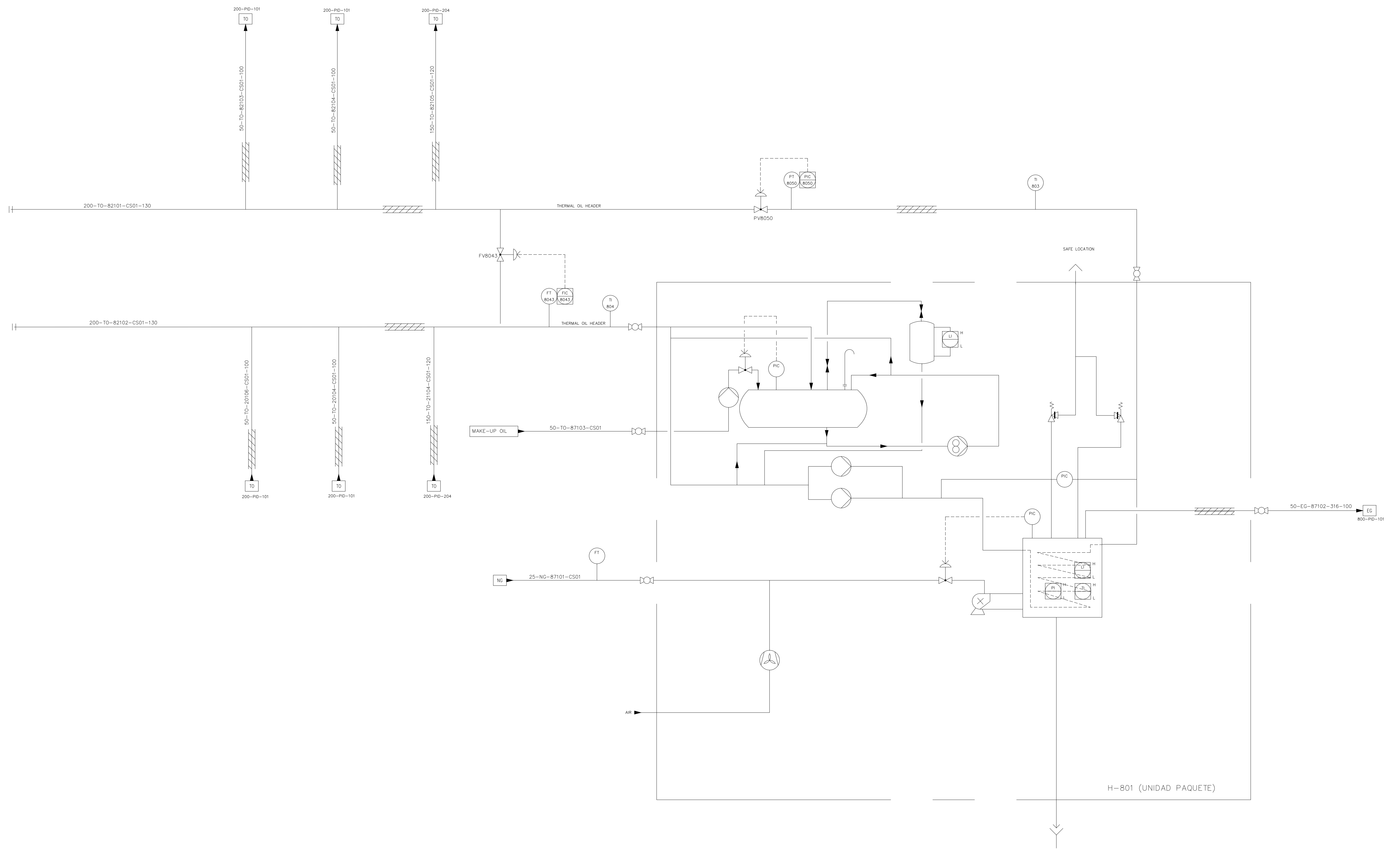
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Date	01.05.14	Company Doc. Ref.							
Scale		500-102							
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Date			Status	Project number	Unit	Doc. Type	Mat. Code	Serial Num.	Revision



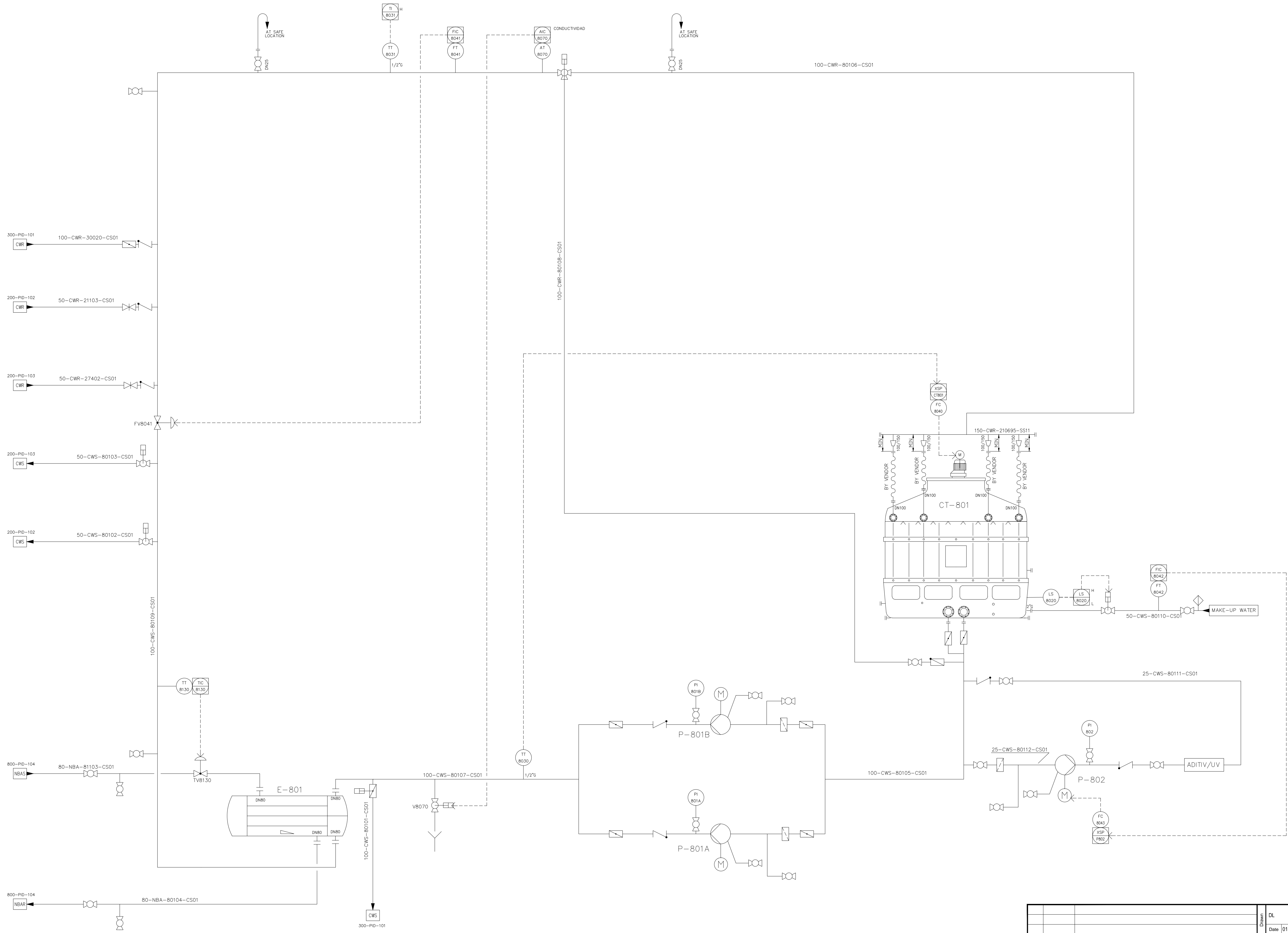
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			Scale		Company Doc. Ref.
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Rev.	Date	Status			500
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					Revision





