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TECHNOLOGY PROVIDER**



NOTES:
 1. PFD IS MEANT FOR PROCESS SCHEME ONLY; NOT FOR SCOPE.
 2. ----- INDICATES FUTURE PROVISION.

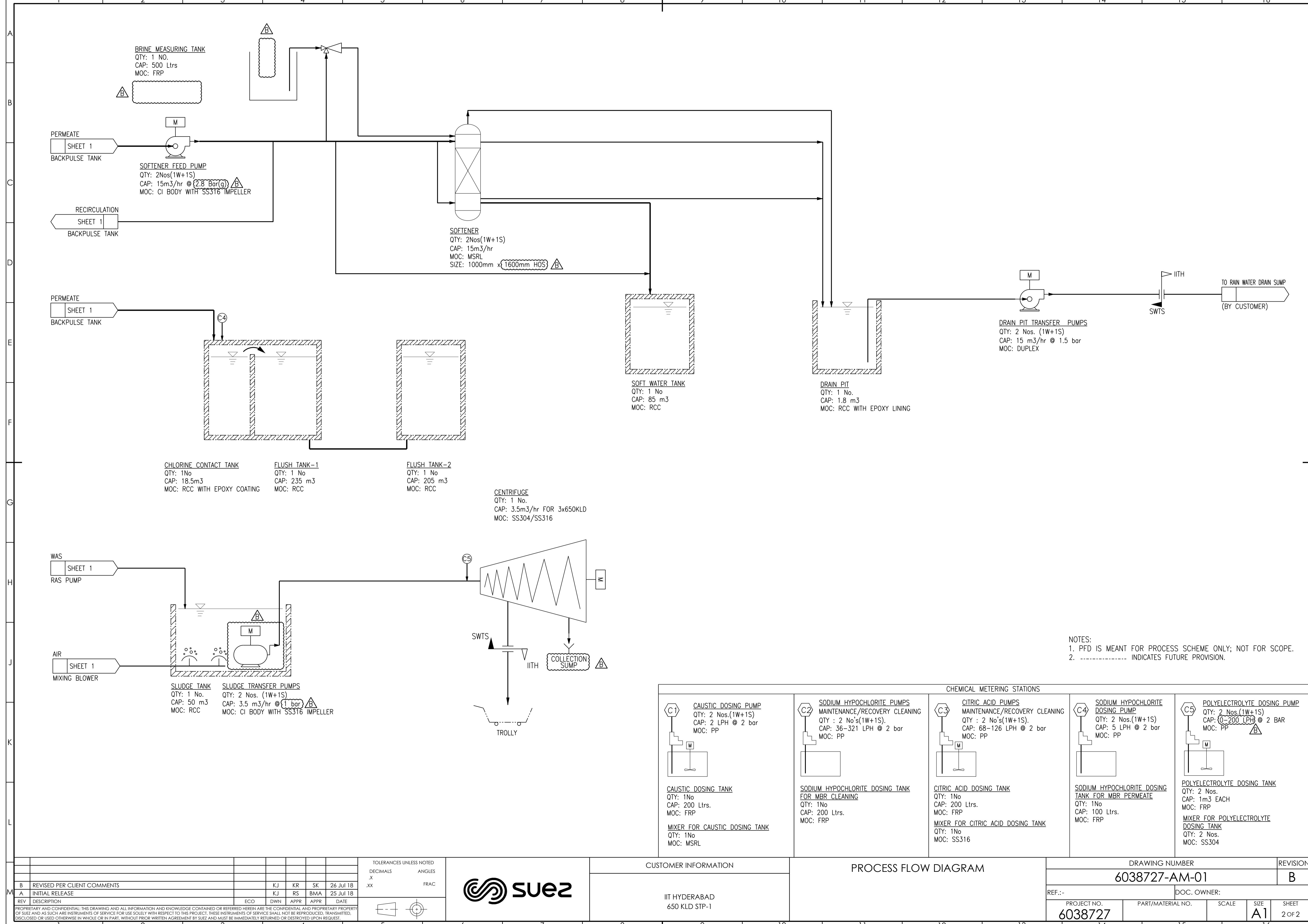
TOLERANCES UNLESS NOTED	
DECIMALS	ANGLES
.x	FRAC.
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CUSTOMER INFORMATION	
IIT HYDERABAD 650 KLD STP-1	

PROCESS FLOW DIAGRAM	
DRAWING NUMBER 6038727-AM-01	
REVISION B	
REF.:-	DOC. OWNER:
PROJECT NO. 6038727	PART/MATERIAL NO. SCALE SIZE SHEET 1 OF 2

DRAWING NUMBER					REVISION
6038727-AM-01					B
PROJECT NO. 6038727	PART/MATERIAL NO.	SCALE	SIZE A1	SHEET 1 OF 2	



BRINE MEASURING TANK
 QTY: 1 No.
 CAP: 500 Ltrs
 MOC: FRP

SOFTENER FEED PUMP
 QTY: 2Nos(1W+1S)
 CAP: 15m³/hr @ 2.8 Bar(g)
 MOC: CI BODY WITH SS316 IMPELLER

SOFTENER
 QTY: 2Nos(1W+1S)
 CAP: 15m³/hr
 MOC: MSRL
 SIZE: 1000mm x 1600mm HOS

SOFT WATER TANK
 QTY: 1 No
 CAP: 85 m³
 MOC: RCC

DRAIN PIT TRANSFER PUMPS
 QTY: 2 Nos. (1W+1S)
 CAP: 15 m³/hr @ 1.5 bar
 MOC: DUPLEX

CHLORINE CONTACT TANK
 QTY: 1No
 CAP: 18.5m³
 MOC: RCC WITH EPOXY COATING

FLUSH TANK-1
 QTY: 1 No
 CAP: 235 m³
 MOC: RCC

FLUSH TANK-2
 QTY: 1 No
 CAP: 205 m³
 MOC: RCC

CENTRIFUGE
 QTY: 1 No.
 CAP: 3.5m³/hr FOR 3x650KLD
 MOC: SS304/SS316

SLUDGE TANK
 QTY: 1 No.
 CAP: 50 m³
 MOC: RCC

SLUDGE TRANSFER PUMPS
 QTY: 2 Nos. (1W+1S)
 CAP: 3.5 m³/hr @ 1 bar
 MOC: CI BODY WITH SS316 IMPELLER

CAUSTIC DOSING PUMP
 QTY: 2 Nos.(1W+1S)
 CAP: 2 LPH @ 2 bar
 MOC: PP

CAUSTIC DOSING TANK
 QTY: 1No
 CAP: 200 Ltrs.
 MOC: FRP
 MIXER FOR CAUSTIC DOSING TANK
 QTY: 1No
 MOC: MSRL

SODIUM HYPOCHLORITE PUMPS
 MAINTENANCE/RECOVERY CLEANING
 QTY : 2 No's(1W+1S).
 CAP: 36-321 LPH @ 2 bar
 MOC: PP

SODIUM HYPOCHLORITE DOSING TANK FOR MBR CLEANING
 QTY: 1No
 CAP: 200 Ltrs.
 MOC: FRP

CITRIC ACID PUMPS
 MAINTENANCE/RECOVERY CLEANING
 QTY : 2 No's(1W+1S).
 CAP: 68-126 LPH @ 2 bar
 MOC: PP

CITRIC ACID DOSING TANK
 QTY: 1No
 CAP: 200 Ltrs.
 MOC: FRP
 MIXER FOR CITRIC ACID DOSING TANK
 QTY: 1No
 MOC: SS316

SODIUM HYPOCHLORITE DOSING PUMP
 QTY: 2 Nos.(1W+1S)
 CAP: 5 LPH @ 2 bar
 MOC: PP

SODIUM HYPOCHLORITE DOSING TANK FOR MBR PERMEATE
 QTY: 1No
 CAP: 100 Ltrs.
 MOC: FRP

POLYELECTROLYTE DOSING PUMP
 QTY: 2 Nos.(1W+1S)
 CAP: 0-200 LPH @ 2 BAR
 MOC: PP

POLYELECTROLYTE DOSING TANK
 QTY: 2 Nos.
 CAP: 1m³ EACH
 MOC: FRP
 MIXER FOR POLYELECTROLYTE DOSING TANK
 QTY: 2 Nos.
 MOC: SS304

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REV	DESCRIPTION	ECO	DWN	APPR	APPR	DATE
B	REVISED PER CLIENT COMMENTS			KJ	KR	26 Jul 18
A	INITIAL RELEASE			KJ	RS	25 Jul 18

