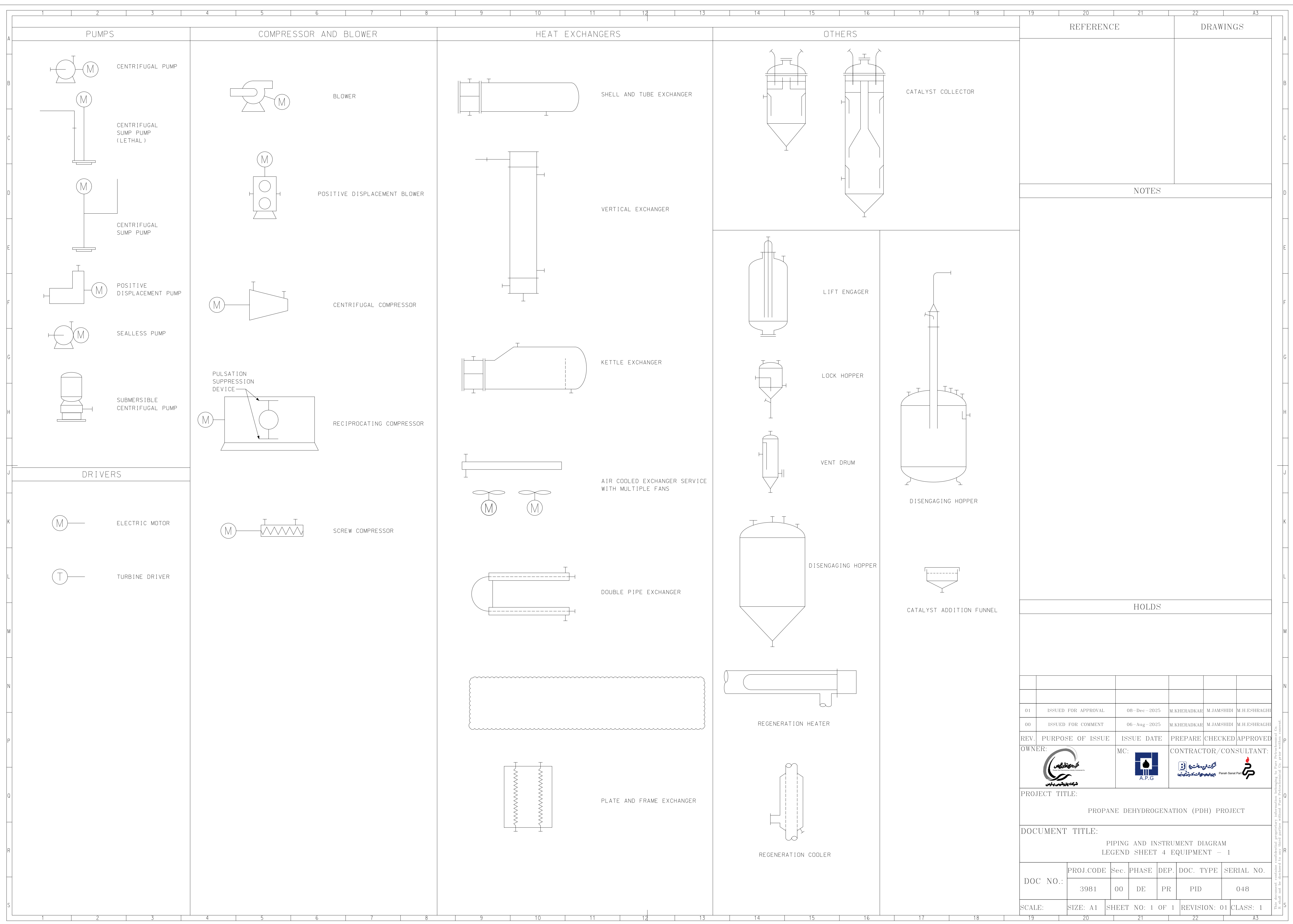
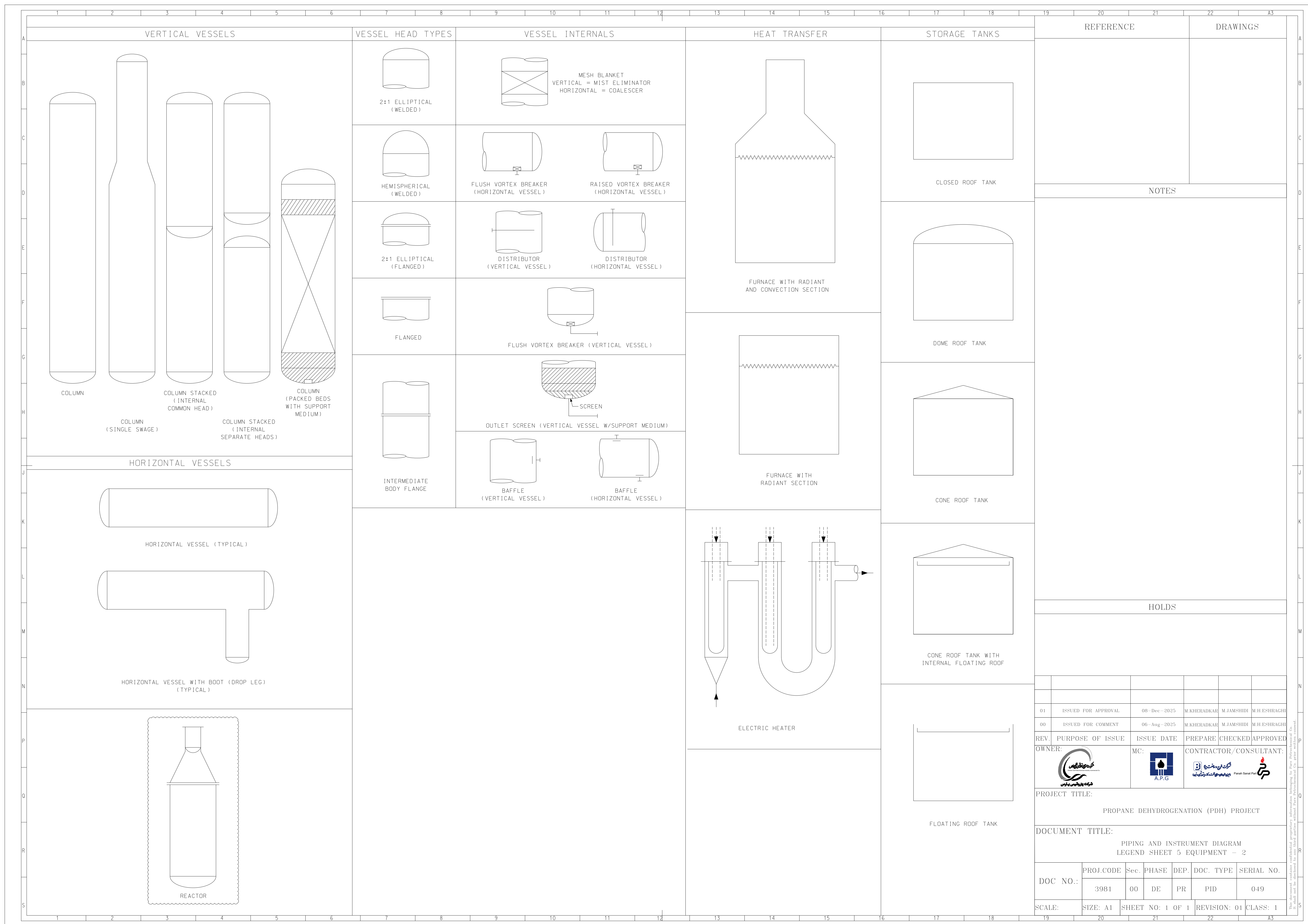


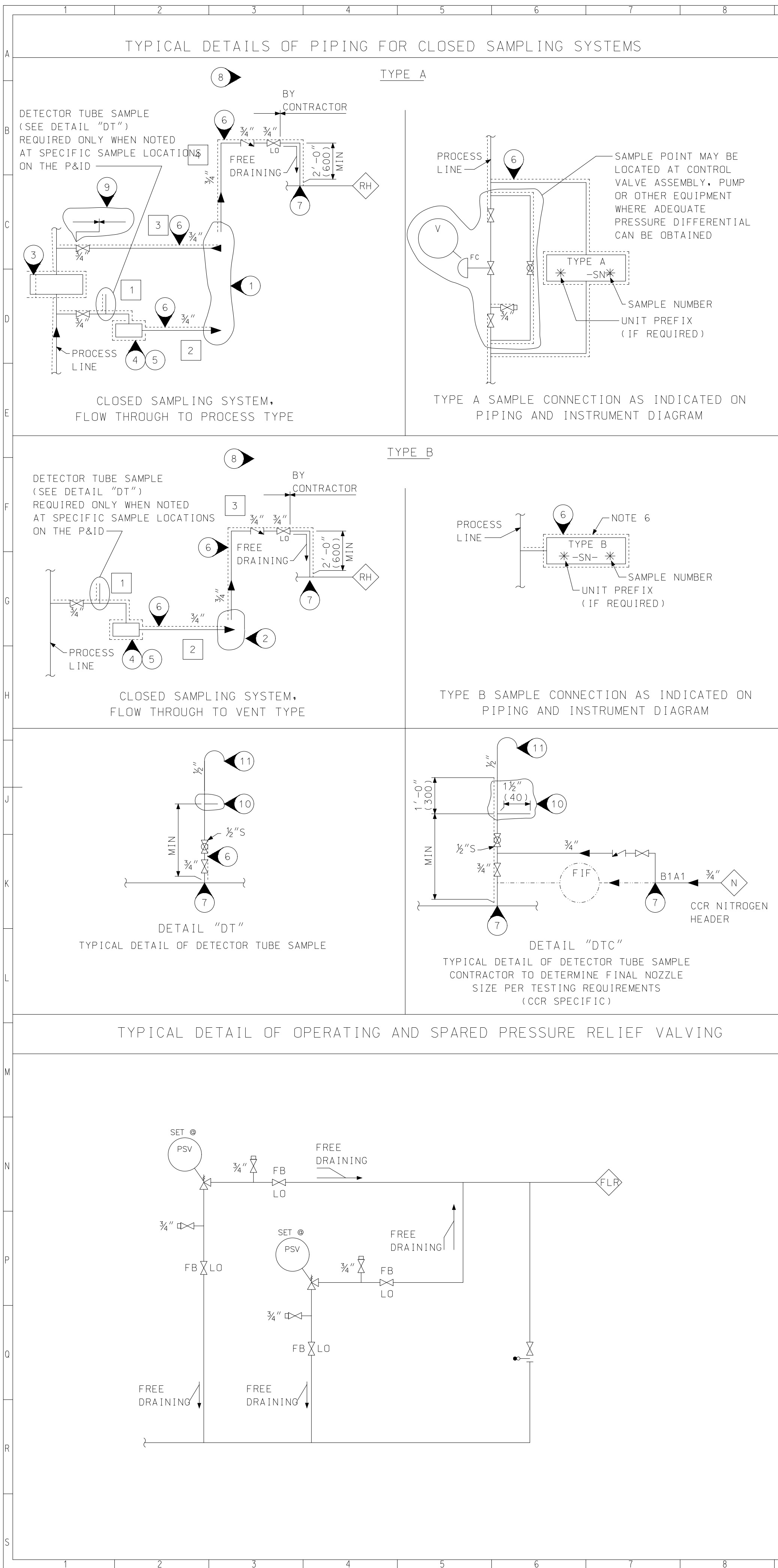
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	A3	
A	VALVE SYMBOLS			LETTERS AT INDIVIDUAL VALVES DESIGNATE							MISCELLANEOUS SYMBOLS					OFF-PAGE & UTILITIES CONNECTORS					REFERENCE		DRAWINGS	
B	GATE			A MONEL (ALLOY 400) TRIM (GREASE SEALED SEAT AND PACKING)							Y-TYPE STRAINER					IN-UNIT CONNECTOR DRAWING NUMBER CONNECTOR NUMBER								
C	CHECK			B MONEL (ALLOY 400) VALVE (GREASE SEALED SEAT AND PACKING)							T-TYPE STRAINER													
D	GLOBE			CC SOLID ALLOY VALVE							BASKET STRAINER					OFF-UNIT CONNECTOR DRAWING NUMBER CONNECTOR NUMBER					NOTES			
E	BALL			CSC CAR SEAL CLOSED							DETONATION ARRESTOR													
F	PLUG			CSO CAR SEAL OPEN							STEAM TRAP					UOP UNIT TO/FROM UOP UNIT DRAWING NUMBER PROJECT NUMBER					GENERAL NOTES: 1. ALL NONE-OPERATIONAL VALVED CONNECTIONS TO ATMOSPHERE IN PROCESS SERVICE WILL BE CAPPED/PLUGGED OR BLIND FLANGED. 2. NON-OPERATING (TEST) HIGH POINT VENTS AND LOW POINT DRAINS AT EXCHANGERS, ROTARY EQUIPMENT AND PIPING ARE NOT SHOWN. 3. ALL LINES VENT AND DRAIN ARE 3/4" UNLESS OTHERWISE SPECIFIED. 4. 13MM WEEP HOLES TO BE PROVIDED AT LOW POINTS OF PRESSURE RELIEF VALVE, BREATHER VALVE AND RUPTURE DISK DISCHARGE LINES TO ATMOSPHERE. 5. ENLARGEMENTS AND RESTRICTIONS (REDUCERS) IN PRESSURE RELIEF VALVE INLET OR OUTLET PIPING SHALL BE MINIMUM DISTANCE FROM THE PRESSURE RELIEF VALVES. 6. ENLARGEMENTS AND RESTRICTIONS (REDUCERS) IN PROXIMITY OF MACHINES, CONTROL VALVES AND SAFETY VALVES SHALL BE CONSIDERED AS HOLD OR PRELIMINARY UNTIL RECEIVING OF VENDOR DATA. 7. ALL THE REQUIRED STRAIGHT RUN FOR INSTRUMENTATIONS AND EQUIPMENT SHALL BE FINALIZED BASED ON VENDOR ADVICE. 8. ALL PSV INLET AND OUTLET LINE SIZES AND SIZE OF ALL CONTROL VALVES' SET (BLOCK AND BY PASS VALVE/LINE SIZE) SHALL BE CONSIDERED PRELIMINARY UNTIL RECEIVING OF VENDOR DATA. 9. ALL PSV INLET AND OUTLET ISOLATION VALVES SHALL BE FULL BORE. 10. ALL PSV INLET LINES SHALL BE WITHOUT POCKETS AND SHALL BE SLOPED TOWARDS VESSEL OR LINE ON WHICH IT IS INSTALLED. 11. ALL PSV OUTLET FLARE LINES SHALL BE WITHOUT POCKETS AND SHALL BE SLOPED TOWARDS THE MAIN HEADER AND SHALL BE CONNECTED FROM TOP AT AN ANGLE OF 45 IN THE DIRECTION OF FLOW UNLESS THE LINE SIZE IS 1 1/4" OR SMALLER. 12. VENT/DRAIN AT PSVs SHALL BE PROVIDED AS WHEN SPECIFIED ON P&ID AS FOLLOWS: A. VENT AT PSV OUTLET (UPSTREAM OF THE BLOCK VALVE), IF SPECIFIED ON THE P&ID B. DRAIN AT PSV INLET (DOWNSTREAM OF THE BLOCK VALVE), IF SPECIFIED ON THE P&ID 13. NO POCKETS SHALL MEAN "NO LIQUID POCKETS". WHEN IT IS NECESSARY TO PREVENT VAPOR POCKETS, IT SHOULD BE MENTIONED BY "NO VAPOR POCKET". 14. GATE VALVES SHALL BE POSITIONED WITH THE STEM HORIZONTAL OR DOWNWARD IN THE FLARE SYSTEMS. 15. WHEN EQUIPMENT TRIM IS NOT INDICATED, THE PIPING CLASS SHALL BE FOLLOWED. 16. IN CASE OF THE VALUE IS NOT INDICATED AND ONLY SLOPE SYMBOL IS SHOWN ON A LINE, IT SHOULD BE CONSIDERED AS 0.2% MINIMUM. 17. MAIN BLOCK VALVE FOR STEAM-OUT LINES, SHALL BE AT THE MINIMUM DISTANCE FROM THE STEAM HEADER. 18. UNLESS OTHERWISE SPECIFIED, ALL MANUAL GLOBE VALVES SHALL HAVE LINEAR PORT. 19. STRAINER SHALL BE PROVIDED FOR STEAM TRAPS AS FOLLOWS: A. BALL FLOAT AND INVERTED BUCKET: EXTERNAL STRAINER (IN ADDITION TO POSSIBLE INTERNAL STRAINER PROVIDED BY VENDOR) B. THERMODYNAMIC AND THERMOSTATIC: INTERNAL STRAINER 20. LONG BOLT FLANGE JOINTS FOR COMBUSTIBLE, FLAMMABLE OR LPG SERVICES SHOULD BE AVOIDED. 21. VALVES SHALL BE PROVIDED FOR HYDRO TEST DRAIN OF CAU, DMPS, SOL AND MET SERVICE LINES.			
G	BUTTERFLY			FLO FAILS LOCKED: VALVE POSITION DOES NOT CHANGE ON LOSS OF ACTUATING MEDIUM SUPPLY. (CLOSING ON MINIMUM SIGNAL TO VALVE ACTUATOR)							MANWAY					CLOSED DRAIN DRAWING NUMBER CONNECTOR NUMBER DESTINATION (SERVICE CODE)								
H	NEEDLE			FP FULL PORT							REMOVABLE SPOOL					OPEN DRAIN DRAWING NUMBER CONNECTOR NUMBER DESTINATION (SERVICE CODE)					HOLDS			
I	DIAPHRAGM			FS FIRE SAFE							FLEXIBLE HOSE					TIE-IN POINTS FOR PACKAGE DRAWING NUMBER CONNECTOR NUMBER DESTINATION (SERVICE CODE)								
J	THREE WAY			GM GEAR OPERATED OR MOTORIZED VALVE							EXPANSION JOINT					TO AND FROM UTILITIES								
K	FOUR WAY			GO GEAR OPERATED VALVE							DAMPER													
L	ANGLE			H HASTELLOY TRIM							VENT COVER					EXHAUST HEAD								
M	STOP CHECK			LC LOCK CLOSED							SIGHT GLASS													
N	INTERMITTENT BLOWDOWN (BLOW-OFF)			LO LOCK OPEN							AGITATOR/MIXER					DESUPERHEATER								
O	CONTINUOUS BLOWDOWN			M MONEL (ALLOY 400) TRIM							FILTER					STATIC MIXER								
P	GATE WITH BODY BLEED			MN MONEL (ALLOY 400) TRIM, CARBON STEEL VALVE IN COMPLIANCE WITH NACE MR0103							EJECTOR/EDUCTOR					SILENCER								
Q	HYDRAULIC CONTROL			MS METAL SEAT							SWING ELBOW					NOTE REFERENCE SYMBOL (XX = NOTE NUMBER, ROTATE ARROW AS REQUIRED)								
R	FLOW CONTROL			MSS METAL SEAT STELLITE							BATTERY LIMITS					FREE DRAINING REQUIREMENT DENOTES NON-POCKETED, GRAVITY FLOW LINE WITH INDICATED DIRECTION OF FLOW								
S	KNIFE WITH HANDWHEEL			NC NORMALLY CLOSED							BASE LINE					FLAME ARRESTOR								
	KNIFE WITH ACTUATOR			NO NORMALLY OPEN							FLAME ARRESTOR					PULSATION DAMPER								
	CONTROL VALVE WITH ACTUATOR			OT OVER TRAVEL							CALIBRATION POT													
	CONTROL VALVE WITH ACTUATOR AND HANDWHEEL			RTSV ROTARY TIGHT SHUT-OFF VALVE							DOR O LOK COUPLING					BIRD SCREEN								
				SS STELLITE TRIM							BY CONTRACTOR					BY VENDOR								
				ST MONEL (ALLOY 400) TRIM (TEFLON INSERT WITH GREASE SEALED PACKING)							VENDOR SCOPE OF WORK/SUPPLY													
				TSD TIGHT SHUT-OFF																				
				V-Y-PORT																				
				X TYPE 316 STAINLESS STEEL TRIM VALVE																				
				XN TYPE 316 STAINLESS STEEL TRIM VALVE IN COMPLIANCE WITH NACE MR0103																				
				XX 18-8 STAINLESS STEEL TRIM VALVE																				