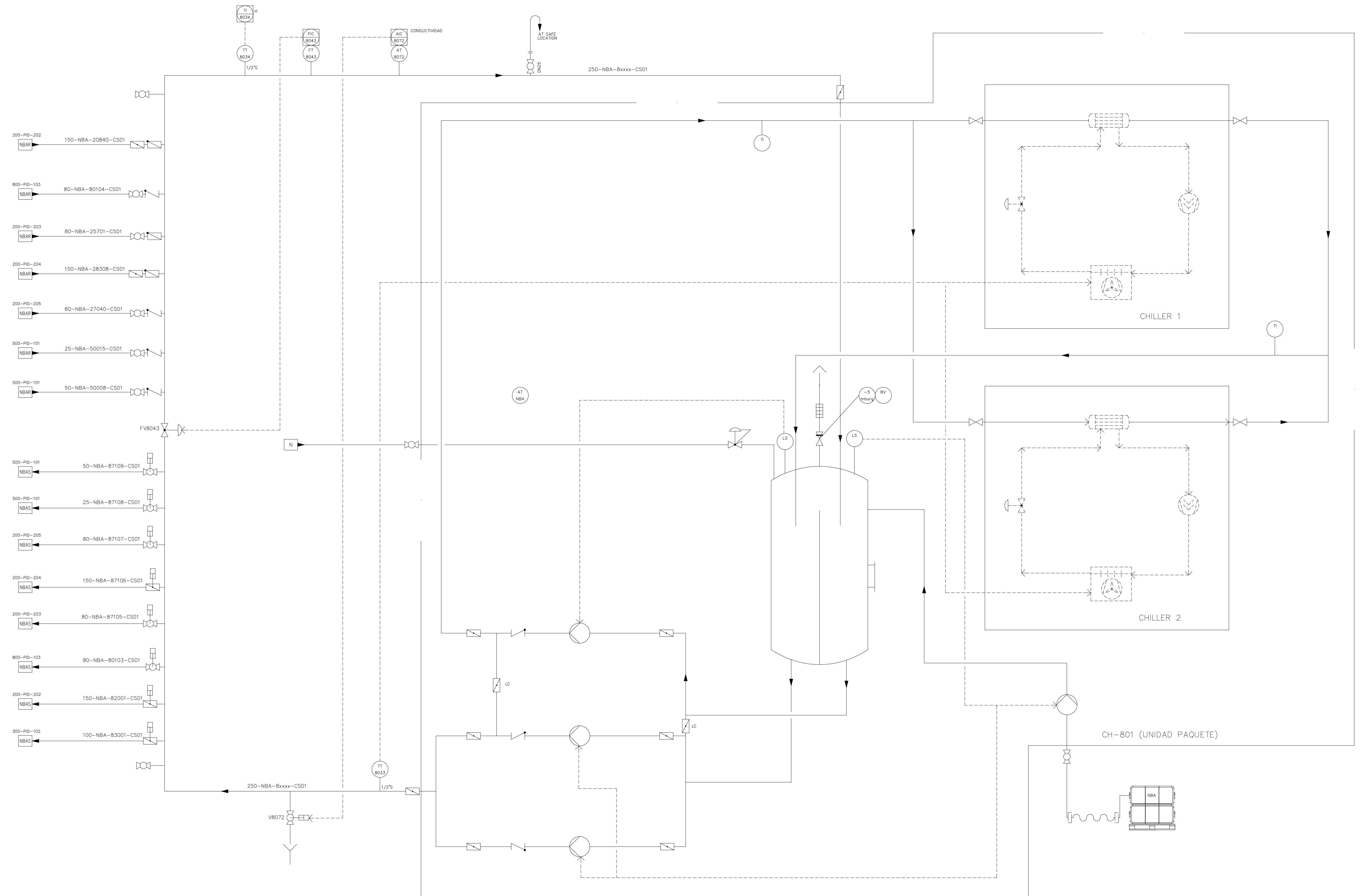
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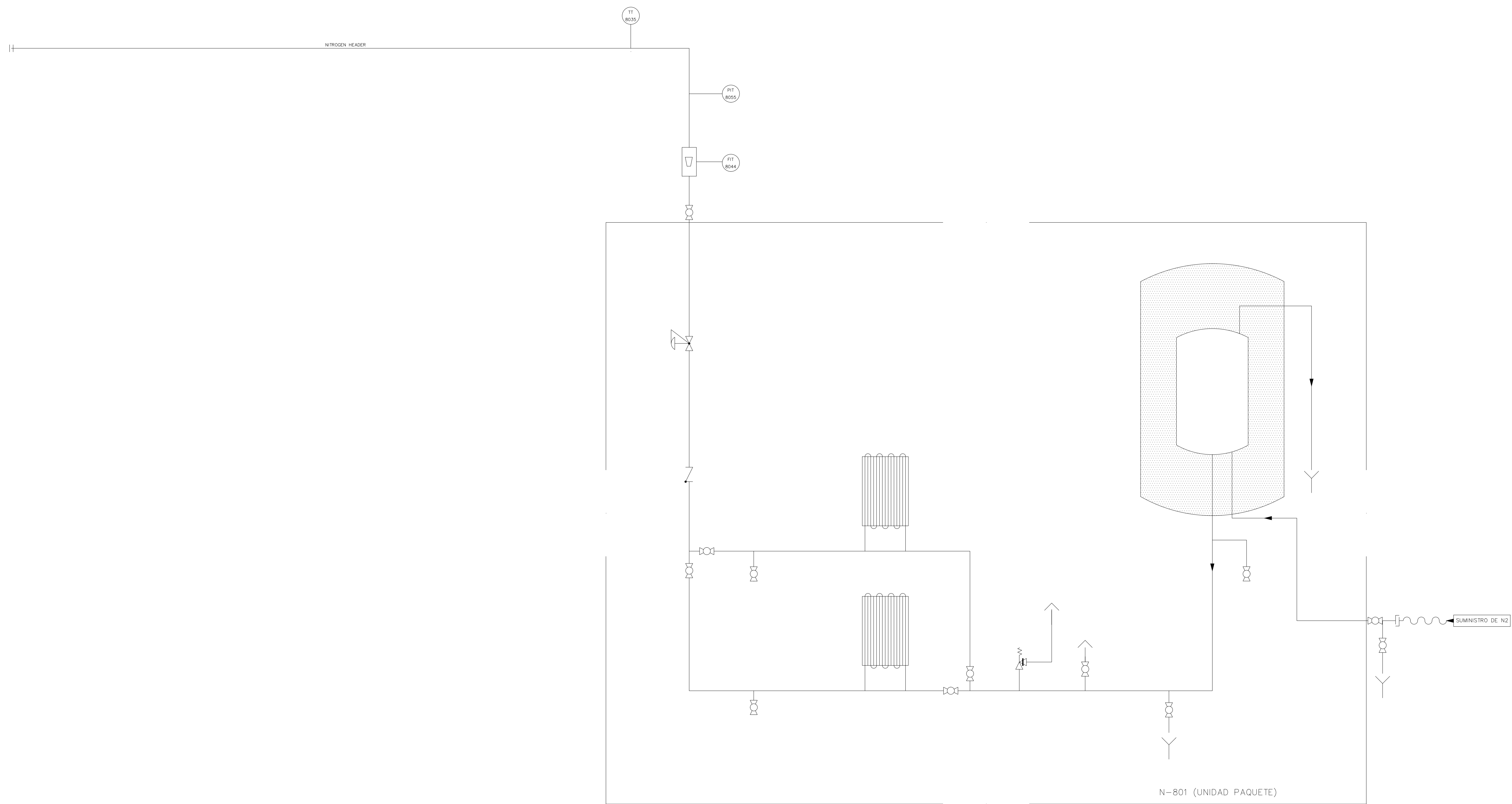
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Rev.	Date	Status					
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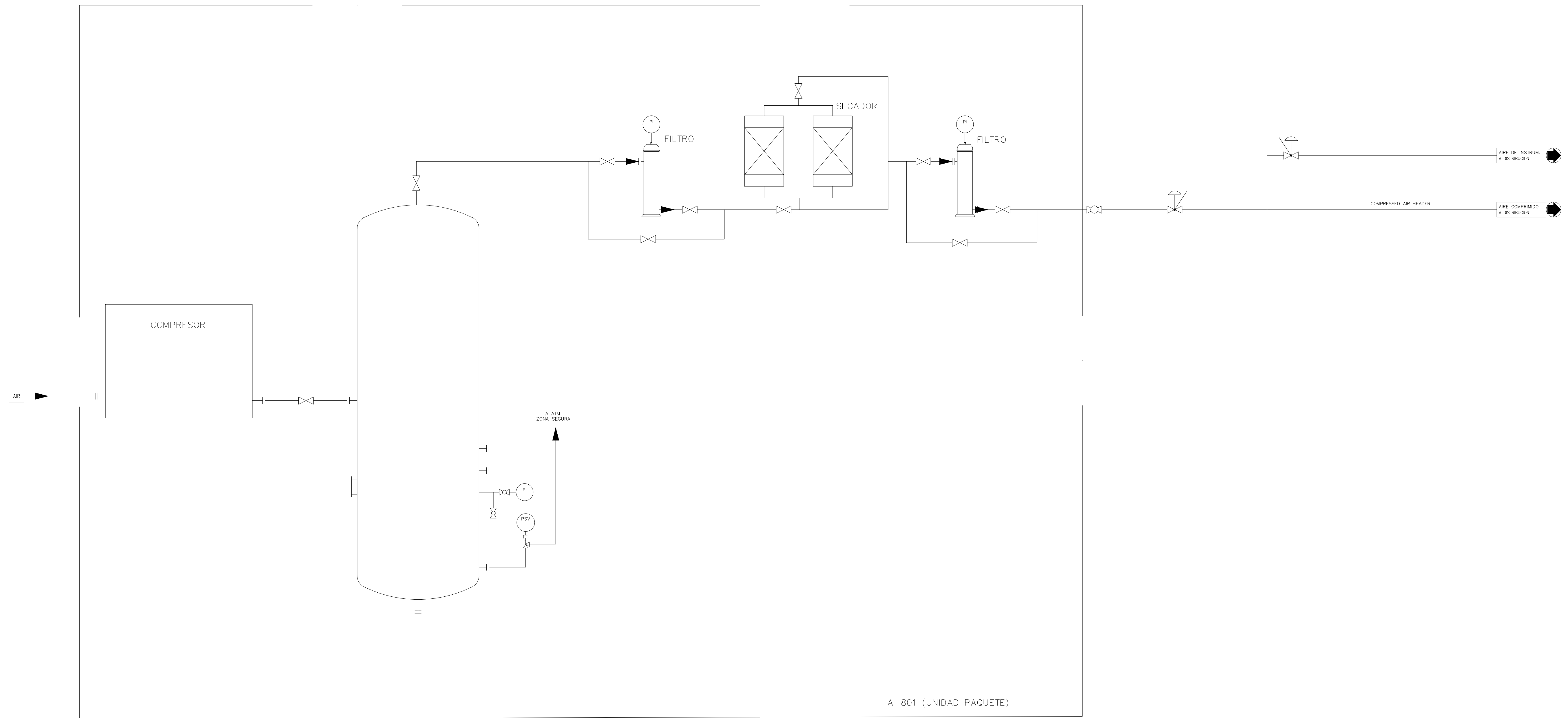
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Rev.	Date	Status	DL	Date	01.05.14	 PROYECTO SEVIN SERVICIOS NBA DE ENFRIAMIENTO-GRUPOS DE FRIO Company Doc. Ref. 800-104
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			CB	Date	01.05.14	
			Scale			
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GRP3	800	PID	000	104	A	
Project number	Unit	Doc. Type	Mat. Code	Serial Num.	Revision	



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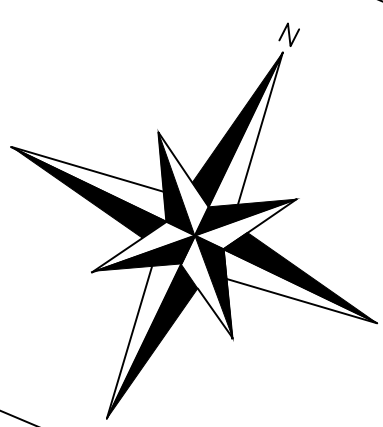


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		CB		Title			
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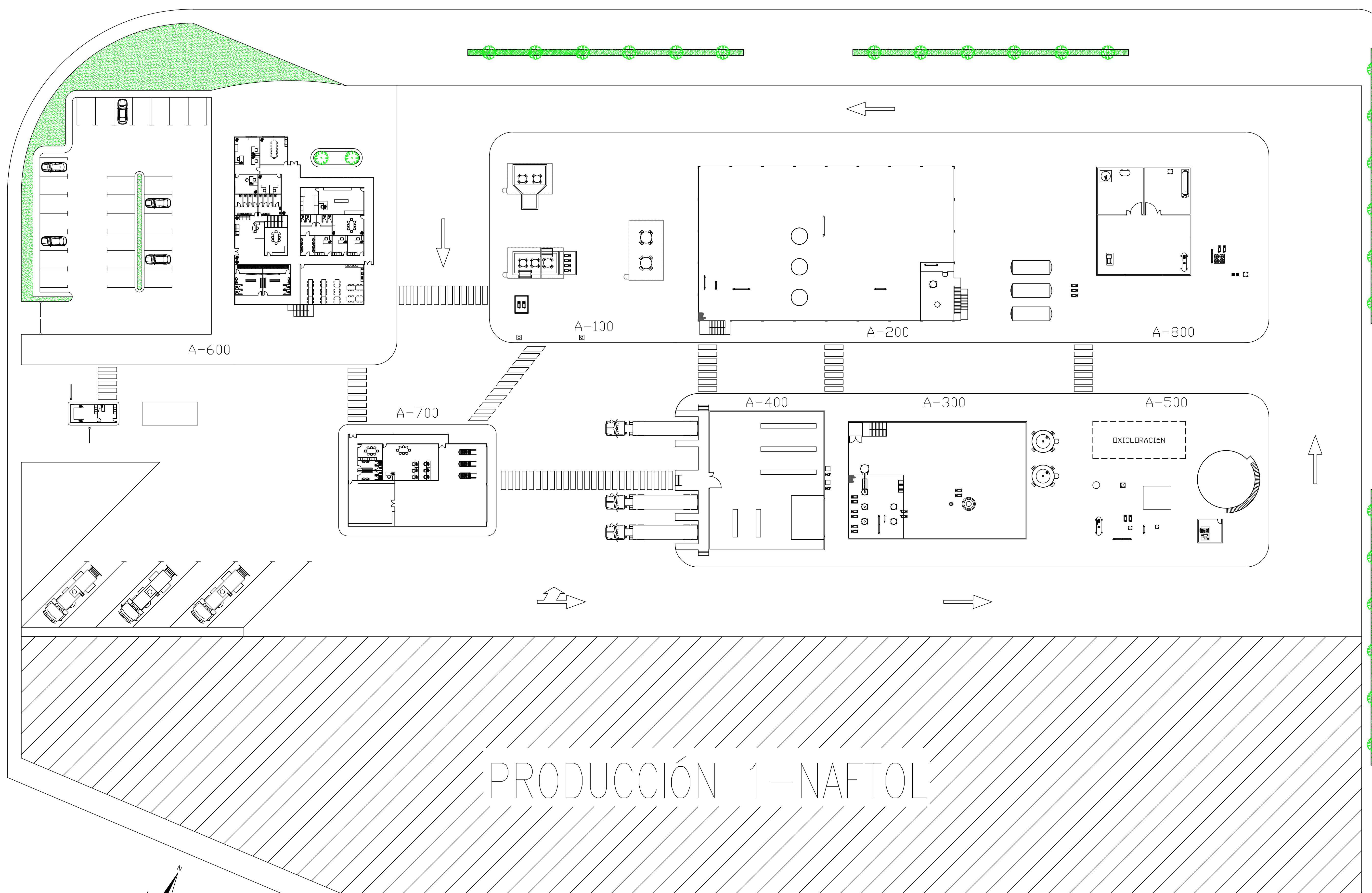
9.4. IMPLANTACIÓN