TOLERANCES UNLESS NOTED
DECIMALS .x
ANGLES
FRAC .xx



CUSTOMER INFORMATION
 IIT HYDERABAD
 650 KLD STP-1

PROCESS FLOW DIAGRAM

DRAWING NUMBER					REVISION
6038727-AM-01					B
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6038727				A1	2 OF 2

PIPING & INSTRUMENT DIAGRAM

IIT HYDERABAD

650 KLD STP-1



Suez

Water Technologies and Solutions

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Suez Water Technologies and Solutions	
DRAWING ISSUED FOR	
<input type="checkbox"/> INFORMATION	<input type="checkbox"/> REFERENCE
<input type="checkbox"/> CONSTRUCTION	<input type="checkbox"/> TENDER
<input type="checkbox"/> MANUFACTURING	<input type="checkbox"/> PROCUREMENT
<input checked="" type="checkbox"/> APPROVAL	<input type="checkbox"/> AS BUILT
SIGNATURE	DATE
	25.JUL.18

REV	DESCRIPTION	ECO	DWN	APPR	APPR	DATE	
B	REVISED PER CLIENT COMMENTS			KJ	KR	SK	26 Jul 18
A	INITIAL RELEASE			KJ	KR	SK	24 Jul 18

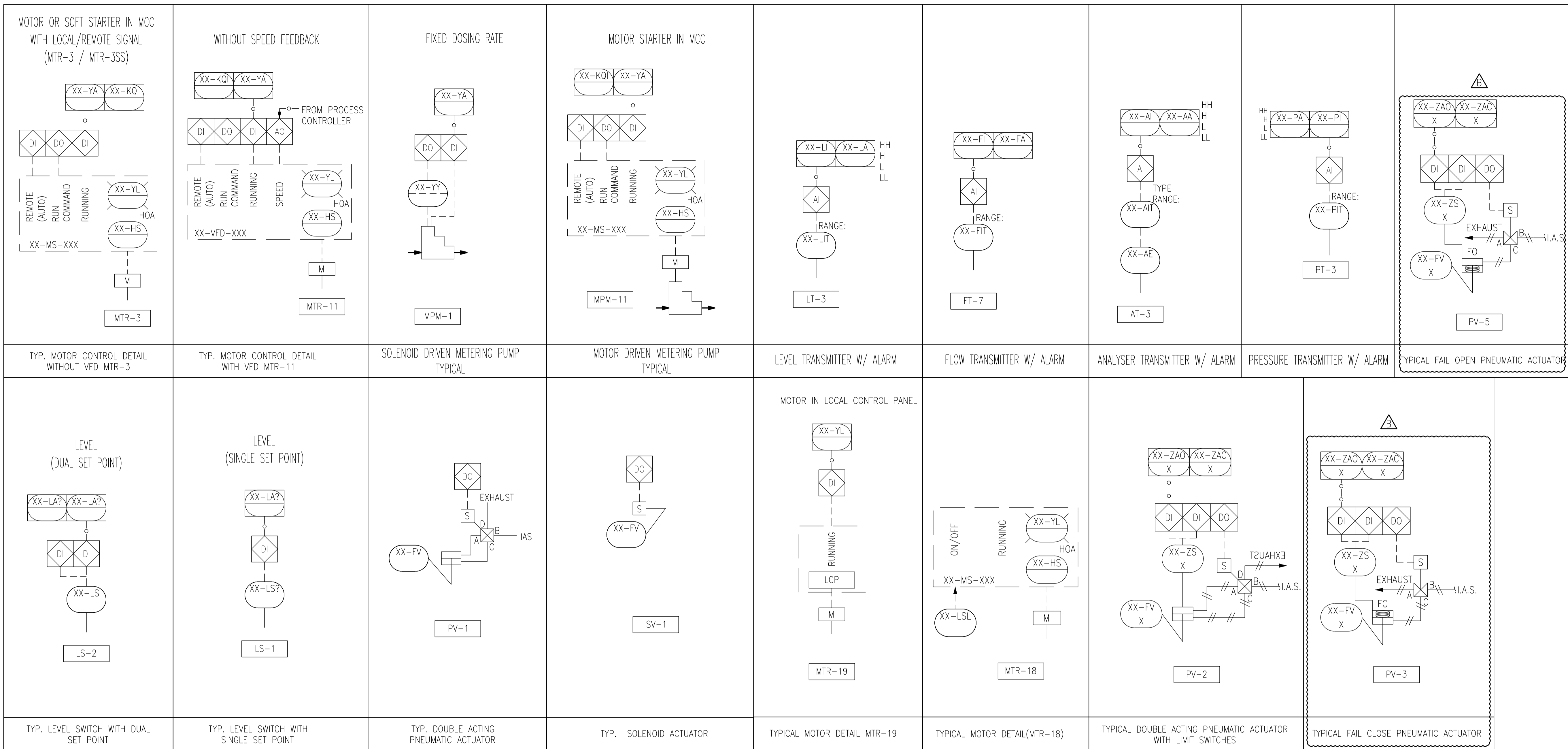
TOLERANCES UNLESS NOTED	
DECIMALS	ANGLES
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CUSTOMER INFORMATION
IIT HYDERABAD 650 KLD STP-1

PIPING & INSTRUMENT DIAGRAM
COVER SHEET

DRAWING NUMBER		REVISION	
6038727-AA-01		B	
REF.:-	DOC. OWNER:		
PROJECT NO.	PART/MATERIAL NO.	SCALE	SIZE
6038727			A1
			SHEET
			1 OF 1



PROCESS AREA CLASSIFICATION	
03	- INFLUENT COLLECTION, PUMPING & TRANSFER
08	- PRETREATMENT SYSTEM
15	- BIOTREATMENT CHEMICALS
16	- BIOLOGICAL SYSTEM
20	- MBR SYSTEM
23	- MBR CLEANING CHEMICALS
71	- SOFTENER
80	- SLUDGE HANDLING SYSTEM
90	- COMPRESSED AIR SYSTEM
92	- SERVICE WATER SYSTEM