GENERAL ABBREVIATIONS					SERVICE CODES					LINE SERVICE					REFERENCE		DRAWINGS																																																																																	
<div>ATM ATMOSPHERE</div> <div>BL BATTERY LIMITS</div> <div>BMS BURNER MANAGEMENT SYSTEM</div> <div>BTL BOTTOM TANGENT LINE</div> <div>CEMS CONTINUOUS EMISSION MONITORING SYSTEM</div> <div>CL CENTERLINE</div> <div>CMS CONDITIONAL MONITORING SYSTEM</div> <div>CONN CONNECTION</div> <div>COR CENTER OF RANGE</div> <div>D DRAIN</div> <div>DA AERATION POINT USING AIR</div> <div>DG AERATION POINT USING GAS</div> <div>DN AERATION POINT USING NITROGEN</div> <div>DS AERATION POINT USING STEAM</div> <div>DCS DISTRIBUTED CONTROL SYSTEM</div> <div>DES DESIGN</div> <div>DIA DIAMETER</div> <div>DP DESIGN PRESSURE</div> <div>DT DESIGN TEMPERATURE</div> <div>EIV EMERGENCY ISOLATION VALVE</div> <div>ESD EMERGENCY SHUTDOWN</div> <div>FGS FIRE & GAS SYSTEM</div> <div>FLG FLANGE</div> <div>HH HAND HOLE</div> <div>HOA HAND/OFF/AUTOMATIC</div> <div>HP HIGH PRESSURE</div> <div>IAS INSTRUMENT AIR SUPPLY</div> <div>IF INSULATION FLANG</div> <div>INS INSULATE</div> <div>ISBL INSIDE BATTERY LIMITS</div> <div>LCP LOCAL CONTROL PANEL</div> <div>LP LOW PRESSURE</div> <div>MAX MAXIMUM</div> <div>MIN MINIMUM</div> <div>MW MANWAY</div> <div>NNF NORMALLY NO FLOW</div> <div>O/C OPEN/CLOSE</div> <div>O/O ON/OFF</div> <div>OSBL OUTSIDE BATTERY LIMITS</div> <div>PLC PROGRAMMABLE LOGIC CONTROLLER</div> <div>PRV PRESSURE RELIEF VALVE</div> <div>PSE RUPTURE DISC ASSEMBLY</div> <div>PSV PRESSURE SAFETY VALVE</div> <div>PTP PIPETAP PLUGGED</div> <div>PWHT POSTWELD HEAT TREAT</div> <div>RO RESTRICTION ORIFICE</div> <div><div>SG SIGHT GLASS</div></div> <div>SN SAMPLE CONNECTION</div> <div>SIS SAFETY INSTRUMENTED SYSTEM</div> <div>SO STEAM OUT</div> <div>SS STAINLESS STEEL</div> <div>TSV THERMAL SAFETY VALVE</div> <div>T/T TANGENT TO TANGENT</div> <div>TYP TYPICAL</div> <div>UTC UTILITY CONNECTION</div> <div>V VENT</div> <div>VF VENDOR FURNISHED</div> <div>WISI WINTERIZE, INSULATE, HEAT TRACE, INSULATE</div> <div>1oo2 ONE OUT OF TWO VOTING</div> <div>2oo2 TWO OUT OF TWO VOTING</div> <div>2oo3 TWO OUT OF THREE VOTING</div>					<div><div></div><div>SERVICE CODE SYMBOL</div></div> <div><div>RELIEF HEADER</div><div><div>DF</div><div>DRY/COLD RELIEF HEADER</div></div><div><div>RH</div><div>RELIEF HEADER</div></div><div><div>WF</div><div>WET/WARM RELIEF HEADER</div></div></div> <div><div>STEAM</div><div><div>HS</div><div>HIGH PRESSURE STEAM</div></div><div><div>LLS</div><div>LOW LOW PRESSURE STEAM</div></div><div><div>LS</div><div>LOW PRESSURE STEAM</div></div><div><div>MS</div><div>MEDIUM PRESSURE STEAM</div></div></div> <div><div>CONDENSATE</div><div><div>C</div><div>CONDENSATE</div></div><div><div>HC</div><div>HIGH PRESSURE CONDENSATE</div></div><div><div>LC</div><div>LOW PRESSURE CONDENSATE</div></div><div><div>MC</div><div>MEDIUM PRESSURE CONDENSATE</div></div><div><div>SC</div><div>STEAM CONDENSATE</div></div></div> <div><div>WATER</div><div><div>BFW</div><div>BOILER FEED WATER</div></div><div><div>CWR</div><div>COOLING WATER RETURN</div></div><div><div>CWS</div><div>COOLING WATER SUPPLY</div></div><div><div>DSW</div><div>DESALINATED WATER</div></div><div><div>DW</div><div>DEMINERALIZED WATER</div></div><div><div>FW</div><div>FIRE WATER</div></div><div><div>POW</div><div>POTABLE WATER</div></div><div><div>WW</div><div>WASTE WATER</div></div><div><div>W</div><div>WATER (TYPE SPECIFIED AT P&ID)</div></div></div> <div><div>SUMP</div></div> <div><div>VENT</div><div><div>AV</div><div>ATMOSPHERIC VENT</div></div></div> <div><div>DRAIN</div><div><div>CDH</div><div>CLOSED DRAIN HEADER</div></div><div><div>CHS</div><div>CHEMICAL SEWER</div></div><div><div>OWS</div><div>OILY WATER SEWER</div></div><div><div>NAS</div><div>CAUSTIC SEWER</div></div></div>					<div><div>AV</div><div>ATMOSPHERIC VENT (NON PSV)</div></div> <div><div>AC</div><div>ACID</div></div> <div><div>BFW</div><div>BOILER FEEDWATER</div></div> <div><div>CWS</div><div>COOLING WATER SUPPLY</div></div> <div><div>CWR</div><div>COOLING WATER RETURN</div></div> <div><div>CAU</div><div>CAUSTIC</div></div> 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<div><div>OM</div><div>OIL MIST</div></div> <div><div>PRO</div><div>PROPANE</div></div> <div><div>PRY</div><div>PROPYLENE</div></div> <div><div>PG</div><div>PROCESS GAS</div></div> <div><div>PL</div><div>PROCESS LIQUID</div></div> <div><div>PGL</div><div>PROCESS LIQUID&GAS</div></div> <div><div>PA</div><div>PLANT AIR</div></div> <div><div>POW</div><div>POTABLE WATER</div></div> <div><div>RG</div><div>REGENERATION GAS</div></div> <div><div>RW</div><div>INDUSTRIAL WATER</div></div> <div><div>SV</div><div>SAFETY VALVE TO ATMOSPHERE</div></div> <div><div>SOL</div><div>SOLVENT</div></div> <div><div>SD</div><div>NEUTRALIZATION LIQUID</div></div> <div><div>SY</div><div>WASTE OIL</div></div> <div><div>CLG</div><div>CHLORINE</div></div> <div><div>SN</div><div>SANITARY</div></div> <div><div>WF</div><div>WET/WARM FLARE</div></div> <div><div>WSW</div><div>WASHING WATER</div></div> <div><div>WW</div><div>WASTE WATER</div></div> <div><div>WO</div><div>WASH OIL</div></div> 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					00		ISSUED FOR COMMENT		06-Aug-2025		M.KHERADKAR		M.JAMSHIDI		M.H.ESHRAGHI																																																																																			
REV. PURPOSE OF ISSUE					ISSUE DATE		PREPARE		CHECKED		APPROVED		OWNER:		MC:		CONTRACTOR/CONSULTANT:																																																																																	
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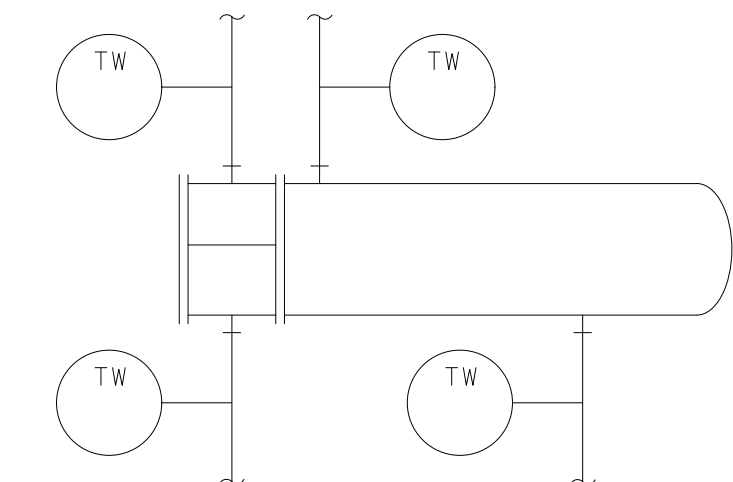