PRODUCCIÓN 1-NAFTOL

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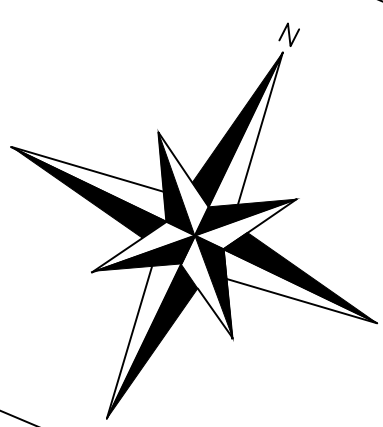


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Date	21.05.14		
Checked	AP	Project: PROYECTO SEVIN	
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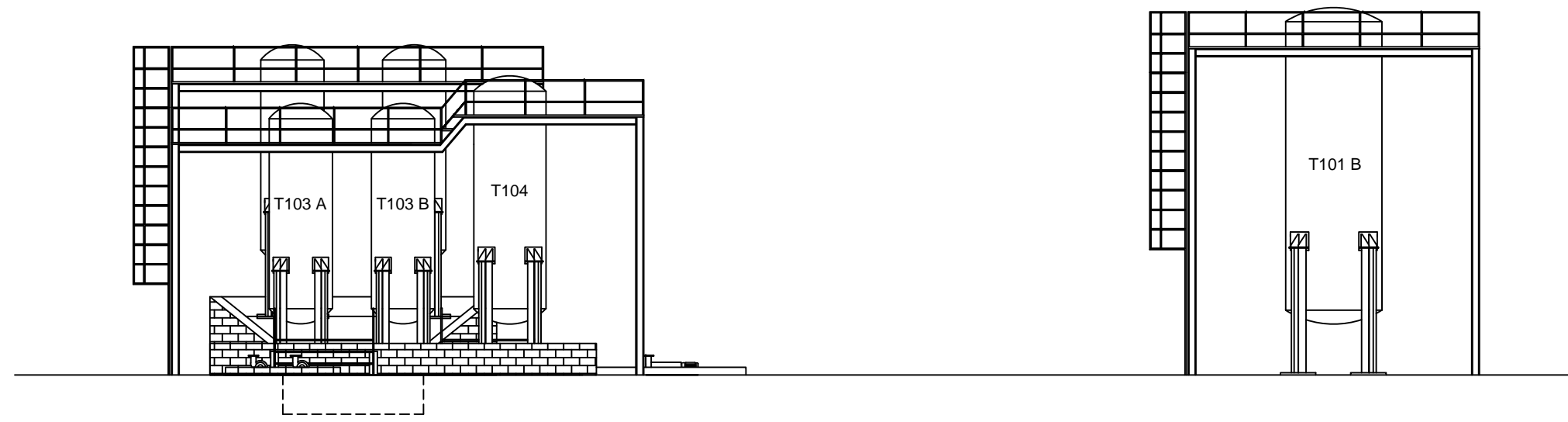
PRODUCCIÓN 1-NAFTOL

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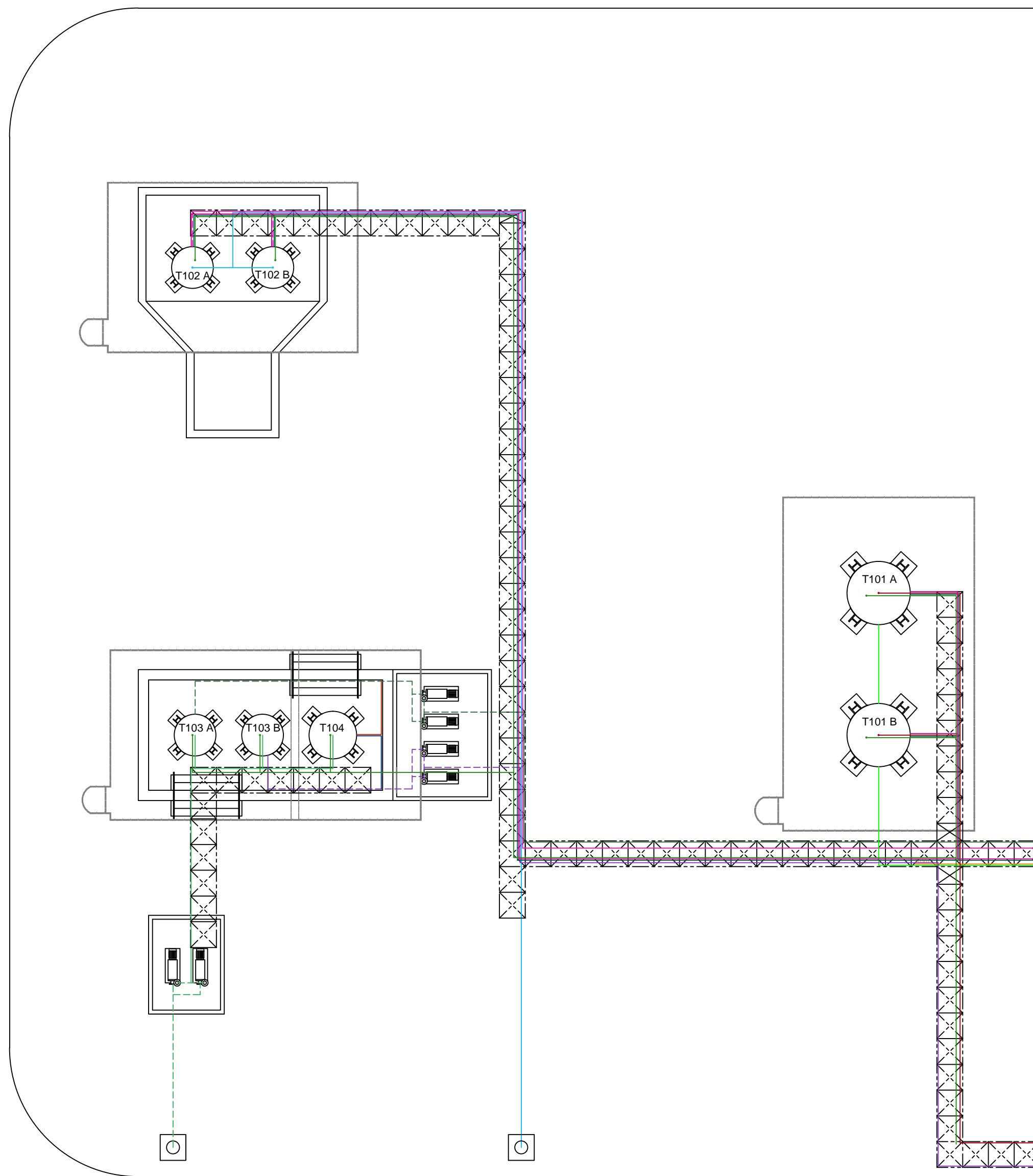
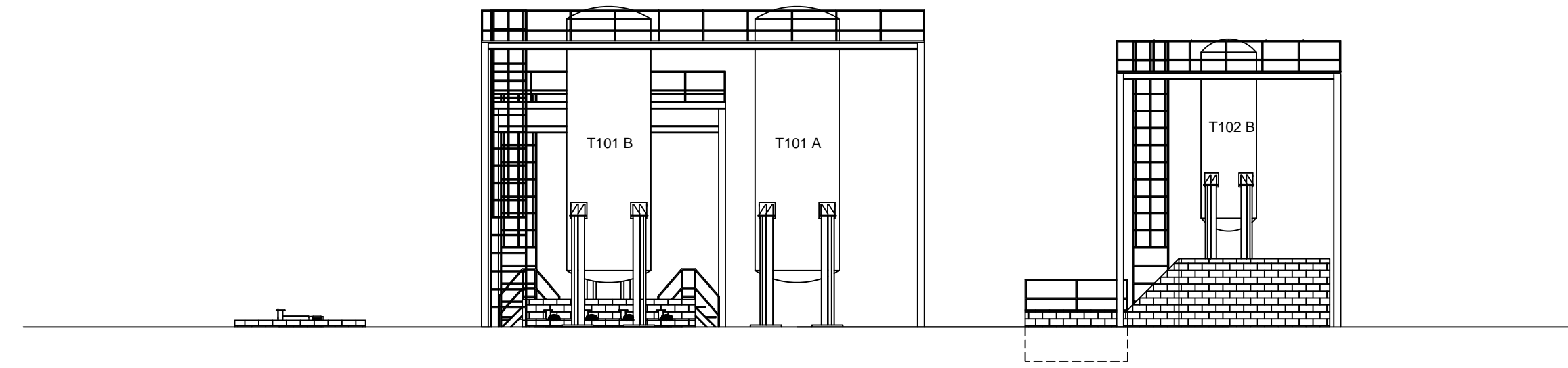


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DG	Company Doc. Ref.	PAR-002						
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ALZADO