TOLERANCES UNLESS NOTED	
DECIMALS	ANGLES
.x	FRAC
.xx	

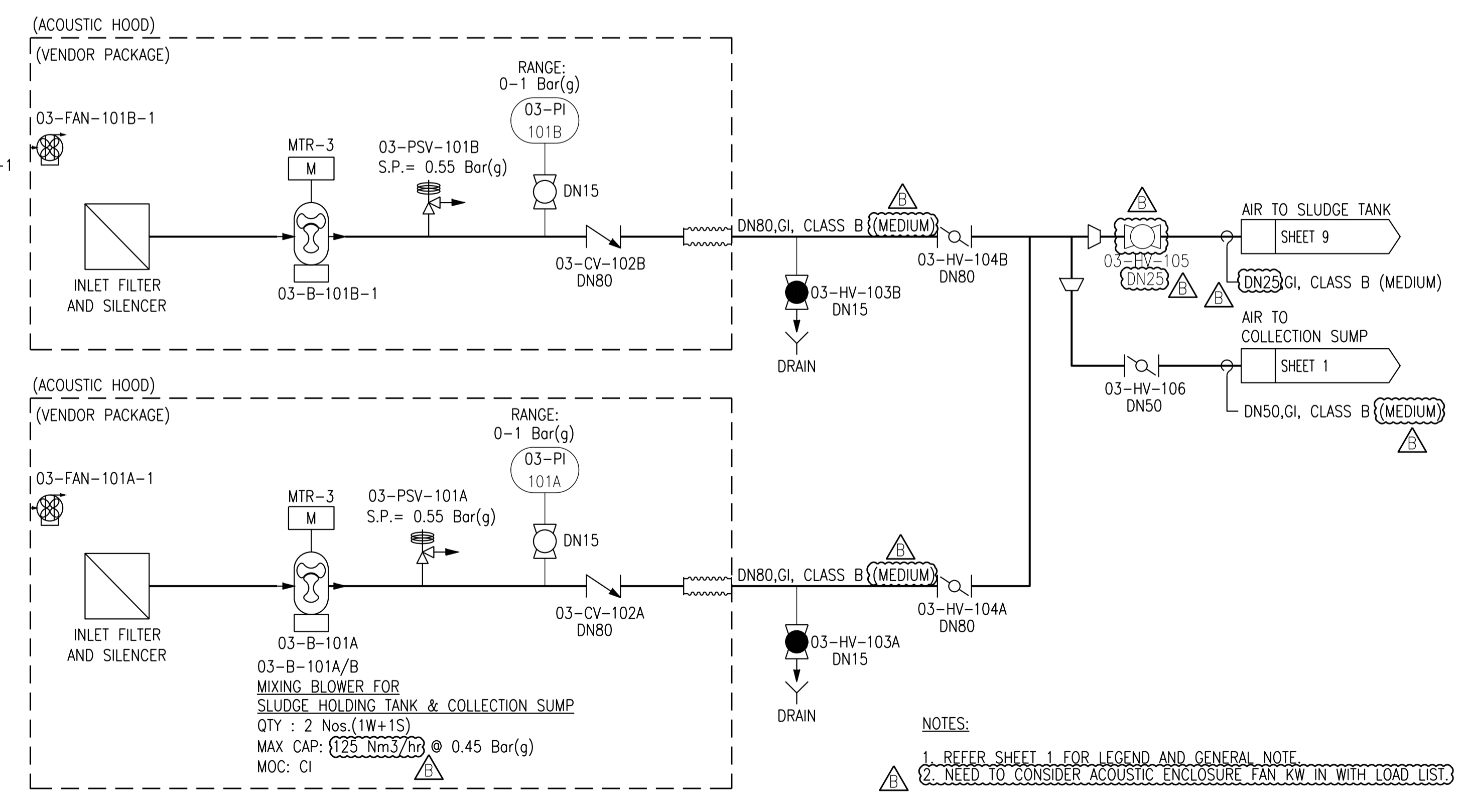
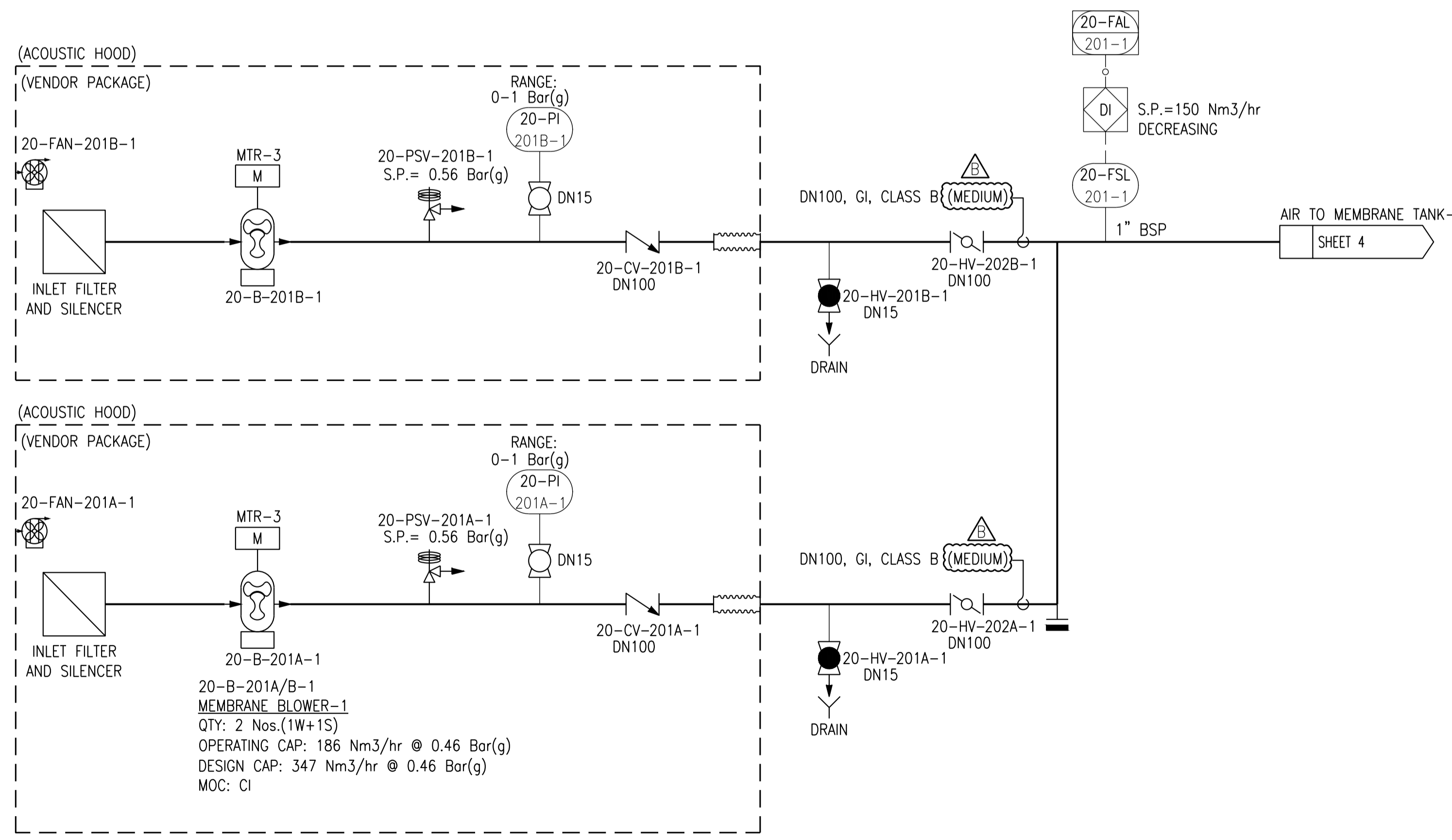
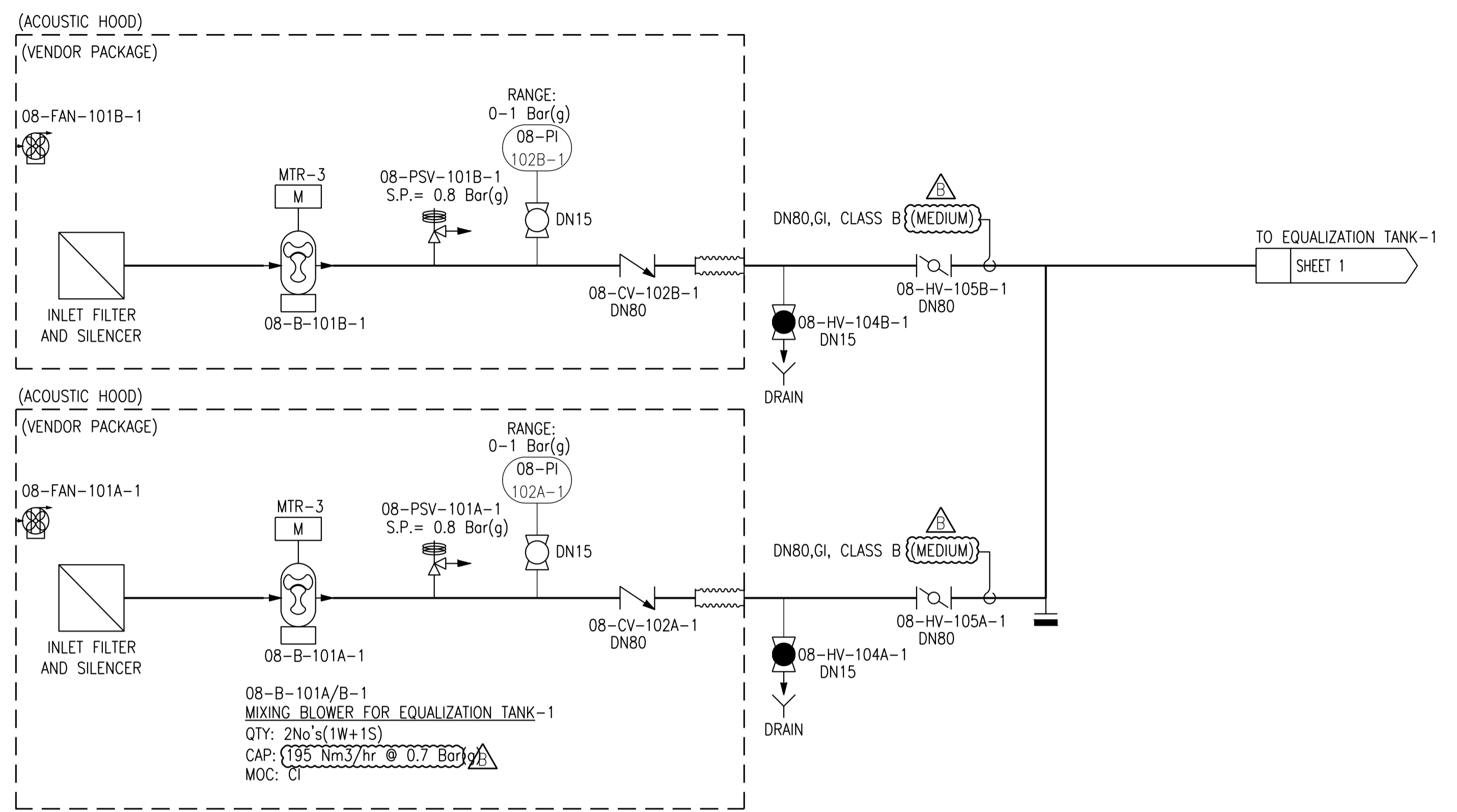
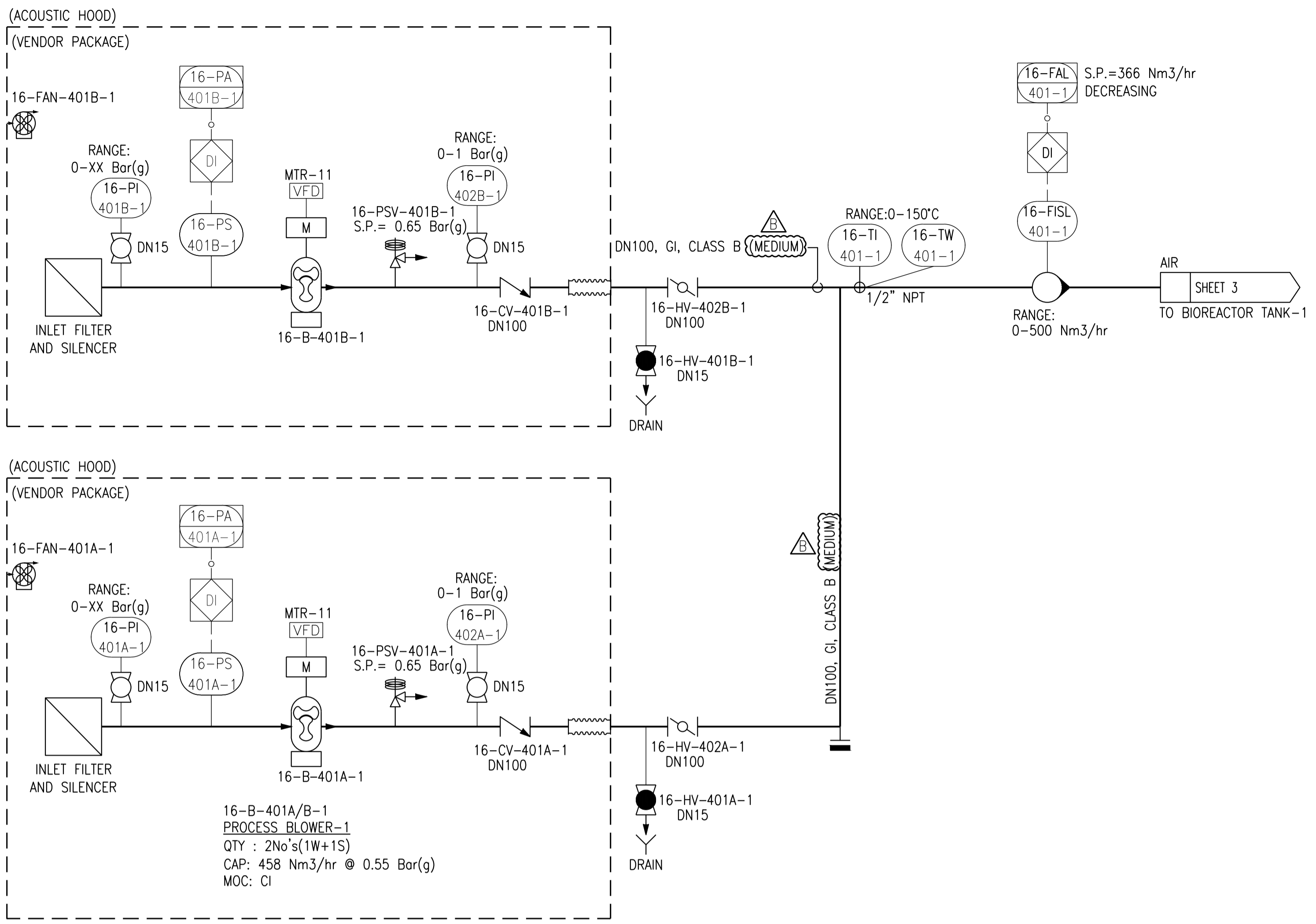


