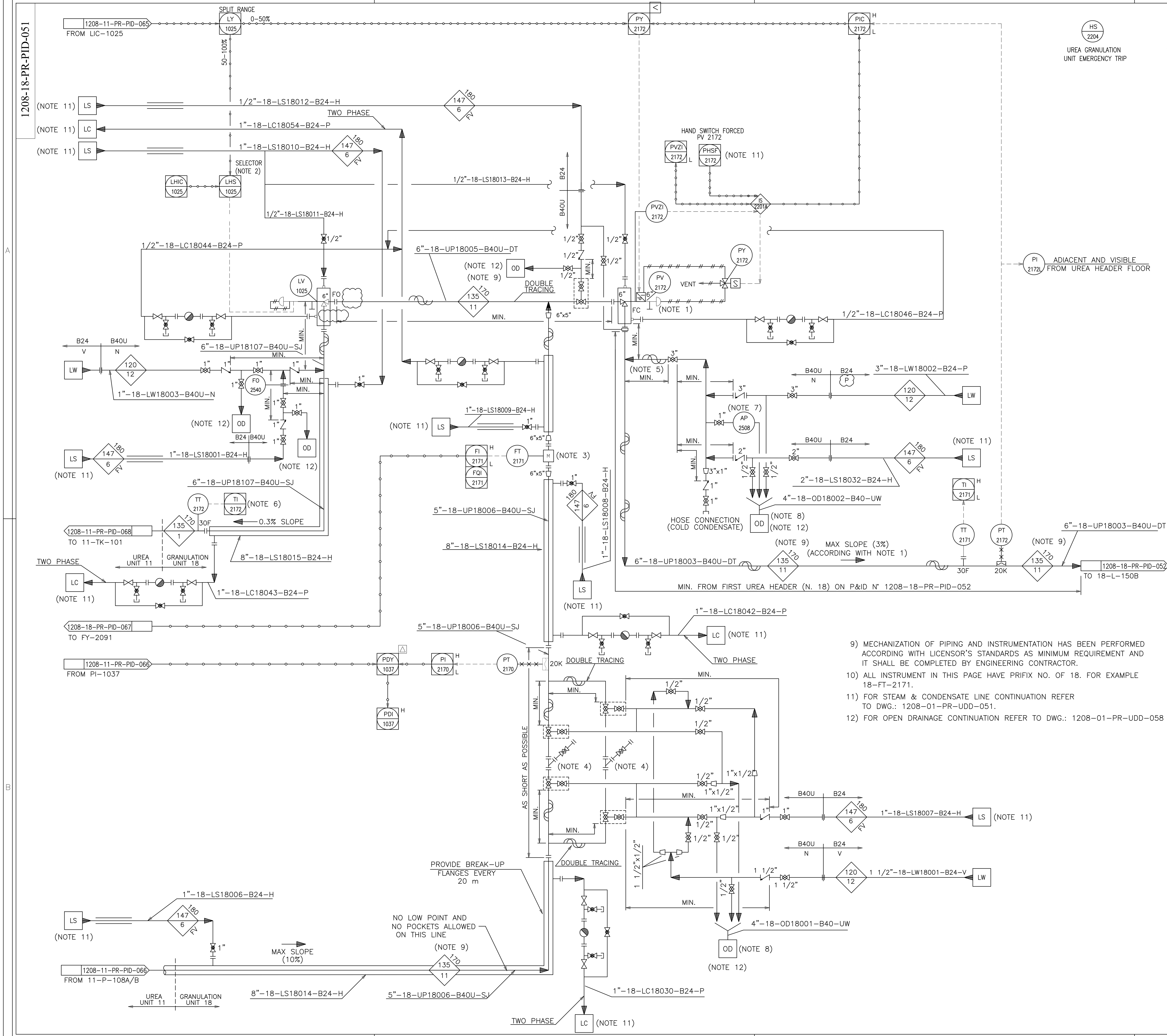


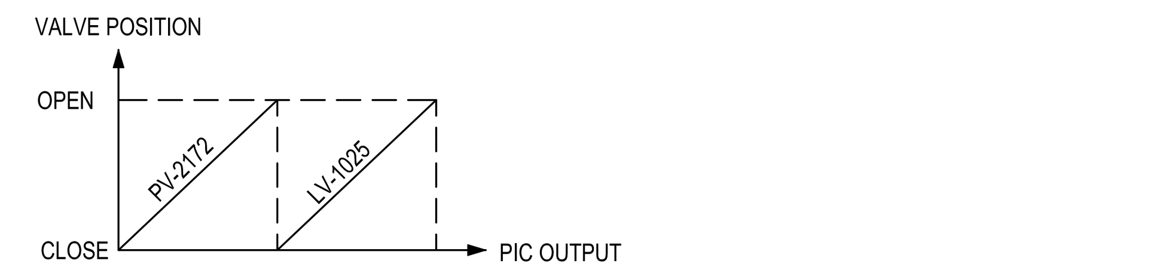
REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

NOTES:

1) PV-2172 CONTROL VALVE TO BE LOCATED AT THE HIGHEST POINT BUT LOWER THAN PERFORATED PLATE OF 18-L-150 B.
2) HS-1025 SETS THE FOLLOWING POSITIONS:

POSITION	MODE	SIGNAL
1	NORMAL	LIC 1025 TO LV 1025
2	HAND	LHIC 1025 TO LV 1025

3) UPSTREAM STRAIGHT RUN 5 TIMES FLOWMETER INLET DIAMETER, DOWNSTREAM STRAIGHT RUN 2 TIMES FLOWMETER OUTLET DIAMETER (TO BE CONFIRMED BY VENDOR). NO TRACING HAS TO BE PROVIDED ON INSTRUMENT BODY.
4) STRAINER GAUGES 20 MESH (850 μm).
5) TAPPING POINT FROM THE TOP OF THE MAIN LINE.
6) TT-2172 SHALL BE PLACED BETWEEN JACKETING BREAK-UPS (REFER TO P&ID. 1208-11-PR-PID-068).
7) FOR SAMPLE CONNECTION AND PIPING ARRANGEMENT REFER TO P&ID. 1208-11-PR-PID-080/081.
8) NUMBER OF OD FUNNEL/LINES HAS TO BE OPTIMIZED ACCORDING TO LAY-OUT.
9) PROCESS DESIGN CONDITIONS SHALL BE CONSIDERED INDEPENDENTLY (BUT NOT SIMULTANEOUSLY) FOR EACH OF FOLLOWING SCENARIOS:
   A) DURING NORMAL OPERATION WITH UREA SOLUTION FLOWING INTO PIPING: DESIGN PRESSURE= 11 barg; DESIGN TEMPERATURE= 170°C;
   B) DURING WASHING SCENARIO USING LW FLUID: DESIGN PRESSURE= 12 barg; DESIGN TEMPERATURE= 120°C.
10) 18-LV-1025 & 18-PV-2172 OPERATE IN SPLIT RANGE AS SHOWN:
11) FOR FUNCTION OF HSF, PLEASE REFER TO C&E DOCUMENT



GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.

9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) ALL INSTRUMENT IN THIS PAGE HAVE PRIFIX NO. OF 18. FOR EXAMPLE 18-FT-2171.
11) FOR STEAM & CONDENSATE LINE CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-051.
12) FOR OPEN DRAINAGE CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-058

LICENSOR REF. : P81

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
04	07.01.2024	APPROVED FOR CONSTRUCTION	S.Alizadeh	A.R.Nazi	A.Azma	M.Saremi
03	16.08.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Fakhraei	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanahi	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mirzaie	A.Habibi	A.Azma	M.Saremi

OWNER : Persian Gulf Petrochemical Industries Co. PGPIC

MC : Persian Gulf Petrochemical Industries Co. PGPIC

EPCC CONTRACTOR : PIDEC

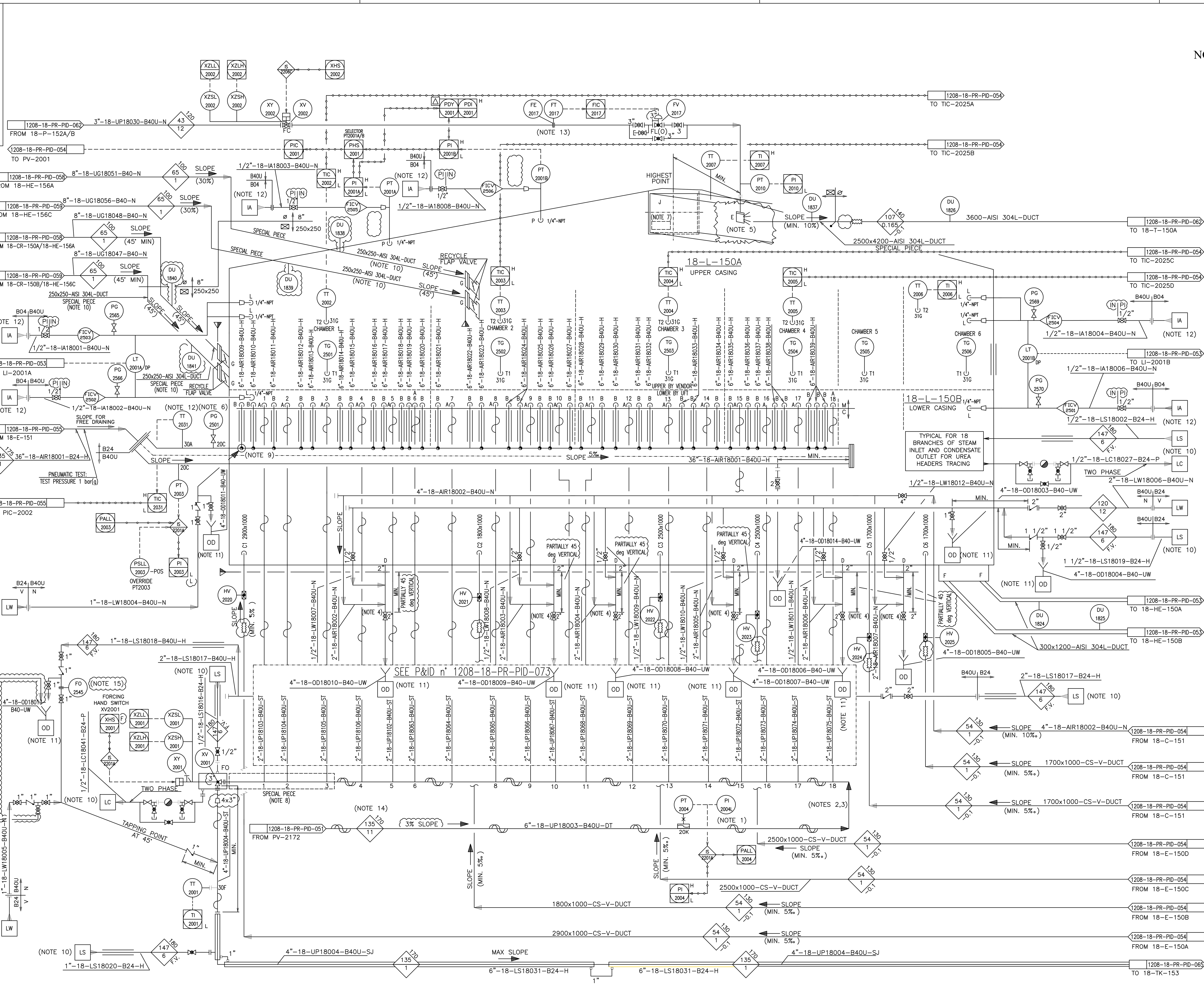
PROJECT : HENGAM FERTILIZER PROJECT

TITLE :

PIPING AND INSTRUMENT DIAGRAM
GRANULATOR FEED SYSTEM

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. : 1208-18-PR-PID-051	REV. 04	SIZE : A2
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208			

1208-18-PR-PID-052



18-L-150A/18-L-150B
GRANULATOR UPPER CASING AND LOWER CASING
UREA CAPACITY : 172445.9 kg/hr
DIMENSION : 18242L x 4311W x 11000H
DESIGN PRESS. : 165 mbarg -100 mbarg
DESIGN TEMP. : 140°C
INSULATION : YES (UPPER)
MATERIAL : AISI304L
TRIM LINE NO. : 18-UP18062-B40U-ST

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

NOTES:

1) TO BE VISIBLE FROM UREA HEADER, CLOSE TO INJECTION POINT N°18.
2) LINE TO BE AT MIN. DISTANCE FROM PV2172.
3) THE RESIDENCE TIME OF UREA SOLUTION FROM UF85 INJECTION POINT AT 11-P-108A/B SUCTION LINE (REFER TO P&ID. 1208-11-PR-PID-066) TO HEADER N°. 18 MUST BE MINIMUM 30 SEC, MAX 45 SEC.
4) MANUAL VALVES TO BE ACCESSIBLE FROM PLATFORM ALONG 18-L-151 SLIDING DOORS.
5) FOR SPRAY NOZZLE SEE DETAIL "C" ON P&ID. 1208-18-PR-PID-074.
6) VISIBLE FROM UREA HEADER FLOOR.
7) DUCT INSPECTION WINDOW HAS TO BE PROVIDED IN ORDER TO ENSURE ACCESSIBILITY FOR VISUAL INSPECTION.
8) FOR SPECIAL PIECE ARRANGEMENT SEE DETAIL "D" ON P&ID. 1208-18-PR-PID-074.
9) SEE DETAIL "B" ON P&ID. 1208-18-PR-PID-074.
10) GRANULATOR INLET CHUTES AT 45° SLOPE TO BE AS SHORT AS POSSIBLE.
11) NUMBER OF FUNNEL/LINES HAS TO BE OPTIMIZED ACCORDING TO LAY-OUT.
12) THERMOWELL TAPPING TO BE LOCATED ON UPPER TANGENT LINE AND ON STRAIGHT PART OF PIPING.
13) SEE DETAIL "F" ON P&ID. 1208-18-PR-PID-074.
14) SAME AS PER NOTE 9 ON P&ID. 1208-18-PR-PID-051.
15) FOR FUNCTION OF HSF, PLEASE REFER TO C&E DOCUMENT.

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMETERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) FOR STEAM & CONDENSATE LINE CONTINUATION REFER TO DWG. : 1208-01-PR-UDD-051.
11) FOR OPEN DRAIN CONTINUATION REFER TO DWG. : 1208-01-PR-UDD-058.
12) FOR INSTRUMENT AIR CONTINUATION REFER TO DWG. : 1208-01-PR-UDD-052.
13) ALL INSTRUMENT IN THIS PAGE HAVE PRIFIX NO. OF 18. FOR EXAMPLE 18-HV-2024.

EQUIPMENT LIST

18-L-150A
18-L-150B

LICENSOR REF. : P82

DE	EXT	AFC	A	
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action	

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
03	20.09.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION(WITH HOLD)	M.Fakhraie	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanahi	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mirzaie	A.Habibi	A.Azma	M.Saremi

OWNER : Persian Gulf Petrochemical Industries Co. PGPIC

MC : Persian Gulf Petrochemical Industries Co. PGPIC

EPCC CONTRACTOR : PIDEC

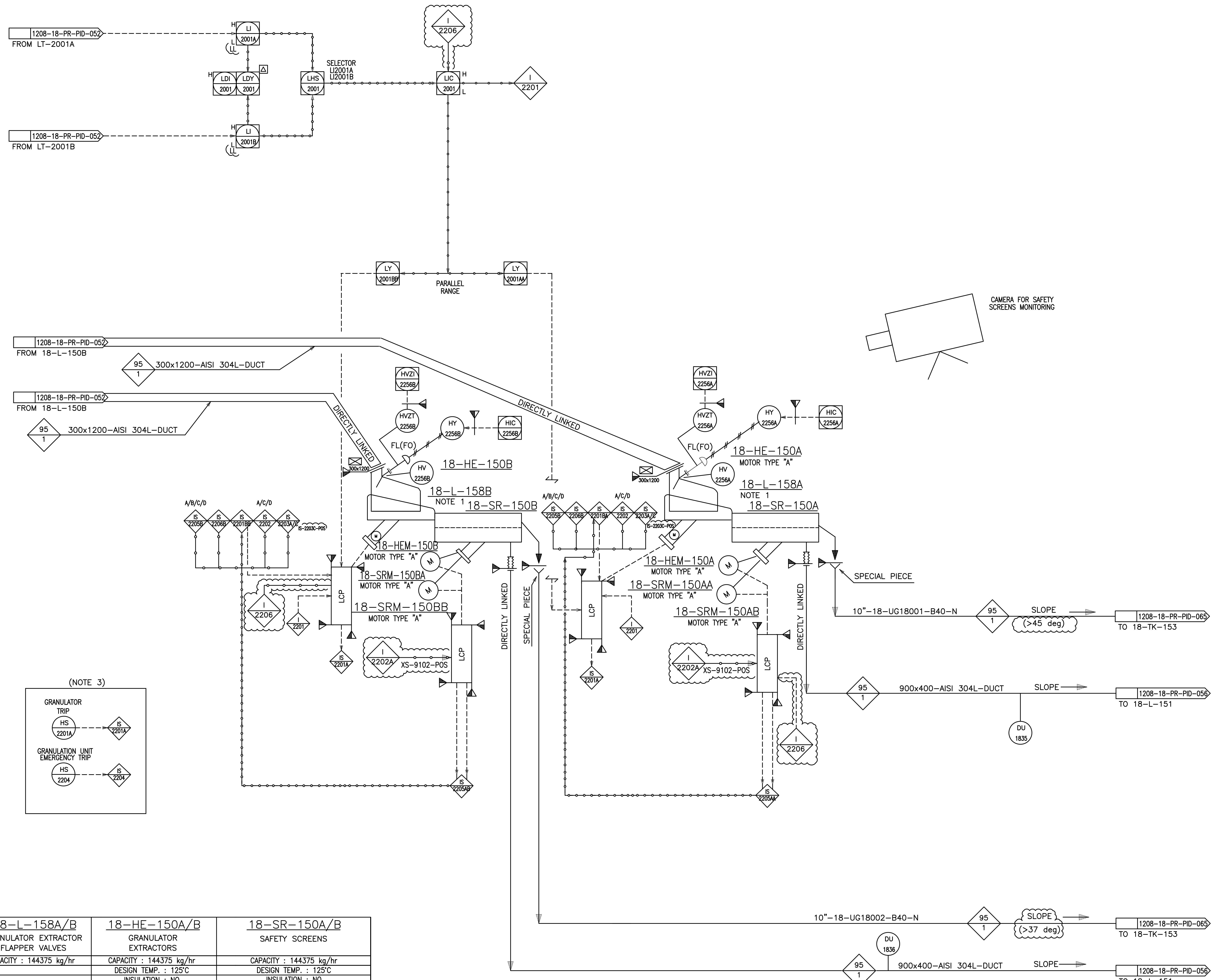
PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
GRANULATOR

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. :	REV.	SIZE :
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208	1208-18-PR-PID-052	03	A2

1208-18-PR-PID-053

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01



NOTES:

1) ELEVATION BETWEEN VALVES 18-L-158A/B AND PERFORATED PLATE OF GRANULATOR MUST BE > 2.8m.
2) DELETED.
3) PUSH BUTTONS LOCATED ON HARDWIRED CONSOLE IN CENTRAL CONTROL ROOM.