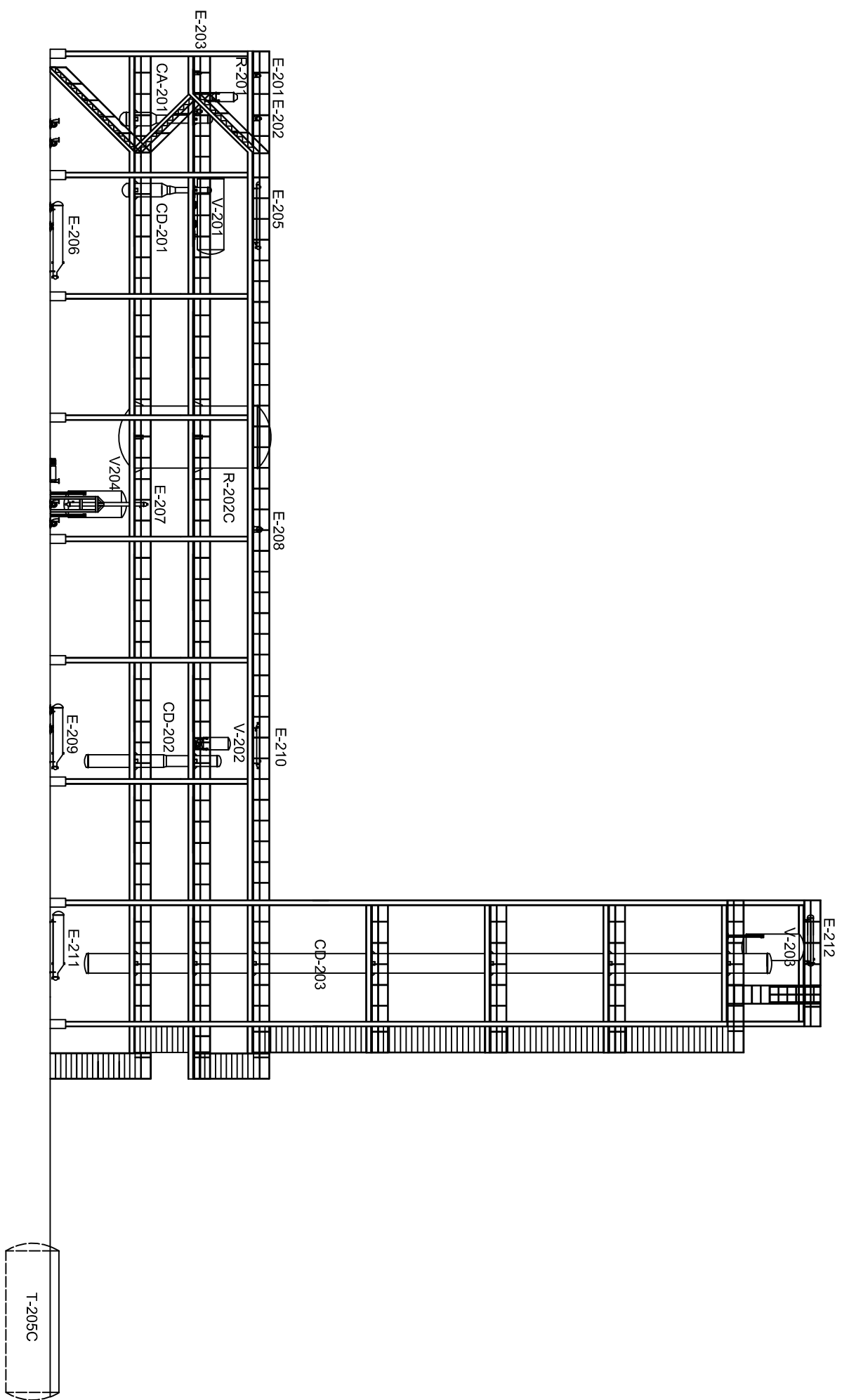
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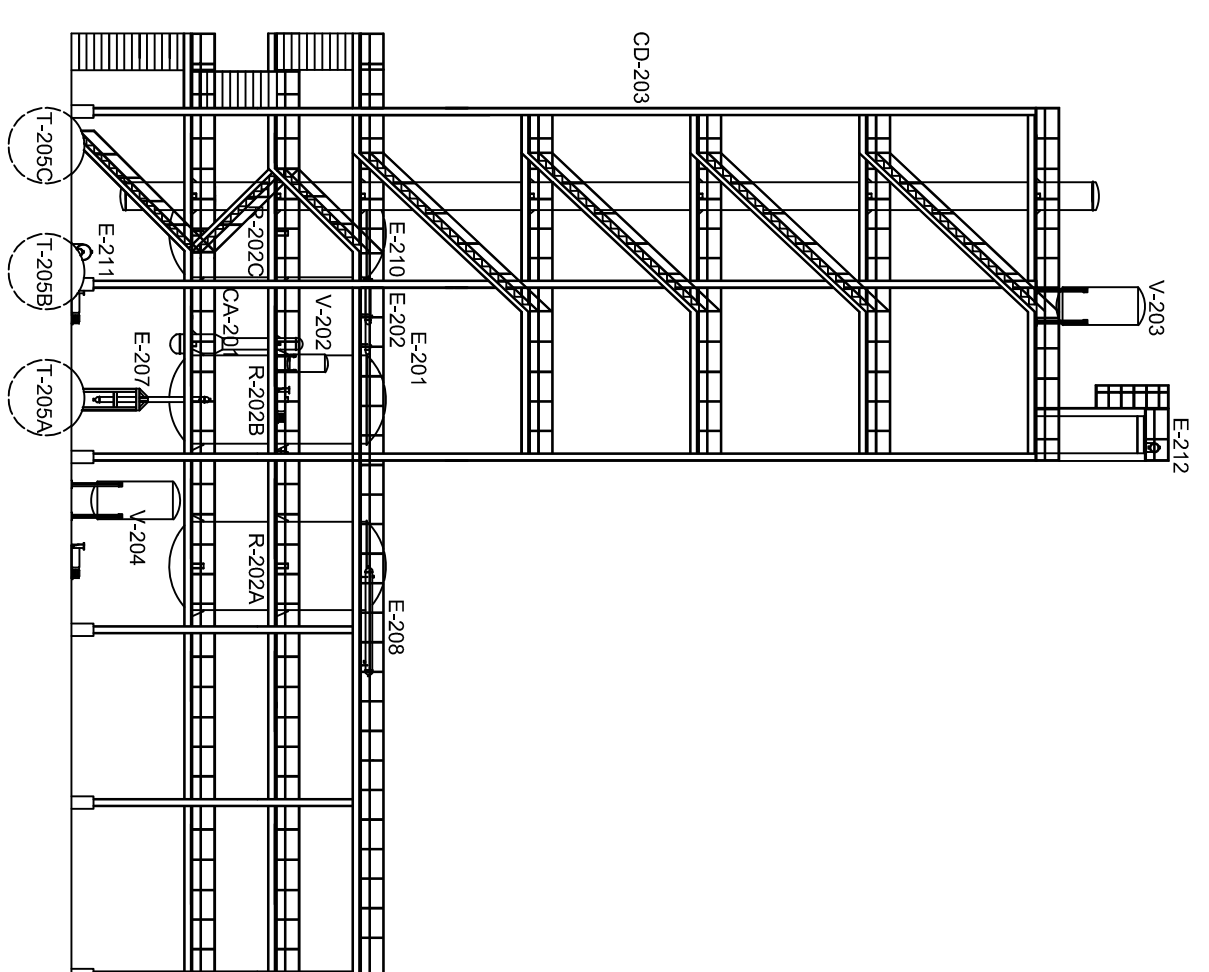
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AD	21.05.14		PROYECTO SEVIN					
AP	21.05.14		A-100					
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Rev.	Date	Status	GRP3	100	DA	000	003	A