CUSTOMER INFORMATION
IIT HYDERABAD
650 KLD STP-1

PIPING & INSTRUMENT DIAGRAM
LEGEND & SYMBOLS

DRAWING NUMBER		REVISION	
6038727-AA-02		B	
PROJECT NO.	PART/MATERIAL NO.	SCALE	SHEET
6038727		A1	3 OF 3

REV	DESCRIPTION	ECO	DWN	APPR	DATE
B	REVISED PER CLIENT COMMENTS			KJ KR SK	26 Jul 18
A	INITIAL RELEASE			KJ KR SK	24 Jul 18



NOTES:
 1. REFER SHEET 1 FOR LEGEND AND GENERAL NOTE.
 2. NEED TO CONSIDER ACOUSTIC ENCLOSURE FAN KW IN WITH LOAD LIST.

REV	DESCRIPTION	ECO	DWN	APPR	DATE
B	REVISED PER CLIENT COMMENTS			KJ KR SK	26 Jul 18
A	INITIAL RELEASE			KJ KR SK	17 Jul 18

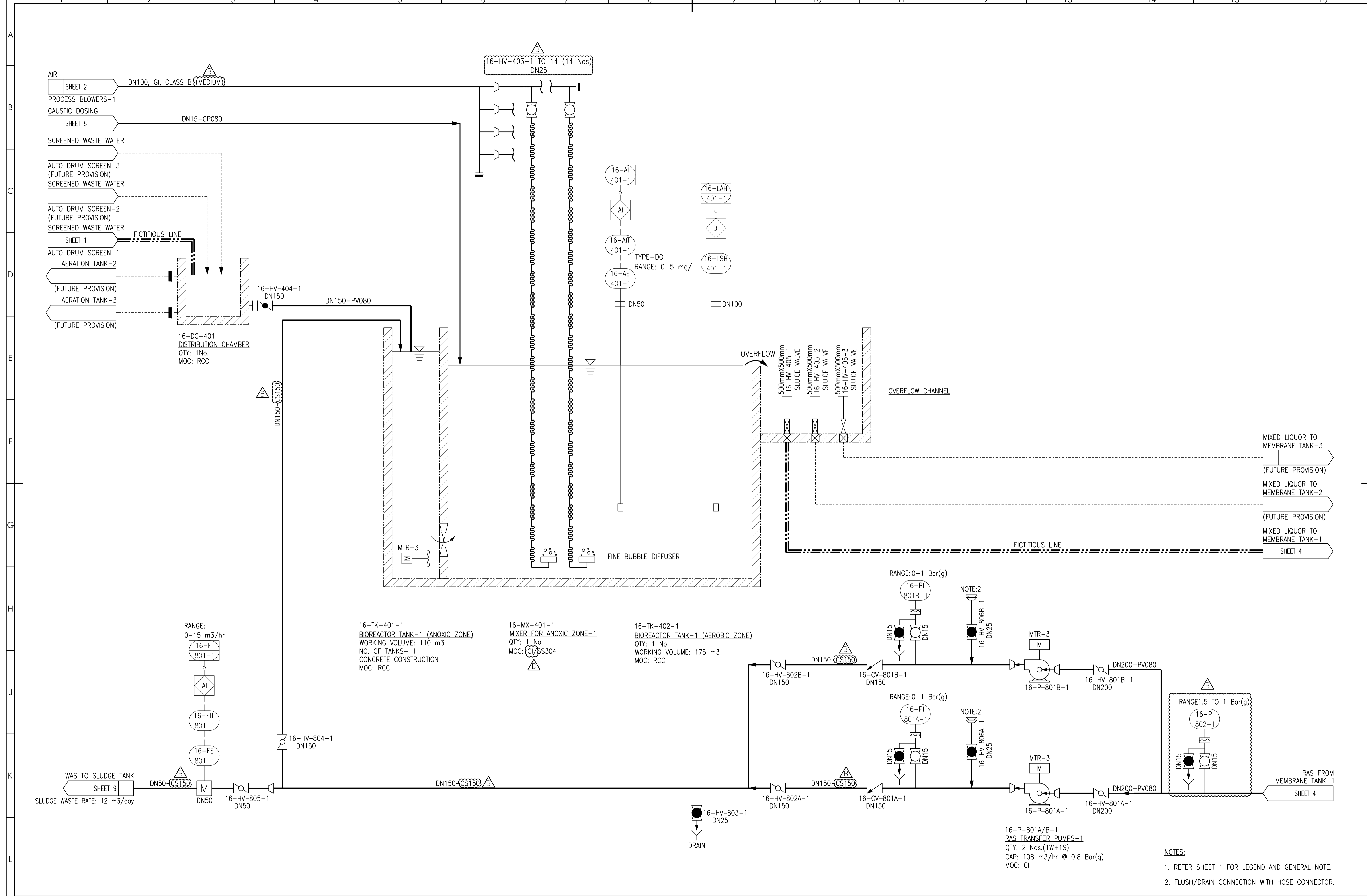
TOLERANCES UNLESS NOTED	
DECIMALS	ANGLES
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CUSTOMER INFORMATION
 IIT HYDERABAD
 650 KLD STP-1

