

100-TK-001	100-HEI-001	100-PC-001	100-PC-002
UF FEED TANK A	ELECTRIC FLANGED HEATER	UF FEED PUMP A	UF FEED PUMP B
CAPACITY 1.96 m³	CAPACITY 0.90 m³/h	CAPACITY 0.54 m³/h	
POWER 1.1 kW	HEAD 139 m	HEAD 57.1m	
DIMENSIONS Ø: 1M H: 2M	POWER 9 kW	POWER 0.37 kW	
MOC 316 SS	MOC INC 800	MOC 316 SS	MOC 316 SS

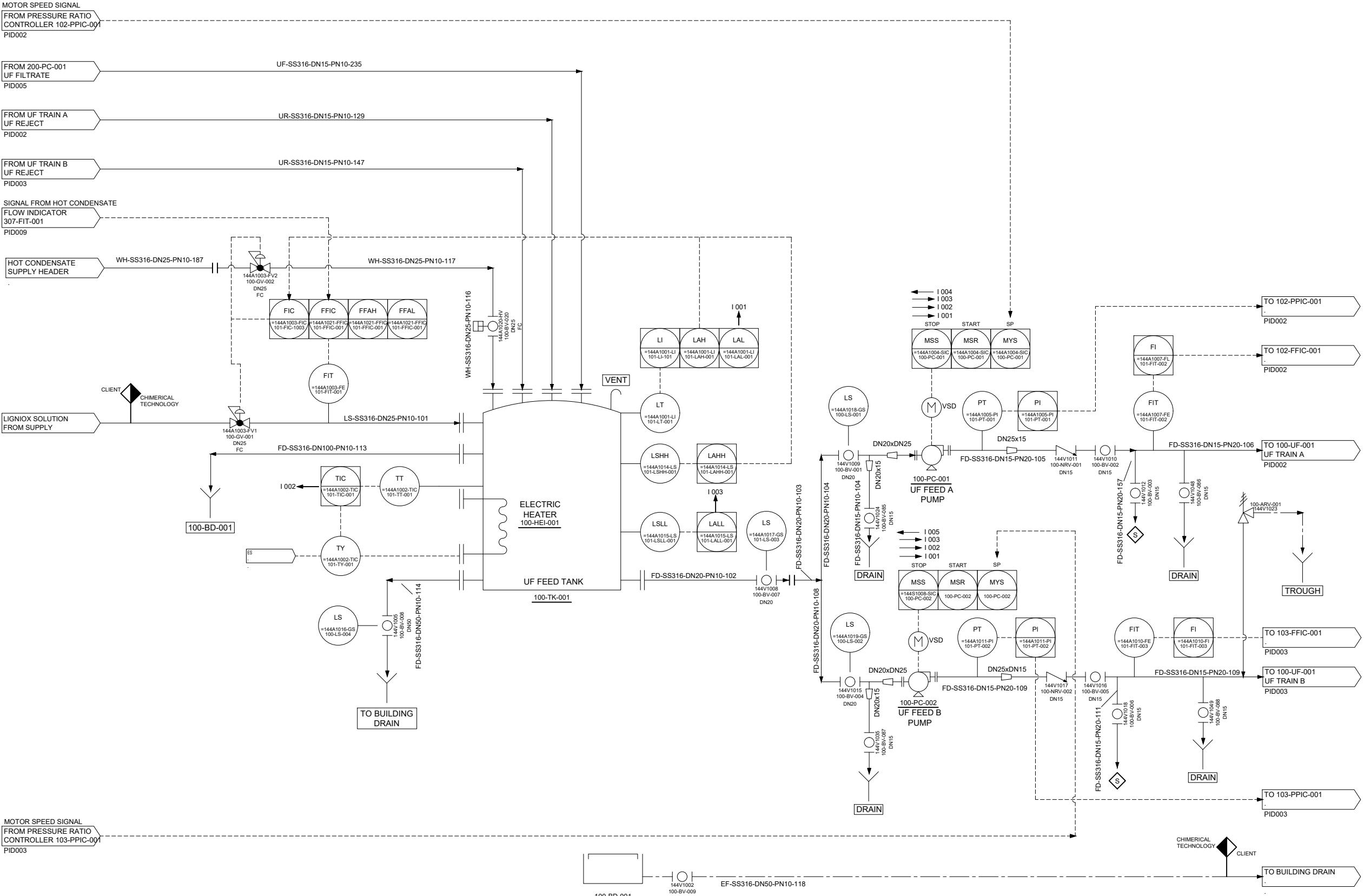
NOTE : 1
ARV AT HIGHEST POINT
DUAL FUNCTION ARV'S
(AIR RELIEF + VACUUM)

MATERIAL CODE

FLUID	CODE
LigniOx Solution	LS
UF Feed	FD
UF Filtrate	UF
UF Reject	UR
Combined Concentrate	CC
NF Feed (High Pressure)	FN
NF Concentrate	NC
NF Permeate	NP
CIP Supply	CS
CIP Return	CP
Sulfuric Acid	AS
Caustic Soda (Liquid)	AC
Water Hot (Hot Condensate)	WH
Water Cold (Deminerlized)	WC
Water Potable	WP
Effluent	EF
Offgas Vapour	EV
40% SMBS	SM

LEGEND

Process Stream	—
Signal	—
Intermittent	—
Fail Open	FO
Fail Closed	FC
Sample Valve	◊