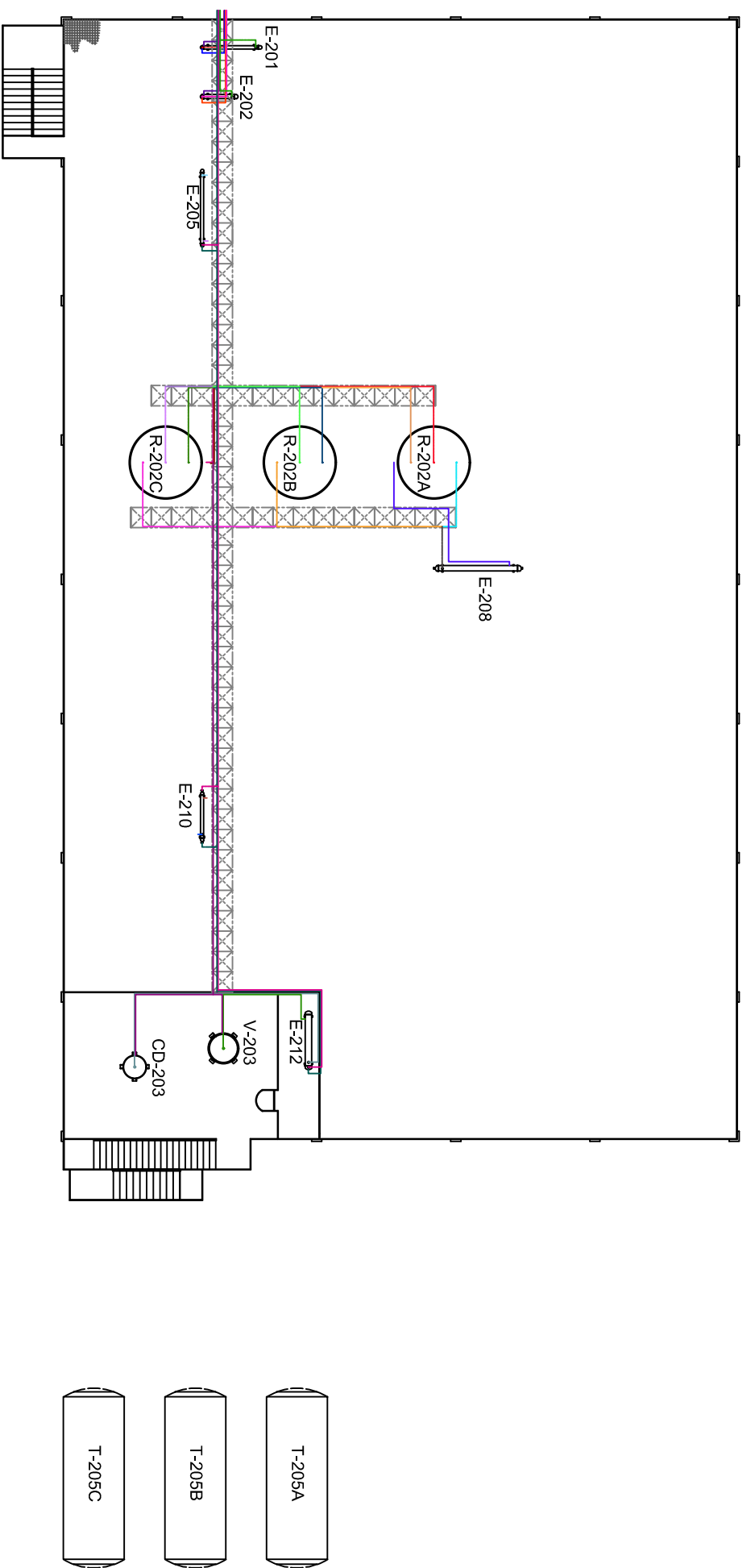
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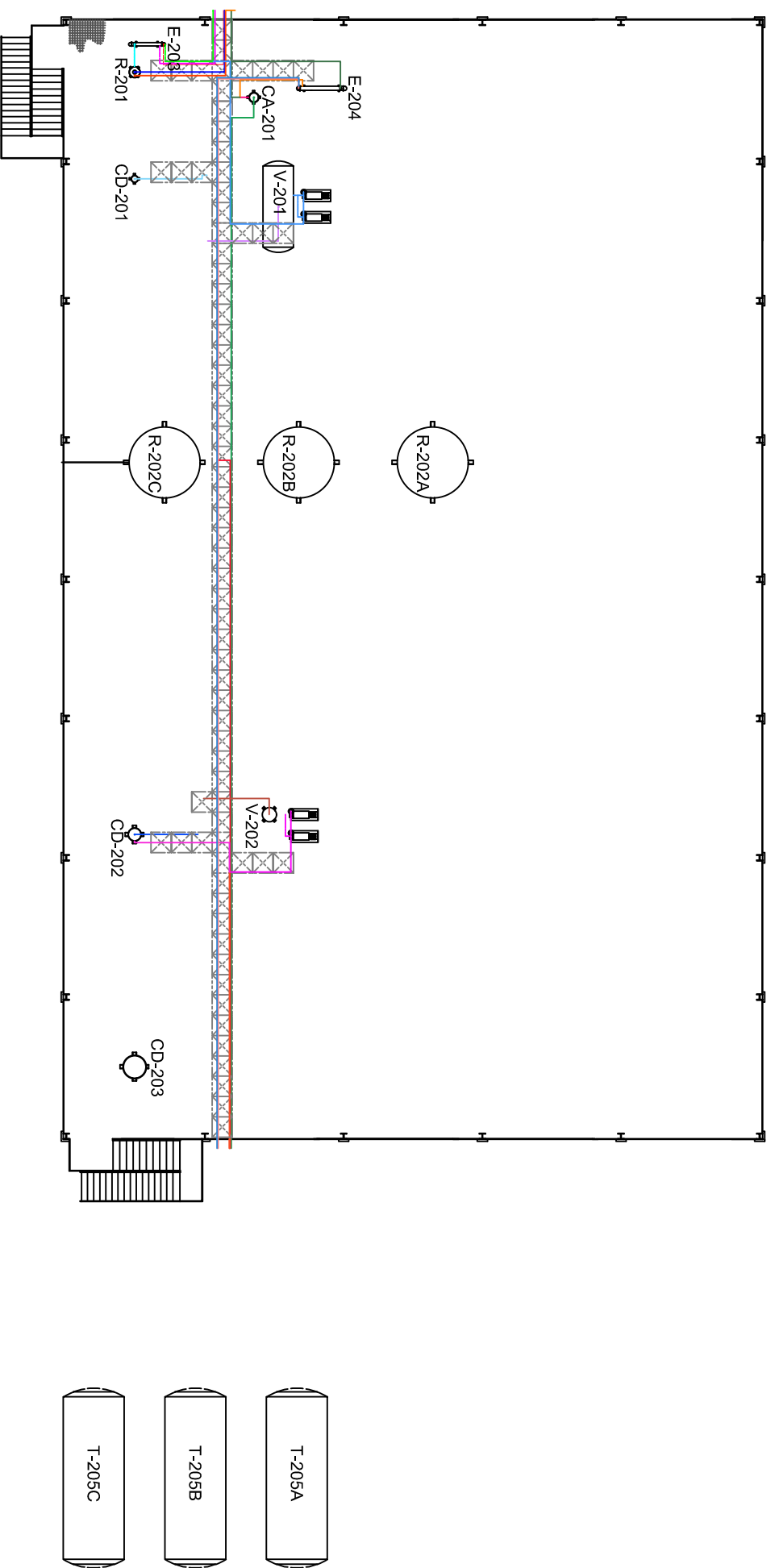
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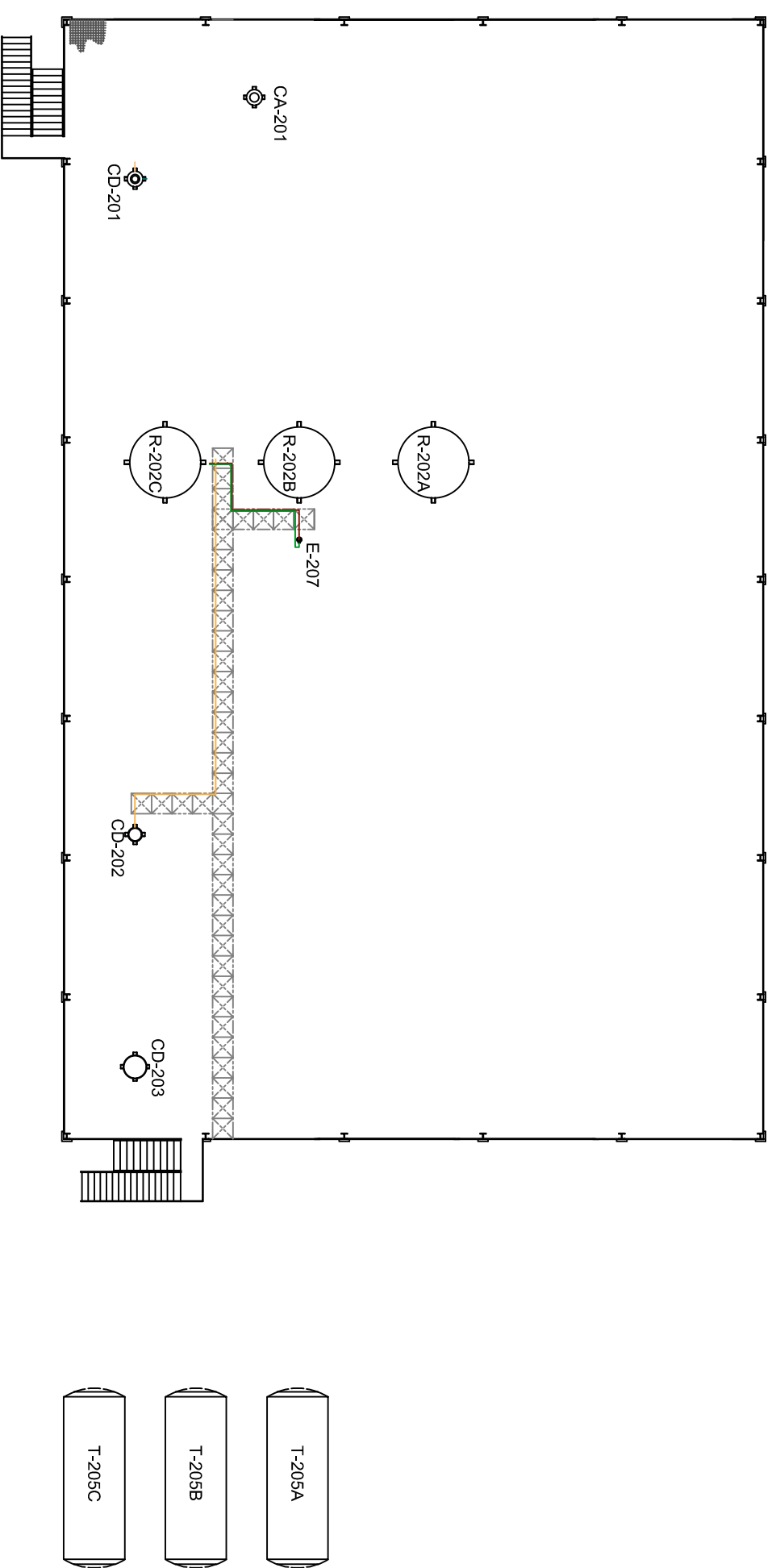
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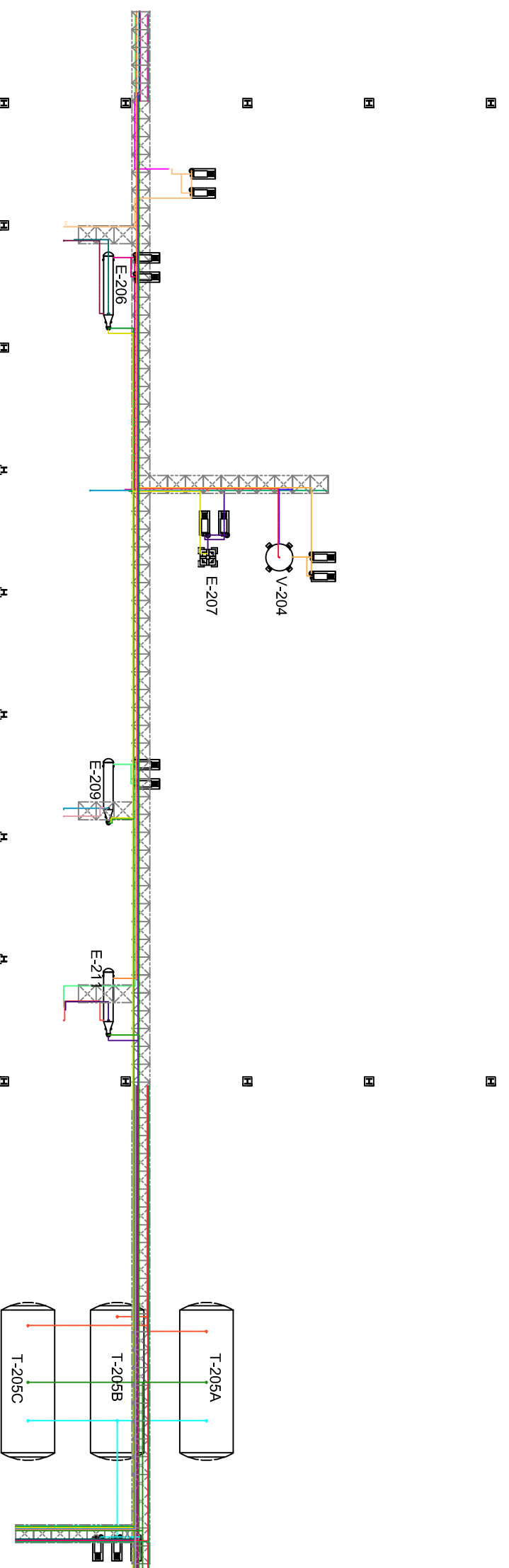
PLANTA 2