PIPING & INSTRUMENT DIAGRAM
 PROCESS / MIXING / MEMBRANE BLOWER

DRAWING NUMBER		REVISION	
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SCALE	SIZE	SHEET	
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REV	DESCRIPTION	ECO	DWN	APPR	DATE	
B	REVISED PER CLIENT COMMENTS		KJ	KR	SK	26 Jul 18
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TOLERANCES UNLESS NOTED	
DECIMALS	ANGLES
.x	FRAC
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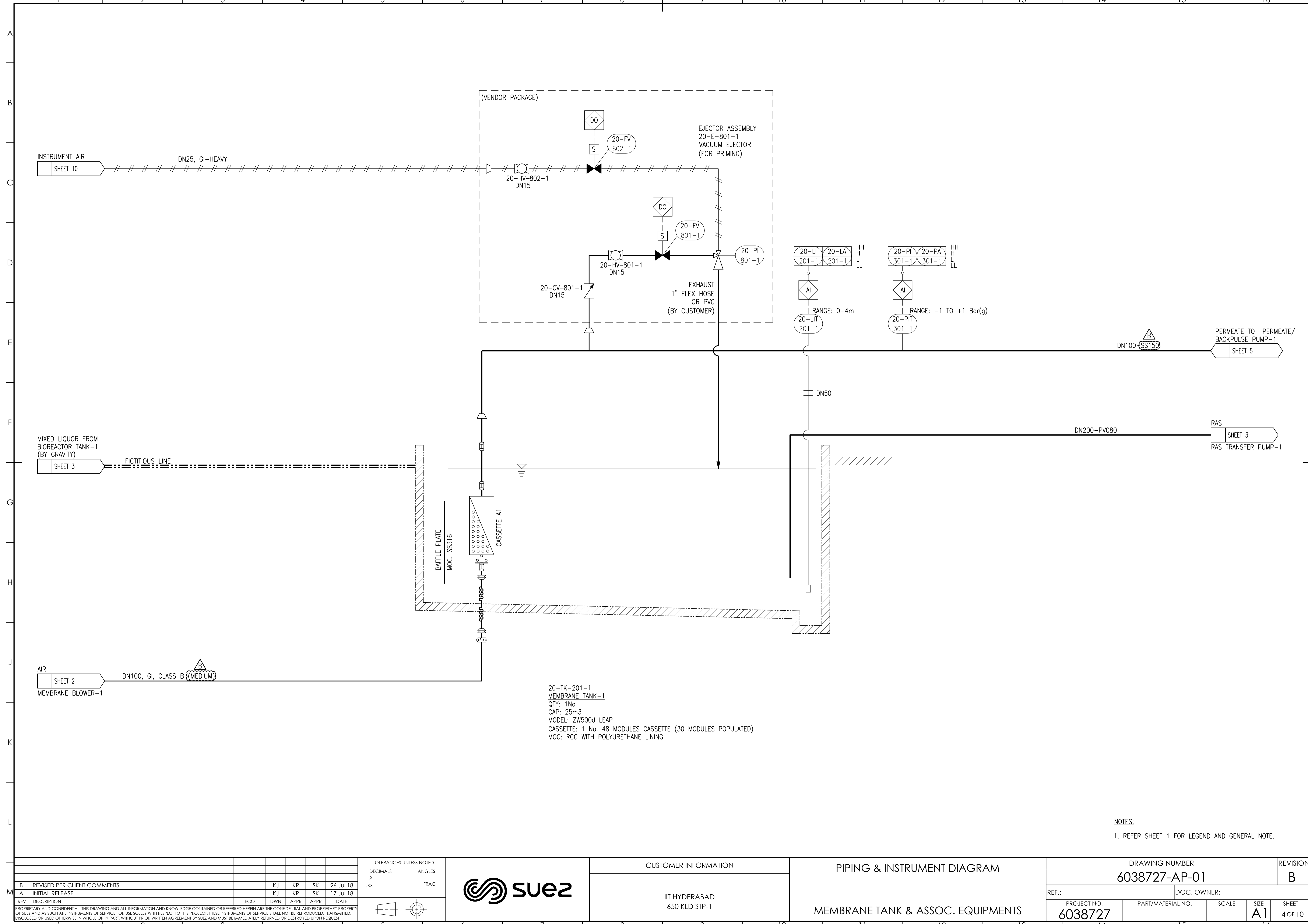


CUSTOMER INFORMATION
IIT HYDERABAD
650 KLD STP-1

PIPING & INSTRUMENT DIAGRAM
BIOREACTOR TANK & ASSOC. EQUIPMENTS

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REF.:-	DOC. OWNER:				
PROJECT NO.	PART/MATERIAL NO.	SCALE	SIZE	SHEET	
6038727			A1	3 OF 10	

- NOTES:
- REFER SHEET 1 FOR LEGEND AND GENERAL NOTE.
 - FLUSH/DRAIN CONNECTION WITH HOSE CONNECTOR.



20-TK-201-1
MEMBRANE TANK-1
 QTY: 1No
 CAP: 25m³
 MODEL: ZW500d LEAP
 CASSETTE: 1 No. 48 MODULES CASSETTE (30 MODULES POPULATED)
 MOC: RCC WITH POLYURETHANE LINING

NOTES:
 1. REFER SHEET 1 FOR LEGEND AND GENERAL NOTE.

REV	DESCRIPTION	ECO	DWN	APPR	DATE
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A	INITIAL RELEASE			KJ KR SK	17 Jul 18

TOLERANCES UNLESS NOTED	
DECIMALS	ANGLES
.X	FRAC
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CUSTOMER INFORMATION
 IIT HYDERABAD
 650 KLD STP-1

PIPING & INSTRUMENT DIAGRAM
 MEMBRANE TANK & ASSOC. EQUIPMENTS

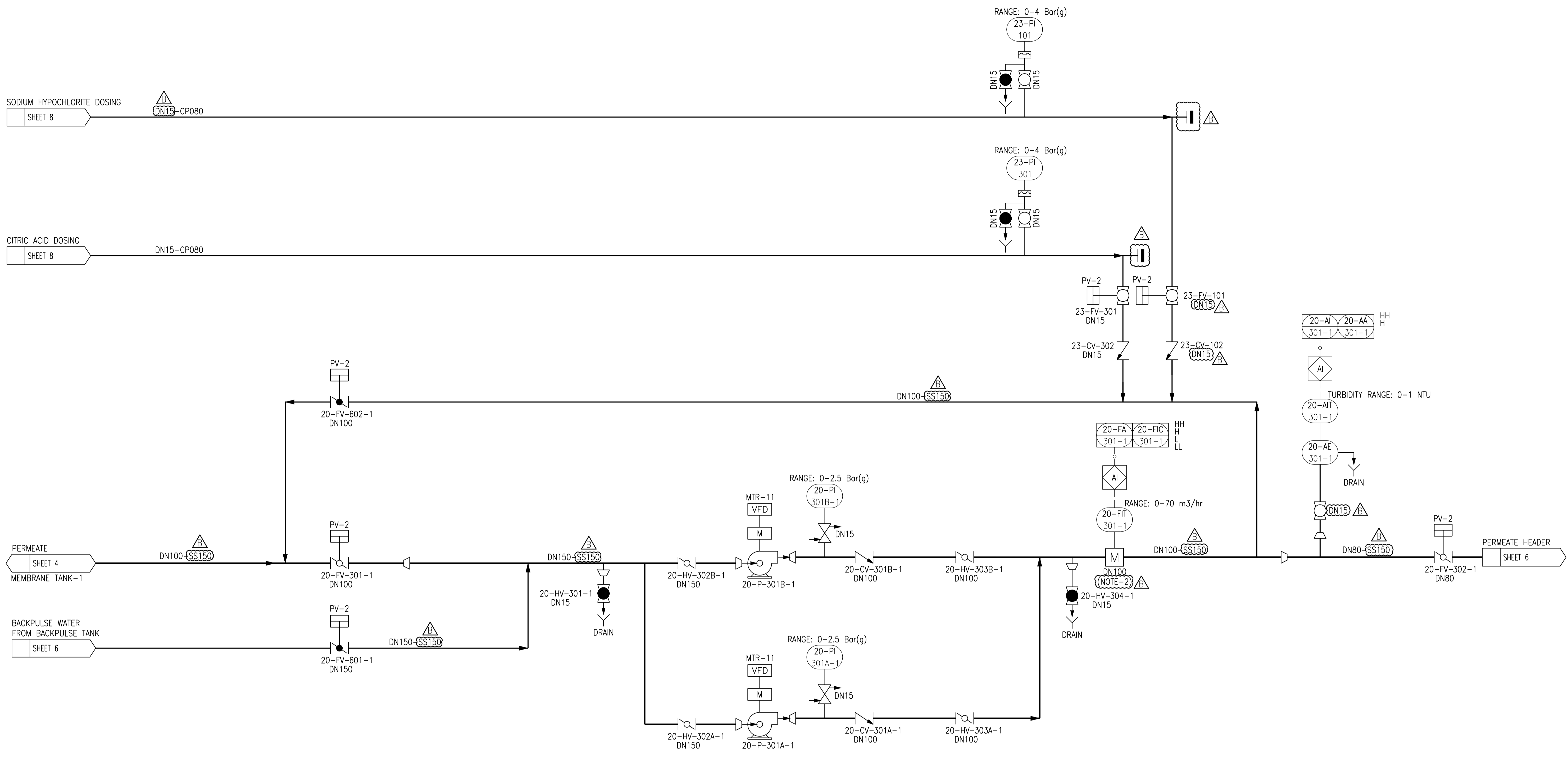
DRAWING NUMBER					REVISION
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REF.:-		DOC. OWNER:			
PROJECT NO.	PART/MATERIAL NO.	SCALE	SIZE	SHEET	
6038727			A1	4 OF 10	