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) ALL INSTRUMENT IN THIS PAGE HAVE PRIFIX NO. OF 18. FOR EXAMPLE 18-HV-2256A.

EQUIPMENT LIST

18-L-158A/B	18-HE-150A/B 18-SR-150A/B

18-L-158A/B	18-HE-150A/B	18-SR-150A/B
GRANULATOR EXTRACTOR FLAPPER VALVES	GRANULATOR EXTRACTORS	SAFETY SCREENS
CAPACITY : 144375 kg/hr	CAPACITY : 144375 kg/hr	CAPACITY : 144375 kg/hr
	DESIGN TEMP. : 125°C	DESIGN TEMP. : 125°C
	INSULATION : NO	INSULATION : NO
	MATERIAL : AISI304L	MATERIAL : AISI304L

LICENSOR REF. : P83

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
03	24.10.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Fakhraie	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanahi	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mirzaie	A.Habibi	A.Azma	M.Saremi

OWNER : Persian Gulf Petrochemical Industries Co. PGPIC

MC : Persian Gulf Petrochemical Industries Co. PGPIC

EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
GRANULATOR EXTRACTORS

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. : 1208-18-PR-PID-053	REV. 03	SIZE : A2
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208			

1208-18-PR-PID-054

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-00

NOTES:

1) FOR DUCT SIZE REFER TO VD-1208-223D1-GAD-001.
2) VALVE TO BE INSTALLED AS CLOSE AS POSSIBLE TO 18-E-150 A/B/C/D.
3) SEAL LENGHT TO BE CONSIDERED FROM BOTTOM PIPES TANGENT LINE.
4) PRESSURE TRANSMITTER TO BE LOCATED AT A DISTANCE MORE THAN 4m FROM 18-C-151 DISCHARGE FLANGE.
5) TO BE INSTALLED SAME ELEVATION SEAL PIPE (UPPER PART) CENTER LINE.
6) ACCESSIBLE AND VISIBLE FROM PLATFORM.
7) MINIMUM DISTANCE TO GRANULATOR.
8) HEIGHTS OF BAROMETRIC LEGS ACCORDING TO FAN SELECTION.
9) TO BE CONFIRMED/DEFINED DURING DETAILED ENGINEERING PHASE AFTER FAN VENDOR SELECTION.
10) REFER TO VD-1208-320-PID-002
11) TWO-PHASE FLOW REINFORCED SUPPORTS.

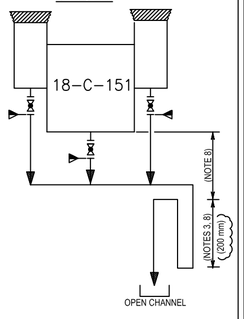
GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-51.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) ALL INSTRUMENT IN THIS PAGE HAVE PRIFIX NO. OF 18. FOR EXAMPLE 18-PG-2511.
11) FOR STEAM & CONDENSATE LINE CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-051.
12) FOR NITROGEN CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-052.

EQUIPMENT LIST

18-F-153	18-V-151
18-L-157	18-C-151
18-E-158	18-E-150A/B/C/D

DETAIL "A"



18-E-150A/B/C/D	18-C-151	18-V-151	18-E-158	18-F-153	18-L-157
GRANULATOR FLUIDIZATION AIR HEATERS	GRANULATOR FLUIDIZATION AIR FAN (PKG)	MOISTURE SEPARATOR AIR CHILLING UNIT FOR GRANULATOR	GRANULATOR FLUIDIZATION AIR CHILLER	AIR INTAKE FILTER	AIR INTAKE SILENCER
DIMENSION : BY VENDOR	RATED CAPACITY : 657314 kg/hr (DRY)	BY 18-C-151 VENDOR	DIMENSION : BY VENDOR	BY 18-C-151 VENDOR	BY 18-C-151 VENDOR
DESIGN PRESS. S/T : 1/8 barg & F.V.			DESIGN PRESS. S/T : BY VENDOR mm H2OG/30 barg		
DESIGN TEMP. S/T : 130/190 °C			DESIGN TEMP. S/T : 85/-33 to 85°C		
INSULATION : YES			INSULATION : YES (COLD)		
	TRIM LINE NO. : 18-AIR18054-B24-V		TRIM LINE NO. : 18-LC18039-B24-V		

LICENSOR REF. : P84

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
03	16.08.2023	APPROVED FOR CONSTRUCTION	P.Xiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION	M.Fakhraei	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanparast	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Milizade	A.Habibi	A.Azma	M.Saremi

OWNER : شرکت پتروشیمی فجر

MC : شرکت پتروشیمی فجر

EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
GRANULATOR FLUIDIZATION AIR

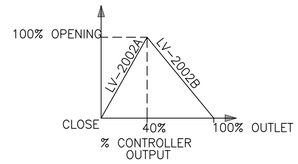
SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. : 1208-18-PR-PID-054	REV. 03	SIZE : A2
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208			

1208-18-PR-PID-055

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

NOTES:

1) FOR DETAIL REFER TO VD- 1208-320- PID-008/010
2) ENSURE THAT THE ATOMIZATION AIR HEADER IS FREE DRAINING UP TO THE FLANGES WHERE IS A MATERIAL CHANGE, THE REMAINING STAINLESS STEEL PIPE HAS TO BE WITH MAX SLOPE AS PER P&ID. 1208-18-PR-PID-052
3) PV-2032 IS INTEGRAL PART OF COMPRESSOR.
4) TEMPERATURE TRANSMITTER CONNECTION MIN. 10m FROM GRANULATOR ATOMIZATION AIR HEATER (18-E-151) AIR OUTLET NOZZLE.
   THERMOWELL TAPPING TO BE LOCATED ON UPPER TANGENT LINE ON STRAIGHT PART OF PIPE.
5) TWO-PHASE FLOW REINFORCED SUPPORTS.
6) SPLIT RANGE OF LV-2002A/B IS AS FOLLOWING.



GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW.
   NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT).
   NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) ALL INSTRUMENT IN THIS PAGE HAVE PRIFIX NO. OF 18. FOR EXAMPLE 18-TT-2033.
11) FOR STEAM & CONDENSATE LINE CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-051.

EQUIPMENT LIST

18-F-191	18-L-161
18-L-154	18-E-151
18-C-157	18-L-162
	18-V-169

18-E-151 GRANULATOR ATOMIZATION AIR HEATER	18-C-157 ATOMIZATION AIR COMPRESSOR	18-F-191 AIR INTAKE FILTER	18-L-154 AIR INTAKE SILENCER	18-L-161 DISCHARGE SILENCER	18-L-162 BLOW OFF VALVE SILENCER	18-V-169 ATOMIZATION AIR STEAM SATURATOR
DIMENSION : BY VENDOR	RATED CAPACITY : 100188 kg/hr (DRY)	BY 18-C-157 VENDOR	BY 18-C-157 VENDOR	BY 18-C-157 VENDOR	BY 18-C-157 VENDOR	I.D x LENGTH : 1100x2000
DESIGN PRESS. S/T : 1/28 barg & F.V.						DESIGN TEMPERATURE : 250°C
DESIGN TEMP. S/T : 175/250°C						DESIGN PRESSURE : 28 barg & F.V.
INSULATION : YES						INSULATION : YES
	TRIM LINE NO. : 18-AIR18041-B24-V					TRIM LINE NO. : 18-MS18003-D24-H

LICENSOR REF. : P85

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
04	07.01.2024	APPROVED FOR CONSTRUCTION	S.Alizadeh	A.R.Nazi	A.Azma	M.Saremi
03	20.09.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Fakhrale	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanahi	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mizaie	A.Habibi	A.Azma	M.Saremi

OWNER : شرکت پتروشیمی هنگام

MC : شرکت مدیریت پروژه پتروشیمی

EPCC CONTRACTOR : PIDEC

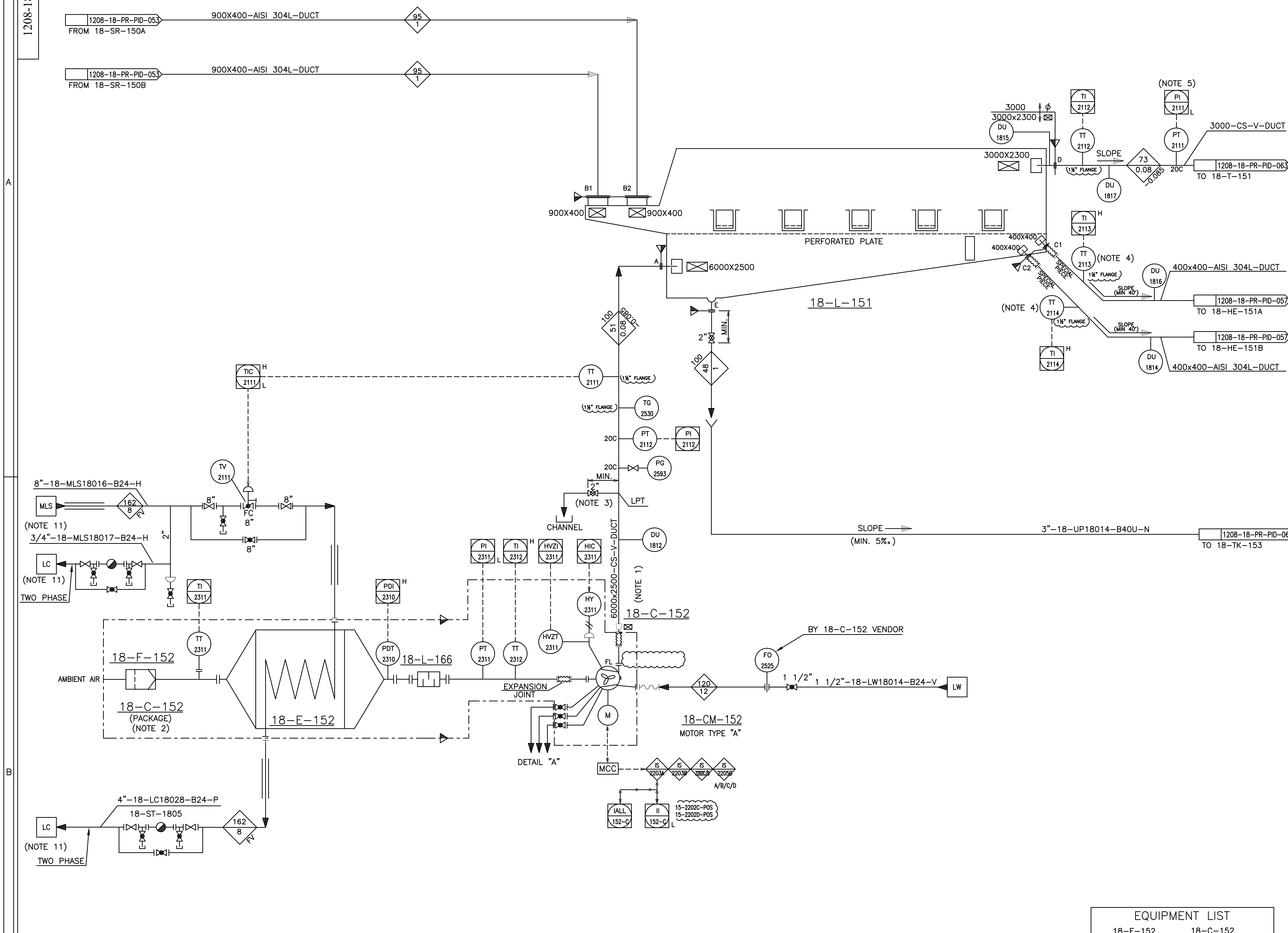
PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
GRANULATOR ATOMIZATION AIR

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. : 1208-18-PR-PID-055	REV. 04	SIZE : A2
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208			

1208-18-PR-PID-056

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

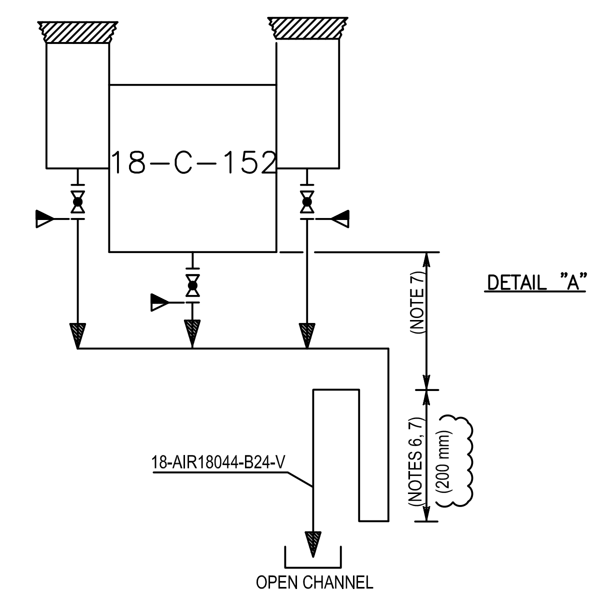


NOTES:

1) DUCT LAYOUT AS PER SAIPEM/PIDEC PIPING 3D MODEL APPROVAL.
2) FOR DETAIL REFER TO VD-1208-320-PID-003
3) DRAIN VALVE TO BE LOCATED AT LOWEST POINT OF THE DUCT.
4) TEMPERATURE TRANSMITTER CONNECTION HAS TO BE LOCATED ON THE LATERAL SIDE OF THE DUCT AND AT 45° ORIENTED TOWARDS THE BOTTOM OF THE DUCT.
5) PRESSURE TRANSMITTER TO BE LOCATED NEAR THE INLET OF COOLERS SCRUBBER (18-T-151).
6) SEAL LENGHT TO BE CONSIDERED FROM BOTTOM PIPES TANGENT LINE.
7) HEIGHTS OF BAROMETRIC LEGS ACCORDING TO FAN SELECTION.

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) ALL INSTRUMENT IN THIS PAGE HAVE PRIFIX NO. OF 18. FOR EXAMPLE 18-TT-2311.



11) FOR STEAM & CONDENSATE LINE CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-051.

18-E-152	18-L-151	18-C-152	18-F-152	18-L-166
FIRST FLUID BED COOLER AIR PREHEATER	FIRST FLUID BED COOLER	FIRST FLUID BED COOLER FLUIDIZATION AIR FAN (PKG)	AIR INTAKE FILTER	AIR INTAKE SILENCER
DIMENSION : BY VENDOR	CAPACITY : 242229 kg/hr	RATED CAPACITY : 588336 kg/hr (DRY)	BY 18-C-152 VENDOR	BY 18-C-152 VENDOR
DESIGN PRESS. S/T : BY VENDOR H20G/8 barg & F.V.	DIMENSION : 18280 x 3792 x 7370	INSULATION : NO		
DESIGN TEMP. : 100/190°C	DESIGN PRESS. : 80mbarg AND -85 mbarg	TRIM LINE NO. : 18-AIR18044-B24-V		
INSULATION : YES	DESIGN TEMP. : 125°C			
	MATERIAL : AISI 304L			
	INSULATION : NO			
	TRIM LINE NO. : 18-UP18111-B40U-N			

EQUIPMENT LIST

18-F-152
18-L-166
18-E-152
18-C-152
18-L-151

LICENSOR REF. : P86

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
03	16.08.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION	M.Fakhraie	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanahi	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mirzaie	A.Habibi	A.Azma	M.Saremi

OWNER : Persian Gulf Petrochemical Industries Co. PGPIC

MC : Persian Gulf Petrochemical Industries Co. PGPIC

EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
FIRST FLUID BED COOLER

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. :	REV.	SIZE :
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208	1208-18-PR-PID-056	03	A2

1208-18-PR-PID-057

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

NOTES:

1) PUSH BUTTONS PROVIDED ONLY LOCALLY ON THE GATE VALVE MOTOR.
2) TWO LIMIT SWITCHES FOR EACH ELEVATOR SHALL BE ADDED ON INLET SLIDE GATE VALVE FOR THE FOLLOWING POSITIONS:
   – TOTALLY OPEN
   – TOTALLY CLOSED
3) INLET DOOR FOR MANUAL MATERIAL LOADING.
4) HIGH DISPLACEMENT TRIP.
5) CREEP MOTOR FOR BUCKET ELEVATOR MAINTENANCE.
6) PROVIDE ADDITIONAL LOCAL PANEL FOR START/STOP OF CREEP MOTOR AT 11 METER FLOOR.
   NO START FROM DCS OF CREEP MOTOR ARE PROVIDED TO AVOID UNSAFETY MISOPERATION BETWEEN CONTROL ROOM AND FIELD.
7) VALVE TO BE LOCATED CLOSE TO 18–TK–154 BOTTOM OUTLET NOZZLE.

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208–01–PR–PID–051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18–TK–153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY–PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW.
   NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT).
   NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) ALL INSTRUMENT IN THIS PAGE HAVE PRIFIX NO. OF 18. FOR EXAMPLE 18–HS–2268A.

EQUIPMENT LIST

18–HE–151A/B

18–HE–151A/B
BUCKET ELEVATORS
DESIGN CAPACITY : 144375 kg/hr
INSULATION : NO
TRIM LINE NO.: 18–UG18062–B40–N

LICENSOR REF. : P87

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
03	24.09.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION	M.Fakhraei	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanparast	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mizaie	A.Habibi	A.Azma	M.Saremi

OWNER : شرکت پتروشیمی هنگام

MC : شرکت پتروشیمی هنگام

EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
ELEVATORS

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. : 1208-18-PR-PID-057	REV. 03	SIZE : A2
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208			

1208-18-PR-PID-058

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

NOTES:

1) REMOVABLE PIECE FOR SAMPLE POINT TO BE PROVIDED ON ON-SIZE CHUTES.
2) LOCAL PANEL DEDICATED FOR 18-HE-157A/18-SR-151A AND 18-HE-157B/18-SR-151B
3) MACHINERY ARRANGEMENT AS PER VENDOR DESIGN. FOR DETAIL REFER TO DOC. NO. VD-1208-366-GAD-001.
4) CRUSHED MATERIAL (VERTICAL LINE) FROM ROLL CRUSHERS HAS TO BE JOINTED ON TOP OF CHUTES COMING FROM DIVERTERS.
5) FOR ALL CHUTE LINES THE STRESS ANALYSYS SHALL BE PERFORMED AT OPERATING TEMPERATURE AND CONSIDERING THAT ONLY SOLID FLOW IS PRESENT.
6) LOCAL CONTROL PANEL IS LOCATED IN THE FIELD NEAR TO THE MACHINE.