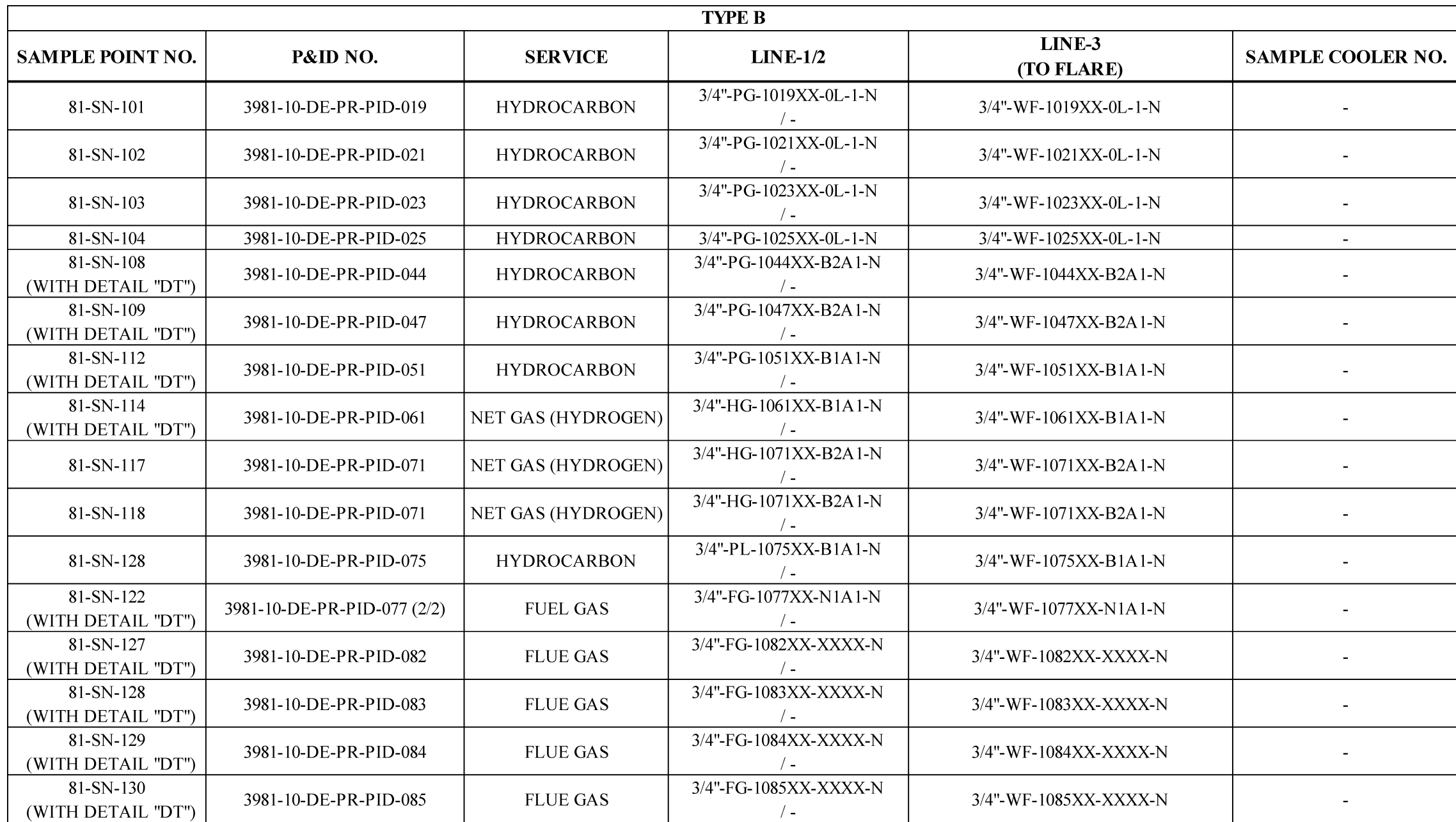
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SAMPLE POINT NO.	P&ID NO.	SERVICE	LINE-1/2	LINE-3	LINE-4 (TO FLARE)	SAMPLE COOLER NO.
81-SN-105	3981-10-DE-PR-PID-035	SOLVENT	3/4"-SOL-1035XX-B2A1-N /-	3/4"-SOL-1035XX-B1A1-N	3/4"-WF-1035XX-B1A1-N	-
81-SN-106	3981-10-DE-PR-PID-035	SOLVENT	3/4"-SOL-1035XX-B1A1-N /-	3/4"-SOL-1035XX-B1A1-N	3/4"-WF-1035XX-B1A1-N	-
81-SN-107 (WITH DETAIL "DT")	3981-10-DE-PR-PID-041	HYDROCARBON	3/4"-PG-1041XX-B1A1-N /-	3/4"-PG-1041XX-B1A1-N	3/4"-WF-1041XX-B1A1-N	-
81-SN-111	3981-10-DE-PR-PID-050	SOLVENT	3/4"-SOL-1050XX-B2A1-N /-	3/4"-SOL-1050XX-B1A1-N	3/4"-WF-1050XX-B1A1-N	-
81-SN-113	3981-10-DE-PR-PID-060	WASTE WATER	3/4"-WW-1060XX-B1A1-N /-	3/4"-WW-1060XX-B2A1-N	3/4"-WF-1060XX-B2A1-N	-
81-SN-115	3981-10-DE-PR-PID-062	CAUSTIC	3/4"-CAU-1062XX-B1A2-N /-	3/4"-CAU-1062XX-B2A2-N	3/4"-WF-1062XX-B2A2-N	-
81-SN-127	3981-10-DE-PR-PID-070	HYDROCARBON	3/4"-PL-1070XX-B1A1-N /-	3/4"-PL-1070XX-B1A1-N	3/4"-WF-1070XX-B1A1-N	-
81-SN-119	3981-10-DE-PR-PID-072	HYDROCARBON	3/4"-SOL-1072XX-B1A1-N /-	3/4"-SOL-1072XX-B2A1-N	3/4"-WF-1072XX-B2A1-N	-
81-SN-120	3981-10-DE-PR-PID-074	HYDROCARBON	3/4"-SOL-1074XX-B1A1-N /-	3/4"-SOL-1074XX-B1A1-N	3/4"-WF-1074XX-B1A1-N	-
81-SN-121	3981-10-DE-PR-PID-076	HYDROCARBON	3/4"-PL-1076XX-B1A1-N /-	3/4"-SOL-1076XX-B1A1-N	3/4"-WF-1076XX-B1A1-N	-
81-SN-201	3981-20-DE-PR-PID-020	PROPANE	3/4"-PRO-2020XX-B2A1-N /-	3/4"-PRO-2020XX-B2A1-N	3/4"-WF-2020XX-B2A1-N	-
81-SN-202	3981-20-DE-PR-PID-021	PROPANE	3/4"-PRO-2021XX-B2A1-N /-	3/4"-PRO-2021XX-B2A1-N	3/4"-WF-2021XX-B2A1-N	-
81-SN-216	3981-20-DE-PR-PID-022	PROPANE	3/4"-PRO-2022XX-B2A1-N /-	3/4"-PRO-2022XX-B2A1-N	3/4"-WF-2022XX-B2A1-N	-
81-SN-203	3981-20-DE-PR-PID-035	PROPANE	3/4"-PL-2035XX-B2A1-N /-	3/4"-PL-2035XX-B2A1-N	3/4"-DF-2035XX-B2A1-N (CONNECT TO COLD RELIEF HEADER)	-
81-SN-206	3981-20-DE-PR-PID-041	PROPANE	3/4"-PL-2041XX-B2A1-N /-	3/4"-PL-2041XX-B2A1-N	3/4"-DF-2041XX-B2A1-N (CONNECT TO COLD RELIEF HEADER)	-
81-SN-205	3981-20-DE-PR-PID-038	HYDROCARBON	3/4"-PL-2038XX-B2A1-N /-	3/4"-PL-2038XX-B2A1-N	3/4"-DF-2038XX-B2A1-N (CONNECT TO COLD RELIEF HEADER)	-
81-SN-207	3981-20-DE-PR-PID-044	HYDROCARBON	3/4"-PL-2044XX-B2A1-N /-	3/4"-PL-2044XX-B2A1-N	3/4"-DF-2044XX-B2A1-N (CONNECT TO COLD RELIEF HEADER)	-
81-SN-208	3981-20-DE-PR-PID-044	HYDROCARBON	3/4"-PL-2044XX-B2A1-N /-	3/4"-PL-2044XX-B2A1-N	3/4"-DF-2044XX-B2A1-N (CONNECT TO COLD RELIEF HEADER)	-
81-SN-209	3981-20-DE-PR-PID-047	HYDROCARBON	3/4"-PL-2047XX-B2A1-N /-	3/4"-PL-2047XX-B2A1-N	3/4"-DF-2047XX-B2A1-N (CONNECT TO COLD RELIEF HEADER)	-
81-SN-210	3981-20-DE-PR-PID-048	HYDROCARBON	3/4"-PL-2048XX-B2A1-N /-	3/4"-PL-2048XX-B2A1-N	3/4"-DF-2047XX-B2A1-N (CONNECT TO COLD RELIEF HEADER)	-
81-SN-211	3981-20-DE-PR-PID-050	HYDROCARBON	3/4"-PL-2050XX-B2A1-N /-	3/4"-PL-2050XX-B2A1-N	3/4"-DF-2050XX-B2A1-N (CONNECT TO COLD RELIEF HEADER)	-
81-SN-212	3981-20-DE-PR-PID-051	HYDROCARBON	3/4"-PL-2051XX-B1A1-N /-	3/4"-PL-2051XX-B1A1-N	3/4"-DF-2051XX-B2A1-N (CONNECT TO COLD RELIEF HEADER)	-
81-SN-213	3981-20-DE-PR-PID-052	HYDROCARBON	3/4"-PL-2052XX-B2A1-N /-	3/4"-PL-2052XX-B2A1-N	3/4"-DF-2052XX-B2A1-N (CONNECT TO COLD RELIEF HEADER)	-
81-SN-214	3981-20-DE-PR-PID-052	HYDROCARBON	3/4"-PL-2052XX-B2A1-N /-	3/4"-PL-2052XX-B2A1-N	3/4"-DF-2052XX-B2A1-N (CONNECT TO COLD RELIEF HEADER)	-
81-SN-215	3981-20-DE-PR-PID-055	PROPYLENE	3/4"-PRY-2055XX-B2A1-N /-	3/4"-PRY-2055XX-B2A1-N	3/4"-DF-2055XX-B2A1-N (CONNECT TO COLD RELIEF HEADER)	-
81-SN-219	3981-20-DE-PR-PID-057	PROPYLENE	3/4"-PRY-2057XX-B2A1-N /-	3/4"-PRY-2057XX-B2A1-N	3/4"-DF-2057XX-B2A1-N (CONNECT TO COLD RELIEF HEADER)	-
81-SN-217	3981-20-DE-PR-PID-068	PROPANE	3/4"-PRY-2068XX-B2A1-N /-	3/4"-PRY-2068XX-B2A1-N	3/4"-DF-2068XX-B2A1-N (CONNECT TO COLD RELIEF HEADER)	-
81-SN-305 (WITH DETAIL "DT")	3981-30-DE-PR-PID-024	VENT GAS	3/4"-HG-3024XX-B2A1-N /-	3/4"-PRY-3024XX-B2A1-N	3/4"-WF-3024XX-B2A1-N	-

REFERENCE		DRAWINGS	
NOTES			
1. CLOSED SAMPLING SYSTEM TYPE A - SEE PROJECT SPECIFICATION 835. 2. CLOSED SAMPLING SYSTEM TYPE B - SEE PROJECT SPECIFICATION 835. 3. SAMPLE INLET AND RETURN CONNECTIONS MUST HAVE A MINIMUM PRESSURE DIFFERENTIAL OF 10 PSI (0.7 Kg/Cm ²) TO MAINTAIN FLOW THROUGH SAMPLE CYLINDER. 4. SAMPLE COOLER - SEE STANDARD DRAWINGS 8-102 AND 8-103. 5. SAMPLE COOLER IS REQUIRED WHEN THE PROCESS MATERIAL BEING SAMPLED IS AT A TEMPERATURE OF 150 F (66 C) OR HIGHER. 6. SPECIFIC REQUIREMENTS FOR HEAT TRACING AND OBJECTIVE TEMPERATURE SHALL BE AS INDICATED AT THE SAMPLE POINT LOCATION ON THE PIPING AND INSTRUMENT DIAGRAM. WHEN HEAT TRACING IS REQUIRED, THE CLOSED SAMPLING SYSTEM SHALL INCLUDE A HEATED ENCLOSURE. 7. MAKE CONNECTION ON TOP OF PIPE. 8. VALVES AND PIPING INDICATED AT SAMPLING DETAILS SHALL BE OF THE SAME METALLURGY TYPE AND CLASS AS SHOWN ON THE PIPING AND INSTRUMENT DIAGRAM. 9. AT LOCATIONS WHERE A CLASS BREAK IS INDICATED, THE CONTRACTOR SHALL INCLUDE PROPER CLASS BREAK AT THE SAMPLE ASSEMBLY. CLASS BREAK SHALL BE OF SAME TYPE AS SHOWN ON THE PIPING AND INSTRUMENT DIAGRAM. 10. LOCATE TEE IN VERTICAL RUN OF PIPE 11. TO ATMOSPHERE AT SAFE LOCATION			
GENERAL NOTES:			
1. THE <div></div> SYMBOL REFERS TO THE CORRESPONDING LINE NUMBER IN THE DETAIL TABLE.			
HOLDS			

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TO BE PROVIDED BY CONTRACTOR FOR EACH
EXCHANGER SERVICE WHERE NO OTHER
TEMPERATURE INDICATION EQUIPMENT IS SHOWN



TYPE F MANIFOLD




Diagram illustrating a Tee configuration with Free Draining connections. The diagram shows a Tee structure with an Inlet Line and a Free Draining connection. The Inlet Line is labeled "INLET LINE" and the Free Draining connection is labeled "FREE DRAINING". The diagram also shows a "DRAINING" connection and a "LET LINE". The diagram is labeled "FREE DRAINING" at the top and "FREE DRAINING" at the bottom. The diagram is labeled "INLET LINE PRIOR TO LAST ELBOW MUST BE PERPENDICULAR TO RUN OF TEE" on the right side.