PLANTA 1

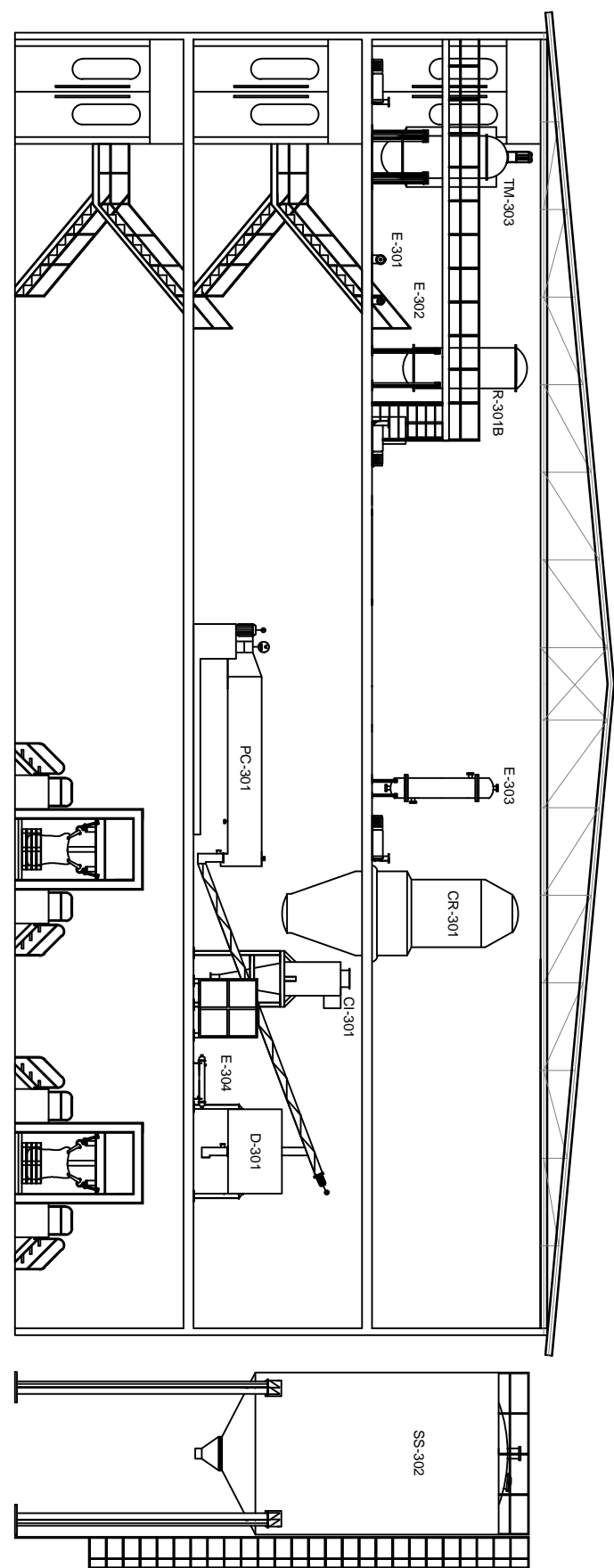


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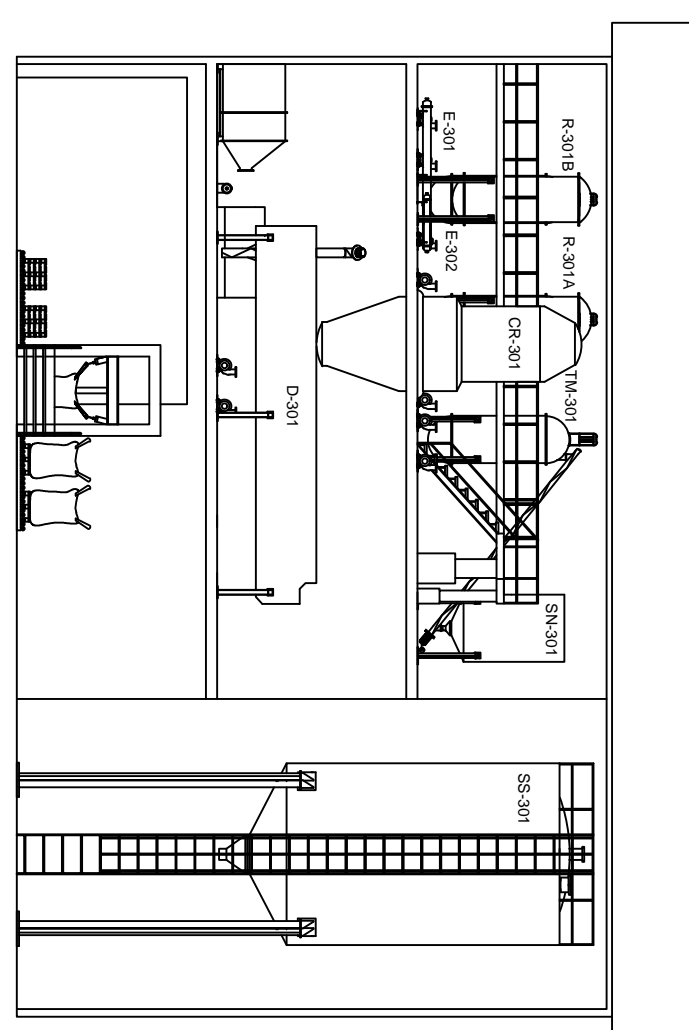


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Company Doc. Ref.																			A-200-001		GRP3		200		DA		000		004		A	