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) ALL INSTRUMENT IN THIS PAGE HAVE PRIFIX NO. OF 18. FOR EXAMPLE 18-FT-2042.

18-HE-156A/B	18-HE-157A/B	18-SR-151A/B
PRODUCT DIVERTERS	VIBRATING SCREEN FEEDERS	VIBRATING SCREENS
BY VENDOR	DESIGN CAPACITY : 109740 kg/hr	DESIGN CAPACITY : 73160 kg/hr
INSULATION : NO	INSULATION : NO	INSULATION : NO

EQUIPMENT LIST

18-HE-157A/B
18-SR-151A/B
18-HE-156A/B

LICENSOR REF. : P88

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
03	27.08.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION	M.Fakhraei	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanahi	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mizaie	A.Habibi	A.Azma	M.Saremi

OWNER : MC : EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
SCREENING 1

SCALE : N.T.S | OWNER PROJECT NO. : NA | DWG. NO. : 1208-18-PR-PID-058 | REV. 03 | SIZE : A2
SHT. : 1 OF 1 | PIDEC PROJECT NO. : 1208

1208-18-PR-PID-059

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

NOTES:

1 – REMOVABLE PIECE FOR SAMPLE POINT TO BE PROVIDED ON ON–SIZE CHUTES.
2 – LOCAL PANEL DEDICATED FOR 18–HE–157C/18–SR–151C AND 18–HE–157D/18–SR–151D .
3– MACHINERY ARRANGEMENT AS PER VENDOR DESIGN. FOR DETAIL REFER TO DOC. NO. VD–1208–366–GAD–001.
4 – CRUSHED MATERIAL (VERTICAL LINE) FROM ROLL CRUSHERS HAS TO BE JOINTED ON TOP OF CHUTES COMING FROM DIVERTERS.
5 – FOR ALL CHUTE LINES THE STRESS ANALISYS SHALL BE PERFORMED AT OPERATING TEMPERATURE AND CONSIDERING THAT ONLY SOLID FLOW IS PRESENT.
6 – LOCAL CONTROL PANEL IS LOCATED IN THE FIELD NEAR TO THE MACHINE.

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208–01–PR–PID–051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18–TK–153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY–PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) ALL INSTRUMENT IN THIS PAGE HAVE PRIFIX NO. OF 18. FOR EXAMPLE 18–FT–2051.

EQUIPMENT LIST
18-HE-157C/D
18-SR-151C/D
18-HE-156C/D

18-HE-156C/D	18-HE-157C/D	18-SR-151C/D
PRODUCT DIVERTERS	VIBRATING SCREEN FEEDERS	VIBRATING SCREENS
BY VENDOR	DESIGN CAPACITY : 109740 kg/hr	DESIGN CAPACITY : 73160 kg/hr
INSULATION : NO	INSULATION : NO	INSULATION : NO

LICENSOR REF. : P89

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
04	07.01.2024	APPROVED FOR CONSTRUCTION	S.Alizadeh	A.R.Nazi	A.Azma	M.Saremi
03	16.08.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION	M.Fakhraei	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanahi	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mirzaie	A.Habibi	A.Azma	M.Saremi

OWNER : MC : EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
SCREENING 2

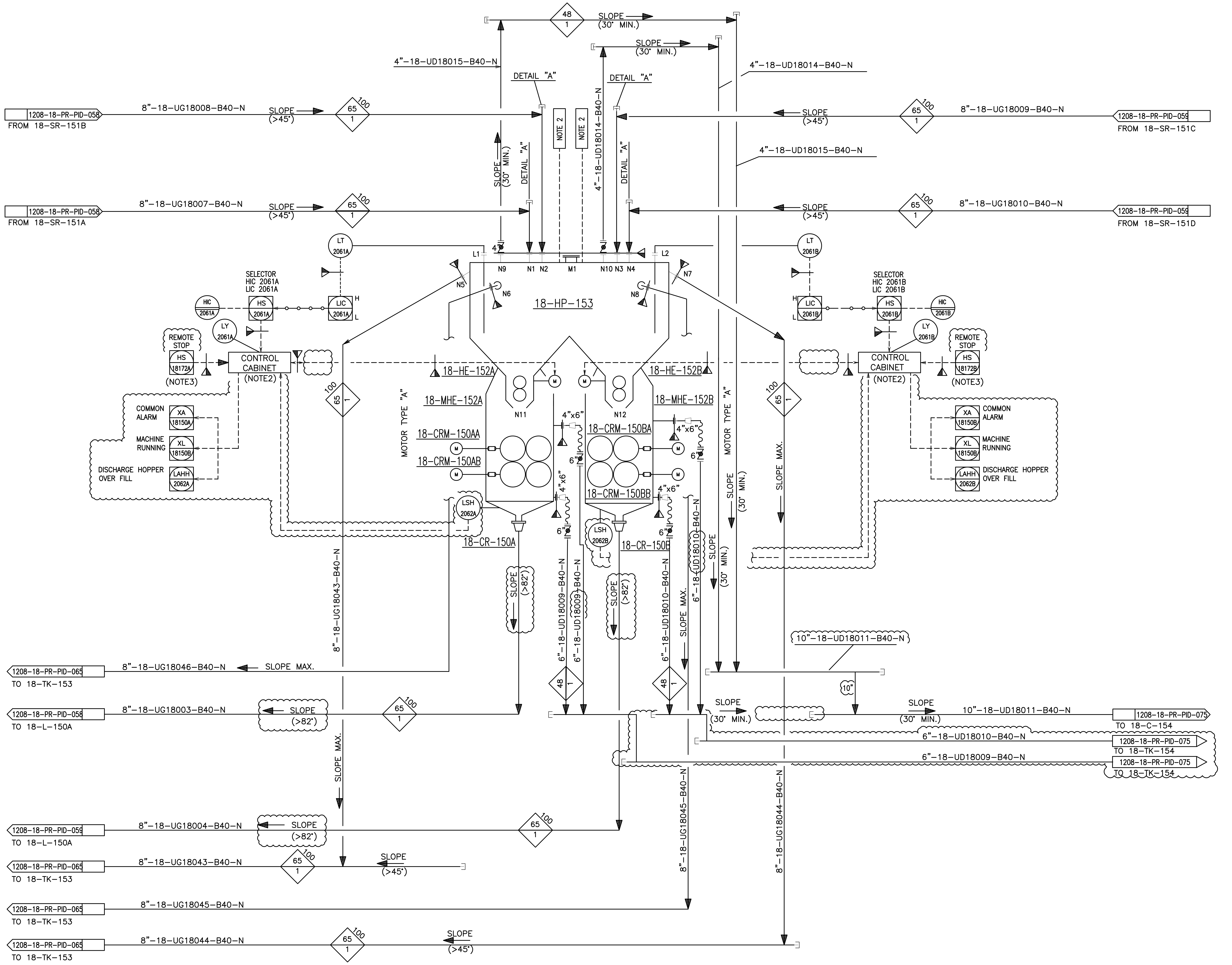
SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. : 1208-18-PR-PID-059	REV. 04	SIZE : A2
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208			

1208-18-PR-PID-060

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

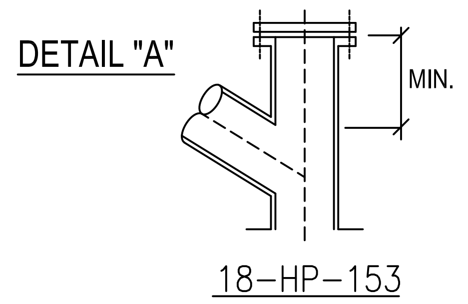
NOTES:

1) DELETED
2) ALL SIGNALS ARE CONNECTED TO MACHINE PLC LOCATED IN ELECTRICAL SWITCH CABINET AND THE MAIN ONES DUPLICATED TO DCS FOR MONITORING. STOP FOR CRUSHERS ON DCS HAS TO BE PROVIDED.
3) HS-18172A/B ARE COMMUNICATED WITH LOCAL CONTROL PANEL.



GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) ALL INSTRUMENT IN THIS PAGE HAVE PRIFIX NO. OF 18. FOR EXAMPLE 18-LT-2061A.



EQUIPMENT LIST

18-HP-153
18-HE-152A/B
18-CR-150A/B

18-CR-150A/B	18-HP-153	18-HE-152A/B
ROLL CRUSHERS	CRUSHER FEEDER HOPPER	CRUSHER FEEDERS
DESIGN CAPACITY : 10938 kg/hr	DESIGN CAPACITY : 10938 kg/hr per crusher	BY 18-CR-150A/B VENDOR
INSULATION : NO	INSULATION : NO	
	TRIM LINE NO. : 18-UG18050-B40-N	

LICENSOR REF. : P90

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
03	24.09.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION	M.Fakhraei	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanahi	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mirzaie	A.Habibi	A.Azma	M.Saremi

OWNER : | MC : | EPCC CONTRACTOR :

PROJECT :
HENGAM FERTILIZER PROJECT

TITLE :
PIPING AND INSTRUMENT DIAGRAM
ROLL CRUSHER

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. : 1208-18-PR-PID-060	REV. 03	SIZE : A2
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208			

1208-18-PR-PID-061

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

NOTES:

1) THIS DUCT SHALL BE TAPERED FROM 18-C-156 DISCHARGE NOZZLE TO 18-L-156 INLET NOZZLE.THE TAPERING ANGLE HAVE TO BE MAXIMUM 7°.
2) FOR DETAIL REFER TO VD-1208-320-PID-007
3) TO BE INSTALLED AT SAME ELEVATION OF SEAL PIPE (UPPER PART) CENTER LINE.
4) SEAL LENGHT TO BE CONSIDERED FROM BOTTOM PIPES TANGENT LINE.
5) HEIGHTS OF BAROMETRIC LEGS ACCORDING TO FAN SELECTION.
6) DELETD.
7) REMOVABLE SPOOL FOR FINAL FLUID BED COOLER CLEANING.
8) AS PER DUCT ARRANGEMENT LOWEST POINT IS LOCATED IN FAN DRAIN NOZZLE.
9) PRESSURE TRANSMITTER TO BE LOCATED NEAR THE INLET OF COOLERS SCRUBBER (18-T-151).
10) UREA GRANULES SAMPLING POINT LOCATED ON CLOSER BELT CONVEYOR TO STORAGE.
11) PROVIDE TWO PHASE FLOW REINFORCED SUPPORT.

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) ALL INSTRUMENT IN THIS PAGE HAVE PRIFIX NO. OF 18. FOR EXAMPLE 18-TT-2380.
11) FOR STEAM & CONDENSATE LINE CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-051.
12) FOR NITROGEN LINE CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-052.

EQUIPMENT LIST

18-F-154	18-E-153
18-L-171	18-V-156
18-E-154	18-C-156
18-L-156	

18-E-153	18-E-154	18-L-156	18-C-156	18-V-156	18-L-171	18-F-154
FINAL FLUID BED COOLER AIR CHILLER	FINAL FLUID BED COOLER AIR PREHEATER	FINAL FLUID BED COOLER	FINAL FLUID BED COOLER FLUIDIZATION AIR FAN (PKG)	MOISTURE SEPARATOR AIR CHILLING UNIT. FOR FINAL FLUID BED COOLER	AIR INTAKE SILENCER	AIR INTAKE FILTER
DIMENSION : BY VENDOR	DIMENSION : BY VENDOR	DESIGN CAPACITY : 161219 kg/hr	RATED CAPACITY : 116627 kg/hr (DAY)	BY 18-C-156 VENDOR	BY 18-C-156 VENDOR	BY 18-C-156 VENDOR
DESIGN PRESS. S/T : BY VENDOR/30 barg	DESIGN PRESS. S/T : BY VENDOR/8 barg & F.V.	INSULATION : NO	TRIM LINE NO. : 18-AIR18049-B24-V			
DESIGN TEMP. : 85/-33 TO 85°C	DESIGN TEMP. : 100/190°C	TRIM LINE NO. : 18-UG18070-B40-N				
INSULATION : YES (COLD)	INSULATION : YES					
TRIM LINE NO. : 18-LC18038-B24-P						

LICENSOR REF. : P91

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
04	07.01.2024	APPROVED FOR CONSTRUCTION	S.Alizadeh	A.R.Nazi	A.Azma	M.Saremi
03	20.09.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION	M.Fakhraei	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanparahi	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mizaie	A.Habibi	A.Azma	M.Saremi

OWNER : شرکت سرمایه گذاری خلیج فارس (Persian Gulf Investment Holding Co.) P.I.P.I.C.

MC :

EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
FINAL FLUID BED COOLER

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. : 1208-18-PR-PID-061	REV. 04	SIZE : A2
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208			

1208-18-PR-PID-062

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

NOTES:

1) 15mm DRILLED ON TOP PIPE
2) FOR NUMBER OF SPRAYERS HEADERS AND RELATED DETAIL REFER TO SHEET 2 OF VD-1208-223C-PID-001. TEMPORIZED VALVES SHALL BE PROVIDED BY SCRUBBER'S VENDOR IN ORDER TO SINCRONIZE DEMISTER WASHING.
3) FOR SAMPLE CONNECTION DETAILS AND PIPING ARRANGEMENT REFER TO P&ID. 1208-11-PR-PID-080/081.
4) NUMBER OF FUNNELS/LINES HAS TO BE OPTIMIZED ACCORDING TO THE LAY-OUT.
5) TO BE INSTALLED AS CLOSE AS POSSIBLE TO SCRUBBER INLET NOZZLE.
6) SEE DETAIL "F" ON P&ID. 1208-18-PR-PID-074.
7) ALL PUMPS CONNECTIONS DEFINED AS PER MFR SELECTION.
8) AUTOMATIC NON RETURN/MINIMUM FLOW VALVE TO BE SUPPLIED BY PUMP VENDOR PROVIDING TYPE WITH NON RETURN VALVE IN BOTH DIRECTIONS.
9) SEE DETAIL "A" ON P&ID. 1208-18-PR-PID-074.
10) I-2071/2072 ARE FOR SEQUENTIAL ON/OFF VALVES OPENING. (REFER TO VD-1208-223C-PID-001)

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) ALL INSTRUMENT IN THIS PAGE HAVE PRIFIX NO. OF 18. FOR EXAMPLE 18-LG-2512.
11) FOR OPEN DRAIN CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-058.
12) FOR OILY WATER DRAINAGE CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-055.

EQUIPMENT LIST

18-T-150A
18-P-151A/B

18-T-150A GRANULATOR DUST SCRUBBER	18-P-151A/B GRANULATOR DUST SCRUBBER CIRCULATION PUMPS
DESIGN PRESS. : 165 & -100 mbarg	RATED CAPACITY : 440 m3/hr
DESIGN TEMP. : 140°C	DIFF. PRESS. : 4.73 bar
DIMENSION : BY VENDOR	SPECIFIC GRAVITY : 1.11
INSULATION : NO	INSULATION : NO
TRIM LINE NO. : 18-UP18058-B40U-N	TRIM LINE NO. : 18-UP18109-B40U-N

LICENSOR REF. : P92

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
03	20.09.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Fakhraei	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanah	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mizaie	A.Habibi	A.Azma	M.Saremi

OWNER : شرکت پتروشیمی هرمز

MC : شرکت مهندسی و ساخت پتروشیمی

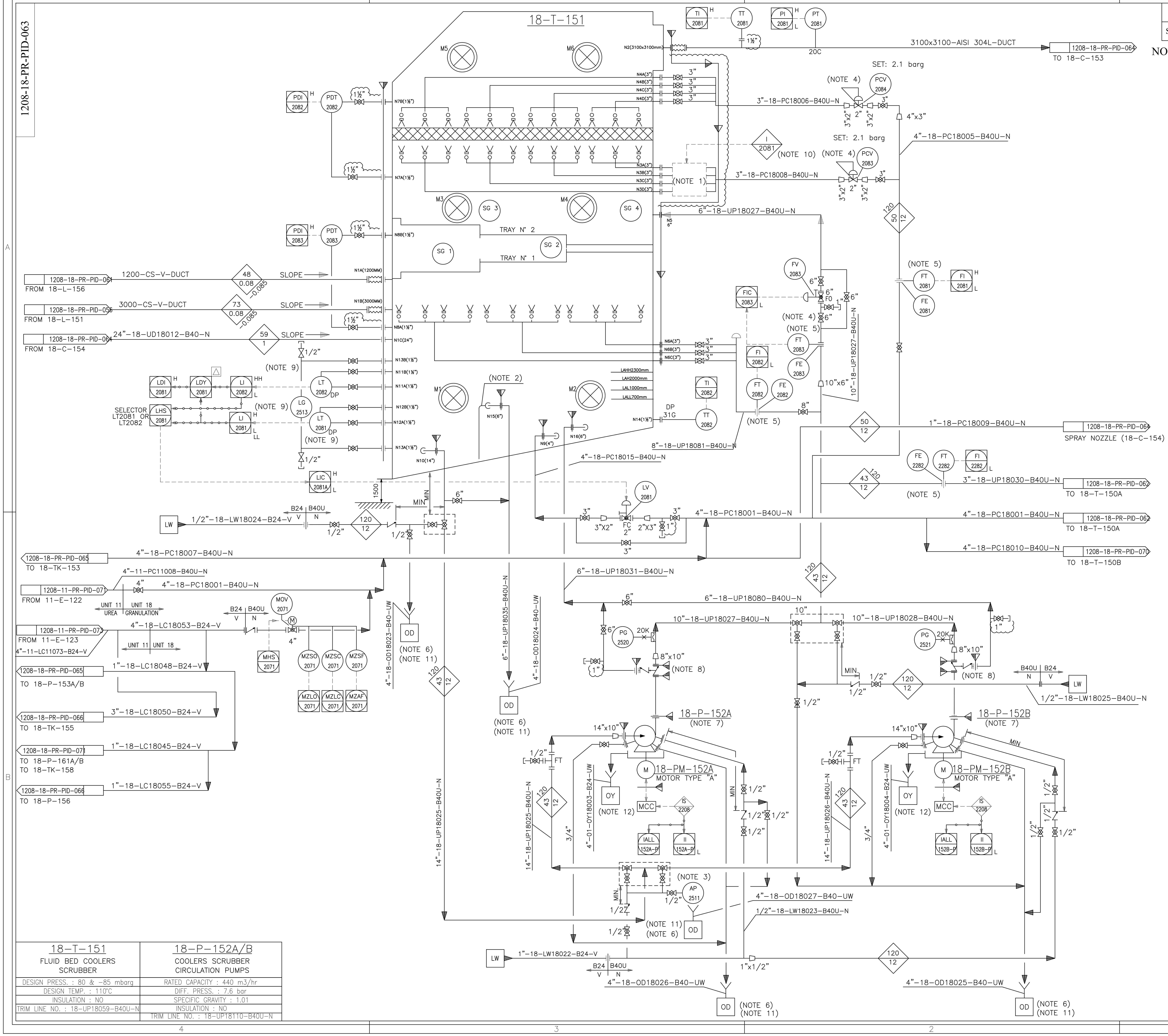
EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
GRANULATOR DUST SCRUBBER

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. : 1208-18-PR-PID-062	REV. 03	SIZE : A2
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208			

1208-18-PR-PID-063



18-T-151	18-P-152A/B
FLUID BED COOLERS SCRUBBER	COOLERS SCRUBBER CIRCULATION PUMPS
DESIGN PRESS. : 80 & -85 mbarg	RATED CAPACITY : 440 m3/hr
DESIGN TEMP. : 110°C	DIFF. PRESS. : 7.6 bar
INSULATION : NO	SPECIFIC GRAVITY : 1.01
TRIM LINE NO. : 18-UP18059-B40U-N	INSULATION : NO
	TRIM LINE NO. : 18-UP18110-B40U-N

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

NOTES:

1) FOR NUMBER OF SPRAYERS HEADERS AND RELATED DETAIL REFER TO SHEET 2 OF VD-1208-223C-PID-003. TEMPORIZED VALVES SHALL BE PROVIDED BY SCRUBBER'S VENDOR IN ORDER TO SINCRONIZE DEMISTER WASHING.
2) FOR 15mm DRILLED ON TOP PIPE.
3) FOR SAMPLE CONNECTION DETAILS AND PIPING ARRANGEMENT REFER TO P&ID. 1208-11-PR-PID-080/081.
4) TO BE INSTALLED AS CLOSE AS POSSIBLE TO SCRUBBER INLET NOZZLE.
5) SEE DETAIL "F" ON P&ID. 1208-18-PR-PID-074.
6) NUMBER OF OD FUNNELS/LINES HAS TO BE OPTIMIZED ACCORDING TO THE LAY-OUT.
7) ALL PUMPS CONNECTIONS DEFINED AS PER MFR SELECTION.
8) AUTOMATIC NON RETURN/MINIMUM FLOW VALVE TO BE SUPPLIED BY PUMP VENDOR PROVIDING TYPE WITH NON RETURN VALVE IN BOTH DIRECTIONS.
9) SEE DETAIL "A" ON P&ID 1208-18-PR-PID-074.
10) I-2081 ARE FOR SEQUENTIAL ON/OFF VALVES OPENING. FOR DETAIL REFER TO VD-1208-223C-PID-003.