MOTOR SPEED SIGNAL
FROM PRESSURE RATIO
CONTROLLER 103-PPIC-001
PID003

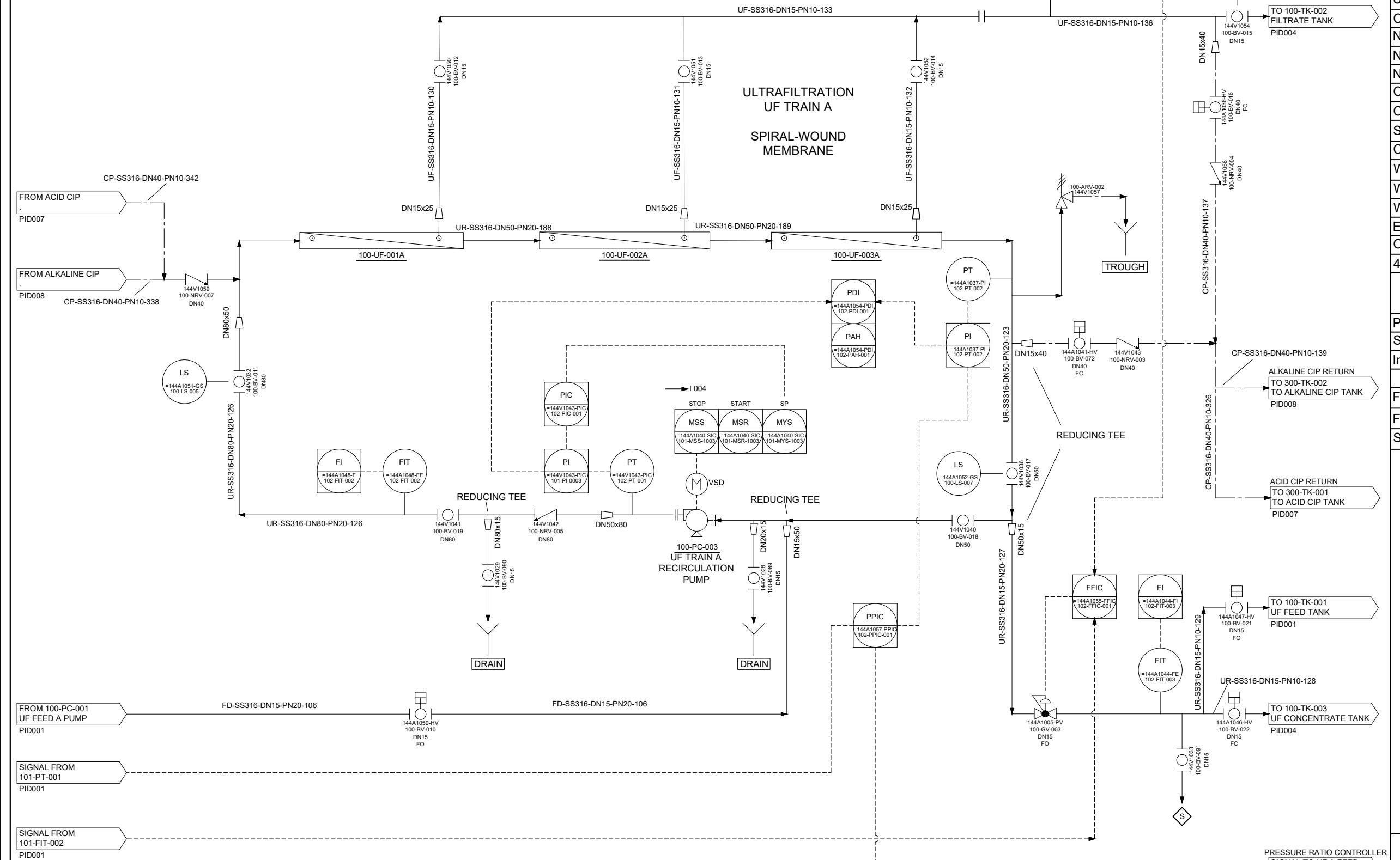
REVISION	CM2402						This drawing is subject to return on demand and must not be copied or passed on to any third party or used directly or indirectly for any other purpose than the design and construction to the order of CHIMERICAL TECHNOLOGY (PTY) LTD.
	ISSUED FOR CONSTRUCTION	AH	MB	RW	01/02/2025		
2	ISSUED FOR APPROVAL	AH	MB	RW	29/01/2025		
1Q	ISSUED FOR INFORMATION	RB	SCV	DS	17/05/2024		
0	DESCRIPTION	DRAWN	CHECKED	APPRVD	DATE		
REV	REV						

ANDRITZ
LigniOx



DRAWING NO.: CM2402-AND001-4A-PID001
PID NO.: PID001
REV. 2

100-UF-001A	100-UF-002A	100-UF-003A	100-PC-003
UF TRAIN A	UF TRAIN A	UF TRAIN A	UF A RECIRCULATION PUMP
NO OF PV'S	1	NO OF PV'S	1
PRESSURE RATING	PN 60	PRESSURE RATING	PN 60
MEMBRANES PER PV	2	MEMBRANES PER PV	2
TYPE	SPIRAL	TYPE	SPIRAL
MOC	316 SS	MOC	316 SS
			CAPACITY 17.0 m³/h
			HEAD 22 m
			POWER 2.2 kW
			MOC 316 SS



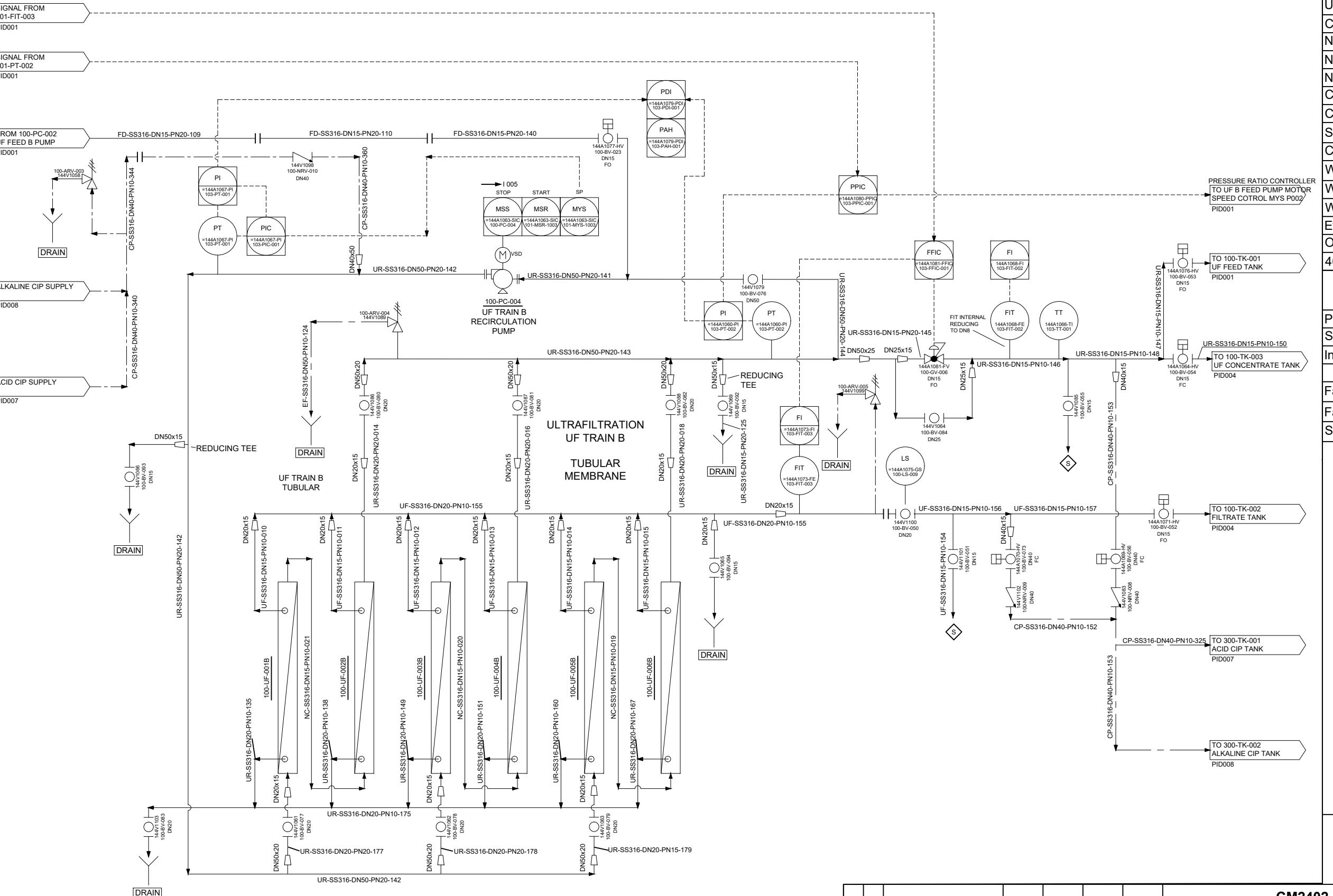
100-UF-001B		100-UF-002B		100-UF-003B		100-UF-004B		100-UF-005B		100-UF-006B		100-PC-004	
UF TRAIN B		UF B RECIRCULATION PUMP											
NO OF PV'S	1	CAPACITY	12.3 m³/h										
PRESSURE RATING	64 Bar	HEAD	18.98 Bar										
MEMBRANES PER PV	1	POWER	11 kW										
TYPE	TUBULAR	MOC	316 SS										
MOC	316 SS	MOC	316 SS										