INLET AND OUTLET PIPING MUST BE SYMMETRICAL TO AND FROM COMMON TUBE BUNDLE.
ALL TEES MUST BE FULL SIZE. ELBOWS MUST NOT BE REPLACED WITH TEES.
REDUCERS MUST BE ECCENTRIC; FLAT ON BOTTOM FOR INLET PIPING, FLAT ON TOP
FOR OUTLET PIPING. LIMIT VELOCITIES TO 20 FT/SEC (6.1 M/SEC) MAX AND
10 FT/SEC (3.0 M/SEC) MIN FROM TUBE BUNDLE OUTLET TO COMMON JUNCTION AT OUTLET.
IF EXCHANGER METALLURGY IS ALLOY 825 OR ALLOY 625, THE MAXIMUM VELOCITY IS
30 FT/SEC (9.1 M/SEC).

TYPE D MANIFOLD IS DETERMINED BY CONTRACTOR




TYPE B					
SAMPLE POINT NO.	P&ID NO.	SERVICE	LINE-1/2	LINE-3 (TO FLARE)	SAMPLE COOLER NO.
81-SN-101	3981-10-DE-PR-PID-019	HYDROCARBON	3/4"-PG-1019XX-0L-1-N /-	3/4"-WF-1019XX-0L-1-N	-
81-SN-102	3981-10-DE-PR-PID-021	HYDROCARBON	3/4"-PG-1021XX-0L-1-N /-	3/4"-WF-1021XX-0L-1-N	-
81-SN-103	3981-10-DE-PR-PID-023	HYDROCARBON	3/4"-PG-1023XX-0L-1-N /-	3/4"-WF-1023XX-0L-1-N	-
81-SN-104	3981-10-DE-PR-PID-025	HYDROCARBON	3/4"-PG-1025XX-0L-1-N	3/4"-WF-1025XX-0L-1-N	-
81-SN-108 (WITH DETAIL "DT")	3981-10-DE-PR-PID-044	HYDROCARBON	3/4"-PG-1044XX-B2A1-N /-	3/4"-WF-1044XX-B2A1-N	-
81-SN-109 (WITH DETAIL "DT")	3981-10-DE-PR-PID-047	HYDROCARBON	3/4"-PG-1047XX-B2A1-N /-	3/4"-WF-1047XX-B2A1-N	-
81-SN-112 (WITH DETAIL "DT")	3981-10-DE-PR-PID-051	HYDROCARBON	3/4"-PG-1051XX-B1A1-N /-	3/4"-WF-1051XX-B1A1-N	-
81-SN-114 (WITH DETAIL "DT")	3981-10-DE-PR-PID-061	NET GAS (HYDROGEN)	3/4"-HG-1061XX-B1A1-N /-	3/4"-WF-1061XX-B1A1-N	-
81-SN-117	3981-10-DE-PR-PID-071	NET GAS (HYDROGEN)	3/4"-HG-1071XX-B2A1-N /-	3/4"-WF-1071XX-B2A1-N	-
81-SN-118	3981-10-DE-PR-PID-071	NET GAS (HYDROGEN)	3/4"-HG-1071XX-B2A1-N /-	3/4"-WF-1071XX-B2A1-N	-
81-SN-128	3981-10-DE-PR-PID-075	HYDROCARBON	3/4"-PL-1075XX-B1A1-N /-	3/4"-WF-1075XX-B1A1-N	-
81-SN-122 (WITH DETAIL "DT")	3981-10-DE-PR-PID-077 (2/2)	FUEL GAS	3/4"-FG-1077XX-N1A1-N /-	3/4"-WF-1077XX-N1A1-N	-
81-SN-127 (WITH DETAIL "DT")	3981-10-DE-PR-PID-082	FLUE GAS	3/4"-FG-1082XX-XXXX-N /-	3/4"-WF-1082XX-XXXX-N	-
81-SN-128 (WITH DETAIL "DT")	3981-10-DE-PR-PID-083	FLUE GAS	3/4"-FG-1083XX-XXXX-N /-	3/4"-WF-1083XX-XXXX-N	-
81-SN-129 (WITH DETAIL "DT")	3981-10-DE-PR-PID-084	FLUE GAS	3/4"-FG-1084XX-XXXX-N /-	3/4"-WF-1084XX-XXXX-N	-
81-SN-130 (WITH DETAIL "DT")	3981-10-DE-PR-PID-085	FLUE GAS	3/4"-FG-1085XX-XXXX-N /-	3/4"-WF-1085XX-XXXX-N	-
81-SN-204	3981-20-DE-PR-PID-035	PROPANE	3/4"-PRO-2035XX-B2A1-N /-	3/4"-DF-2035XX-B2A1-N (CONNECT TO COLD RELIEF HEADER)	-
81-SN-301 (WITH DETAIL "DT")	3981-30-DE-PR-PID-013	VENT GAS	3/4"-HG-3013XX-B2A1-N /-	3/4"-WF-3013XX-XXXX-N	-
81-SN-601	3981-60-DE-PR-PID-501	CAUSTIC	3/4"-CAU-60501X-B2A1-V /-		-
81-SN-602	3981-60-DE-PR-PID-501	CAUSTIC	3/4"-CAU-60501X-B2A1-V /-		-

REFERENCE	DRAWINGS

NOTES

	HOLDS
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01	ISSUED FOR APPROVAL	08-Dec-2025	M.KHERADKAR	M.JAMSHIDI	M.H.ESHRAGHI
00	ISSUED FOR COMMENT	06-Aug-2025	M.KHERADKAR	M.JAMSHIDI	M.H.ESHRAGHI
REV.	PURPOSE OF ISSUE	ISSUE DATE	PREPARE	CHECKED	APPROVED