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) ALL INSTRUMENTS IN THIS PAGE HAVE PRIFIX NO. OF 18. FOR EXAMPLE 18-PG-2521.
11) FOR OPEN DRAIN LINES CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-058.
12) FOR OILY WATER DRAINAGE CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-055.

EQUIPMENT LIST

18-T-151
18-P-152A/B

LICENSOR REF. : P93

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
04	07.01.2024	APPROVED FOR CONSTRUCTION	S.Alizadeh	A.R.Nazi	A.Azma	M.Saremi
03	20.09.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Fakhraei	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanahi	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mozaie	A.Habibi	A.Azma	M.Saremi

OWNER : | MC : | EPCC CONTRACTOR : PIDEC

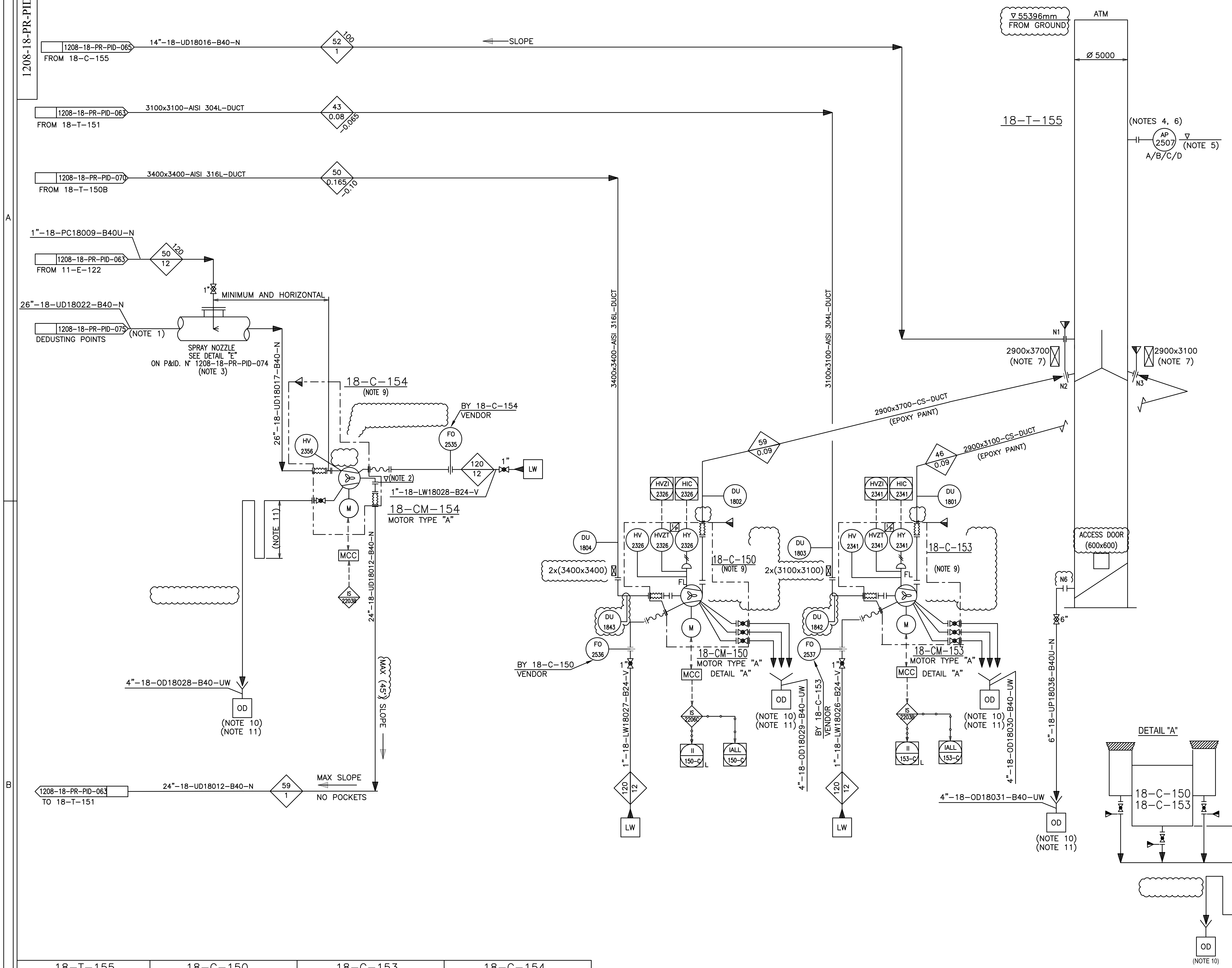
PROJECT : HENGAM FERTILIZER PROJECT

TITLE :
PIPING AND INSTRUMENT DIAGRAM
COOLERS SCRUBBER

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. : 1208-18-PR-PID-063	REV. 04	SIZE : A2
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208			

1208-18-PR-PID-064

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01



NOTES:

1) 26" DEDUSTING MAIN HEADER VERTICAL AS MUCH AS POSSIBLE: NO POCKETS ARE ALLOWED.
2) 18-C-154 OPTIMAL LOCATION IS AT LEVEL BELOW ANY OF THE MAIN HEADER FEEDER LINES TO ALLOW DRAINING DURING CLEANING UNDER OPERATING CONDITIONS AND IN CASE AT ELEVATION ABOVE COOLER SCRUBBER (18-T-151) INLET NOZZLE.
3) SPRAY NOZZLE TO BE LOCATED AS MUCH AS POSSIBLE NEAR TO 18-C-154 SUCTION, IN ORDER TO ALLOW THE OPTIMUM IMPELLER CLEANING UNDER NORMAL OPERATION.
4) PLATFORM HAS TO BE PROVIDED FOR ASSURE OPERABILITY.
5) ELEVATION TO BE CONFIRMED BY VENDOR, BASED ON FLUID PROFILE ALONG THE STACK.
6) REMOVABLE BLIND FLANGES TO USE PORTABLE SAMPLING HAVE TO BE PROVIDED.
7) THE GREATER DIMENSION OF THE INLET DUCTS TO STACK HAS TO BE IN VERTICAL.
8) DELETE.
9) FOR 18-C-154, 18-C-150 AND 18-C-153 DETAILS REFER TO VD-1208-320-PID-005/001/004 RESPECTIVELY.
10) NUMBER OF OD FUNNELS/LINES HAS TO BE OPTIMIZED ACCORDING TO LAY-OUT.
11) HEIGHTS OF BAROMETRIC LEGS ACCORDING TO FAN SELECTION.

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) ALL INSTRUMENTS IN THIS PAGE HAVE PRIFIX NO. OF 18. FOR EXAMPLE 18-PG-2553.
11) FOR OPEN DRAIN LINE CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-058

EQUIPMENT LIST	
18-C-150	18-C-154
18-C-153	18-T-155

18-T-155	18-C-150	18-C-153	18-C-154
GRANULATION VENT STACK	GRANULATOR SCRUBBER EXHAUST FAN	COOLERS SCRUBBER EXHAUST FAN	DEDUSTING FAN
I.D x TL.TL : 5000 x 55000	RATED CAPACITY : 806623 kg/hr(dry)	RATED CAPACITY : 729963 kg/hr(dry)	RATED CAPACITY : 25000 kg/hr(dry)
DESIGN PRESS. : 900 mm WC(g)	INSULATION : NO	INSULATION : NO	INSULATION : NO
DESIGN TEMP. : 85°C	TRIM LINE NO. : 18-AIR18045-B24-V	TRIM LINE NO. : 18-AIR18046-B24-V	TRIM LINE NO. : 18-AIR18047-B24-V
INSULATION : NO			
TRIM LINE NO. : 18-UP18060-B40U-N			

LICENSOR REF. : P94

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
03	23.09.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION	M.Fakhraei	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanahi	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mirzaie	A.Habibi	A.Azma	M.Saremi

OWNER : Persian Gulf Petrochemical Industries Co. PGPIC

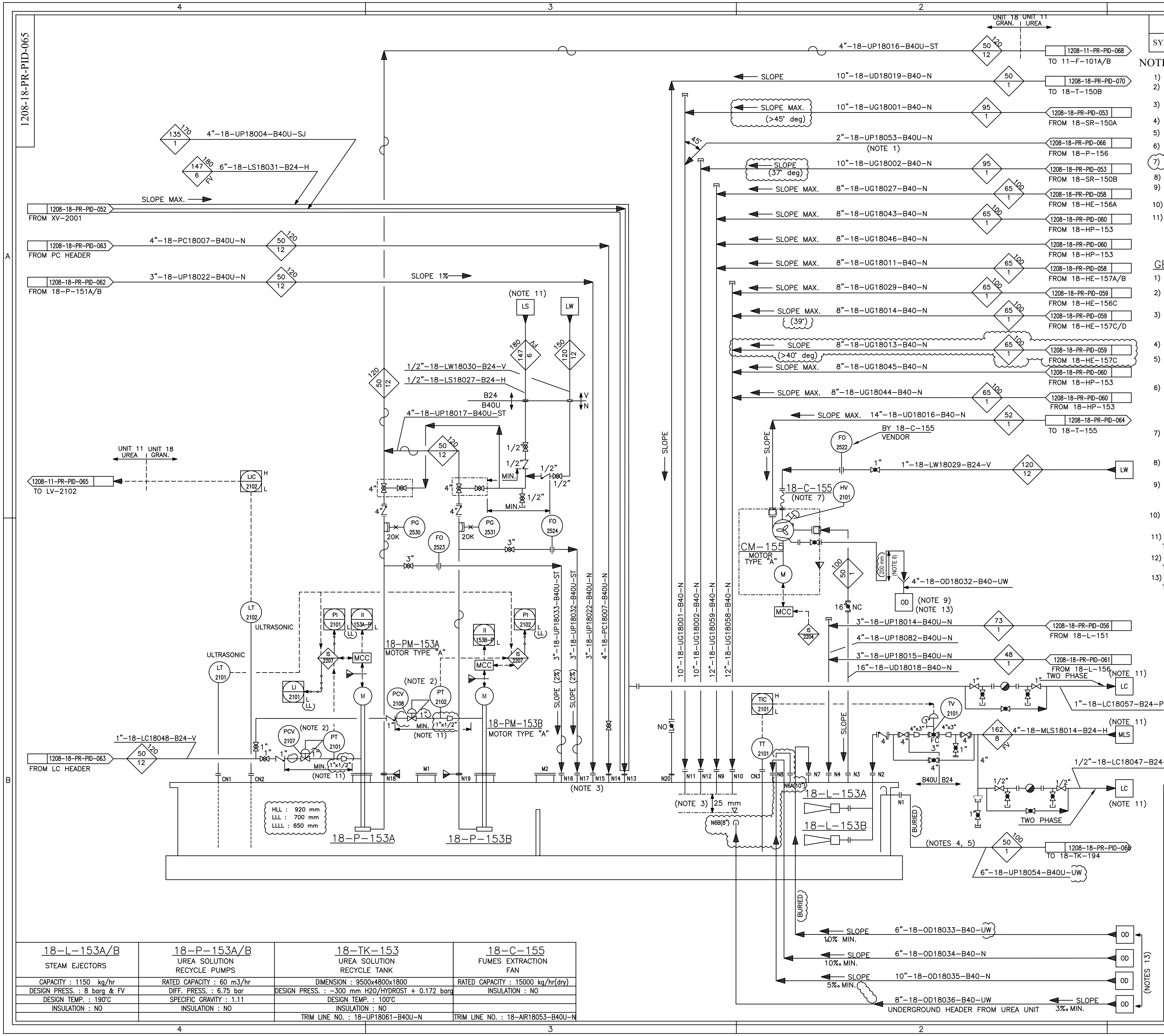
MC : Persian Gulf Petrochemical Industries Co. PGPIC

EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM GRANULATION STACK

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. : 1208-18-PR-PID-064	REV. 03	SIZE : A2
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208			



REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

NOTES:

1) PIPE INTERSECTION AT 45°.
2) FLUSHING LOW LOW PRESSURE AS NOT PERMISSIVE TO START 18-P-153A/B.
3) RECYCLE INLET NOZZLE LINE TO BE INSTALLED AS CLOSE AS POSSIBLE TO SCREENS OVERFLOW LINES.
4) THE ELEVATION OF ALL DRAIN NOZZLES HAS TO BE HIGHER THAN OVERFLOW NOZZLES.
5) FREE DRAINING TOWARDS 18-TK-194 AND WITHOUT ANY POCKETS.
6) DELETED.
7) FOR DETAIL REFER TO VD-1208-320-PID-006.
8) AS PER DOC. NO. CD-1208-320-PID-06
9) NUMBER OF OD LINES/FUNNELS HAVE BEEN OPTIMIZED ACCORDING TO THE LAY-OUT.
10) DELETED.
11) BY PUMP VENDOR.

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) ALL INSTRUMENTS IN THIS PAGE HAVE PRIFIX NO. OF 18. FOR EXAMPLE 18-FO-2524.
11) FOR STEAM & CONDENSATE CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-051.
12) FOR INSTRUMENT AIR CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-052.
13) FOR OPEN DRAIN LINE CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-058.

EQUIPMENT LIST

18-P-153A/B	18-TK-153
18-C-155	18-L-153A/B

18-L-153A/B	18-P-153A/B	18-TK-153	18-C-155
STEAM EJECTORS	UREA SOLUTION RECYCLE PUMPS	UREA SOLUTION RECYCLE TANK	FUMES EXTRACTION FAN
CAPACITY : 1150 kg/hr	RATED CAPACITY : 60 m3/hr	DIMENSION : 9500x4800x1800	RATED CAPACITY : 15000 kg/hr(dry)
DESIGN PRESS. : 8 barg & FV	DIFF. PRESS. : 6.75 bar	DESIGN PRESS. : -300 mm H20/HYDROST + 0.172 barg	INSULATION : NO
DESIGN TEMP. : 190°C	SPECIFIC GRAVITY : 1.11	DESIGN TEMP. : 100°C	
INSULATION : NO	INSULATION : NO	INSULATION : NO	
		TRIM LINE NO. : 18-UP18061-B40U-N	TRIM LINE NO. : 18-AIR18053-B40U-N

LICENSOR REF. : P95

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
03	24.09.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION	M.Fakhraei	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanahi	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mirzaie	A.Habibi	A.Azma	M.Saremi

OWNER : | MC : | EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
UREA SOLUTION RECYCLE

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. : 1208-18-PR-PID-065	REV. 03	SIZE : A2
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208			

1208-18-PR-PID-066

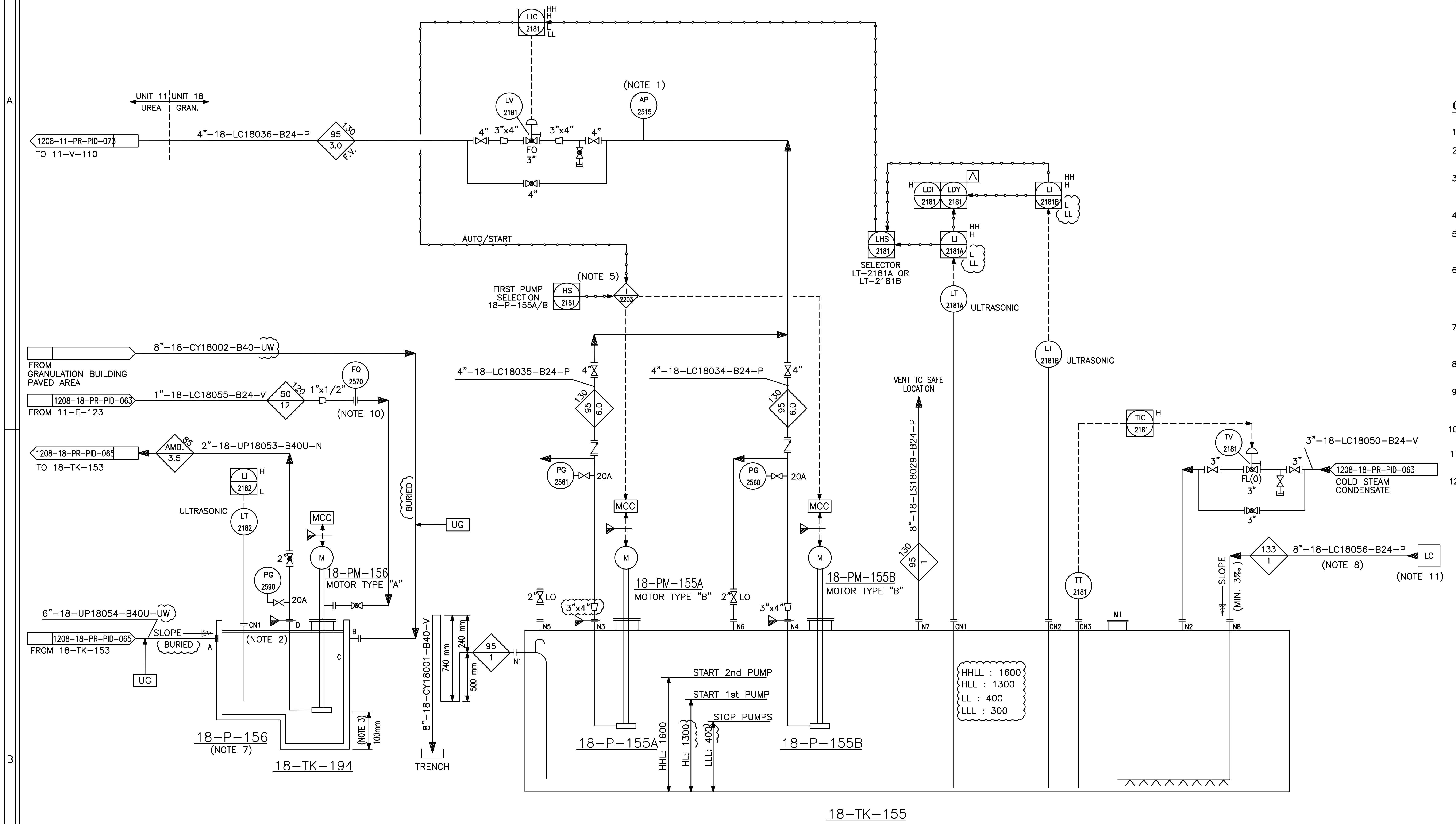
REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

NOTES:

1) FOR SAMPLE CONNECTION DETAILS AND PIPING ARRANGEMENT REFER TO P&ID. 1208-11-PR-PID-080/081.
2) BASIN TOP TO BE COVERED BY CHEQUERED PLATE.
3) AS PER DOC. NO. VD-1208-307C2A-DSH-018.
4) DELETED.
5) AUTOSTART LOGIC STARTS FIRST PUMP FOR HIGH LEVEL, STARTS SECOND PUMP FOR HIGH HIGH LEVEL AND STOPS BOTH PUMPS FOR LOW LEVEL.
6) LALL-2181 SHALL INTERLOCK BOTH PUMPS ALSO IN CASE THE SWITCH SELECTOR AUTO/MANUAL IS ON MANUAL POSITION.
7) DELETED.
8) PROVIDE TWO PHASE FLOW REINFORCED SUPPORT.
9) DELETED.
10) BY PUMP VENDOR

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) ALL INSTRUMENTS IN THIS PAGE HAVE PRIFIX NO. OF 18. FOR EXAMPLE 18-PCV-2181.
11) FOR STEAM & CONDENSATE CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-051.
12) FOR INSTRUMENT AIR LINE CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-052.