MATERIAL CODE

FLUID	CODE
LigniOx Solution	LS
UF Feed	FD
UF Filtrate	UF
UF Reject	UR
Combined Concentrate	CC
NF Feed (High Pressure)	FN
NF Concentrate	NC
NF Permeate	NP
CIP Supply	CS
CIP Return	CP
Sulfuric Acid	AS
Caustic Soda (Liquid)	AC
Water Hot (Hot Condensate)	WH
Water Cold (Deminerlized)	WC
Water Potable	WP
Effluent	EF
Offgas Vapour	EV
40% SMBS	SM

LEGEND

Process Stream	
Signal	
Intermittent	
Fail Open	
Fail Closed	
Sample Valve	



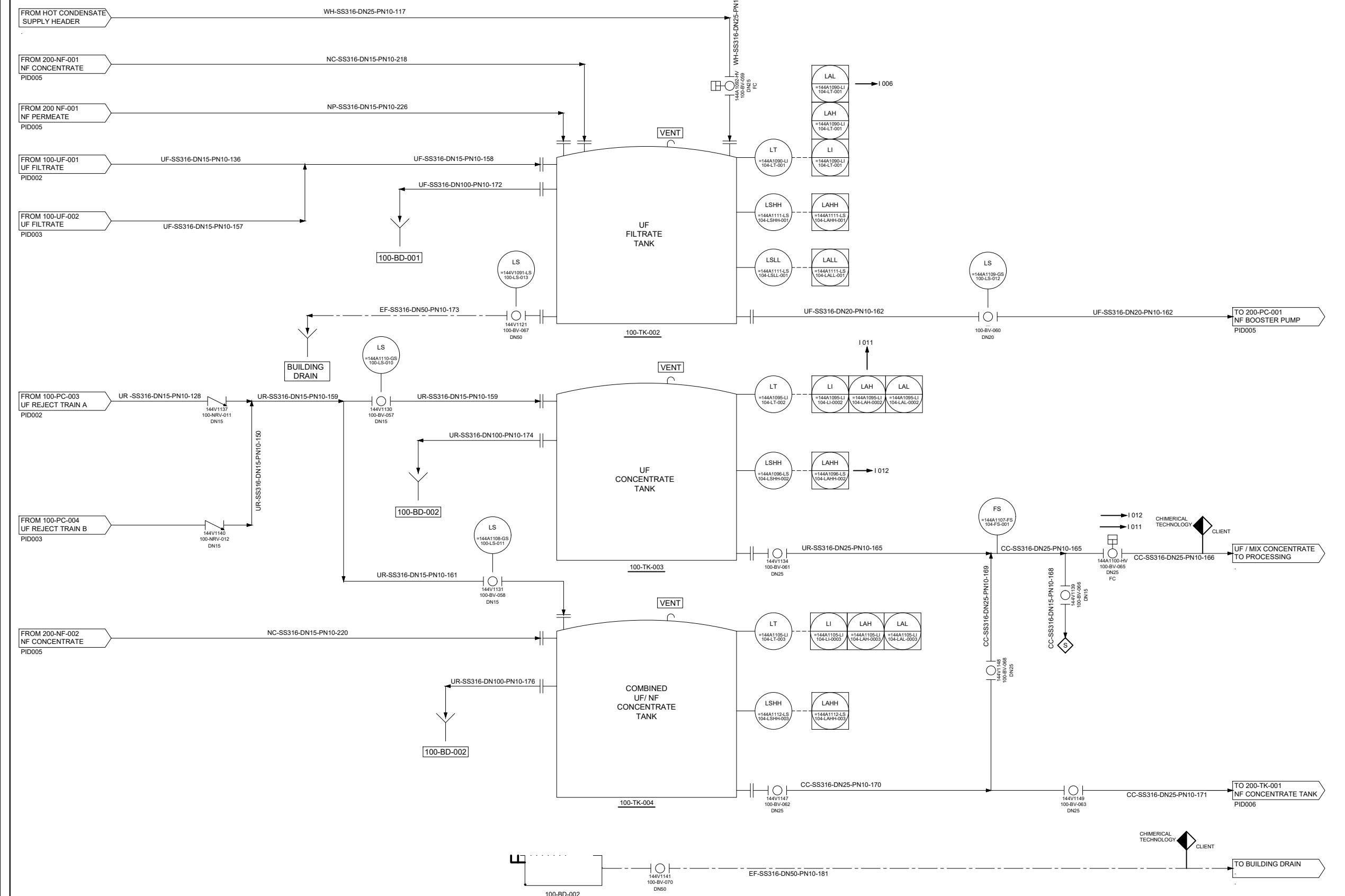
REVISION	CM2402						This drawing is subject to return on demand and must not be copied or passed on to any third party or used directly or indirectly for any other purpose than the design and construction to the order of CHIMERICAL TECHNOLOGY (PTY) LTD.
	2	ISSUED FOR CONSTRUCTION	AH	MB	RW	01/02/2025	
1Q	ISSUED FOR APPROVAL	AH	MB	RW	29/01/2025		
0	ISSUED FOR INFORMATION	RB	SCV	DS	17/05/2024		
REV	DESCRIPTION	DRAWN	CHECKED	APPRVD	DATE		