<p>OWNER:</p> 	<p>MC:</p> 	<p>CONTRACTOR/CONSULTANT:</p> 
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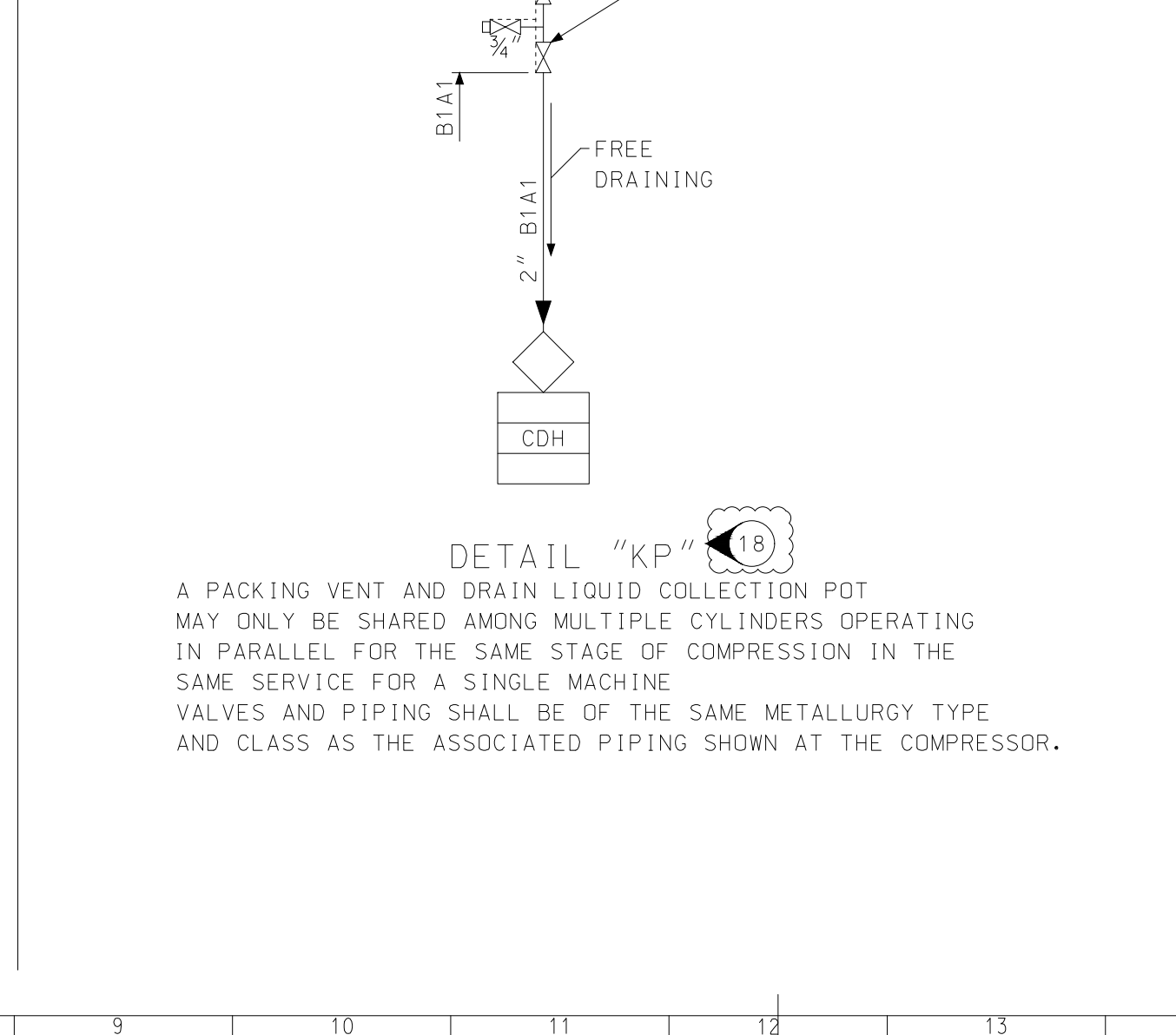
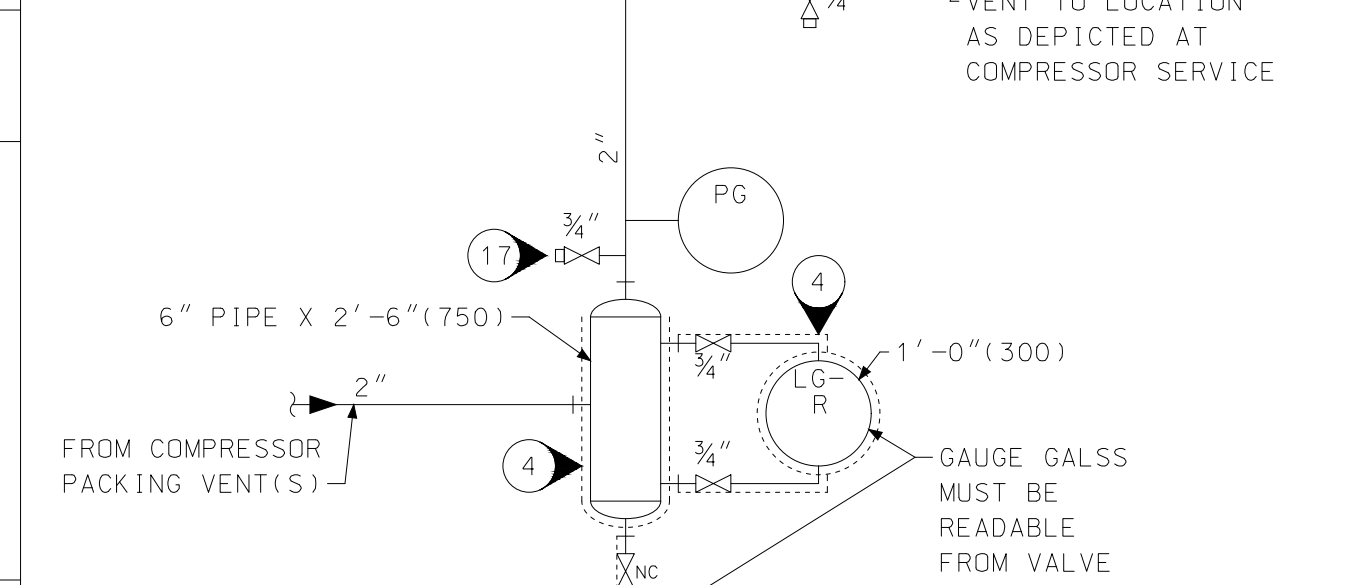
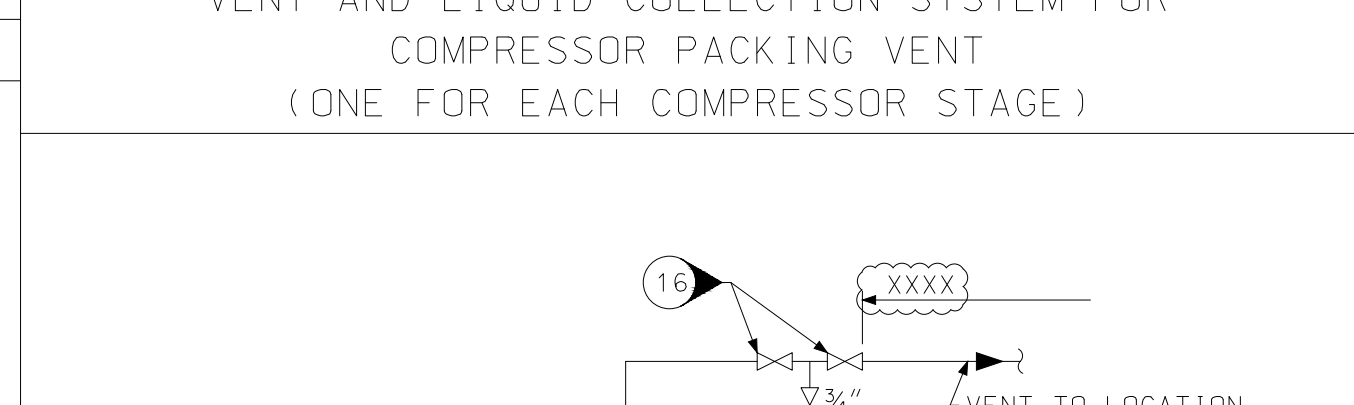
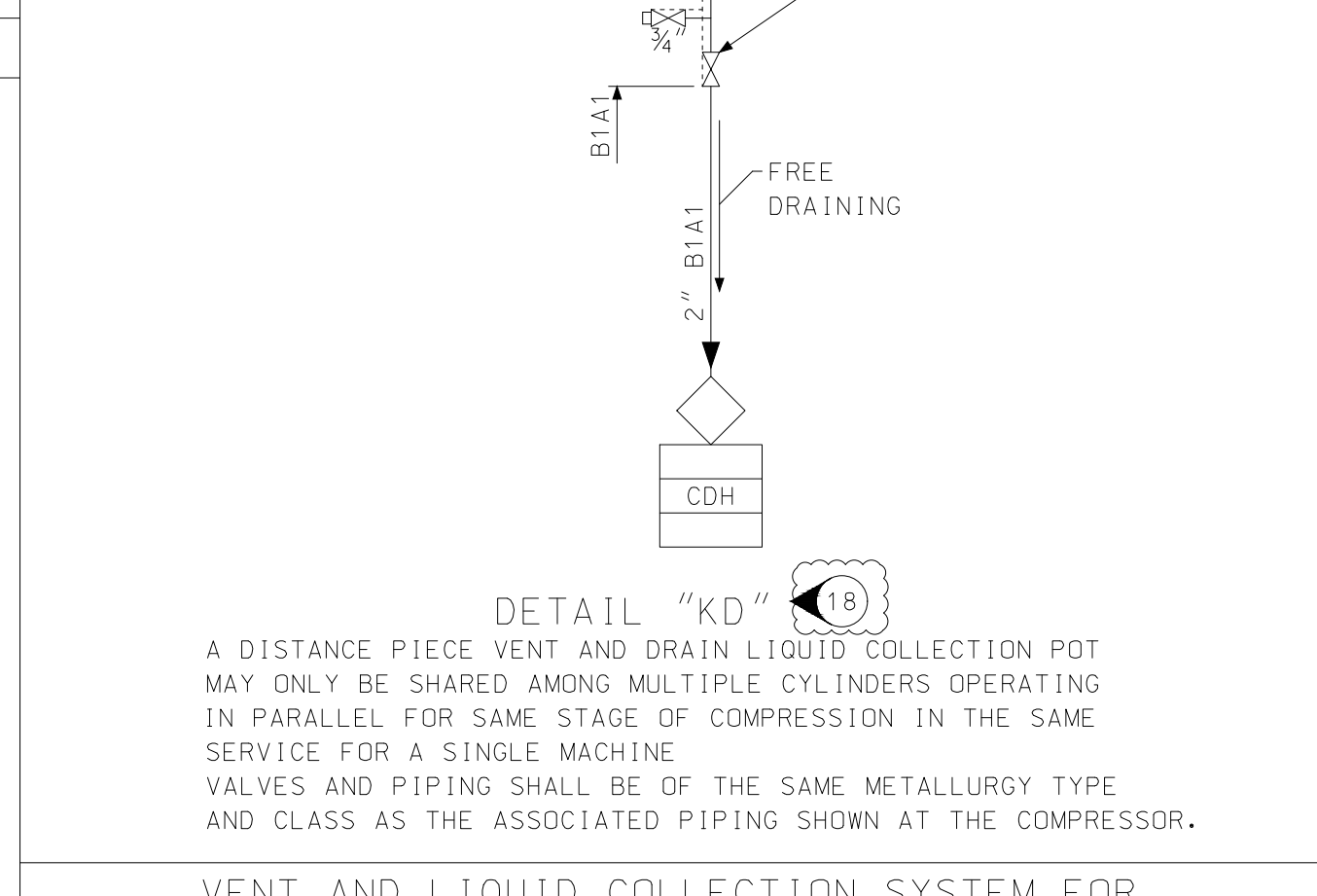
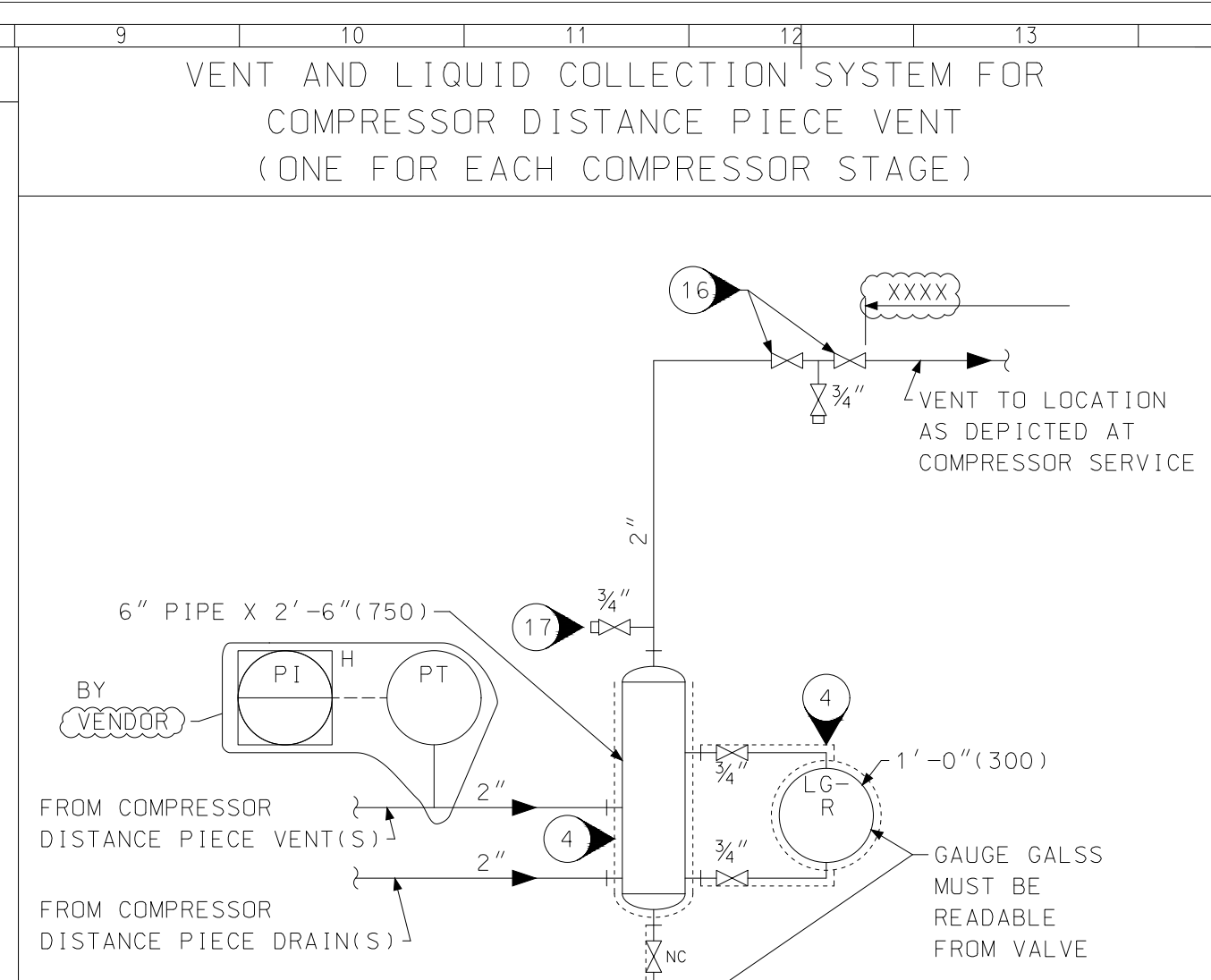
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DOCUMENT TITLE:
PIPING AND INSTRUMENT DIAGRAM
LEGEND SHEET 6 CLOSED SAMPLE AND AIR EXCHANGER MANIFOLD DETAILS