EQUIPMENT LIST

18-TK-194 18-P-155A/B
18-P-156 18-TK-155

18-TK-194	18-P-156	18-TK-155	18-P-155A/B
EMERGENCY CHEMICAL SEWER GRANULATION BASIN	EMERGENCY CHEMICAL BASIN GRANULATION PUMP	GRAN. STEAM CONDENSATE RECOVERY TANK	GRAN. STEAM CONDENSATE PUMPS
DIMENSION : 8200x2300x2000 mm	RATED CAPACITY : 3.0 m3/hr	H x W x L : 2000x3000x3500	RATED CAPACITY : 26 m3/hr
DESIGN TEMP. : 100°C	DIFF. PRESS. : 0.90 bar	DESIGN TEMP. : 130°C	DIFF. PRESS. : 4.4 bar
INSULATION : NO	SPECIFIC GRAVITY : 1.005	INSULATION : NO	SPECIFIC GRAVITY : 0.962
TRIM LINE NO. : 18-CY18003-B40-N	INSULATION : NO	TRIM LINE NO. : 18-LC18037-B24-P	INSULATION : NO

LICENSOR REF. : P96

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

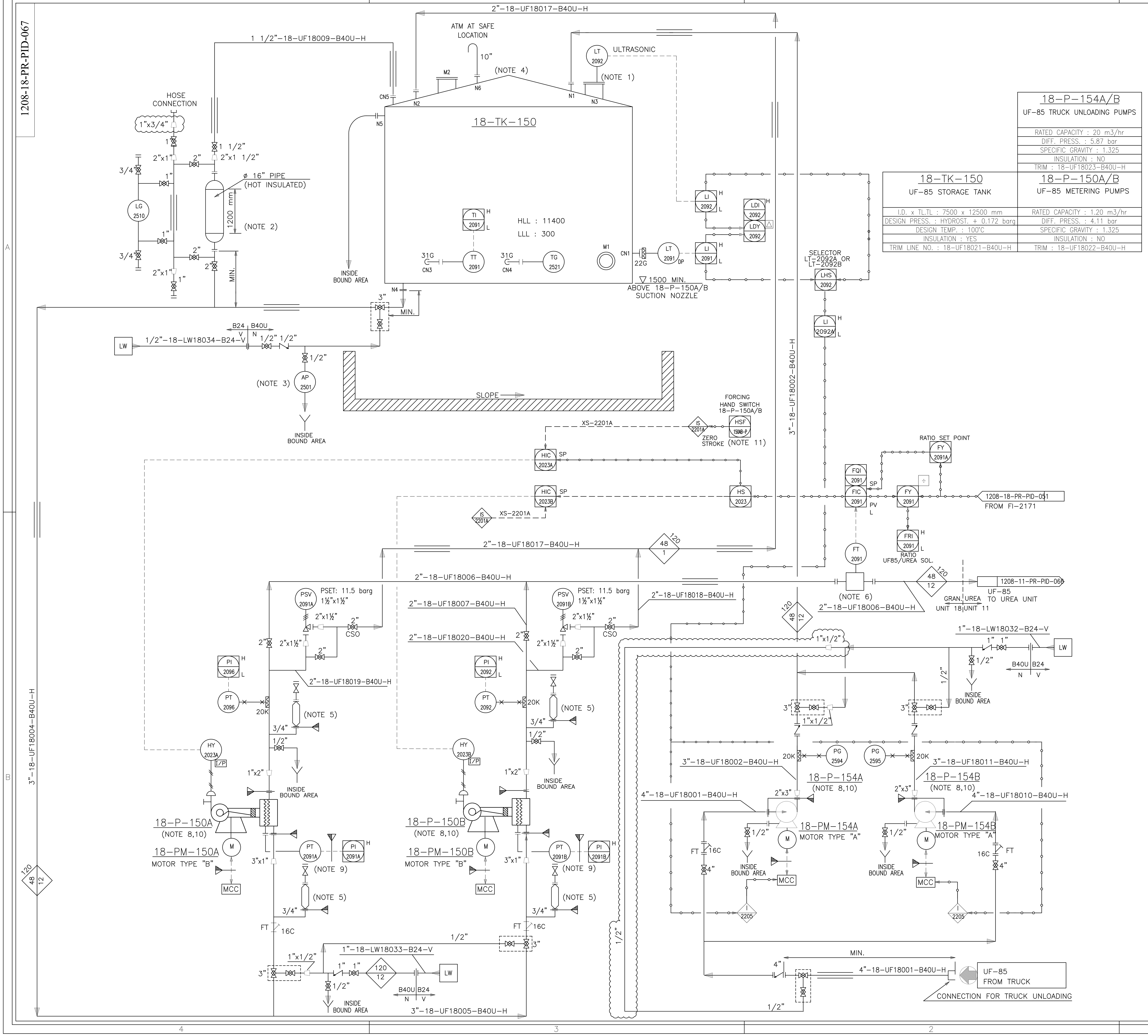
REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
03	24.10.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION	M.Fakhraei	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanah	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mirzaie	A.Habibi	A.Azma	M.Saremi

OWNER : | MC : | EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
GRANULATION CONDENSATE RECOVERY SYSTEM

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. :	REV.	SIZE :
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208	1208-18-PR-PID-066	03	A2



18-TK-150
UF-85 STORAGE TANK
I.D. x TL.TL : 7500 x 12500 mm
DESIGN PRESS. : HYDROST. + 0.172 barg
DESIGN TEMP. : 100°C
INSULATION : YES
TRIM LINE NO. : 18-UF18021-B40U-H

18-P-154A/B
UF-85 TRUCK UNLOADING PUMPS
RATED CAPACITY : 20 m3/hr
DIFF. PRESS. : 5.87 bar
SPECIFIC GRAVITY : 1.325
INSULATION : NO
TRIM : 18-UF18023-B40U-H

18-P-150A/B
UF-85 METERING PUMPS
RATED CAPACITY : 1.20 m3/hr
DIFF. PRESS. : 4.11 bar
SPECIFIC GRAVITY : 1.325
INSULATION : NO
TRIM : 18-UF18022-B40U-H

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

NOTES:

1) GAUGE HATCH.
2) CALIBRATION POT FOR 18-P-150A/B ZERO STROKES, VOLUME 150 LITRES (INSULATED).
3) FOR SAMPLE CONNECTION DETAILS AND PIPING ARRANGEMENT REFER TO P&ID. 1208-11-PR-PID-080/081.
4) SUN PROTECTION FOR ROOF.
5) DAMPENERS AND RELEVANT VALVES TO BE SUPPLIED BY 18-P-150A/B VENDOR.
6) TO BE LOCATED AS CLOSE AS POSSIBLE TO 11-P-108A/B SUCTION INJECTION POINT.
7) STROKE ADJUSTMENT DEVICE SUPPLIED BY PUMP MFR.
8) ALL PUMPS CONNECTIONS DEFINED AS PER MFR SELECTION.
9) BY PUMP VENDOR.
10) PUMPS SHALL BE LOCATED ON TANK DIKE AND ANTI ACID SURFACE SHALL BE PROVIDED FOR AREA.
11) FOR FUNCTION OF HSF, PLEASE REFER TO C&E DOCUMENT.

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) ALL INSTRUMENTS IN THIS PAGE HAVE PRIFIX NO. OF 18. FOR EXAMPLE 18-FT-2091.

EQUIPMENT LIST

18-TK-150
18-P-150A/B
18-P-154A/B

LICENSOR REF. : P97

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
04	07.01.2024	APPROVED FOR CONSTRUCTION	S.Alizadeh	A.R.Niazi	A.Azma	M.Saremi
03	07.10.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION	M.Fakhraei	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanah	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mizaie	A.Habibi	A.Azma	M.Saremi

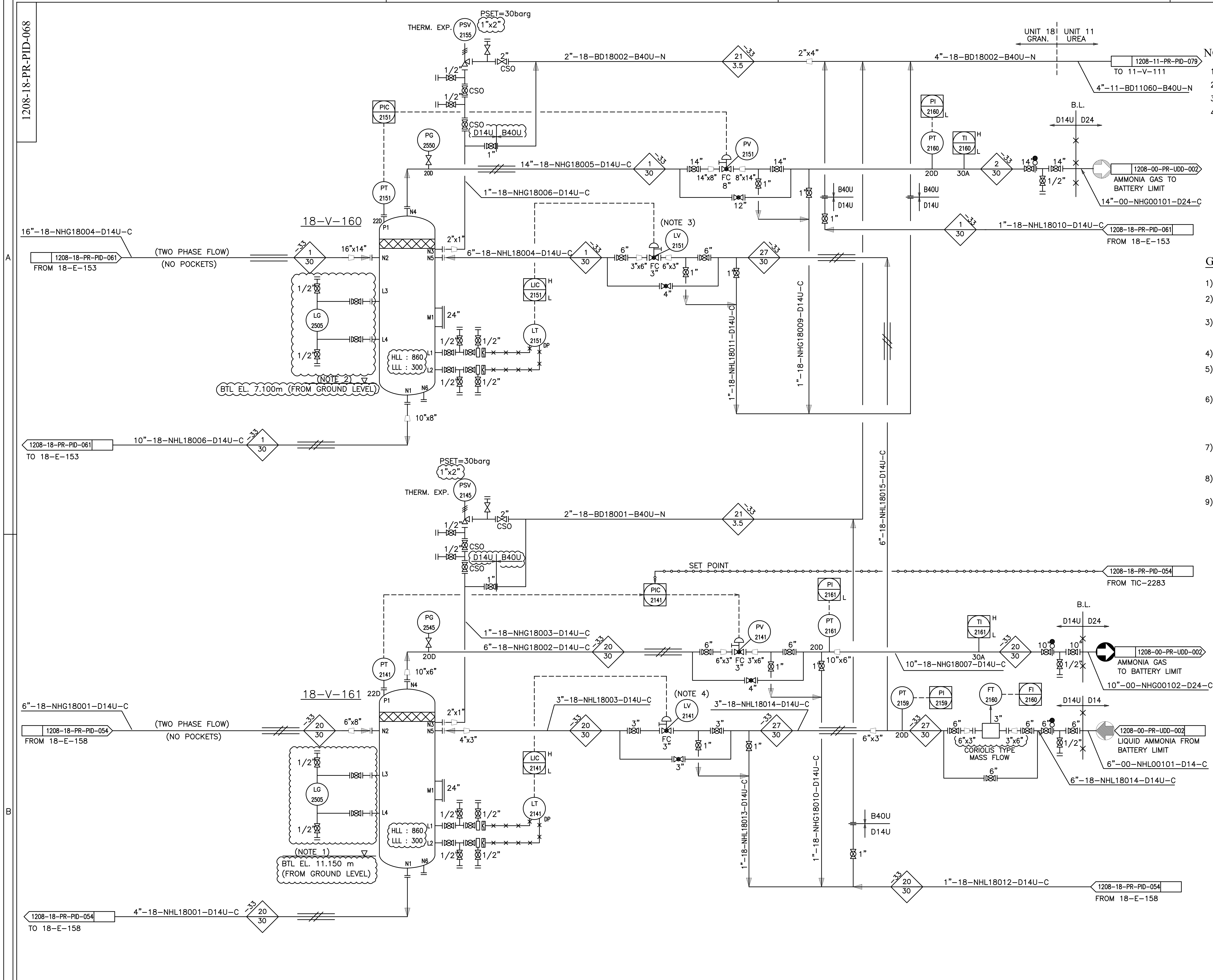
OWNER : | MC : | EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
UF-85 STORAGE TANK & PUMPS

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. :	REV.	SIZE :
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208	1208-18-PR-PID-067	04	A2

1208-18-PR-PID-068



REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

NOTES:

1) 18-V-161 MUST BE INSTALLED AT MINIMUM 3m ABOVE TOP OF 18-E-158 OUTLET NOZZLE.
2) 18-V-160 MUST BE INSTALLED AT MINIMUM 3m ABOVE TOP OF 18-E-153 OUTLET NOZZLE.
3) VALVE TO BE INSTALLED AT MIN DISTANCE FROM 18-V-160 INLET.
4) VALVE TO BE INSTALLED AT MIN DISTANCE FROM 18-V-161 INLET.

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.

EQUIPMENT LIST

18-V-160
18-V-161

18-V-161	18-V-160
NH3 CHILLING SEPARATOR FOR GRANULATOR	NH3 CHILLING SEPARATOR FOR FINAL FLUID BED COOLER
I.D x TL.TL : 1500x4200	I.D. x TL.TL : 2500 x 5500 mm
DESIGN PRESS. : 30 barg	DESIGN PRESS. : 30 barg
DESIGN TEMP. : 85 &-33'C	DESIGN TEMP. : -33 TO 85'C
INSULATION : YES	INSULATION : YES
TRIM LINE NO. : 18-NHL18008-D14U-C	TRIM LINE NO. : 18-NHL18020-D14U-C

LICENSOR REF. : P98

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
03	07.10.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Fakhraei	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanahi	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mirzaie	A.Habibi	A.Azma	M.Saremi

OWNER : Persian Gulf Petrochemical Industries Co. PGPIC

MC : Persian Gulf Petrochemical Industries Co. PGPIC

EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
NH3 CHILLING SEPARATORS

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. :	REV.	SIZE :
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208	1208-18-PR-PID-068	03	A2

1208-18-PR-PID-069

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

NOTES:

1) SILICAL GEL FILTER PROVIDED BY VENDOR.
2) NOZZLE WITH DIP PIPE.
3) HIGH LEVEL ALARM OF LI-2112 WILL ACTUATE AN AUDIBLE ALARM IN FIELD. (BY F&G PACKAGE)
4) SUN PROTECTION FOR ROOF.
5) ALL FLANGED COUPLINGS WITH SULPHURIC ACID SERVICE SHALL BE PROVIDED WITH CLOTHES SAFETY SHIELD.
6) THE VALVE IS INTEGRAL PART OF THE DAMPENER.
7) DELETED.
8) DELETED.
9) BY PUMP VENDOR.
10) PUMPS SHALL BE LOCATED IN CURB AREA AND ANTI ACID SURFACE SHALL BE PROVIDED FOR AREA.
11) PSV-2092A/B ARE IN PUMPS VENDOR SCOPE OF SUPPLY/DESIGN.
12) FOR FUNCTION OF HSF, PLEASE REFER TO C&E DOCUMENT.

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.