ANDRITZ
LigniOx

CHIMERICAL
TECHNOLOGY

DRAWING NO.: CM2402-AND001-4A-PID003
PID NO.: PID003
REV. 2

100-TK-002		100-TK-003		100-TK-004	
UF FILTRATE TANK		UF CONCENTRATE TANK		UF COMB UF/NF CONCENTRATE TANK	
CAPACITY	1.96 m ³	CAPACITY	1.1 m ³	CAPACITY	1.1m ³
DIMENSION	Ø 1m H 2.5m	DIMENSION	Ø 1m H 1.5m	DIMENSION	Ø 1m H 1.5m
MOC	316 SS	MOC	316 SS	MOC	316 SS



MATERIAL CODE

FLUID	CODE
igniOx Solution	LS
IF Feed	FD
IF Filtrate	UF
IF Reject	UR
Combined Concentrate	CC
IF Feed (High Pressure)	FN
IF Concentrate	NC
IF Permeate	NP
CIP Supply	CS
CIP Return	CP
Sulfuric Acid	AS
Caustic Soda (Liquid)	AC
Water Hot (Hot Condensate)	WH
Water Cold (Demineralized)	WC
Water Potable	WP
ffluent	EF
Offgas Vapour	EV
0% SMBS	SM

LEGEND

Process Stream	_____
Signal	-----
Intermittent	— — — —
Mail Open	FO
Mail Closed	FC
Sample Valve	◇ S

Client

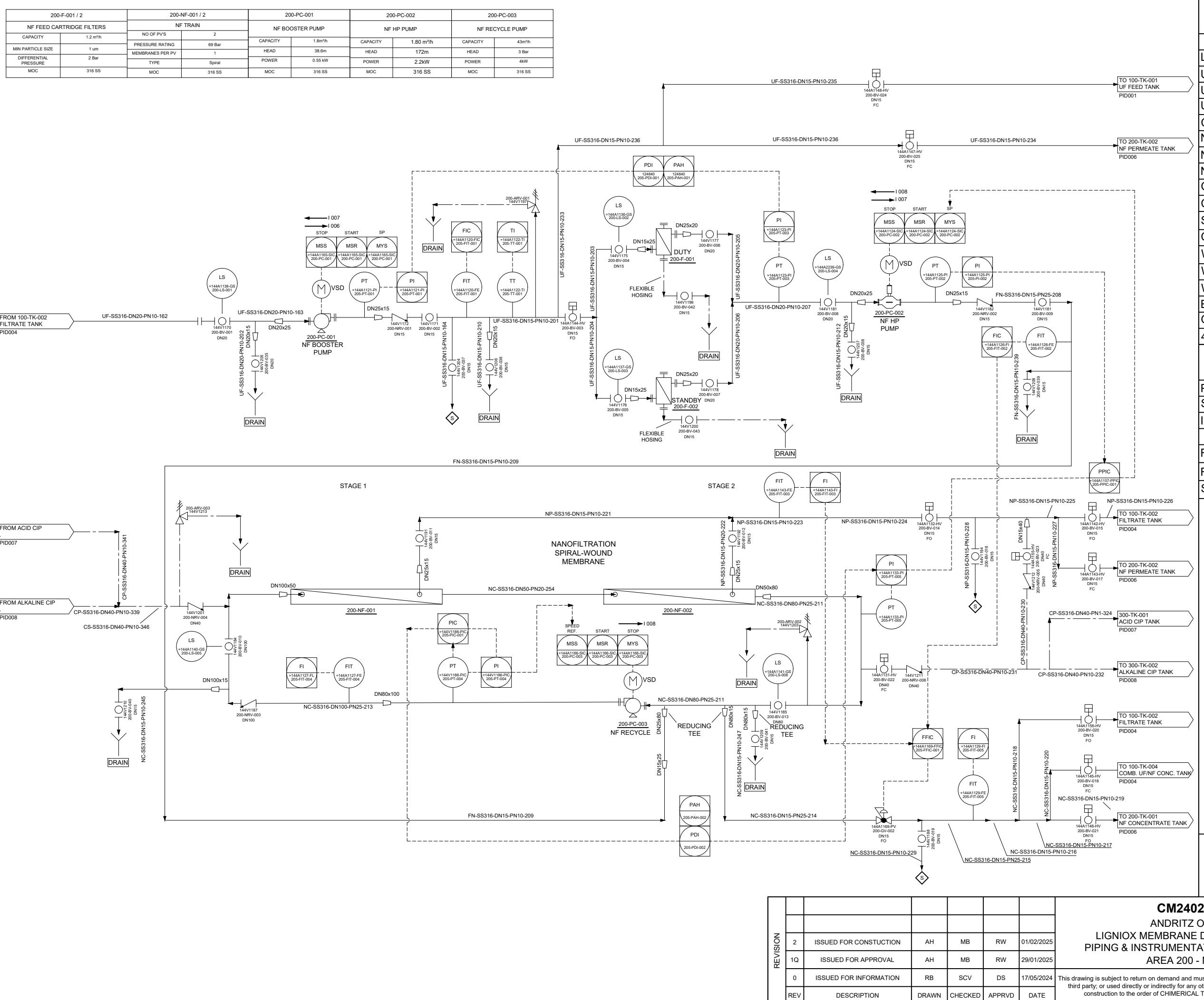


CM2402

ANDRITZ OY
LIGNIOX MEMBRANE DEMO PLANT
PIPING & INSTRUMENTATION DIAGRAM
AREA 100 - UF TANKS



REVISION						
	2	ISSUED FOR CONSTRUCTION	AH	MB	RW	01/02/2025
	1Q	ISSUED FOR APPROVAL	AH	MB	RW	29/01/2025
	0	ISSUED FOR INFORMATION	RB	SCV	DS	17/05/2024
	REV	DESCRIPTION	DRAWN	CHECKED	APPRVD	DATE



MATERIAL CODE

FLUID	CODE
LigniOx Solution	LS
UF Feed	FD
UF Filtrate	UF
UF Reject	UR
Combined Concentrate	CC
NF Feed (High Pressure)	FN
NF Concentrate	NC
NF Permeate	NP
CIP Supply	CS
CIP Return	CP
Sulfuric Acid	AS
Caustic Soda (Liquid)	AC
Water Hot (Hot Condensate)	WH
Water Cold (Deminerlized)	WC
Water Potable	WP
Effluent	EF
Offgas Vapour	EV
40% SMBS	SM

LEGEND

Process Stream	—
Signal	- - -
Intermittent	— — —
Fail Open	FO
Fail Closed	FC
Sample Valve	◇