SODIUM HYPOCHLORITE DOSING
SHEET 8

CITRIC ACID DOSING
SHEET 8

PERMEATE
SHEET 4
MEMBRANE TANK-1

BACKPULSE WATER
FROM BACKPULSE TANK
SHEET 6



20-P-301A/B-1
PERMEATE/BACKPULSE PUMP-1
QTY: 2Nos. (1W+1S)
PERMEATE FLOW: 32m³/hr EACH @ 0.72 Bar(g)
BACKPULSE FLOW: 56m³/hr @ 1 Bar(g)
MOC: CI BODY, SS316 IMPELLER

NOTES:
1. REFER SHEET 1 FOR LEGEND AND GENERAL NOTE
2. PIPING DOWNSTREAM OF MAGNETIC FLOW METER TO BE ROUTED UPWARD TO ENSURE MAGNETIC FLOW METER REMAINS FLOODED AT ALL TIME.

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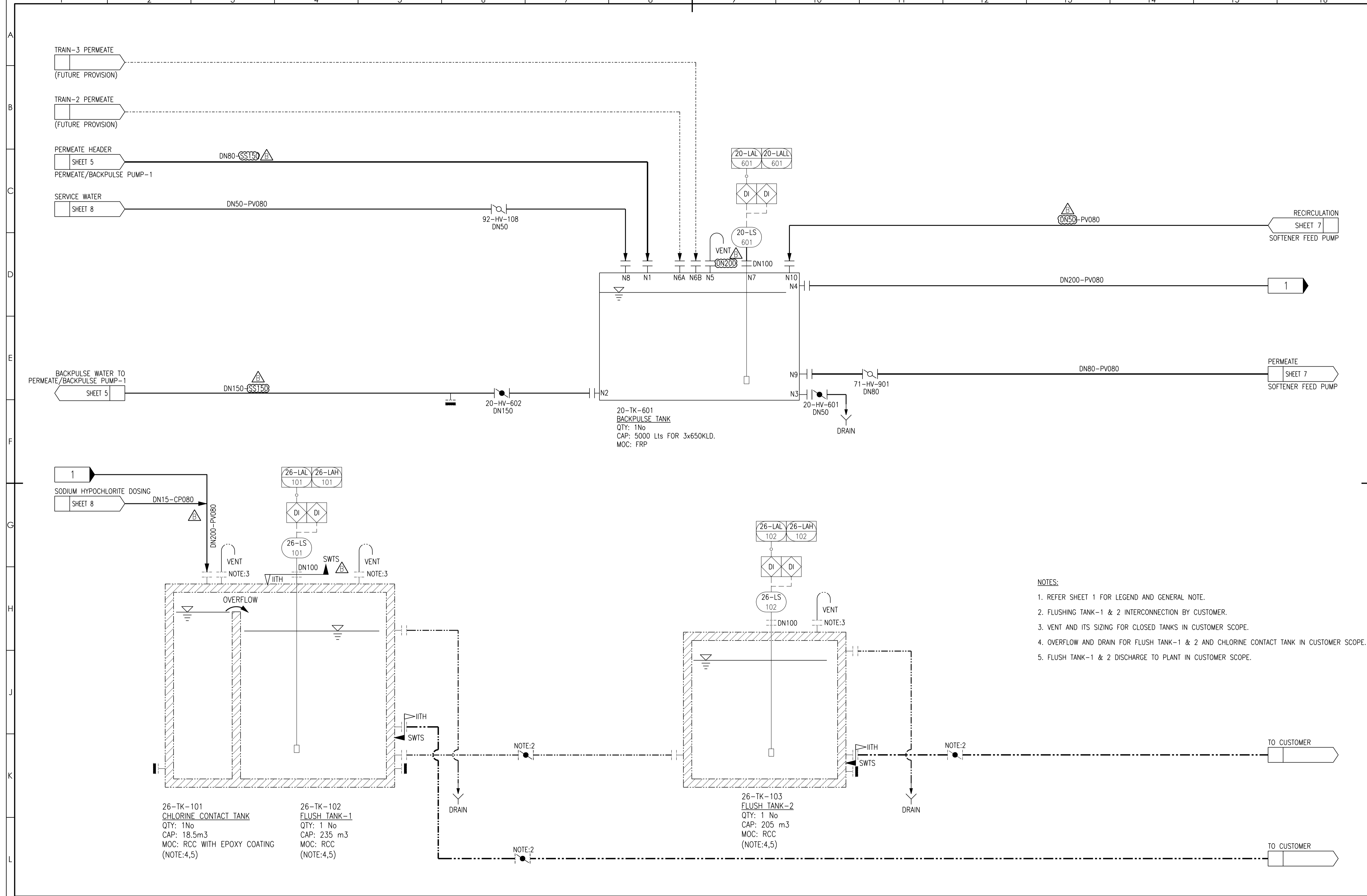
TOLERANCES UNLESS NOTED
DECIMALS .X
ANGLES XX
FRAC



CUSTOMER INFORMATION
IIT HYDERABAD
650 KLD STP-1

PIPING & INSTRUMENT DIAGRAM
PERMEATE / BACKPULSE PUMP

DRAWING NUMBER 6038727-AP-01					REVISION B
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20-TK-601
BACKPULSE TANK
QTY: 1 No
CAP: 5000 Lts FOR 3x650KLD.
MOC: FRP

26-TK-101
CHLORINE CONTACT TANK
QTY: 1 No
CAP: 18.5m³
MOC: RCC WITH EPOXY COATING
(NOTE:4,5)

26-TK-102
FLUSH TANK-1
QTY: 1 No
CAP: 235 m³
MOC: RCC
(NOTE:4,5)

26-TK-103
FLUSH TANK-2
QTY: 1 No
CAP: 205 m³
MOC: RCC
(NOTE:4,5)

- NOTES:**
- REFER SHEET 1 FOR LEGEND AND GENERAL NOTE.
 - FLUSHING TANK-1 & 2 INTERCONNECTION BY CUSTOMER.
 - VENT AND ITS SIZING FOR CLOSED TANKS IN CUSTOMER SCOPE.
 - OVERFLOW AND DRAIN FOR FLUSH TANK-1 & 2 AND CHLORINE CONTACT TANK IN CUSTOMER SCOPE.
 - FLUSH TANK-1 & 2 DISCHARGE TO PLANT IN CUSTOMER SCOPE.