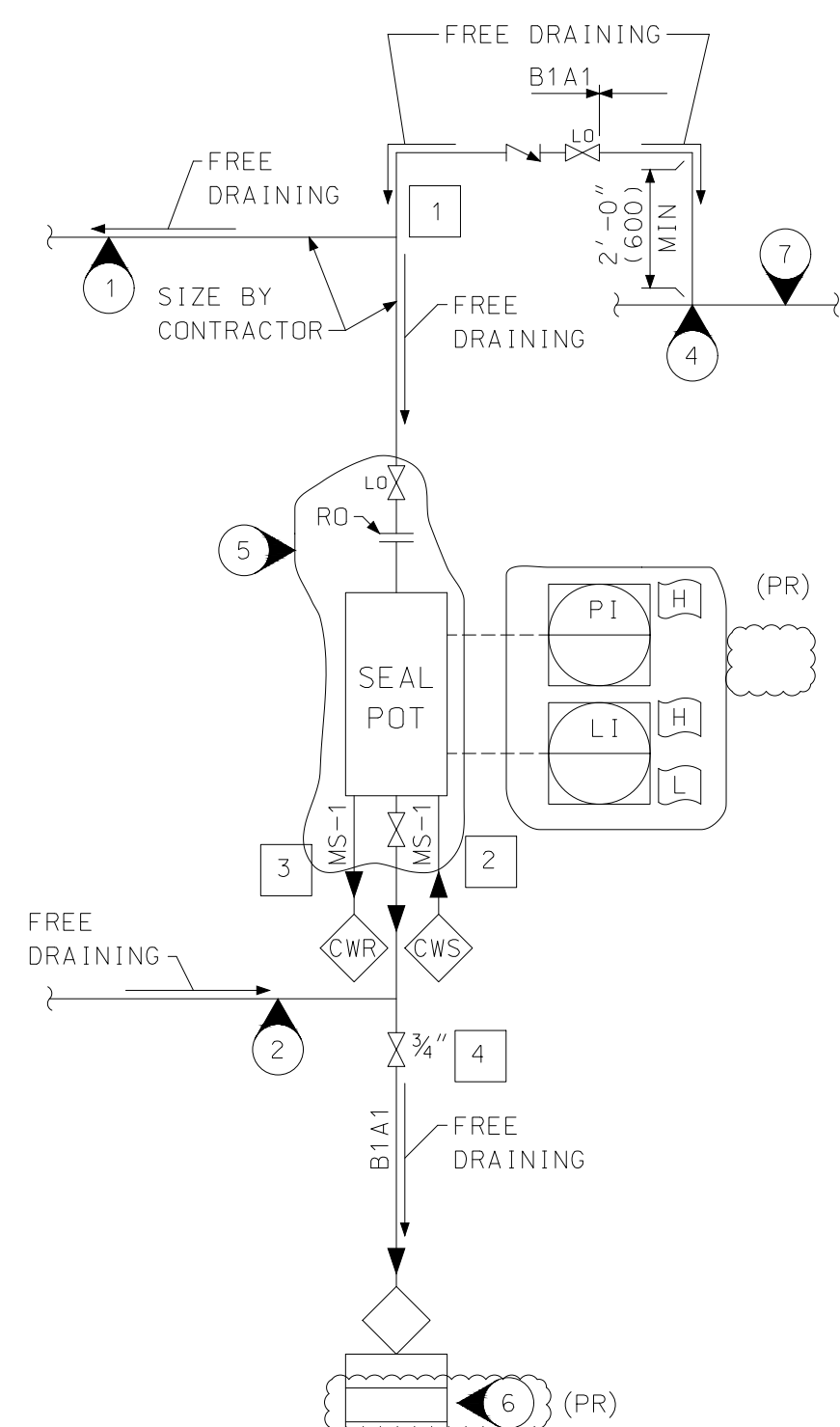
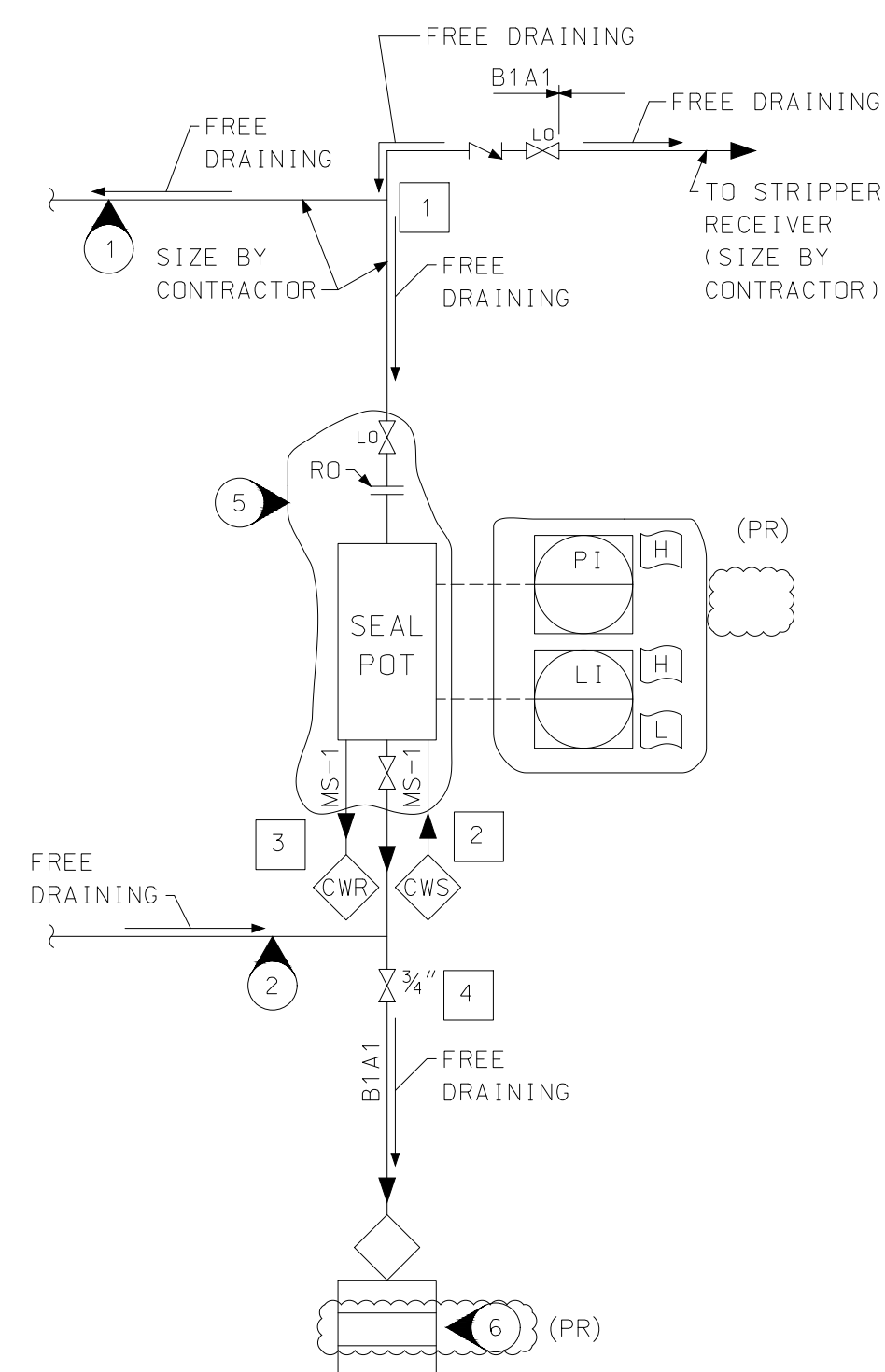
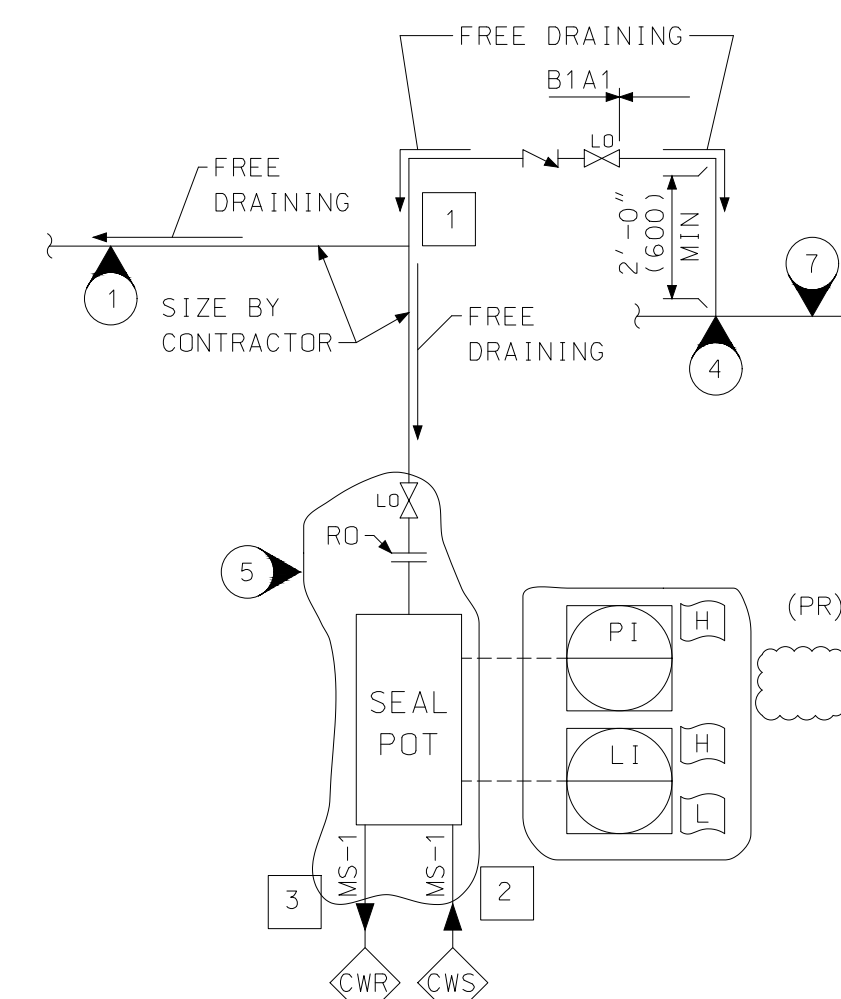
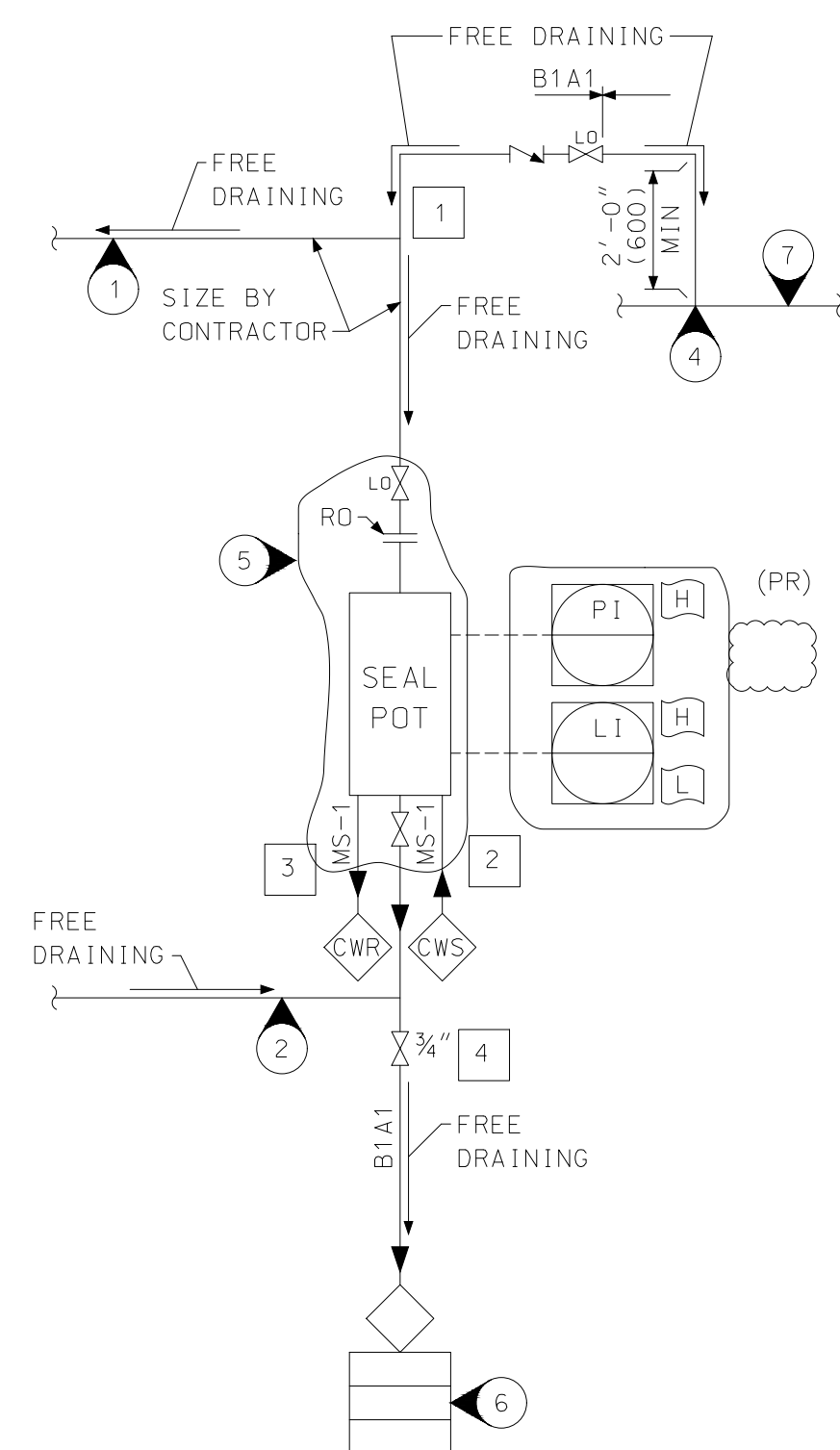
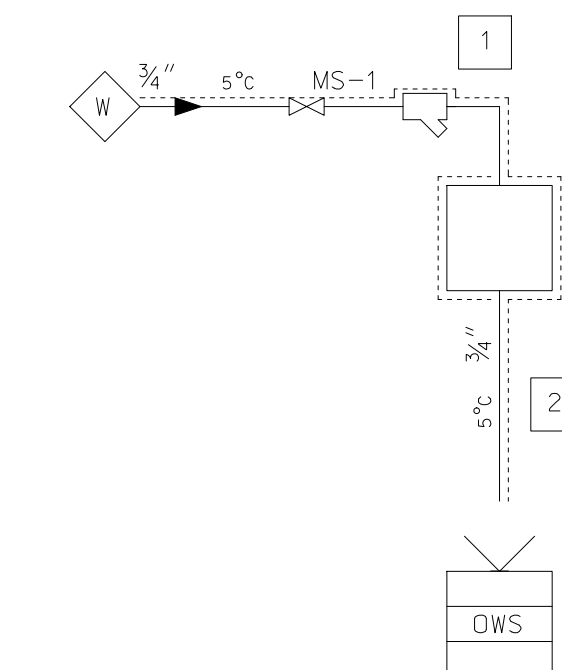
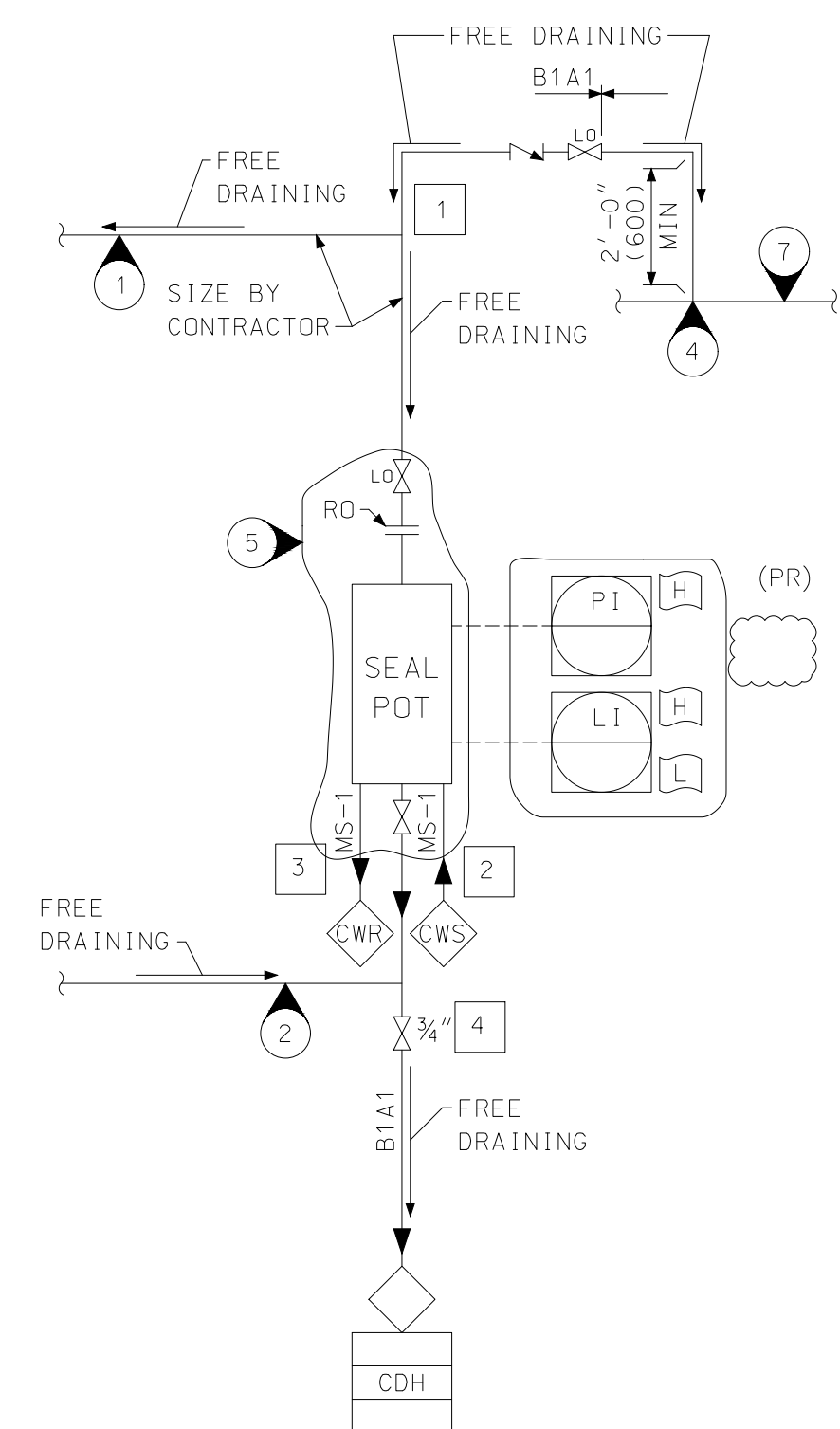
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SCALE:	SIZE: A1	SHEET NO: 2 OF 2	REVISION: 01	CLASS: 1
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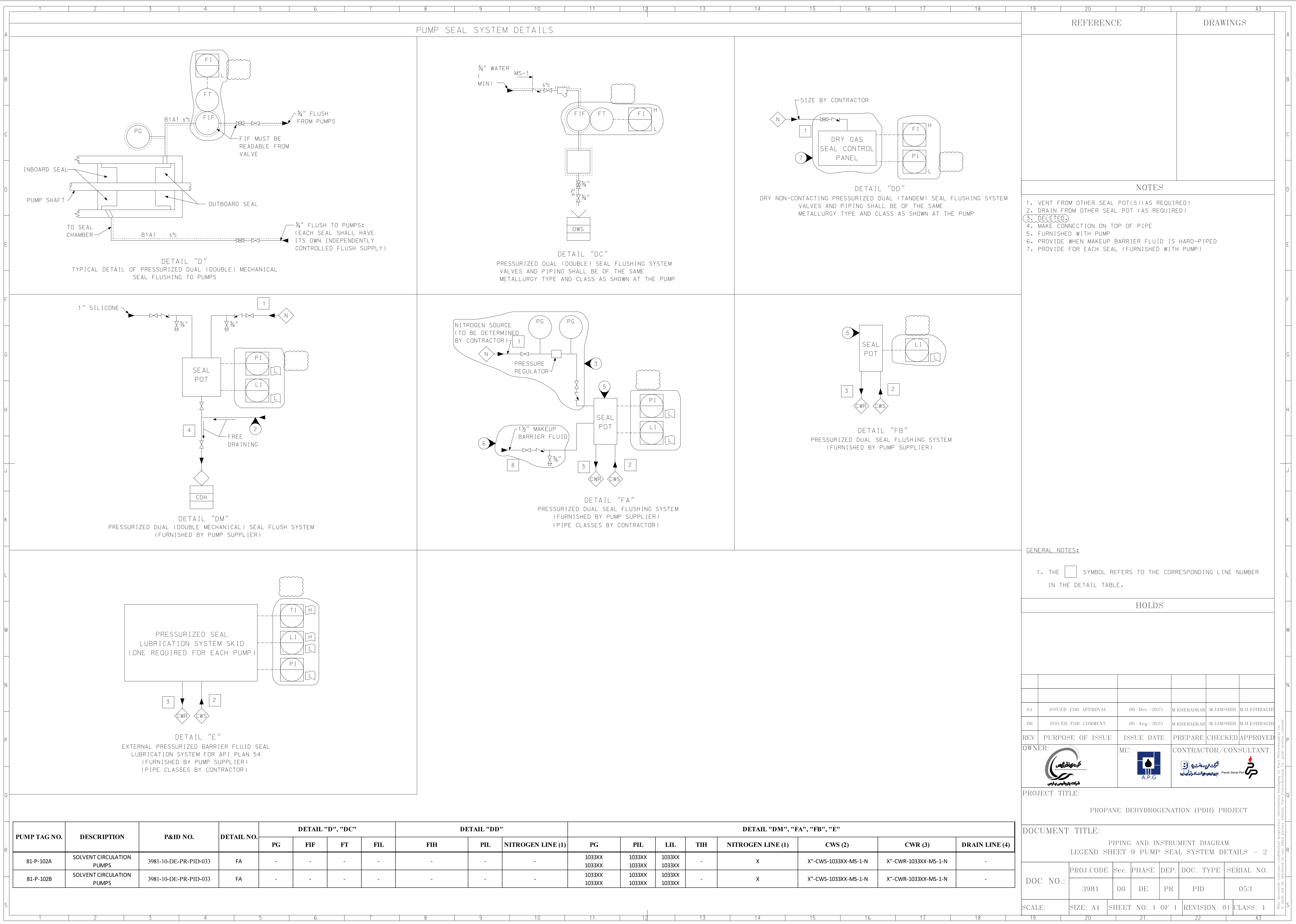
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REFERENCE			DRAWINGS	
NOTES				
1. MAKE CONNECTION ON TOP OF PIPE				
2. FROM RELIEF VALVES (AS REQUIRED)				
3. FROM VENTS (AS REQUIRED)				
4. HEAT TRACING AND OBJECTIVE TEMPERATURE BY OTHERS (AS REQUIRED)				
5. PIPE CLASS DETERMINED BY CONTRACTOR				
6. MAKE CONNECTION AT START OF HEADER				
7. VENT AND TEST CONNECTION (BLANKOFF) SIZE BY CONTRACTOR				
8. ¾" P INERT GAS PURGE CONNECTION				
9. PRESSURE RELIEF TO PROCESS UNIT KNOCKOUT DRUM OR REFINERY RELIEF HEADER				
10. SIZE BY CONTRACTOR				
11. INERT GAS PURGE (BLANKOFF)				
12. LOCATE VALVE STEM IN HORIZONTAL POSITION				
13. STEAM CONDENSATE HEADER TO CONDENSATE FLASH DRUM				
14. PROVIDE ADEQUATE STIFFENING				
15. ONLY REQUIRED WHEN SUCTION PRESSURE ABOVE 1000 PSIG (170 Kg/cm ²)				
16. LOCKED OPEN (DO NOT CLOSE UNTIL COMPRESSOR IS ISOLATED AND DEPRESSURED)				
17. NITROGEN PURGE				
18. COMPRESSOR VENDOR SCOPE OF WORK.				
19. THE DETAIL WILL BE FINALIZED AFTER RECEIVING COMPRESSOR VENDOR DATA.				