Client

ANDRITZ
LigniQ

CM2402
ANDRITZ OY
LIGNIOX MEMBRANE DEMO PLANT
PIPING & INSTRUMENTATION DIAGRAM
AREA 200 - NF

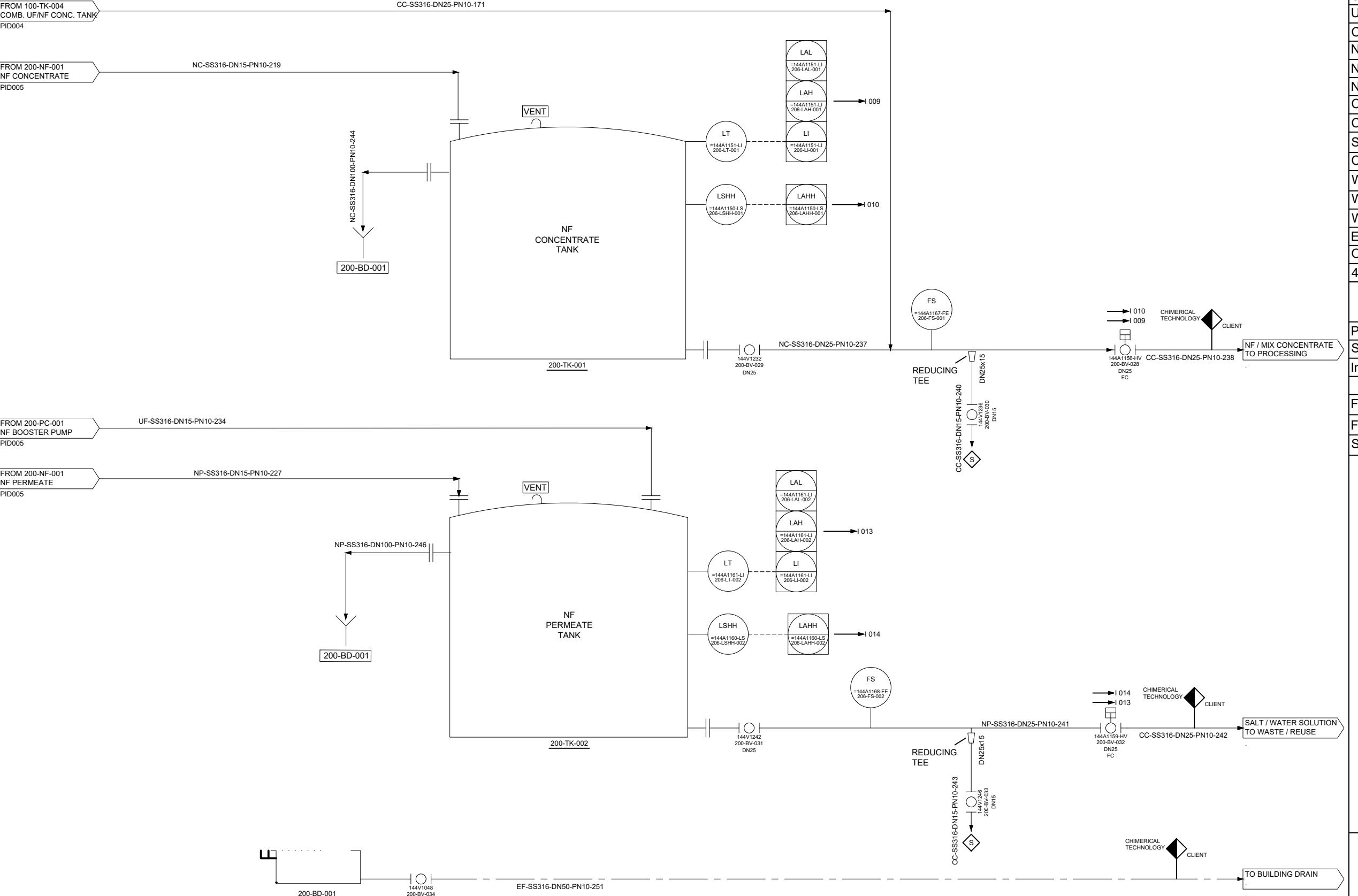
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DRAWING NO.: CM2402-AND001-4A-PID005
PID NO.: PID005
REV. 2

REVISION					
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2	ISSUED FOR APPROVAL	AH	MB	RW	01/02/2025
1Q	ISSUED FOR INFORMATION	RB	SCV	DS	29/01/2025
0	DESCRIPTION	DRAWN	CHECKED	APPRVD	17/05/2024
REV.	REV.	REV.	REV.	REV.	REV.

200-TK-001	200-TK-002
NF CONCENTRATE TANK	NF PERMEATE TANK
CAPACITY	1.1 m³
DIMENSIONS	Ø 1m H 2.5m
MOC	316 SS
MOC	316 SS



MATERIAL CODE

FLUID	CODE
LigniOx Solution	LS
UF Feed	FD
UF Filtrate	UF
UF Reject	UR
Combined Concentrate	CC
NF Feed (High Pressure)	FN
NF Concentrate	NC
NF Permeate	NP
CIP Supply	CS
CIP Return	CP
Sulfuric Acid	AS
Caustic Soda (Liquid)	AC
Water Hot (Hot Condensate)	WH
Water Cold (Deminerlized)	WC
Water Potable	WP
Effluent	EF
Offgas Vapour	EV
40% SMBS	SM

LEGEND

Process Stream	—
Signal	- - -
Intermittent	- - - -
Fail Open	FO
Fail Closed	FC
Sample Valve	◇