REV	DESCRIPTION	ECO	DWN	APPR	DATE
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TOLERANCES UNLESS NOTED
DECIMALS ANGLES
.X .XX
FRAC



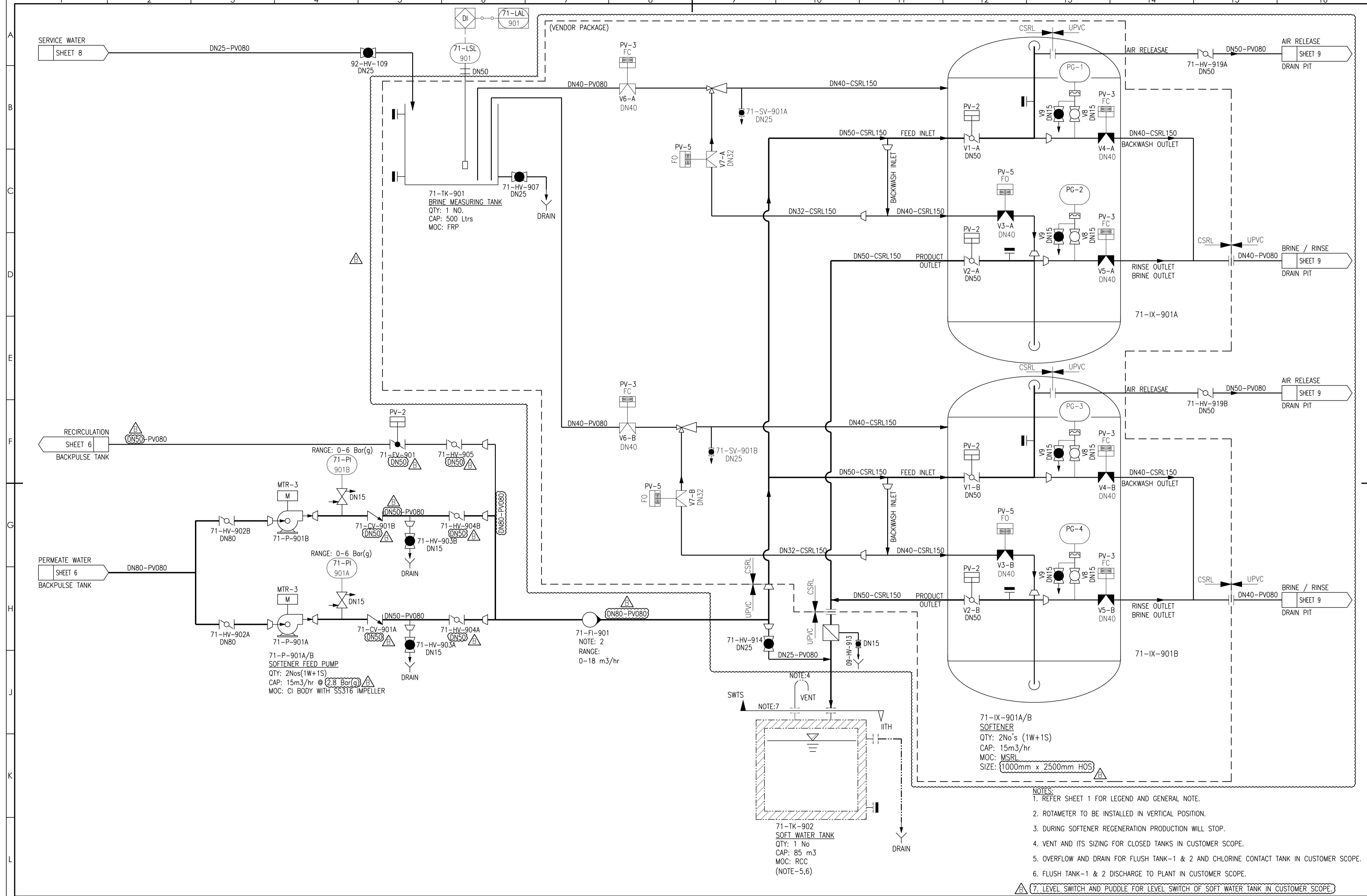
CUSTOMER INFORMATION

IIT HYDERABAD
650 KLD STP-1

PIPING & INSTRUMENT DIAGRAM

BACKPULSE TANK & FLUSH TANK-1&2

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6038727					A1
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- NOTES:**
1. REFER SHEET 1 FOR LEGEND AND GENERAL NOTE.
 2. ROTAMETER TO BE INSTALLED IN VERTICAL POSITION.
 3. DURING SOFTENER REGENERATION PRODUCTION WILL STOP.
 4. VENT AND ITS SIZING FOR CLOSED TANKS IN CUSTOMER SCOPE.
 5. OVERFLOW AND DRAIN FOR FLUSH TANK-1 & 2 AND CHLORINE CONTACT TANK IN CUSTOMER SCOPE.
 6. FLUSH TANK-1 & 2 DISCHARGE TO PLANT IN CUSTOMER SCOPE.
 7. LEVEL SWITCH AND PUDDLE FOR LEVEL SWITCH OF SOFT WATER TANK IN CUSTOMER SCOPE.

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TOLERANCES UNLESS NOTED	
DECIMALS	ANGLES
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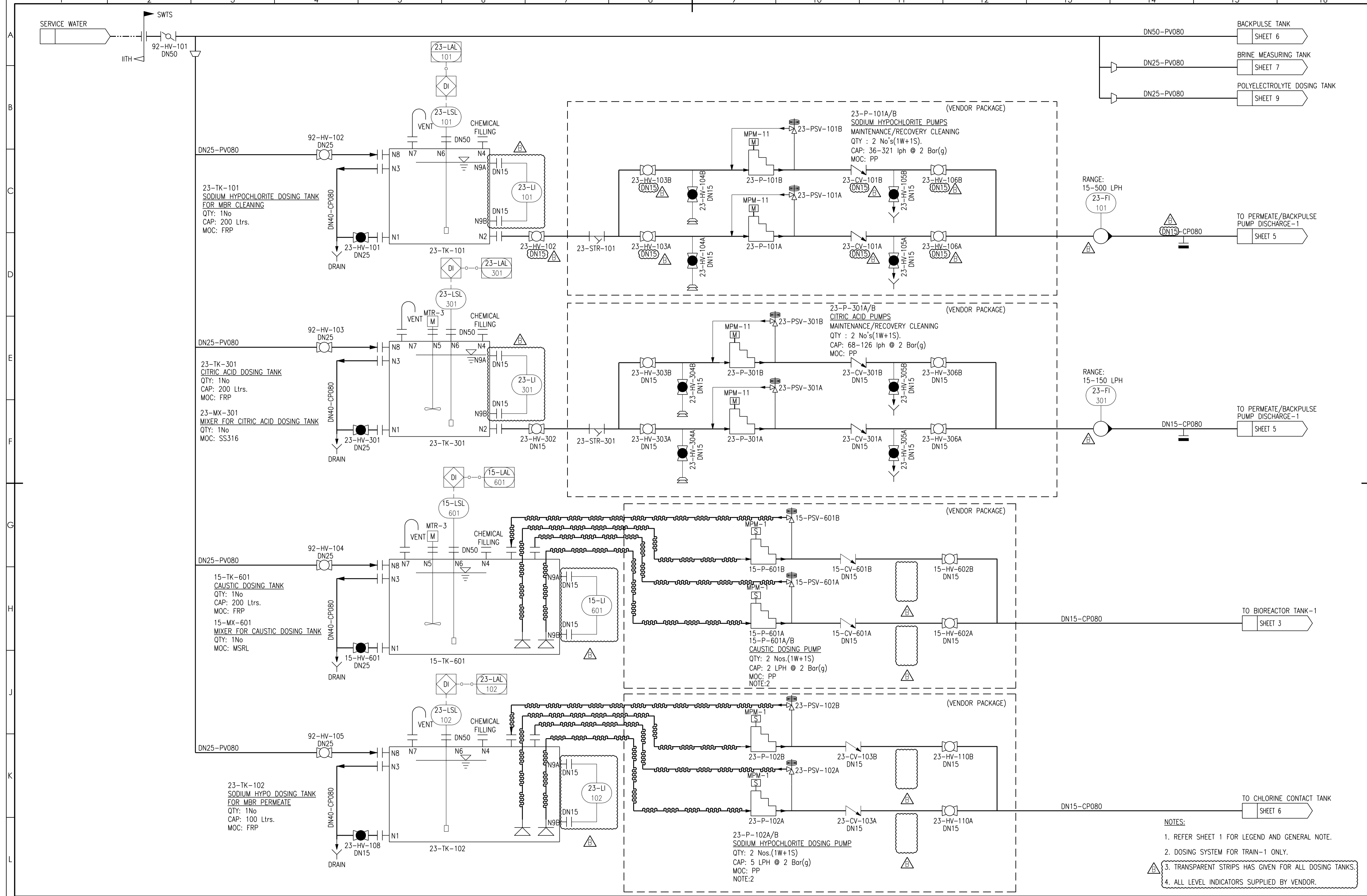
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IIT HYDERABAD
650 KLD STP-1