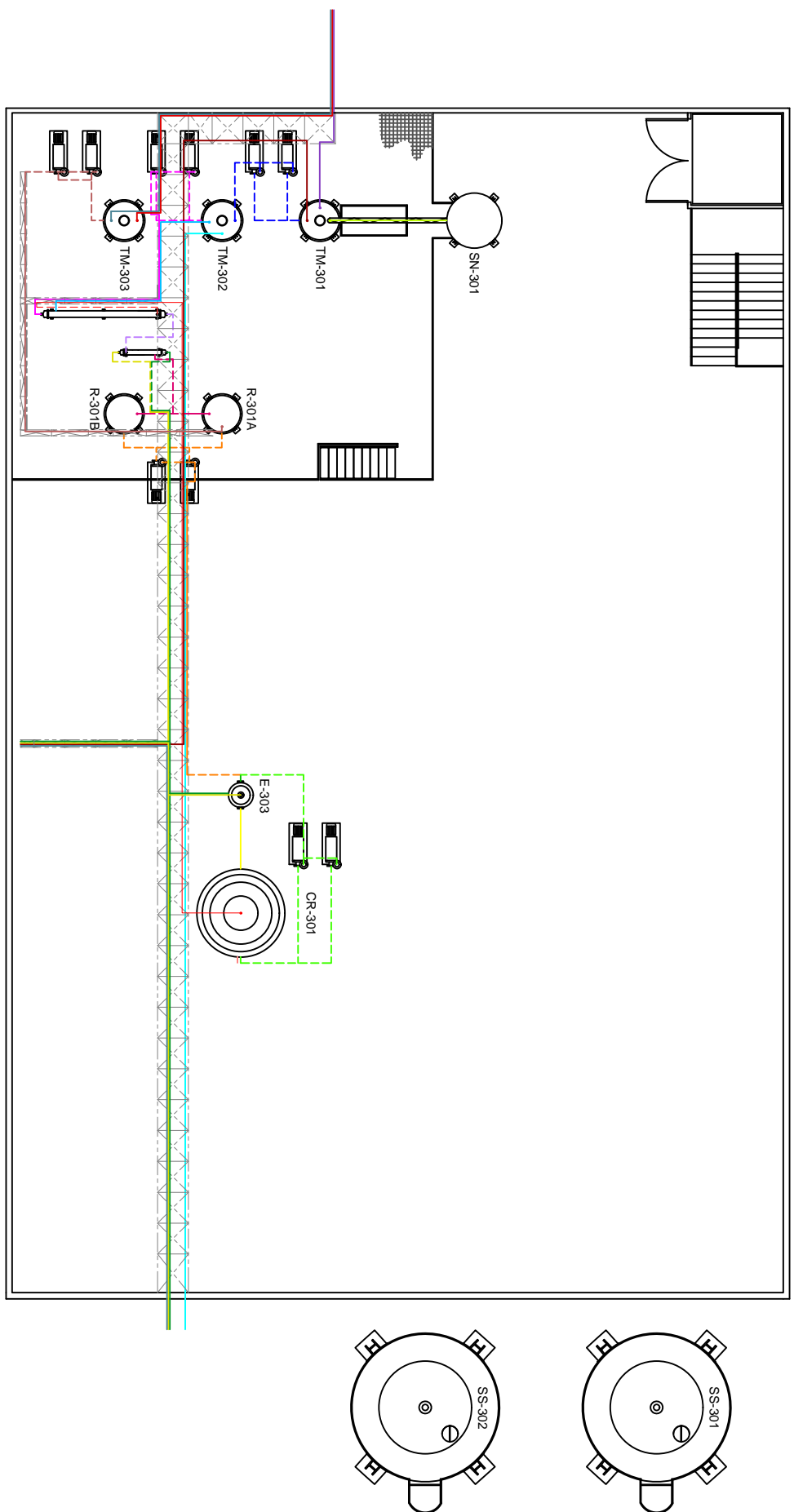
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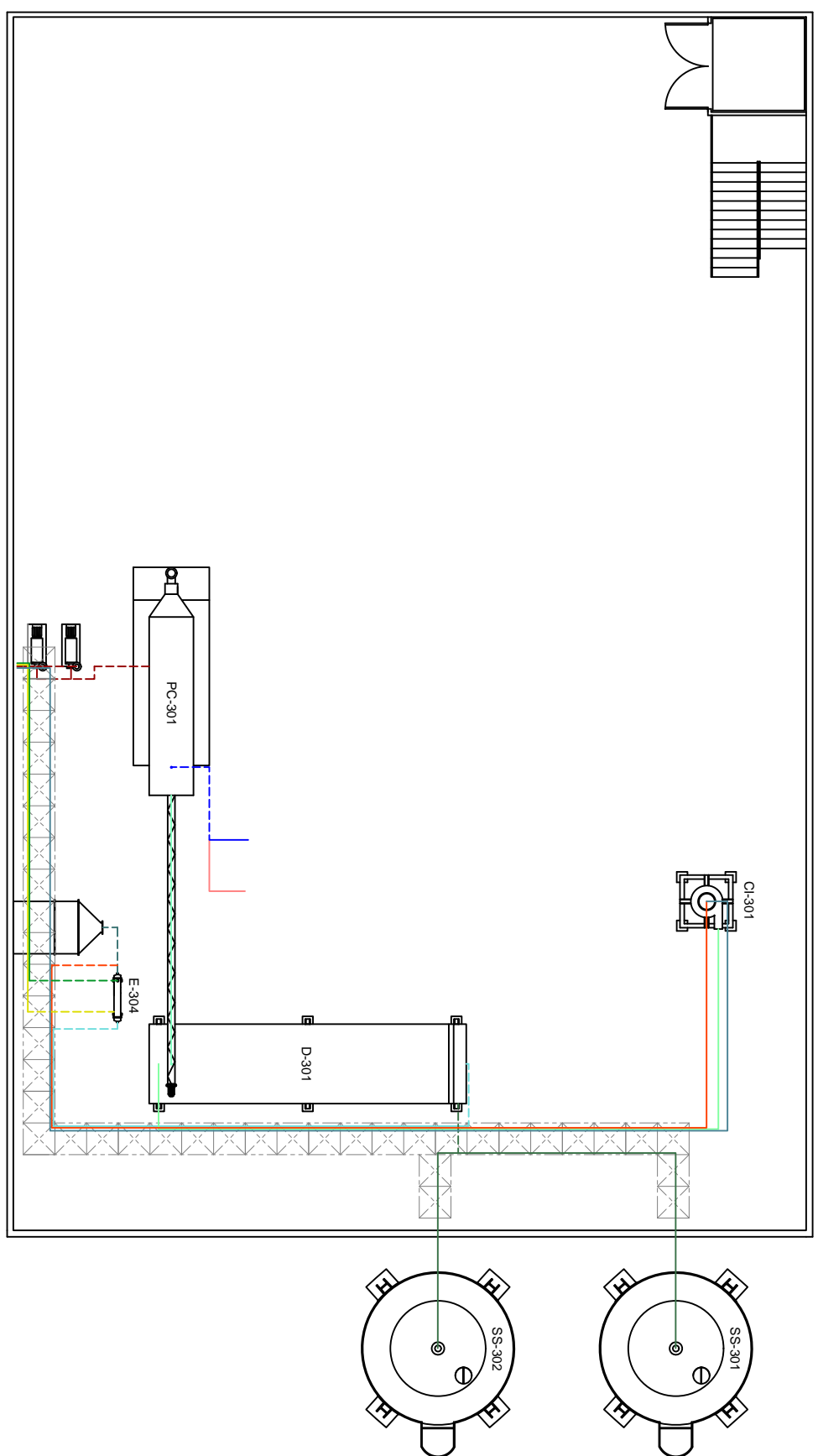
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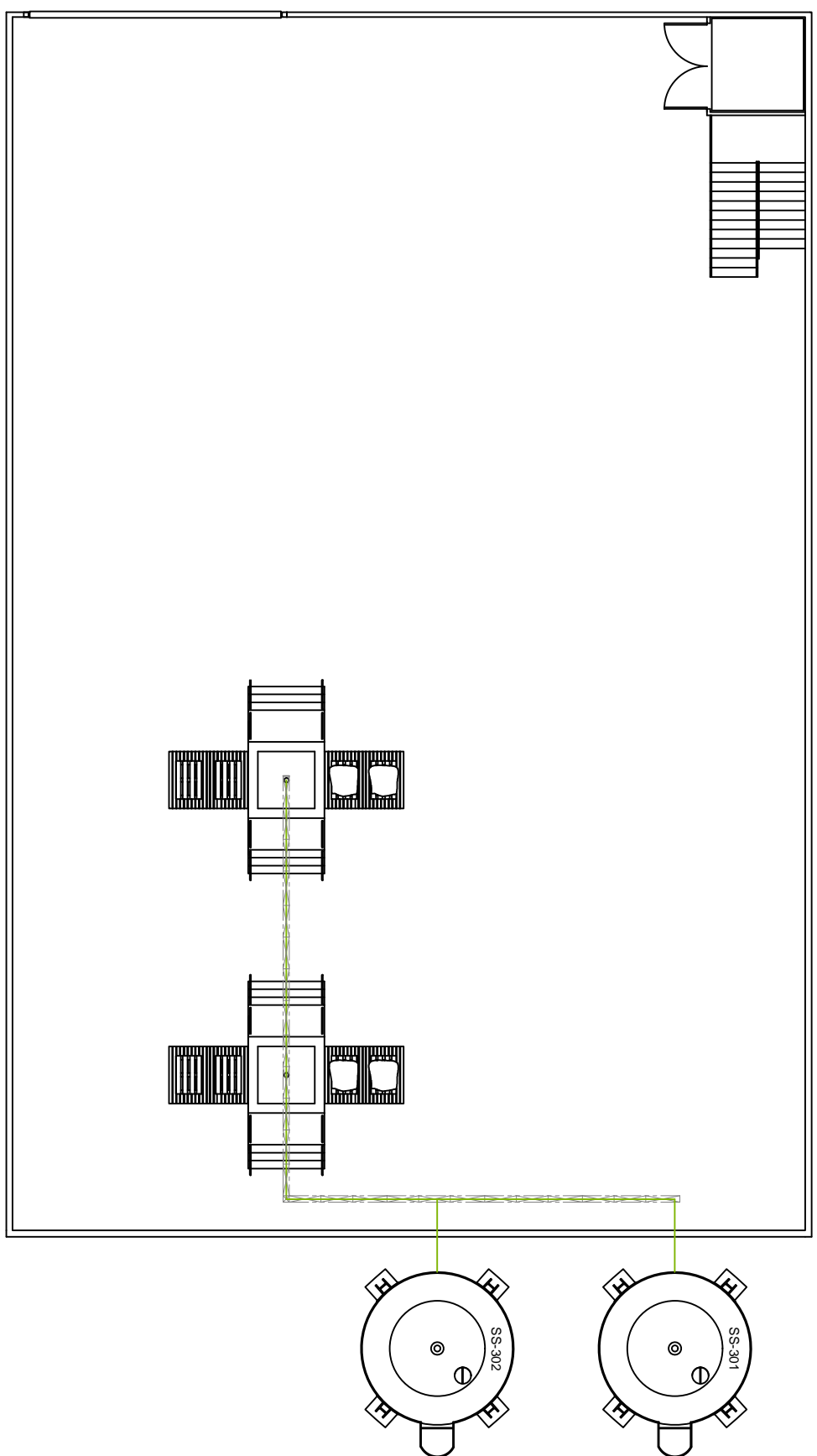
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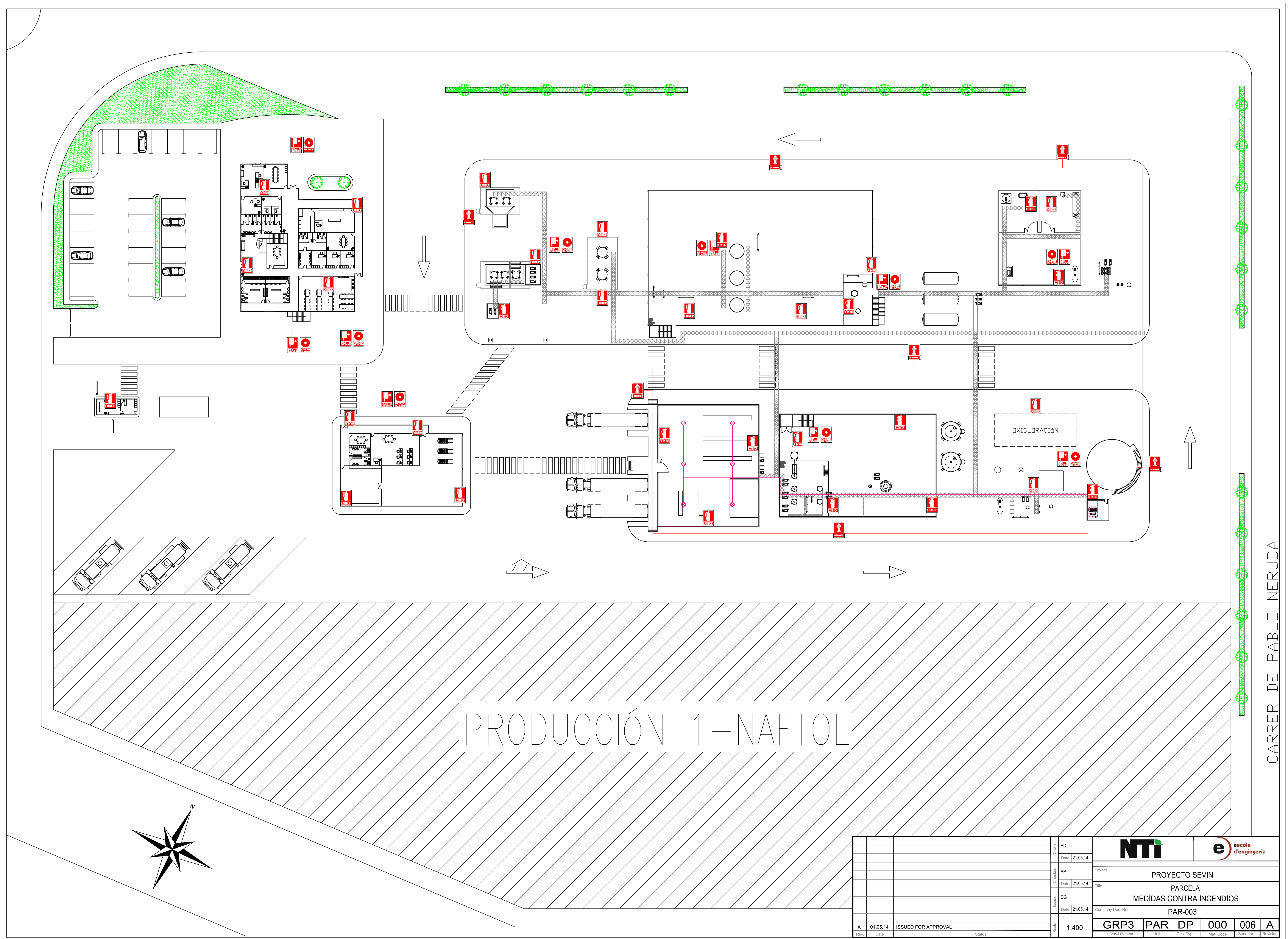
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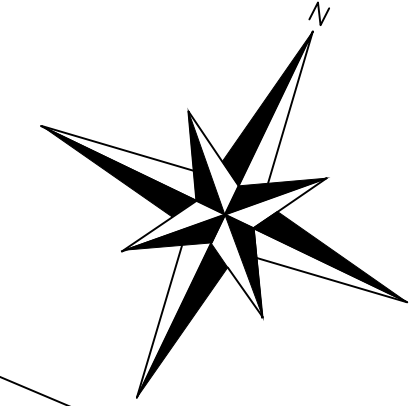