Client



CM2402
ANDRITZ OY
LIGNIOX MEMBRANE DEMO PLANT
PIPING & INSTRUMENTATION DIAGRAM
AREA 200 - NF TANKS

REVISION						REV.
	DESCRIPTION	DRAWN	CHECKED	APPRVD	DATE	
2	ISSUED FOR CONSTRUCTION	AH	MB	RW	01/02/2025	
1Q	ISSUED FOR APPROVAL	AH	MB	RW	29/01/2025	
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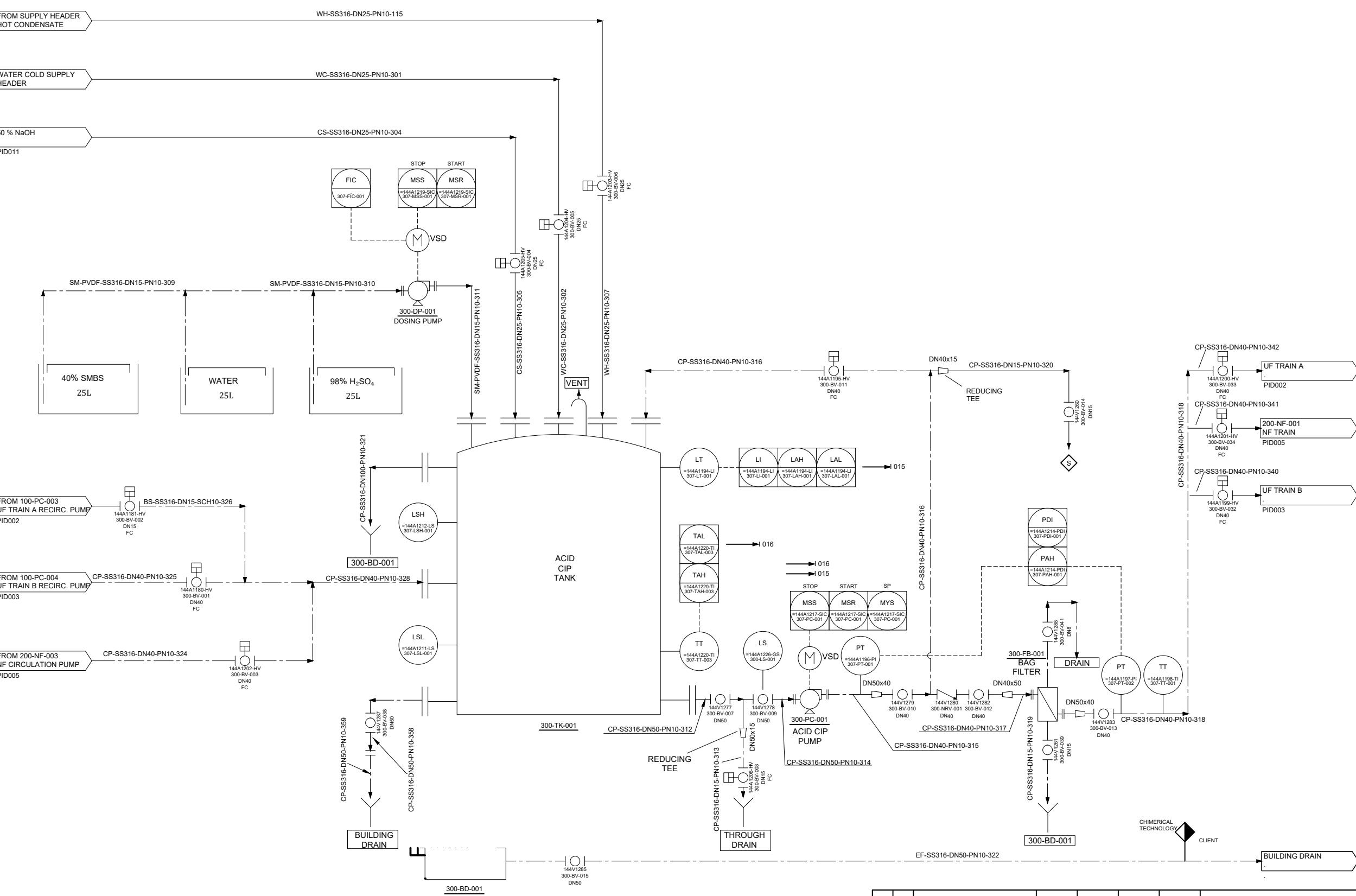
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DRAWING NO.: CM2402-AND001-4A-PID006 PID NO.: PID006 REV. 2

300-FB-001		300-DP-001		300-PC-001		300-TK-001	
BAG FILTER		DOSING PUMP		ACID CIP PUMP		ACID CIP TANK	
CAPACITY	17m³/h	CAPACITY	0.07m³/h	CAPACITY	17m³/h	CAPACITY	1.01m³
MIN PARTICLE SIZE	1 um	HEAD	10 m	HEAD	30m	DIMS	Ø 0.89m H 1.16m
DIFFERENTIAL PRESSURE	2 bar	POWER	0.062 kW	POWER	3 kW	MOC	316 SS
MOC	316 SS	MOC	316 SS	MOC	316 SS	MOC	316 SS

MATERIAL CODE

FLUID	CODE
igniOx Solution	LS
F Feed	FD
F Filtrate	UF
F Reject	UR
combined Concentrate	CC
F Feed (High Pressure)	FN
F Concentrate	NC
F Permeate	NP
IP Supply	CS
IP Return	CP
sulfuric Acid	AS
austic Soda (Liquid)	AC
Water Hot (Hot Condensate)	WH
Water Cold (Demineralized)	WC
Water Potable	WP
ffluent	EF
ffgas Vapour	EV
0% SMBS	SM



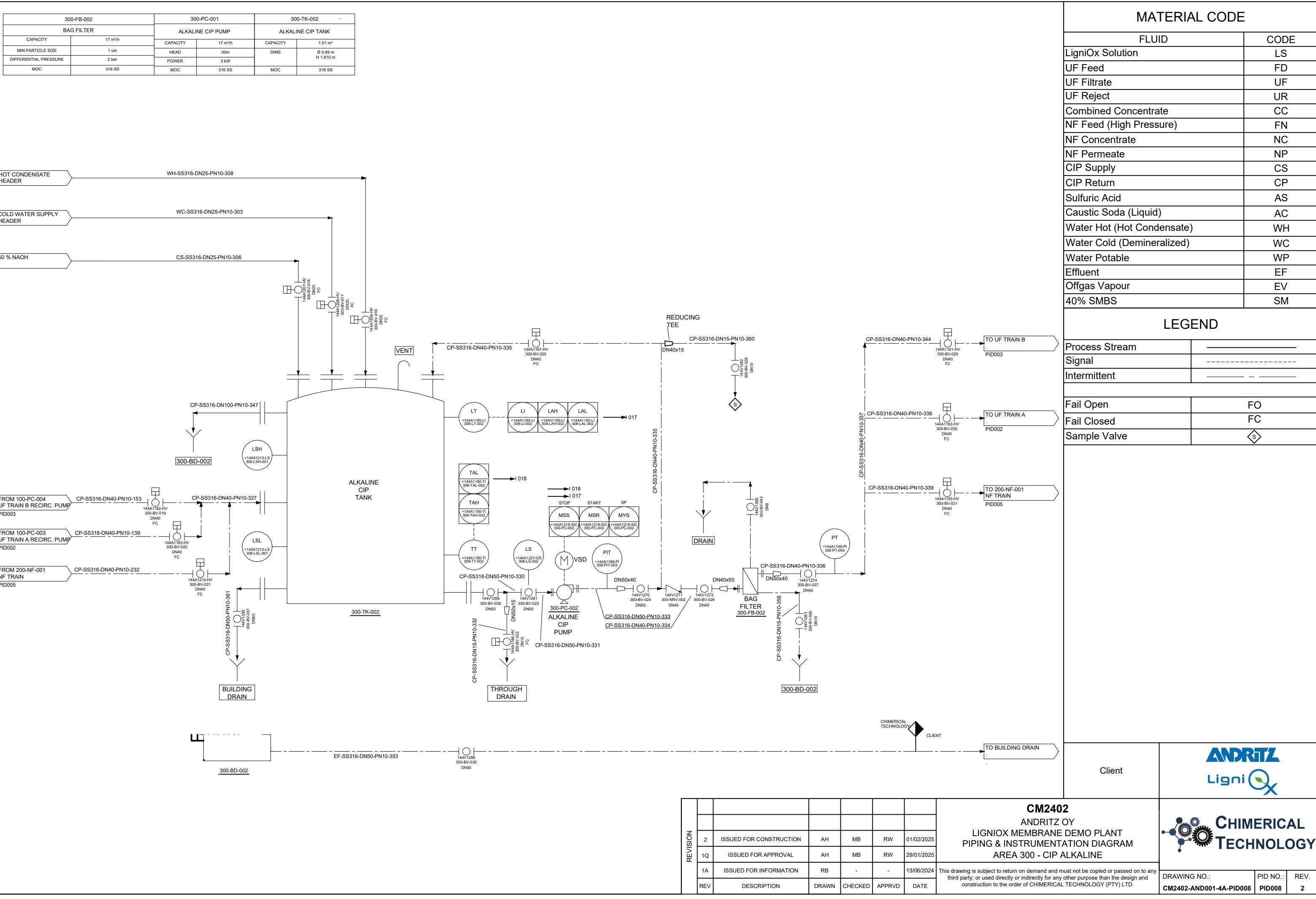
REVISION						
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	1Q	ISSUED FOR APPROVAL	AH	MB	RW	29/01/2025
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	REV	DESCRIPTION	DRAWN	CHECKED	APPRVD	DATE