PIPING & INSTRUMENT DIAGRAM

SOFTENER

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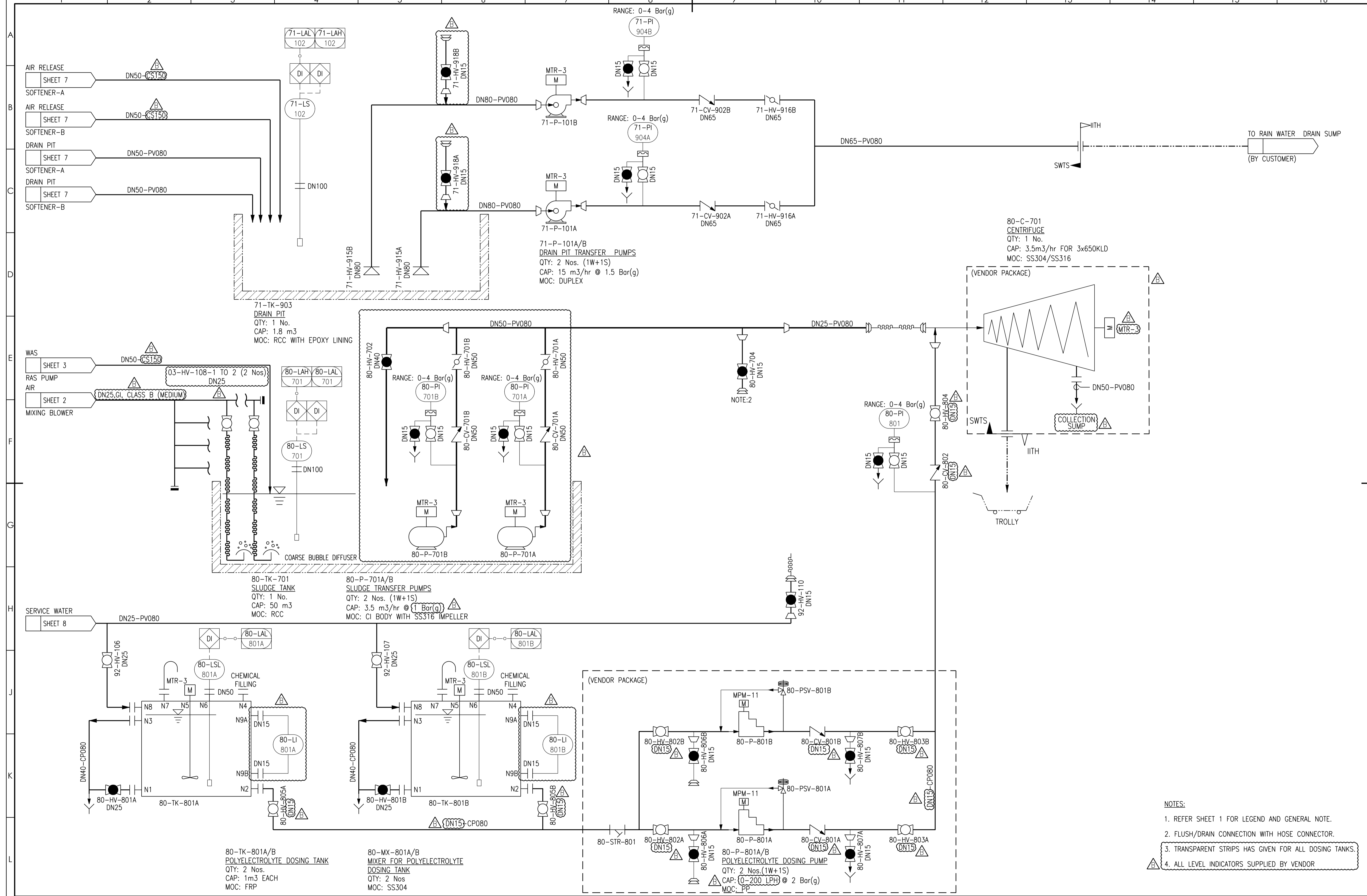
TOLERANCES UNLESS NOTED	DECIMALS	ANGLES
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CUSTOMER INFORMATION
 IIT HYDERABAD
 650 KLD STP-1

PIPING & INSTRUMENT DIAGRAM
 CHEMICAL DOSING SYSTEM

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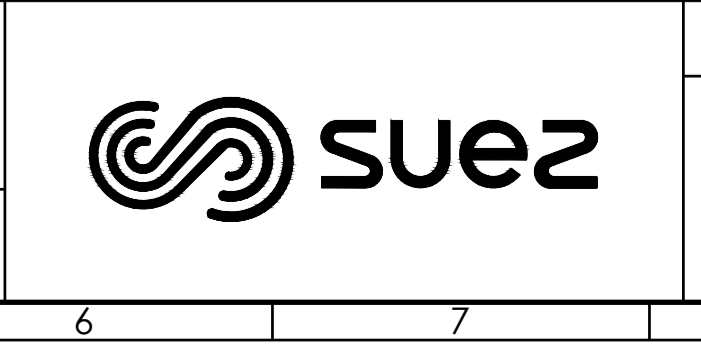


- NOTES:**
- REFER SHEET 1 FOR LEGEND AND GENERAL NOTE.
 - FLUSH/DRAIN CONNECTION WITH HOSE CONNECTOR.
 - TRANSPARENT STRIPS HAS GIVEN FOR ALL DOSING TANKS.
 - ALL LEVEL INDICATORS SUPPLIED BY VENDOR

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TOLERANCES UNLESS NOTED

DECIMALS	ANGLES
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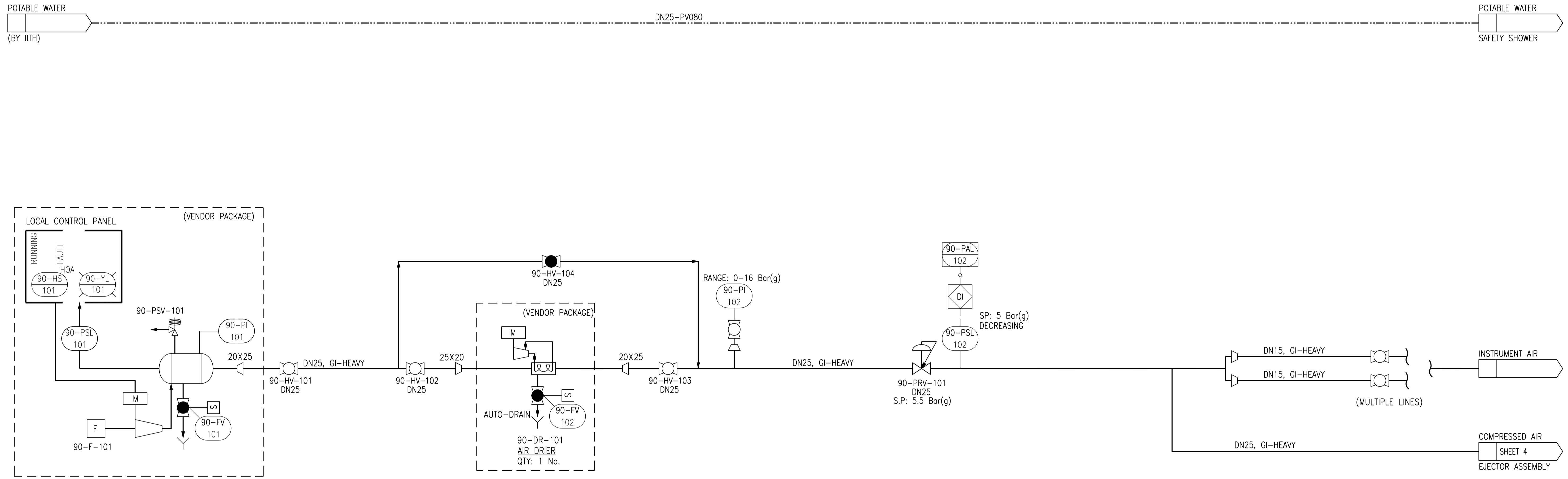
CUSTOMER INFORMATION

IIT HYDERABAD
650 KLD STP-1

PIPING & INSTRUMENT DIAGRAM

SLUDGE HANDLING SYSTEM

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90-AC-101
AIR COMPRESSOR
QTY: 1 No (1W)
CAP: 20 m³/hr @ 7 Bar(g)

90-TK-101
COMPRESSED AIR RECEIVER TANK
QTY: 1 No

NOTES:
1. REFER SHEET 1 FOR LEGEND AND GENERAL NOTE.

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DECIMALS	ANGLES
.X	FRAC
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PIPING & INSTRUMENT DIAGRAM
AIR COMPRESSOR SYSTEM

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