EQUIPMENT LIST

18-TK-156	18-P-158A/B 18-P-160A/B

18-TK-156 SULPHURIC ACID STORAGE TANK	18-P-158A/B SULPHURIC ACID PUMPS	18-P-160A/B SULPHURIC ACID TRUCK UNLOADING PUMPS
I.D. x TL.TL : 3700 x 8000 mm	RATED CAPACITY : 0.40 m3/hr	RATED CAPACITY : 20 m3/hr
DESIGN PRESS. : 1750mmW	DIFF. PRESS. : 6.27 bar	DIFF. PRESS. : 3.62 bar
DESIGN TEMP. : 100°C	SPECIFIC GRAVITY : 1.83	SPECIFIC GRAVITY : 1.83
INSULATION : YES	INSULATION : NO	INSULATION : NO
TRIM LINE NO. : 18-SAC18029-B70-ST	TRIM LINE NO. : 18-SAC18030-B70-ST	TRIM LINE NO. : 18-SAC18031-B43-ST

LICENSOR REF. : P99

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
04	07.01.2024	APPROVED FOR CONSTRUCTION	S.Alizadeh	A.R.Nazi	A.Azma	M.Saremi
03	24.09.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Fakhraei	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanah	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mizaie	A.Habibi	A.Azma	M.Saremi

OWNER : شرکت سرمایه گذاری توسعه نیشکر و صنایع جانبی

MC : شرکت سرمایه گذاری توسعه نیشکر و صنایع جانبی

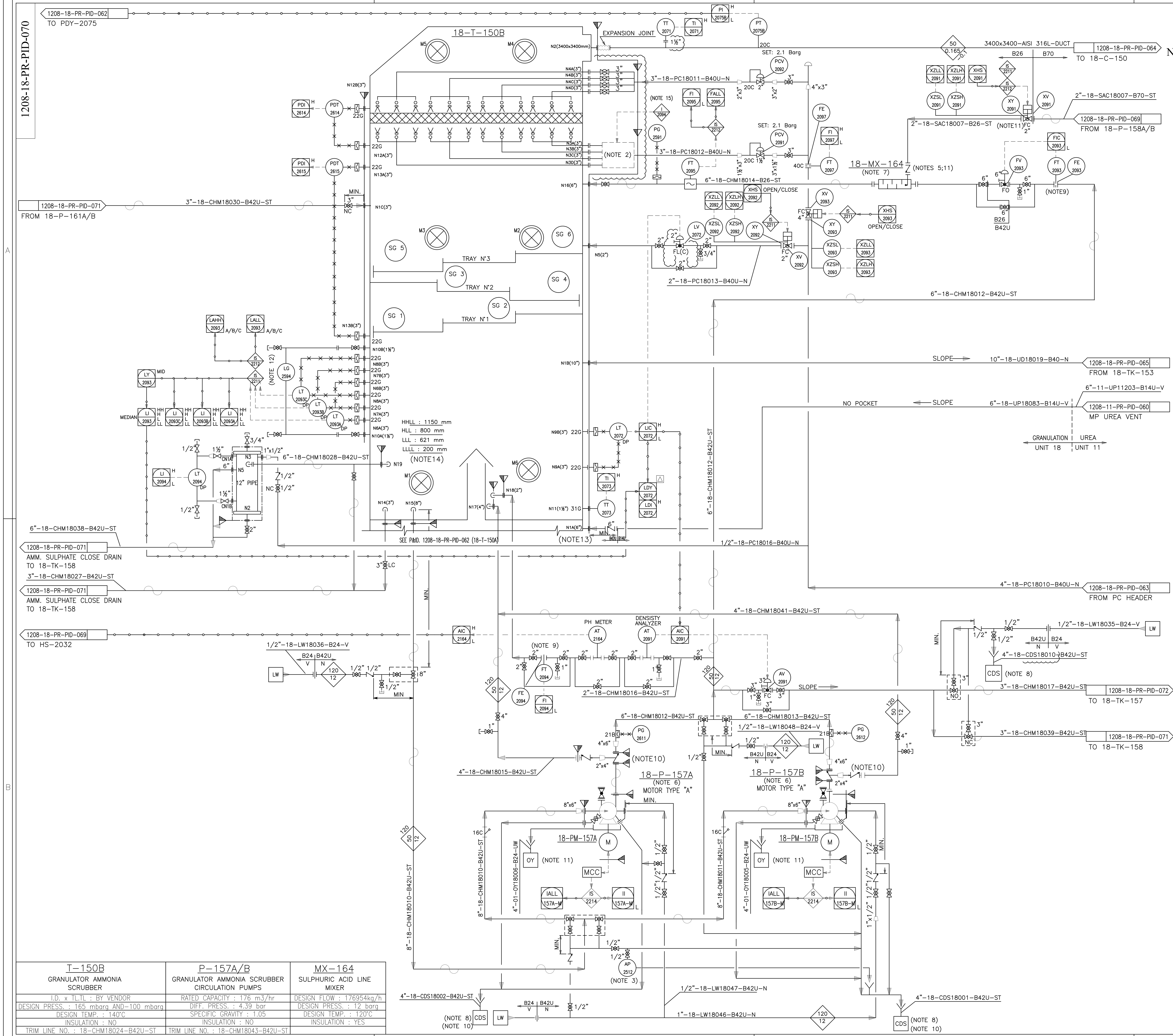
EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
SULPHURIC ACID STORAGE TANK AND PUMPS

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. :	REV.	SIZE :
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208	1208-18-PR-PID-069	04	A2

1208-18-PR-PID-070



REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

NOTES:

1) 15mm DRILLED ON TOP PIPE.
2) FOR NUMBER OF SPRAYERS HEADERS AND RELATED DETAIL REFER TO SHEET 2 OF VD-1208-223C-PID-002. TEMPORIZED VALVES SHALL BE PROVIDED BY SCRUBBER'S VENDOR IN ORDER TO SINCRONIZE DEMISTER WASHING.
3) FOR SAMPLE CONNECTION DETAILS AND PIPING ARRANGEMENT REFER TO P&ID. 1208-11-PR-PID-080/081.
4) TO BE INSTALLED AS CLOSE AS POSSIBLE TO SCRUBBER INLET NOZZLE.
5) PISTON CHECK VALVE TYPE WITH INTERNAL IN TEFLON MATERIAL TO BE DIRECTLY ON MIXER FLANGE INLET NOZZLE
6) ALL PUMPS CONNECTIONS DEFINED AS PER PUMP MFR SELECTION.
7) IN LINE MIXER 18-MX-164 SHALL BE INSTALLED AS MUCH AS POSSIBLE CLOSE TO THE SCRUBBER INLET NOZZLE.
8) NUMBER OF CDS LINES FUNNELS HAVE BEEN OPTIMIZED ACCORDING TO THE LAY-OUT.
9) SEE DETAIL "F" ON P&ID. 1208-18-PR-PID-074.
10) AUTOMATIC NON RETURN/MINIMUM FLOW VALVE TO BE SUPPLIED BY PUMP VENDOR PROVIDING TYPE WITH NON RETURN VALVE IN BOTH DIRECTIONS.
11) ALL FLANGED COUPLINGS WITH SULPHURIC ACID SERVICE SHALL BE PROVIDED WITH CLOTHES SAFETY SHIELD.
12) SEE DETAIL "A" ON P&ID. 1208-18-PR-PID-074.
13) THE DISTANCE OF CENTER LINE OF N1A TO BELOW OF CHIMNEY TRAY IS 976mm.
14) LIQUID LEVELS IN GRANULATOR AMMONIA SCRUBBER REPORTED FROM THE CHIMNEY TRAY.
15) I-2094 FOR ON/OFF VALVES FOR CLOSE/OPEN FOR DETAIL REFER TO VD-1208-223C-PID-002

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) FOR CDS CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-058.
11) FOR OILY WATER CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-055.

EQUIPMENT LIST

18-T-150B
18-MX-164
18-P-157A/B

T-150B	P-157A/B	MX-164
GRANULATOR AMMONIA SCRUBBER	GRANULATOR AMMONIA SCRUBBER CIRCULATION PUMPS	SULPHURIC ACID LINE MIXER
I.D. x TL.TL : BY VENDOR	RATED CAPACITY : 176 m3/hr	DESIGN FLOW : 176954kg/h
DESIGN PRESS. : 165 mbarg AND-100 mbarg	DIFF. PRESS. : 4.39 bar	DESIGN PRESS. : 12 barg
DESIGN TEMP. : 140°C	SPECIFIC GRAVITY : 1.05	DESIGN TEMP. : 120°C
INSULATION : NO	INSULATION : NO	INSULATION : YES
TRIM LINE NO. : 18-CHM18024-B42U-ST	TRIM LINE NO. : 18-CHM18043-B42U-ST	

LICENSOR REF. : P100

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
04	07.01.2024	APPROVED FOR CONSTRUCTION	S.Alizadeh	A.R.Nazi	A.Azma	M.Saremi
03	24.09.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Fakhraei	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanahi	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mirzaie	A.Habibi	A.Azma	M.Saremi

OWNER : شرکت صنایع پتروشیمی خلیج فارس — Persian Gulf Petrochemical Industries Co. PGPIC

MC : شرکت صنایع پتروشیمی خلیج فارس — Persian Gulf Petrochemical Industries Co. PGPIC

EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE :

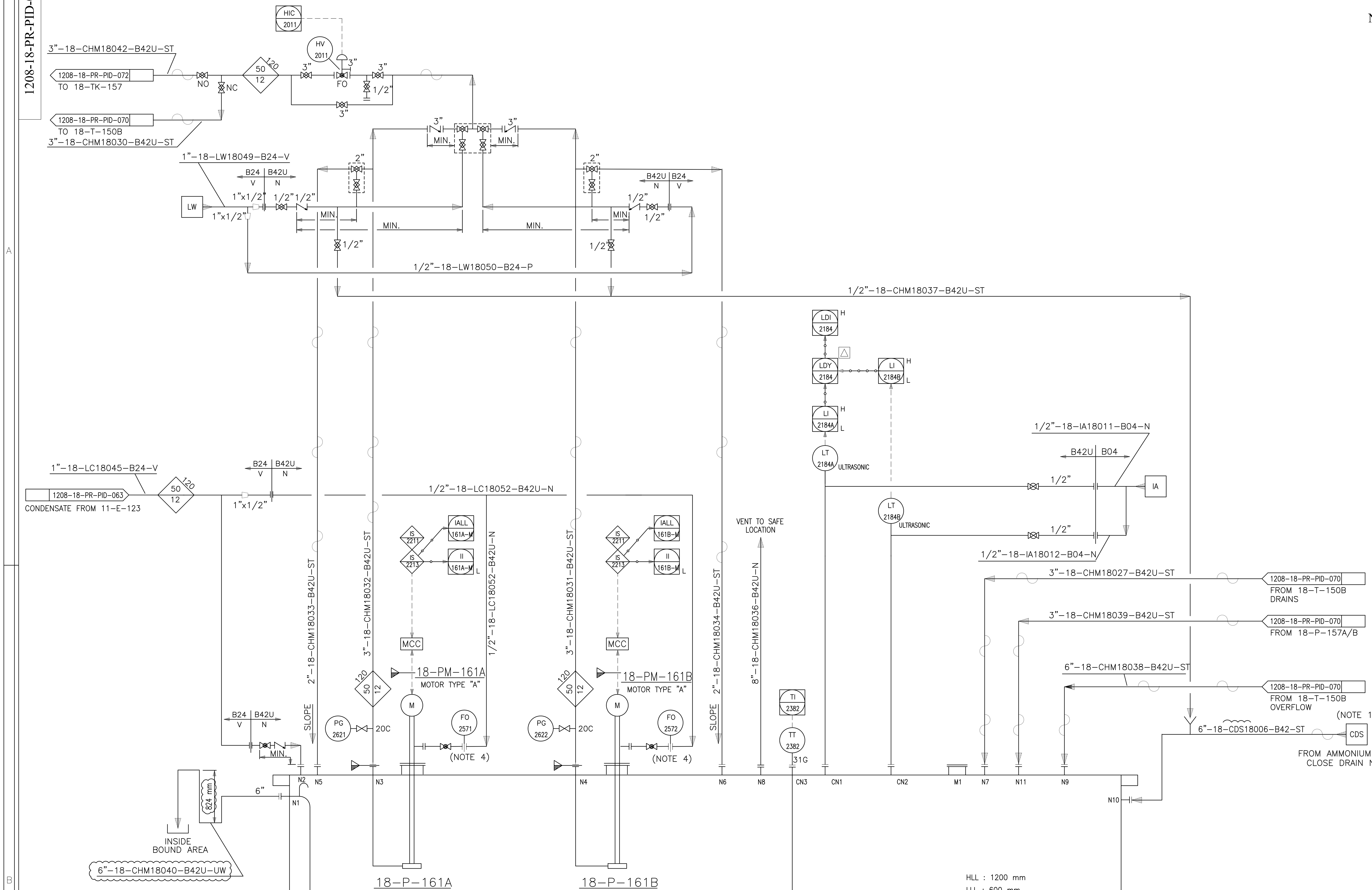
PIPING AND INSTRUMENT DIAGRAM

GRANULATOR AMMONIA SCRUBBER

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. :	REV.	SIZE :
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208	1208-18-PR-PID-070	04	A2

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

1208-18-PR-PID-071



NOTES:

1) ALL PUMPS CONNECTIONS DEFINED AS PER PUMPS MFR SELECTION.
2) DELETED.
3) DELETED.
4) BY PUMP VENDOR.

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) FOR CDS CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-058.

EQUIPMENT LIST

18-P-161A/B
18-TK-158

18-TK-158	18-P-161A/B
AMMONIUM SULPHATE CLOSE DRAIN TANK	AMMONIUM SULPHATE CLOSE DRAIN PUMPS
DIMENSION : 10000x4900x2500	RATED CAPACITY : 30 m3/hr
DESIGN PRESS. : HYDROST + 0.172 barg	DIFF. PRESS. : 5.3 bar
DESIGN TEMP. : 100°C	SPECIFIC GRAVITY : 1.05
INSULATION : NO	INSULATION : NO
TRIM LINE NO. : 18-CHM18040-B42U-ST	

LICENSOR REF. : P101

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
04	07.01.2024	APPROVED FOR CONSTRUCTION	S.Alizadeh	A.R.Nazi	A.Azma	M.Saremi
03	24.09.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Fakhraie	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanahi	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mirzaie	A.Habibi	A.Azma	M.Saremi

OWNER : | MC : | EPCC CONTRACTOR : PIDEC

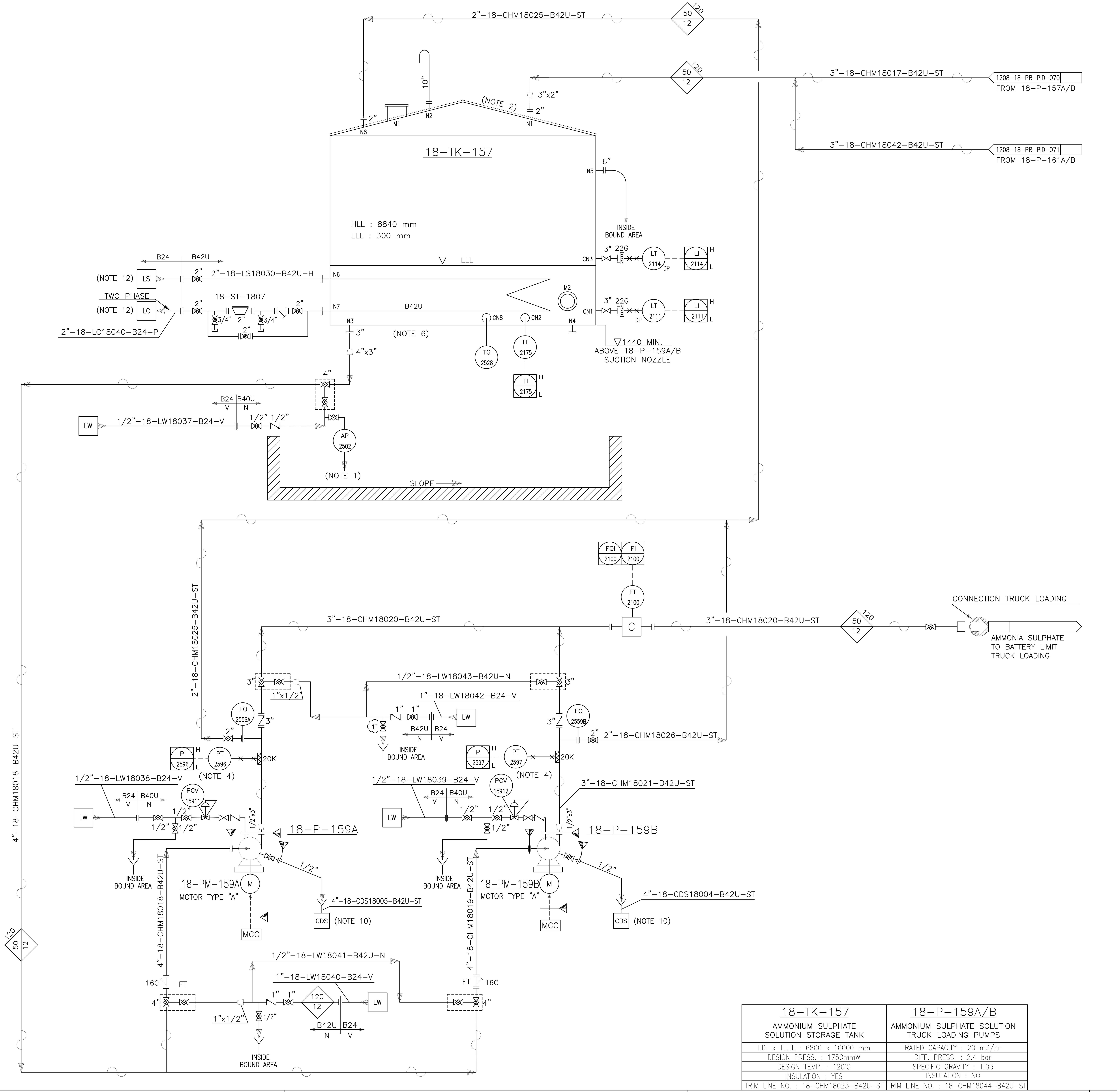
PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
AMMONIUM SULPHATE CLOSE DRAIN

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. : 1208-18-PR-PID-071	REV. 04	SIZE : A2
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208			

1208-18-PR-PID-072

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01



18-TK-157	18-P-159A/B
AMMONIUM SULPHATE SOLUTION STORAGE TANK	AMMONIUM SULPHATE SOLUTION TRUCK LOADING PUMPS
I.D. x TL.TL : 6800 x 10000 mm	RATED CAPACITY : 20 m3/hr
DESIGN PRESS. : 1750mmW	DIFF. PRESS. : 2.4 bar
DESIGN TEMP. : 120°C	SPECIFIC GRAVITY : 1.05
INSULATION : YES	INSULATION : NO
TRIM LINE NO. : 18-CHM18023-B42U-ST	TRIM LINE NO. : 18-CHM18044-B42U-ST

NOTES:

1) SAMPLE CONNECTION DETAILS AND PIPING ARRANGEMENT REFER TO P&ID. 1208-11-PR-PID-080/081.
2) SUN ROOF PROTECTION.
3) DELETED.
4) BY PUMP VENDOR.
5) DELETED.
6) AUDIBLE HORN ON LOW LEVEL ALARM FOR 18-TK-157.

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) FOR CDS CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-058.
11) DELETED
12) FOR STEAM AND CONDENSATE CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-051.

EQUIPMENT LIST

18-TK-157
18-P-159A/B

LICENSOR REF. : P102

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
04	07.01.2024	APPROVED FOR CONSTRUCTION	S.Alizadeh	A.R.Nazi	A.Azma	M.Saremi
03	24.09.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION	M.Fakhraie	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanahi	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mirzaie	A.Habibi	A.Azma	M.Saremi

OWNER : | MC : | EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
AMMONIUM SULPHATE STORAGE TANK AND PUMPS

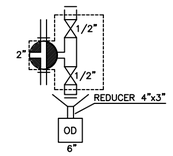
SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. : 1208-18-PR-PID-072	REV. 04	SIZE : A2
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208			

1208-18-PR-PID-073

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

NOTES:

1) THESE VALVES SHALL BE INSTALLED AS PER THE FOLLOWING SKETCH IN ORDER THAT WASHING FROM 1/2" CONNECTION IS NOT ALLOWED WHEN THE MAIN VALVE (2") IS OPEN



2) FOR UREA SOLUTION LINES TO GRANULATOR HEADERS ARRANGEMENT REFER TO DETAIL "G" ON P&ID. 1208-18-PR-PID-074.