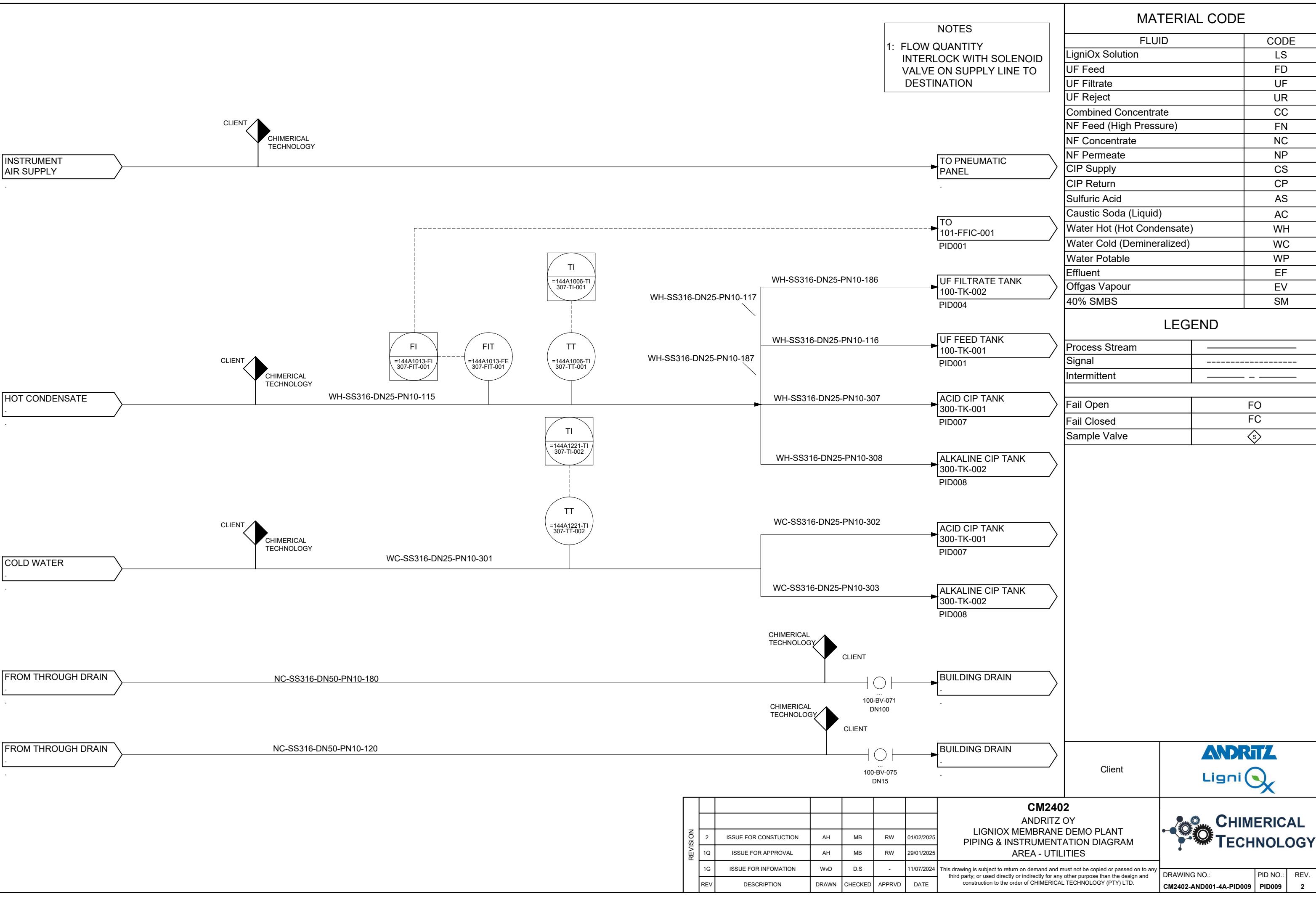
CM2402
ANDRITZ OY
LIGNIOX MEMBRANE DEMO PLANT
PIPING & INSTRUMENTATION DIAGRAM
AREA 300 - CIP ACID