Rev.		Date		Status		Scale		Company Doc. Ref.		Project		Title	
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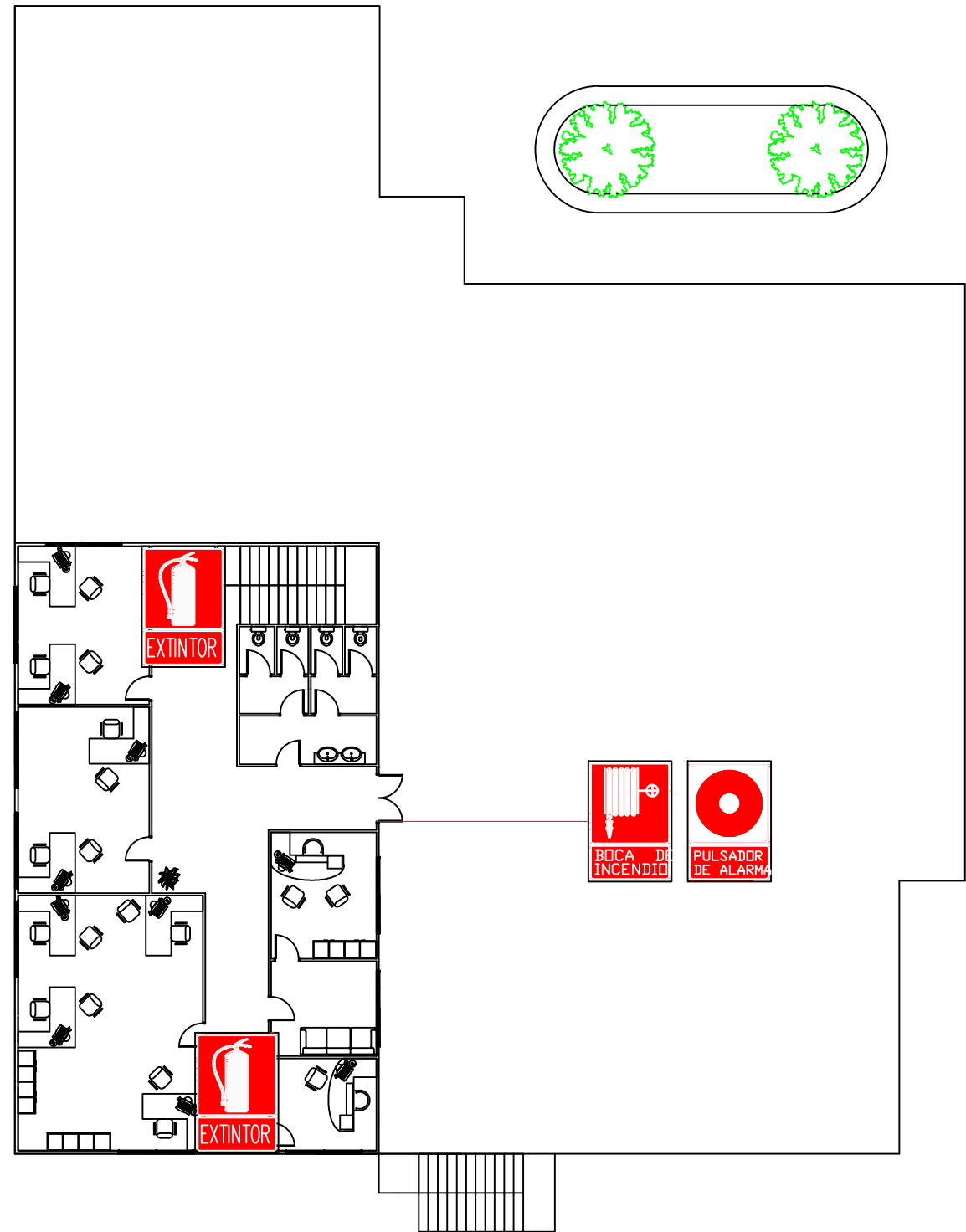
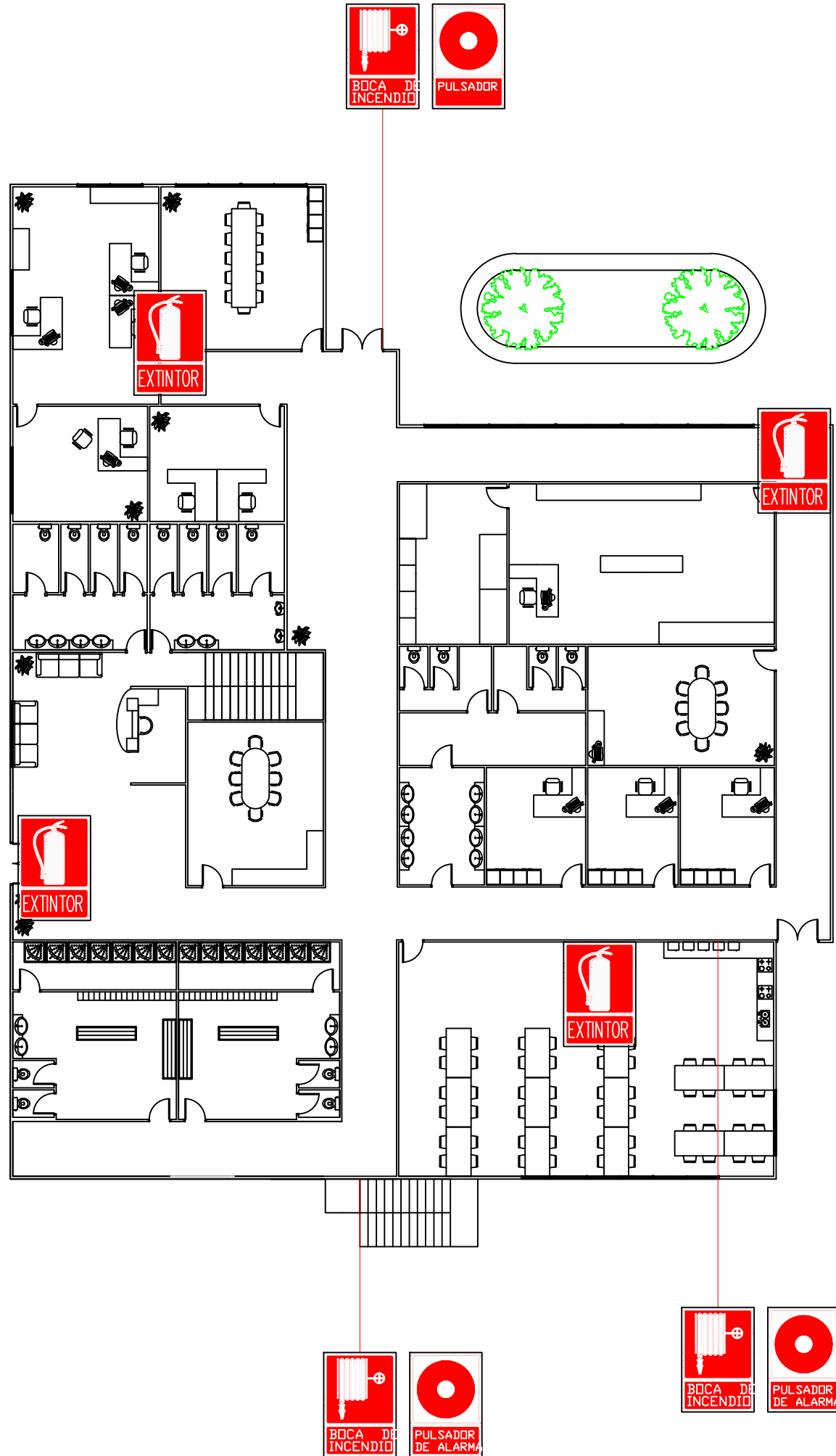


PRODUCCIÓN 1-NAFTOL

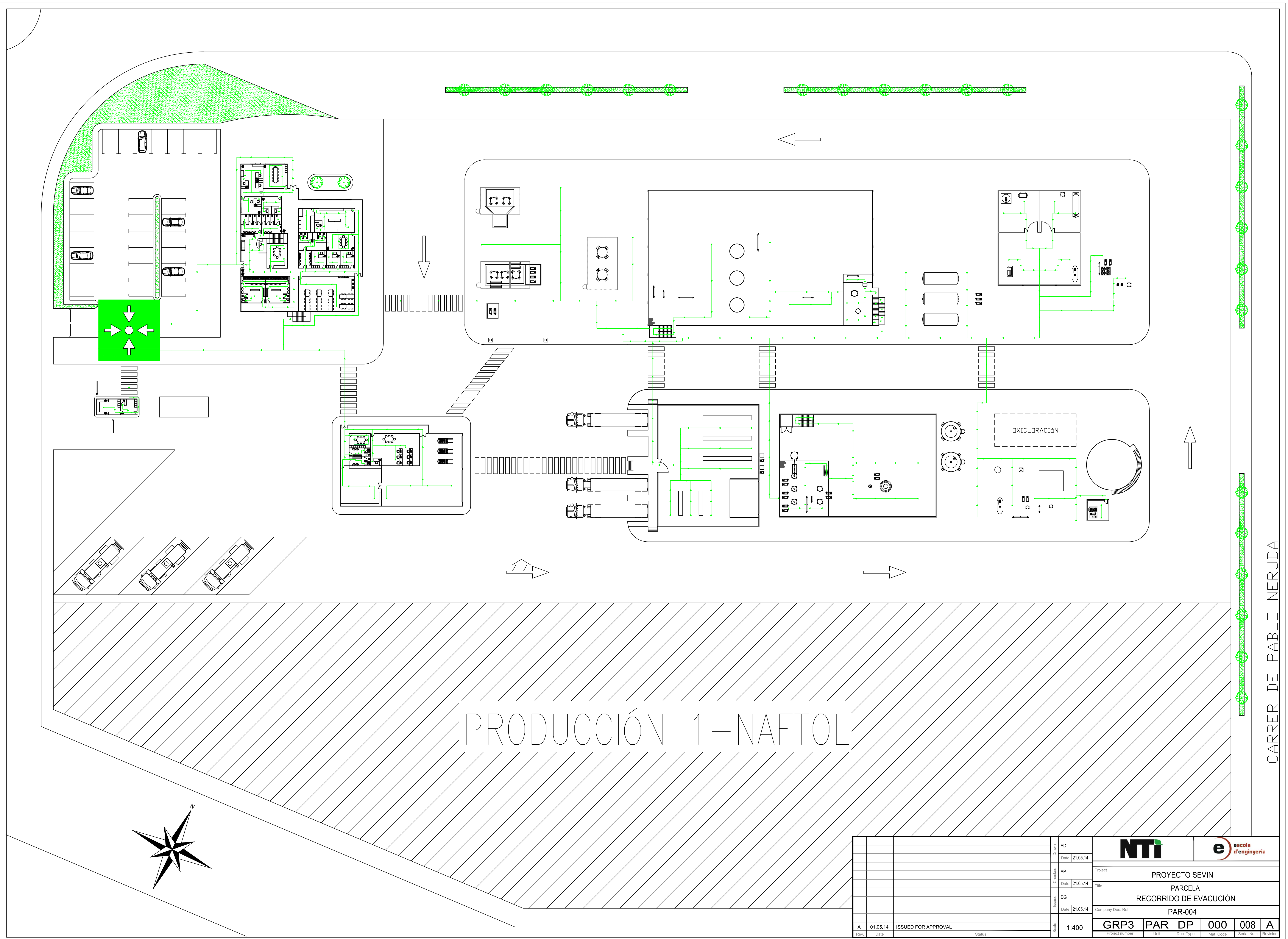
CARRER DE PABLO NERUDA



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Rev.	Date	Status	Project number	Unit	Doc. Type	Mat. Code	Serial Num.	Revision	
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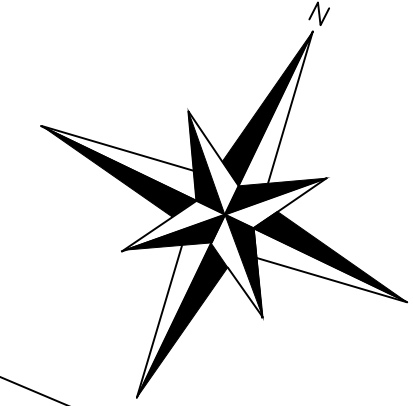


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		Date	21.05.14	MEDIDAS CONTRA INCENDIOS						
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Rev.	Date	Status			Project number	Unit	Doc. type	File Code	Sheet Num.	Revision



PRODUCCIÓN 1-NAFTOL

CARRER DE PABLO NERUDA



AD	Drawn	AD						
21.05.14	Date	21.05.14						
AP	Checked	AP	PROJECT: PROYECTO SEVIN					
21.05.14	Date	21.05.14	TITLE: PARCELA					
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21.05.14	Date	21.05.14	Company Doc. Ref.: PAR-004					
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	Date	ISSUED FOR APPROVAL	Project number	Unit	Doc. Type	Mat. Code	Serial Num.	Revision