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) FOR OPEN DRAIN CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-058.
11) FOR STEAM & CONDENSATE CONTINUATION REFER TO DWG.: 1208-01-PR-UDD-051.

LICENSOR REF. : P93

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
03	24.10.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION	M.Fakhraie	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanah	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mirzaie	A.Habibi	A.Azma	M.Saremi

OWNER : MC : EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
GRANULATOR UREA HEADERS DRAINS

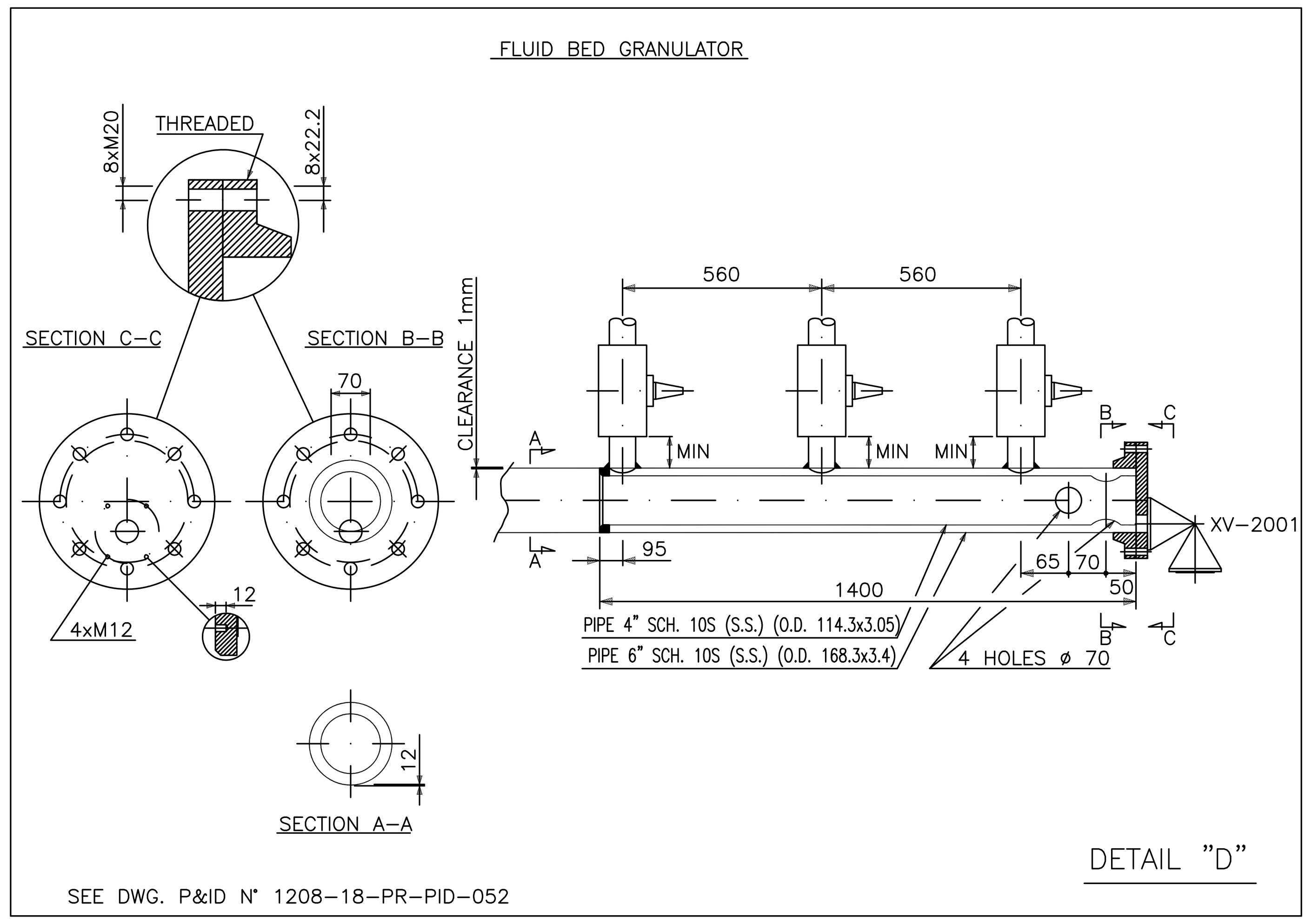
SCALE : N.T.S | OWNER PROJECT NO. : NA | DWG. NO. : 1208-18-PR-PID-073 | REV. 03 | SIZE : A2
SHT. : 1 OF 1 | PIDEC PROJECT NO. : 1208

1208-18-PR-PID-074

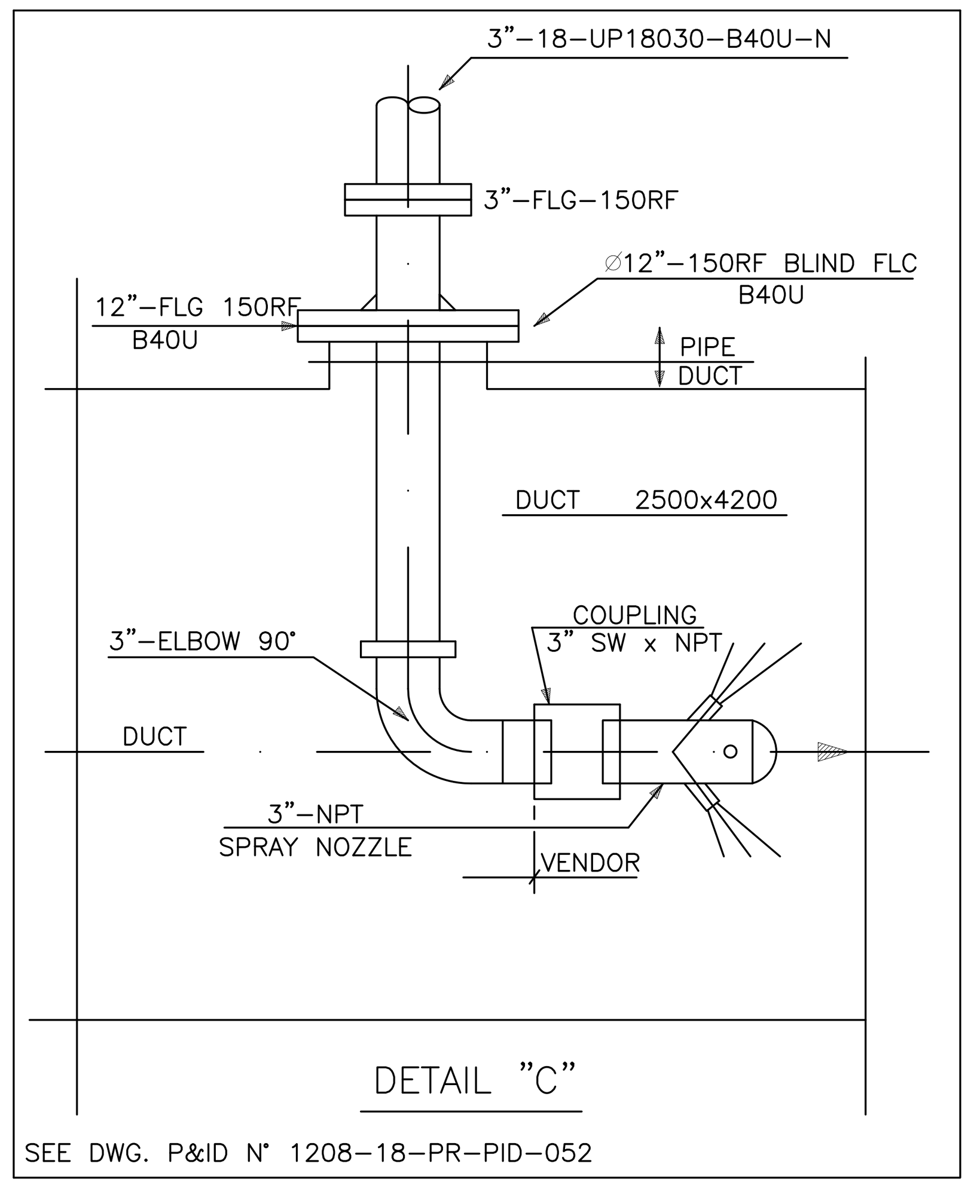
REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

NOTES:

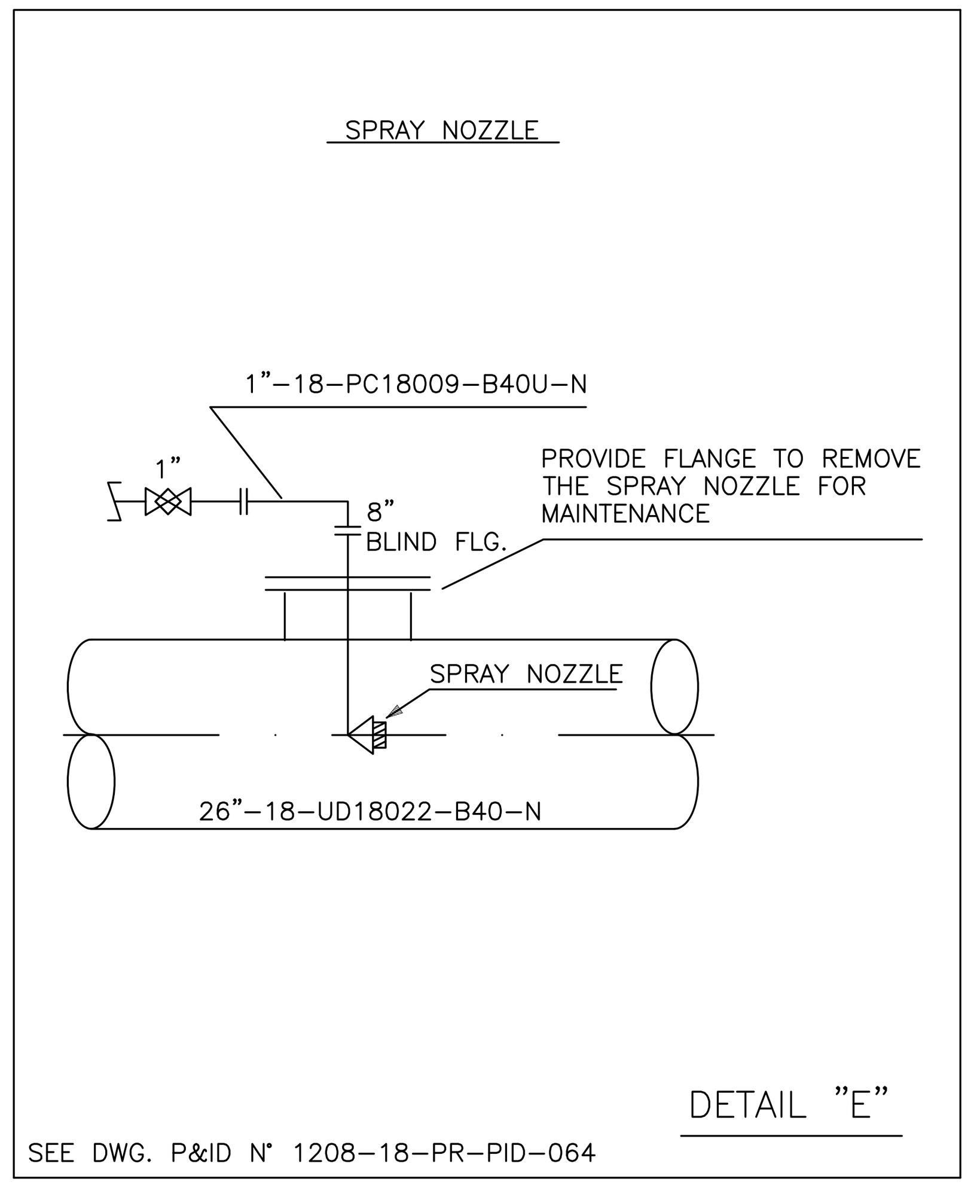
1) 1/2" FOR LT, 1 1/2" FOR LG.