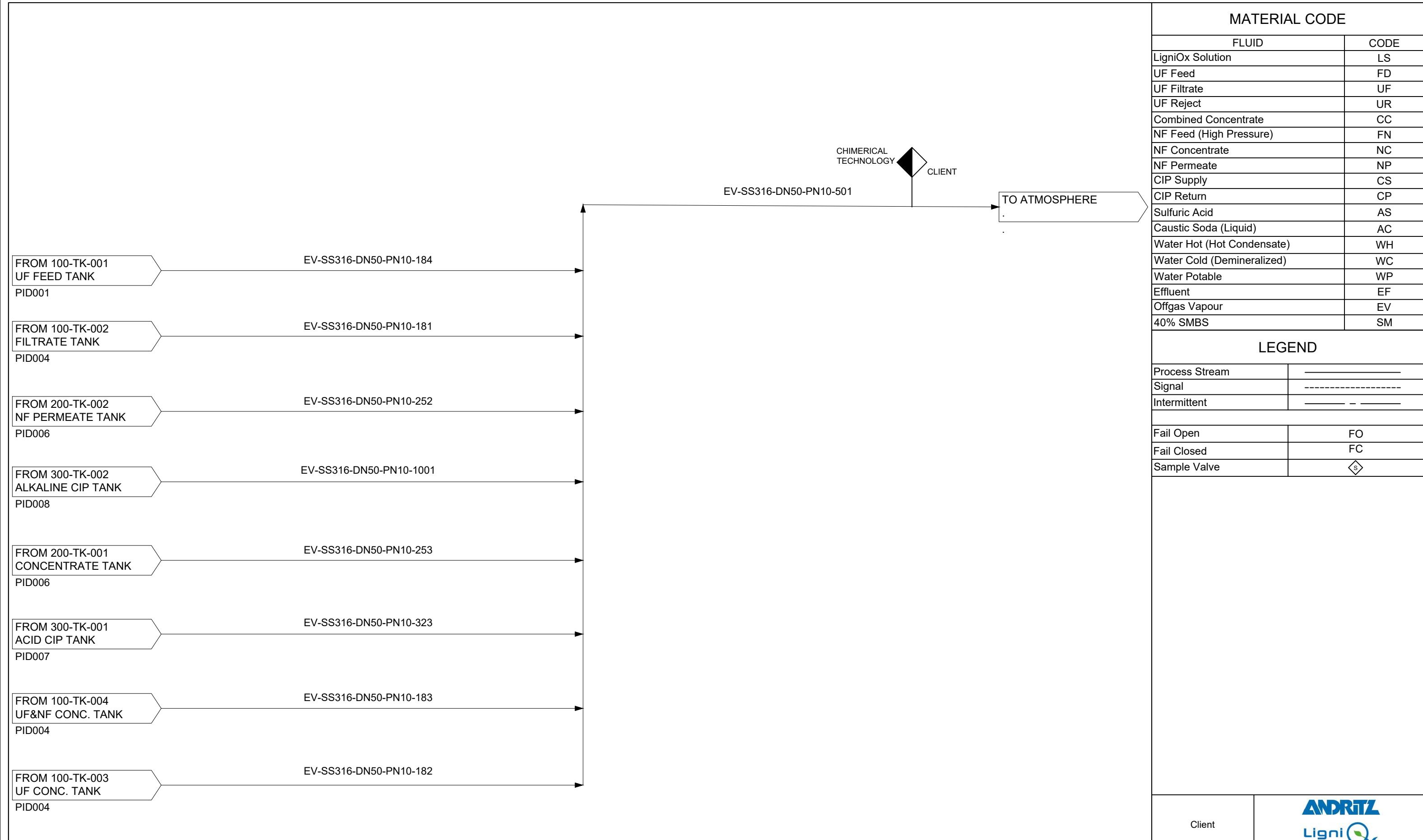
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DRAWING NO.:	PID NO.:	REV.
CM2402-AND001-4A-PID007	PID007	2







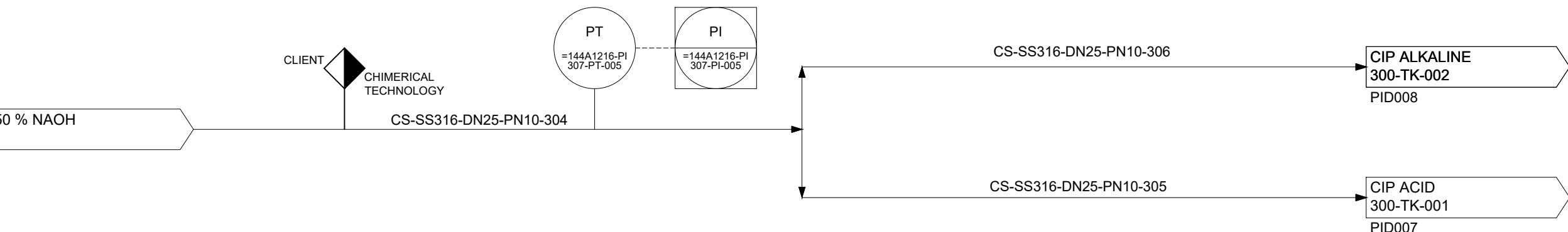
REVISION						CM2402 ANDRITZ OY LIGNIOX MEMBRANE DEMO PLANT PIPING & INSTRUMENTATION DIAGRAM AREA - COMMON VENT	 CHIMERICAL TECHNOLOGY		
	2	ISSUE FOR CONSTRUCTION	AH	MB	RW	01/02/2024			
	1Q	ISSUE FOR APPROVAL	AH	MB	RW	29/01/2024			
	1G	ISSUE FOR INFORMATION	WvD	D.S	-	11/07/2024			
REV	DESCRIPTION	DRAWN	CHECKED	APPRVD	DATE	This drawing is subject to return on demand and must not be copied or passed on to any third party; or used directly or indirectly for any other purpose than the design and construction to the order of CHIMERICAL TECHNOLOGY (PTY) LTD.	DRAWING NO.: CM2402-AND001-4A-PID010	PID NO.: PID010	REV. 2

MATERIAL CODE

FLUID	CODE
LigniOx Solution	LS
UF Feed	FD
UF Filtrate	UF
UF Reject	UR
Combined Concentrate	CC
NF Feed (High Pressure)	FN
NF Concentrate	NC
NF Permeate	NP
CIP Supply	CS
CIP Return	CP
Sulfuric Acid	AS
Caustic Soda (Liquid)	AC
Water Hot (Hot Condensate)	WH
Water Cold (Demineralized)	WC
Water Potable	WP
Effluent	EF
Offgas Vapour	EV
40% SMBS	SM

LEGEND

Process Stream	—
Signal	- - -
Intermittent	— — —
Fail Open	FO
Fail Closed	FC
Sample Valve	◇



REVISION							CM2402 ANDRITZ OY LIGNIOX MEMBRANE DEMO PLANT PIPING & INSTRUMENTATION DIAGRAM AREA - REAGENT	This drawing is subject to return on demand and must not be copied or passed on to any third party or used directly or indirectly for any other purpose than the design and construction to the order of CHIMERICAL TECHNOLOGY (PTY) LTD.	DRAWING NO.: CM2402-AND001-4A-PID011	PID NO.: PID011	REV. 2
	2	ISSUED FOR CONSTRUCTION	AH	MB	RW	01/02/2025					
1Q	ISSUED FOR APPROVAL	AH	MB	RW	29/01/2025	REV.	DESCRIPTION	DRAWN	CHECKED	APPRVD	DATE

ANDRITZ
LigniQ
CHIMERICAL
TECHNOLOGY