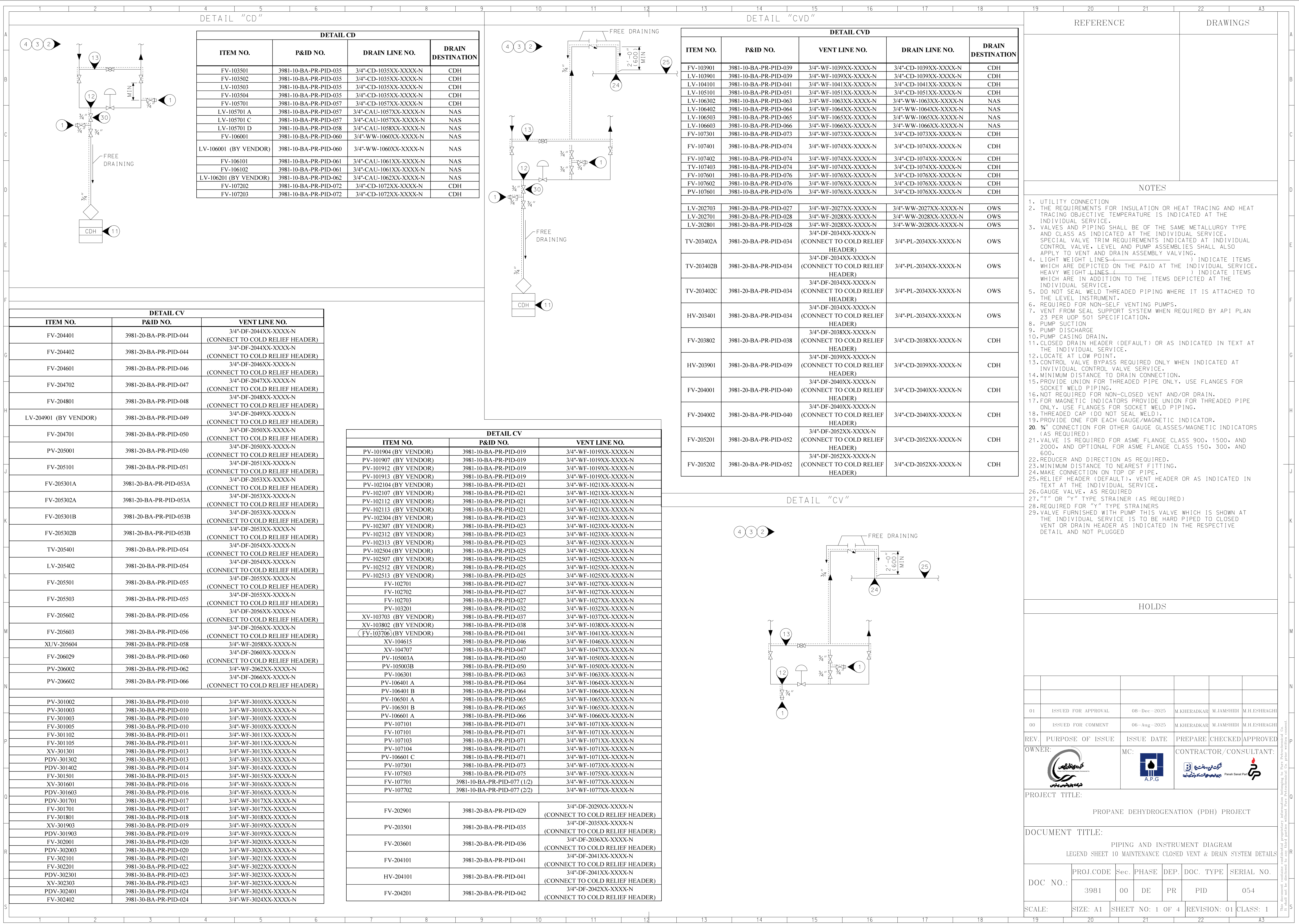


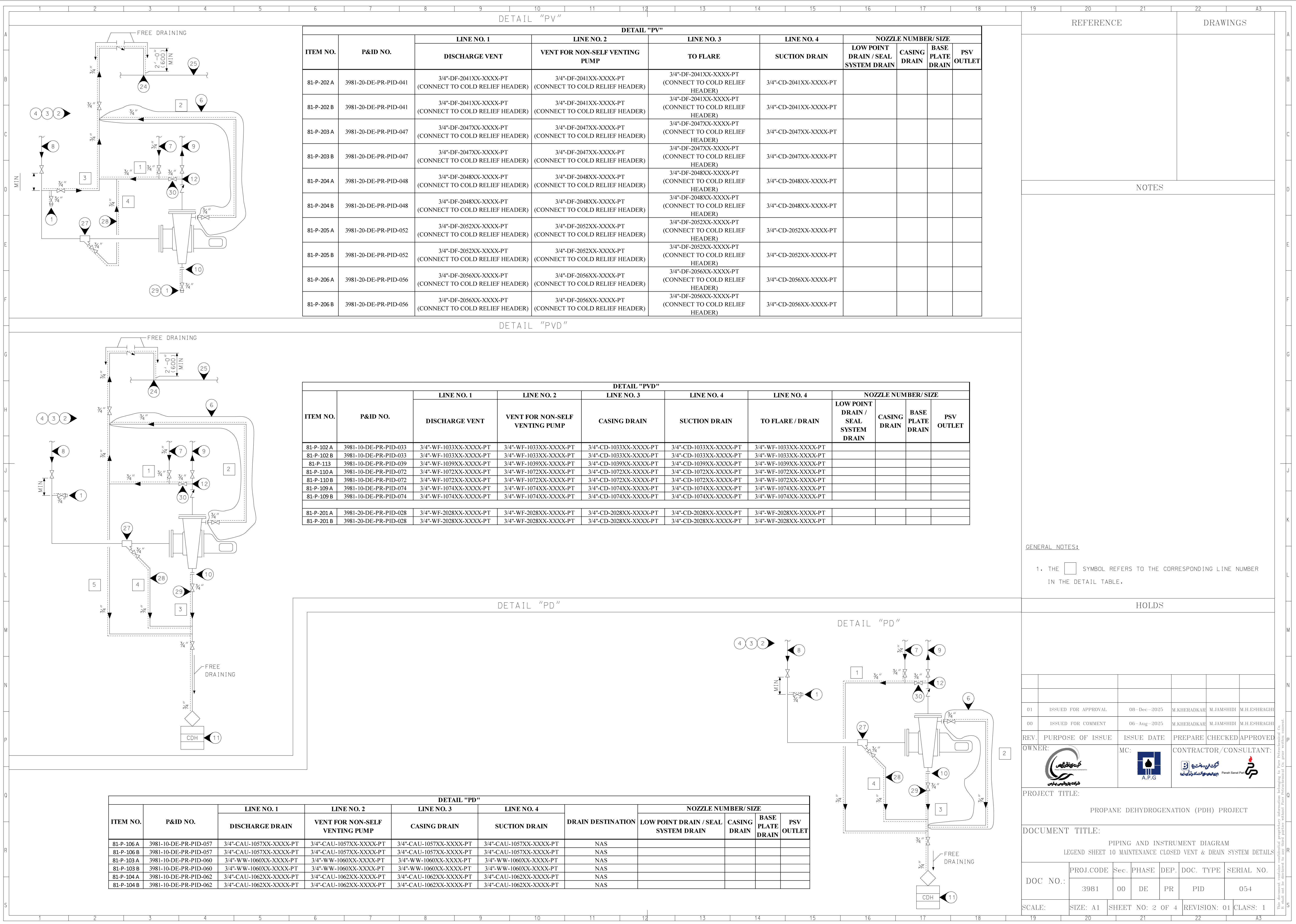
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REFERENCE			DRAWINGS			
NOTES						
1. VENT FROM OTHER SEAL POT(S) (AS REQUIRED) 2. DRAIN FROM OTHER SEAL POT(S) (AS REQUIRED) <div>3. DELETED.</div> (PR) 4. MAKE CONNECTION ON TOP OF PIPE 5. FURNISHED WITH PUMP 6. DRAIN DESTINATION IS INDICATED ON P&ID AT EACH INDIVIDUAL PUMP SERVICE 7. RELIEF HEADER (DEFAULT), VENT HEADER OR AS INDICATED IN TEXT AT THE INDIVIDUAL SERVICE						
GENERAL NOTES:						
1. THE <div></div> SYMBOL REFERS TO THE CORRESPONDING LINE NUMBER IN THE DETAIL TABLE.						
HOLDS						
01	ISSUED FOR APPROVAL	08-Dec-2025	M.KHERADKAR	M.JAMSHIDI		
00	ISSUED FOR COMMENT	06-Aug-2025	M.KHERADKAR	M.JAMSHIDI		
REV.	PURPOSE OF ISSUE	ISSUE DATE	PREPARE	CHECKED		
OWNER:		MC:	CONTRACTOR/CONSULTANT:			
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PROPANE DEHYDROGENATION (PDH) PROJECT						
DOCUMENT TITLE:						
PIPING AND INSTRUMENT DIAGRAM Legend Sheet 8 Pump Seal System Details – 1						
DOC NO.:	PROJ.CODE	Sec.	PHASE	DEP.	DOC. TYPE	SERIAL NO.
	3981	00	DE	PR	PID	052
SCALE:	SIZE: A1	SHEET NO: 1 OF 2		REVISION: 01	CLASS: 1	