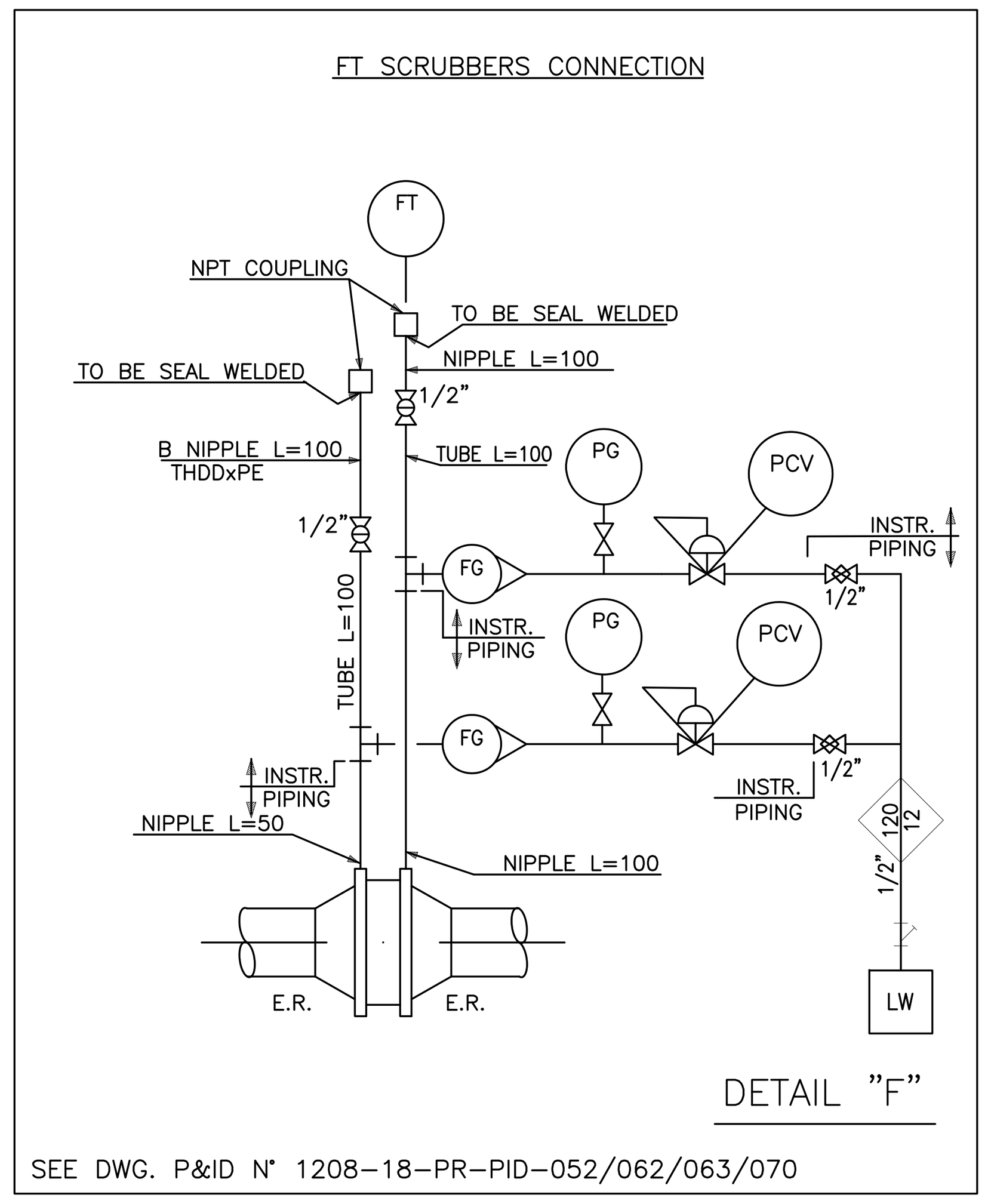
UREA MAIN HEADER SPECIAL PIECE



GRANULATOR AIR DUCT OUTLET WEAK SOLUTION SPRAYER



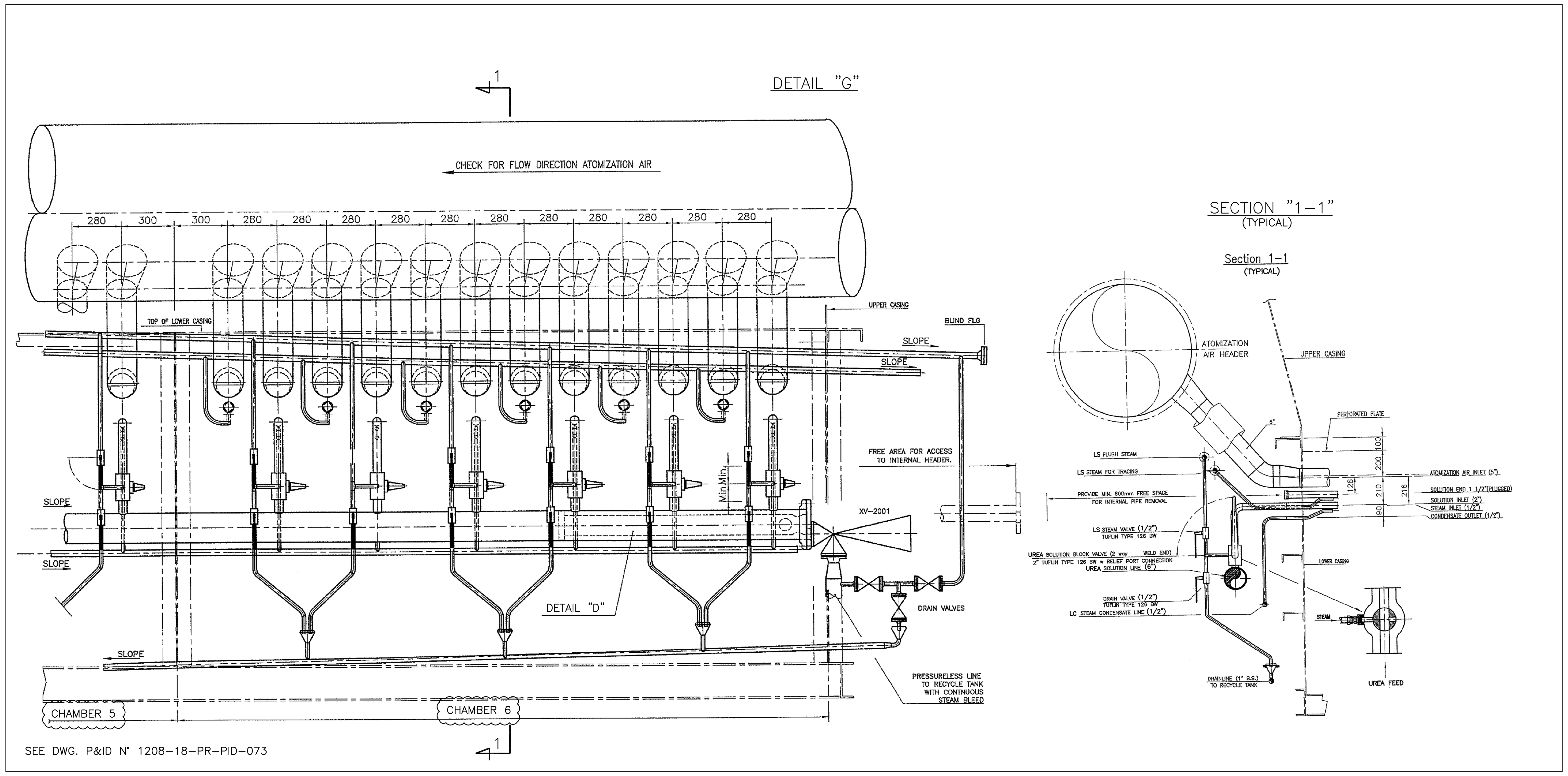
SUCTION DEDUSTING FAN WASHING SPRAY NOZZLE ARRANGEMENT



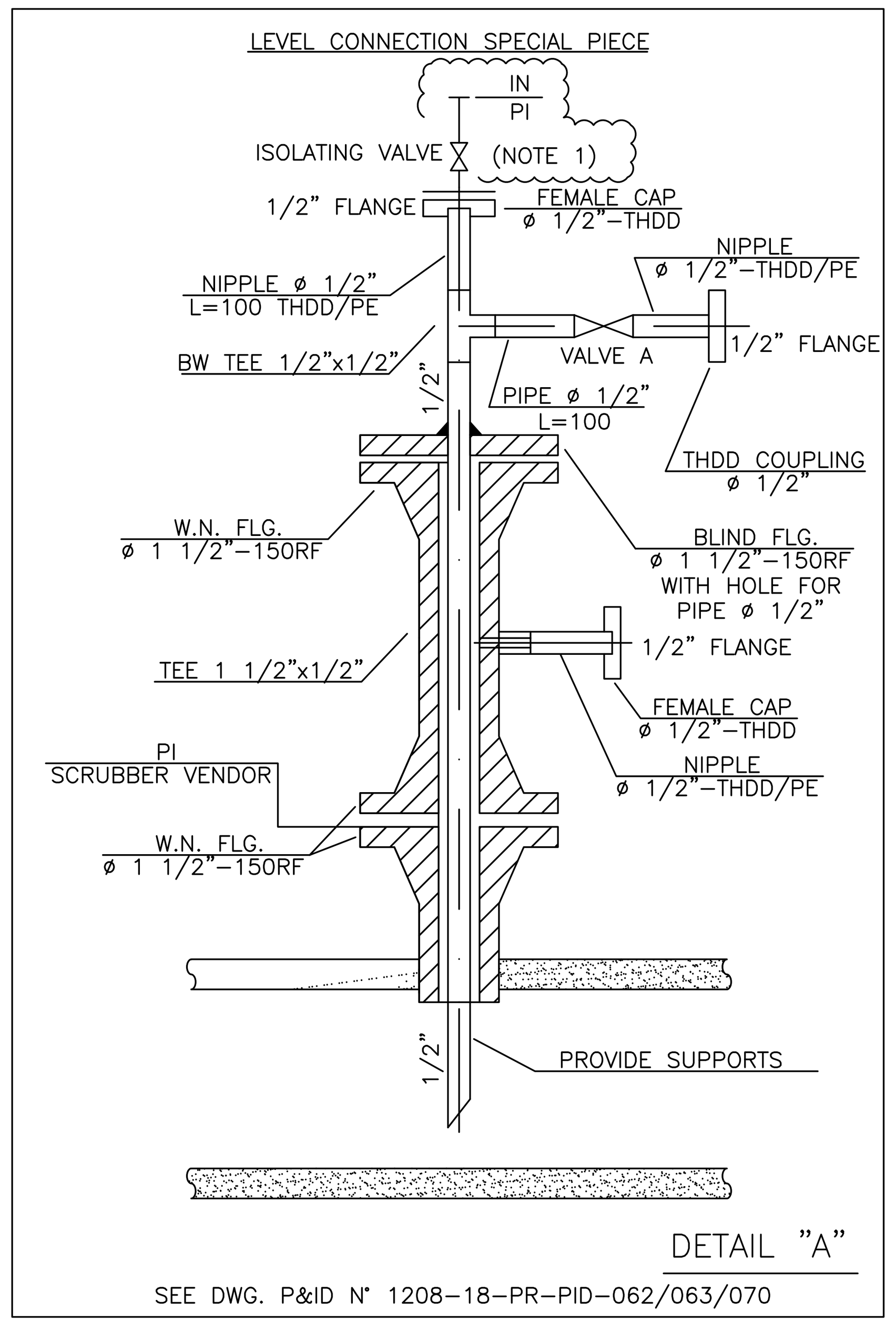
GENERAL NOTES

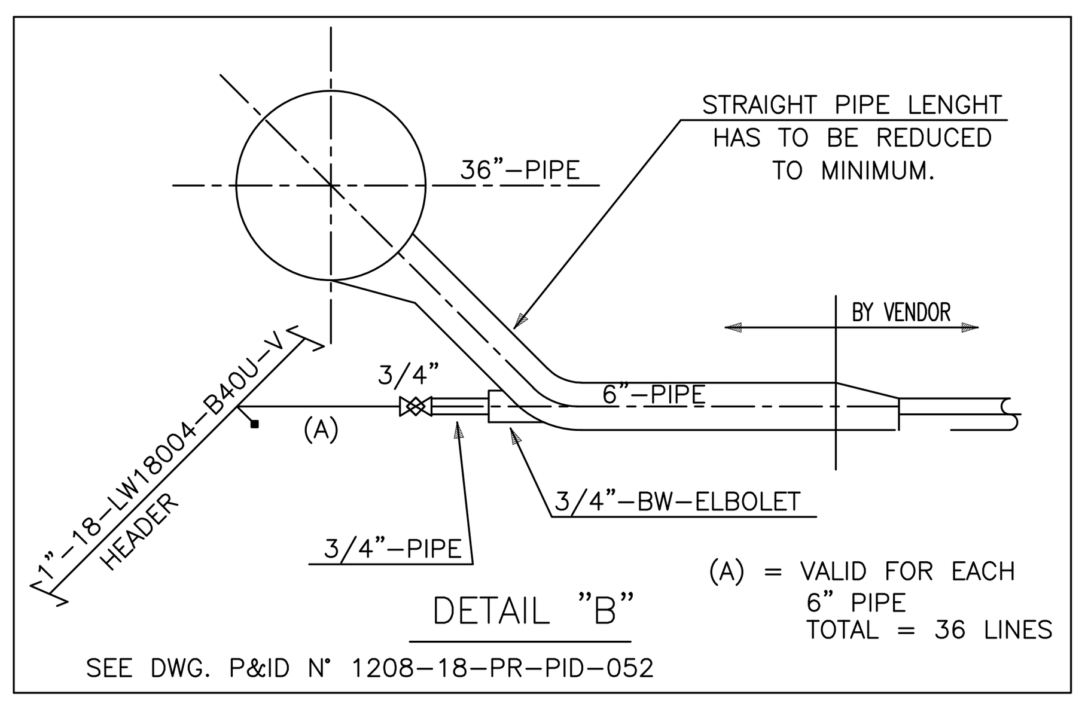
1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
7) ALL DRIP RINGS MUST BE INSTALLED TO HAVE THE RELEVANT TAPPING IN THE BOTTOM PART (THE LOWEST POINT). NO EXCEPTIONS ARE ALLOWED.
8) ALL CHECK VALVES HAVE TO BE INSTALLED IN VERTICAL POSITION, UNLESS VENDOR DIFFERENT INDICATIONS.
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.
10) FOR DETAIL "F" LINE & INSTRUMENT NO. REFER TO BELOW TABLE :

LINE NO. : 1/2"-18- LW18051-B24-V	1208-18-PR-PID-062	FT-2074	PG-2074A PG-2074B	PCV-2074A PCV-2074B	FI-2074A FI-2074B
LINE NO. : 1/2"-18- LW18052-B24-V	1208-18-PR-PID-062	FT-2011	PG-2011A PG-2011B	PCV-2011A PCV-2011B	FI-2011A FI-2011B
LINE NO. : 1/2"-18- LW18053-B24-V	1208-18-PR-PID-062	FT-2072	PG-2072A PG-2072B	PCV-2072A PCV-2072B	FI-2172A FI-2172B
LINE NO. : 1/2"-18- LW18054-B24-V	1208-18-PR-PID-062	FT-2073	PG-2073A PG-2073B	PCV-2073A PCV-2073B	FI-2173A FI-2173B
LINE NO. : 1/2"-18- LW18055-B24-V	1208-18-PR-PID-063	FT-2282	PG-2282A PG-2282B	PCV-2282A PCV-2282B	FI-2282A FI-2282B
LINE NO. : 1/2"-18- LW18056-B24-V	1208-18-PR-PID-063	FT-2083	PG-2083A PG-2083B	PCV-2083A PCV-2083B	FI-2183A FI-2183B
LINE NO. : 1/2"-18- LW18057-B24-V	1208-18-PR-PID-063	FT-2081	PG-2081A PG-2081B	PCV-2081A PCV-2081B	FI-2181A FI-2181B
LINE NO. : 1/2"-18- LW18058-B24-V	1208-18-PR-PID-070	FT-2094	PG-2094A PG-2094B	PCV-2094A PCV-2094B	FI-2094A FI-2094B
LINE NO. : 1/2"-18- LW18059-B24-V	1208-18-PR-PID-070	FT-2093	PG-2093A PG-2093B	PCV-2093A PCV-2093B	FI-2093A FI-2093B
LINE NO. : 1/2"-18- LW18060-B24-V	1208-18-PR-PID-063	FT-2082	PG-2082A PG-2082B	PCV-2082A PCV-2082B	FI-2082A FI-2082B
LINE NO. : 1/2"-18- LW18061-B24-V	1208-18-PR-PID-052	FT-2017	PG-2017A PG-2017B	PCV-2017A PCV-2017B	FI-2018A FI-2018B



UREA SOLUTION LINES TO GRANULATOR HEADERS – TYPICAL ARRANGEMENT





ATOMIZATION HEADER TYPICAL WASHING ARRANGEMENT

LICENSOR REF. : P104

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
04	07.01.2024	APPROVED FOR CONSTRUCTION	S.Alizadeh	A.R.Nazi	A.Azma	M.Saremi
03	07.10.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION	M.Fakhraie	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanahi	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mirzaie	A.Habibi	A.Azma	M.Saremi

OWNER : Persian Gulf Petrochemical Industries Co. PGPIC

MC : Persian Gulf Petrochemical Industries Co. PGPIC

EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE :

PIPING AND INSTRUMENT DIAGRAM

GRANULATION DETAILS

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. : 1208-18-PR-PID-074	REV. 04	SIZE : A2
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208			

1208-18-PR-PID-075

REFERENCE DRAWING	DWG. NO.
SYMBOLS AND IDENTIFICATIONS	1208-01-PR-PID-051-01

NOTES:

1) 26" DEDUSTING MAIN HEADER VERTICAL AS MUCH POSSIBLE NO POCKETS.
2) THIS SPACE MUST BE COVERED WITH REMOVABLE SPOOL OR RUBBER GUARD, AS LOT OF SPILLAGE OCCURS DURING START-UP BIN UNLOADING.

GENERAL NOTES

1) FOR SYMBOLS AND OTHER DETAILS PLEASE REFER TO PID. 1208-01-PR-PID-051.
2) ALL "OD" LINES SHALL HAVE SLOPE TO ENSURE FREE DRAINING TOWARDS 18-TK-153 TANK.
3) SAFETY AND CONTROL VALVE IN/OUT LINES AND RELATED BY-PASS LINE SIZE TO BE VERIFIED DURINGENGINEERING PHASE, AFTER CONTROL VALVES AND SAFETY VALVES SELECTION.
4) MFR / CONTRACTOR
5) WHERE IT'S INDICATED "MIN" OR "MINIMUM DISTANCE" THE LENGTH OF THE INTERESTED PIPE TO BE KEPT AS SHORT AS POSSIBLE (ABOUT ONE HUNDRED MILLIMITERS) IN ORDER TO PREVENT DEAD ZONE.
6) FOR THE DESCRIPTION OF ATTRIBUTES OF HYDRAULIC CONSTRAINTS OF LINES (SELF DRAINING, SLOPE, GRAVITY FLOW, ETC.) REFER TO DOC. "GENERAL REQUIREMENTS FOR PIPING" WHERE SPECIFIC REQUIREMENTS ARE INDICATED THAT PIPING SHALL FOLLOW. NO EXCEPTIONS ARE ALLOWED.
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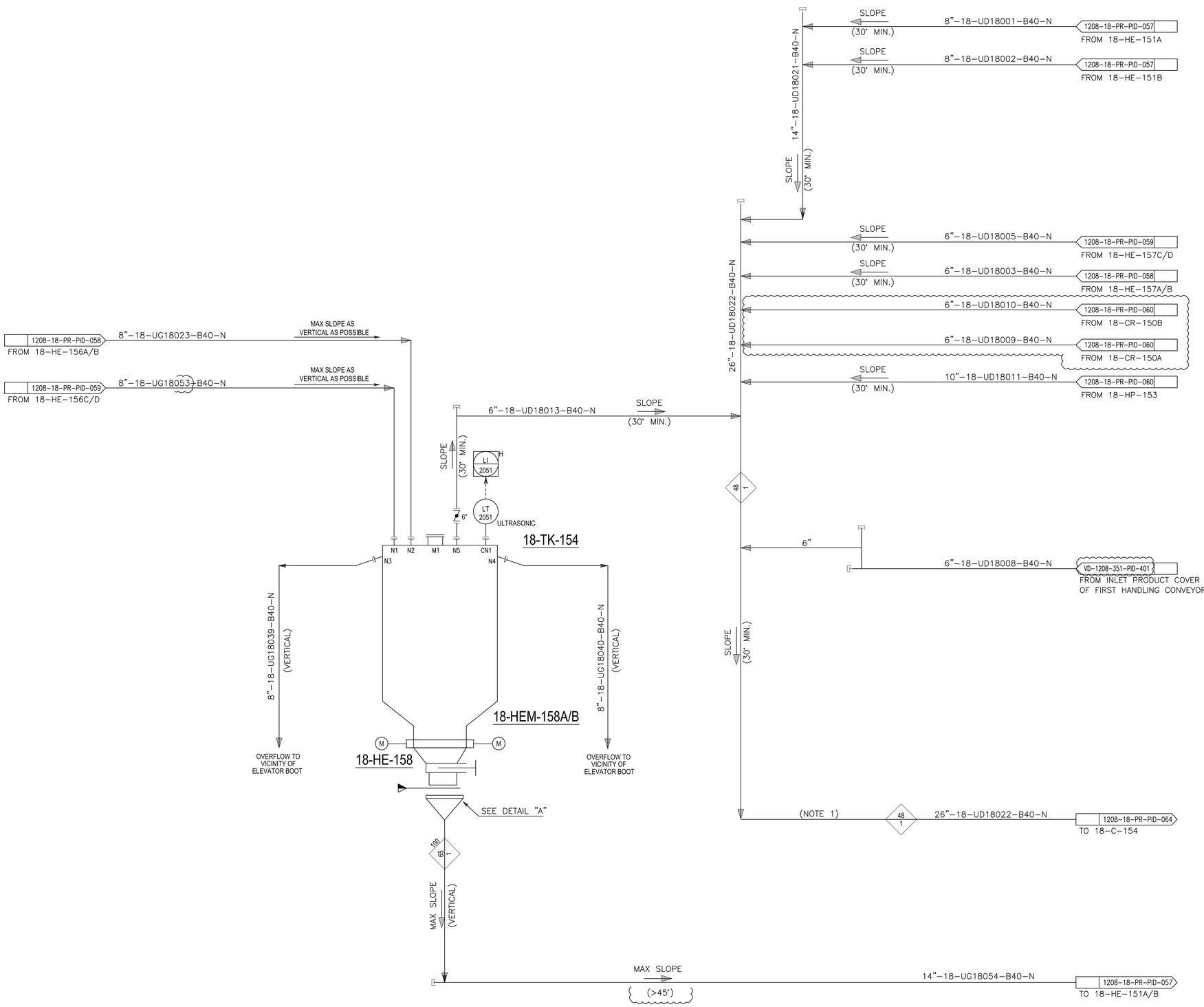
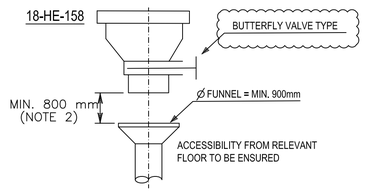
9) MECHANIZATION OF PIPING AND INSTRUMENTATION HAS BEEN PERFORMED ACCORDING WITH LICENSOR'S STANDARDS AS MINIMUM REQUIREMENT AND IT SHALL BE COMPLETED BY ENGINEERING CONTRACTOR.



DETAIL "A"



EQUIPMENT LIST

18-HE-158
18-TK-154

18-TK-154 START-UP BIN	18-HE-158 START-UP BIN EXTRACTOR
I.D. x TL.TL : 3700 x 6800 mm	DISCHARGE RATE. : 100,000 kg/hr
DESIGN PRESS. : -1200 mmWC/HYDROSTATIC+0.077 barg	INSULATION : NO
DESIGN TEMP. : 100°C	
INSULATION : NO	
TRIM LINE NO. : 18-UG18049-B40-N	

LICENSOR REF. : P105

DE	EXT	AFC	A
Eng. Phase	Purpose of Distribution (POD)	Purpose of Issue (POI)	Owner's Action

REV.	ISSUE DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	PROJECT
03	27.08.2023	APPROVED FOR CONSTRUCTION	P.Kiani	A.Azma	A.Azma	M.Saremi
02	24.12.2022	APPROVED FOR CONSTRUCTION	M.Fakhraie	A.Azma	A.Azma	M.Saremi
01	12.06.2018	APPROVED FOR CONSTRUCTION (WITH HOLD)	M.Yazdanpanah	A.Azma	A.Azma	M.Saremi
00	22.05.2017	ISSUED FOR ENGINEERING	F.Mizaie	A.Habibi	A.Azma	M.Saremi

OWNER : شرکت سرمایه گذاری صنایع پتروشیمی

MC : شرکت سرمایه گذاری صنایع پتروشیمی

EPCC CONTRACTOR : PIDEC

PROJECT : HENGAM FERTILIZER PROJECT

TITLE : PIPING AND INSTRUMENT DIAGRAM
START-UP BIN

SCALE : N.T.S	OWNER PROJECT NO. : NA	DWG. NO. :	REV.	SIZE :
SHT. : 1 OF 1	PIDEC PROJECT NO. : 1208	1208-18-PR-PID-075	03	A2