																		REFERENCE		DRAWINGS	
																		NOTES			

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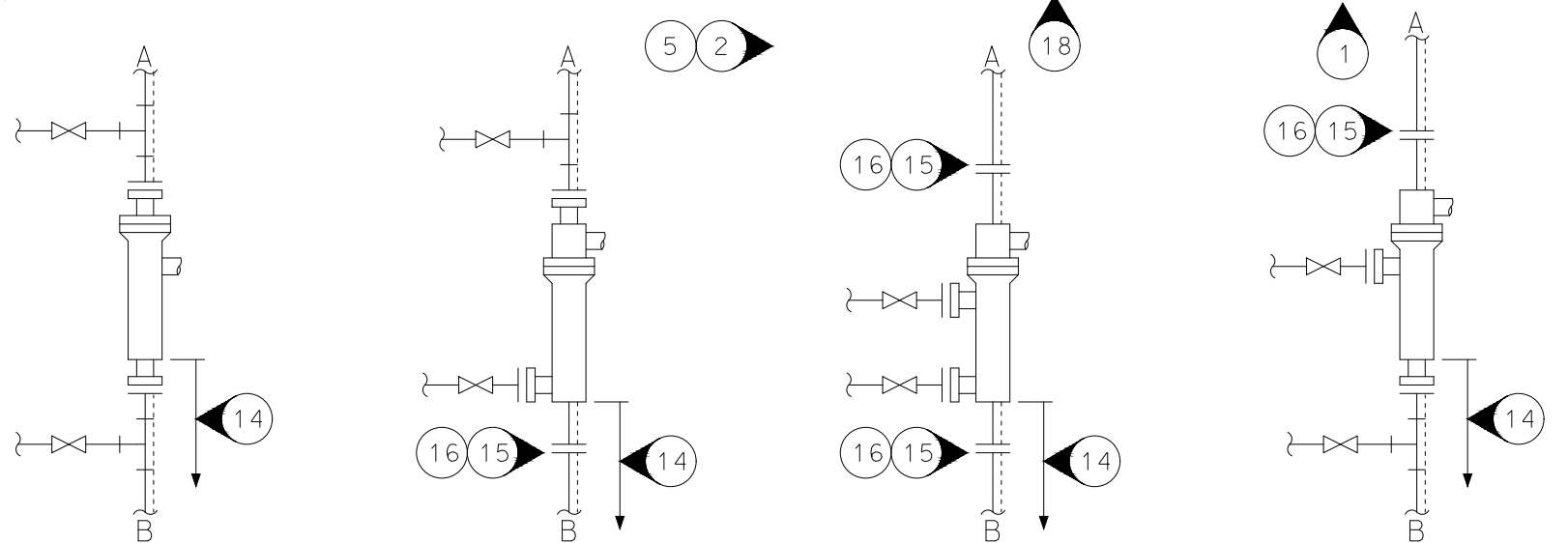




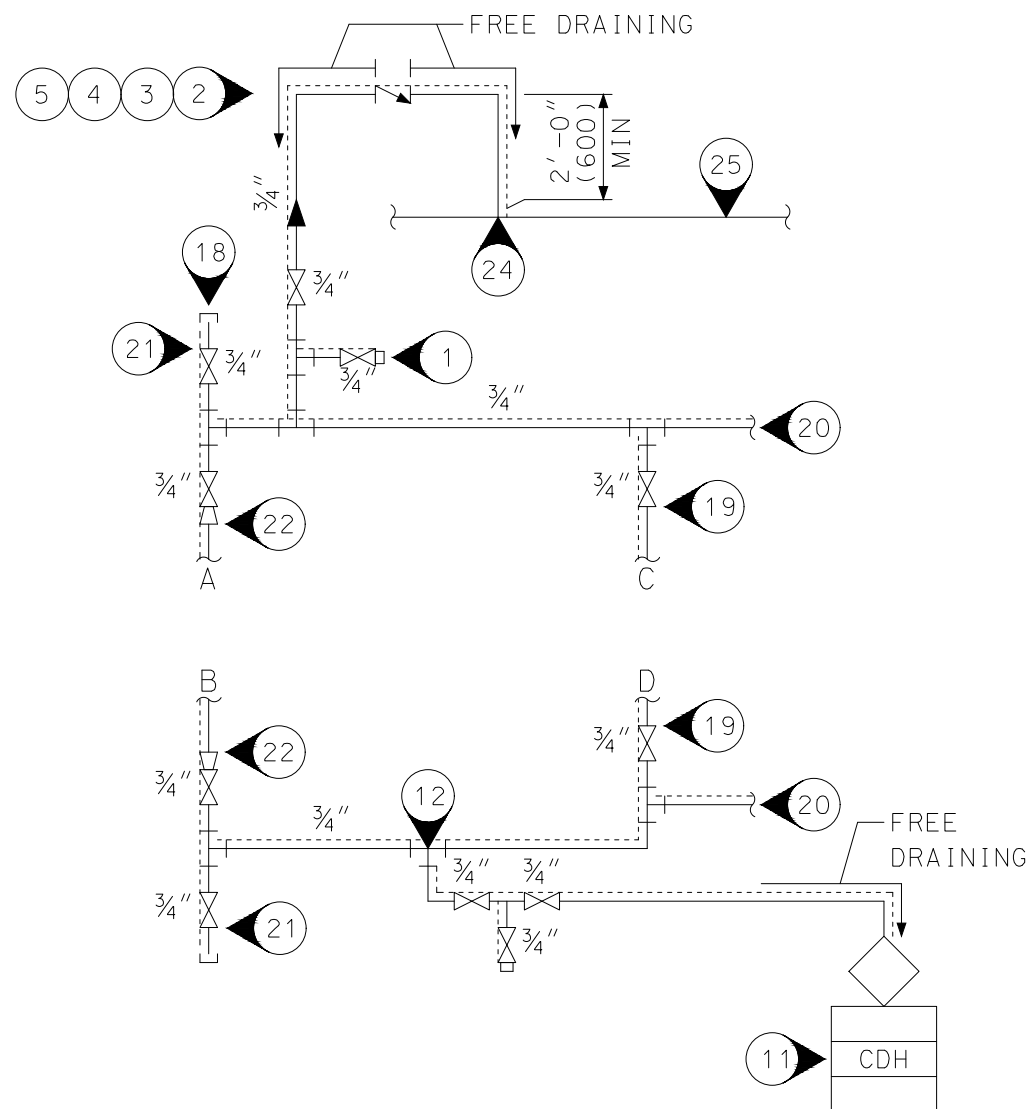
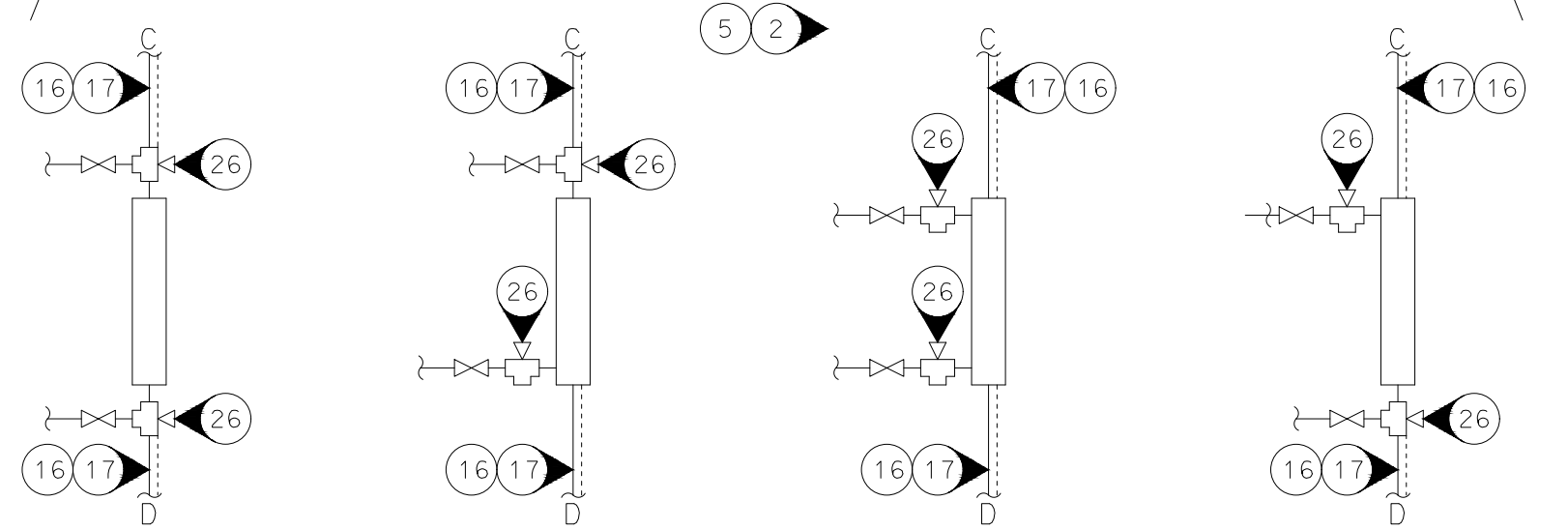
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DETAIL "LVD"

EXTERNAL DISPLACEMENT AND OTHER CHAMBER TYPE LEVEL INSTRUMENT CONNECTIONS



GAUGE GLASS AND MAGNETIC INDICATOR CONNECTIONS



DETAIL LVD								
P&ID NO.	VESSEL TAG	VESSEL TRIM	STAND PIPE / VESSEL NOZZLE	ITEM NO.	INSTRUMENT CONNECTION SIZE BY ISOLATION VALVE BY PIPING	VENT LINE NO.	DRAIN LINE NO.	DRAIN DESTINATION
3981-10-DE-PR-PID-028	DETAIL CCD OUTLET OF 81-E-101A	B1A1	-	LG-T-102801A	3/4"	3/4"-WF-1028XX-XXXX-PT	3/4"-CD-1028XX-XXXX-PT	CDH
3981-10-DE-PR-PID-028	DETAIL CCD OUTLET OF 81-E-101B	B1A1	-	LG-T-102801B	3/4"	3/4"-WF-1028XX-XXXX-PT	3/4"-CD-1028XX-XXXX-PT	CDH
3981-10-DE-PR-PID-028	DETAIL CCD OUTLET OF 81-E-101A	B1A1	-	LG-T-102802A	3/4"	3/4"-WF-1028XX-XXXX-PT	3/4"-CD-1028XX-XXXX-PT	CDH
3981-10-DE-PR-PID-028	DETAIL CCD OUTLET OF 81-E-101B	B1A1	-	LG-T-102802B	3/4"	3/4"-WF-1028XX-XXXX-PT	3/4"-CD-1028XX-XXXX-PT	CDH
3981-10-DE-PR-PID-029	DETAIL CCD OUTLET OF 81-E-101C	B1A1	-	LG-T-102901A	3/4"	3/4"-WF-1029XX-XXXX-PT	3/4"-CD-1029XX-XXXX-PT	CDH
3981-10-DE-PR-PID-029	DETAIL CCD OUTLET OF 81-E-101D	B1A1	-	LG-T-102901B	3/4"	3/4"-WF-1029XX-XXXX-PT	3/4"-CD-1029XX-XXXX-PT	CDH
3981-10-DE-PR-PID-029	DETAIL CCD OUTLET OF 81-E-101C	B1A1	-	LG-T-102902A	3/4"	3/4"-WF-1029XX-XXXX-PT	3/4"-CD-1029XX-XXXX-PT	CDH
3981-10-DE-PR-PID-029	DETAIL CCD OUTLET OF 81-E-101D	B1A1	-	LG-T-102902B	3/4"	3/4"-WF-1029XX-XXXX-PT	3/4"-CD-1029XX-XXXX-PT	CDH
3981-10-DE-PR-PID-032	81-T-101	B1A1	L04-1 / L04-2 Q04-1 / Q04-4 Q04-2 / Q04-5 Q04-3 / Q04-6	LT-103202 LG-R-103201 LT-103201A LT-103201B LT-103201C	3/4" 3/4" 3/4" 3/4" 3/4"	3/4"-WF-1032XX-XXXX-PT 3/4"-WF-1032XX-XXXX-PT 3/4"-WF-1032XX-XXXX-PT 3/4"-WF-1032XX-XXXX-PT 3/4"-WF-1032XX-XXXX-PT	3/4"-CD-1032XX-XXXX-PT 3/4"-CD-1032XX-XXXX-PT 3/4"-CD-1032XX-XXXX-PT 3/4"-CD-1032XX-XXXX-PT 3/4"-CD-1032XX-XXXX-PT	CDH CDH CDH CDH CDH
3981-10-DE-PR-PID-036	DETAIL CCD INLET OF 81-C-101 STAGE 1	B1A1	-	LG-T-103601	3/4"	3/4"-WF-1036XX-XXXX-PT	3/4"-CD-1036XX-XXXX-PT	CDH
3981-10-DE-PR-PID-036	DETAIL CCD INLET OF 81-C-101 STAGE 1	B1A1	-	LG-T-103602	3/4"	3/4"-WF-1036XX-XXXX-PT	3/4"-CD-1036XX-XXXX-PT	CDH
3981-10-DE-PR-PID-038	DETAIL CCD INLET OF 81-C-101 STAGE 2	B1A1	-	LG-T-103801	3/4"	3/4"-WF-1038XX-XXXX-PT	3/4"-CD-1038XX-XXXX-PT	CDH
3981-10-DE-PR-PID-038	DETAIL CCD INLET OF 81-C-101 STAGE 2	B1A1	-	LG-T-103802	3/4"	3/4"-WF-1038XX-XXXX-PT	3/4"-CD-1038XX-XXXX-PT	CDH
3981-10-DE-PR-PID-039	81-T-102	B1A1	L03-1 / L03-2 Q04-1 / Q04-4 Q04-2 / Q04-5 Q04-3 / Q04-6	LT-103901 LG-R-103901 LT-103901A LT-103901B LT-103901C	3/4" 3/4" 3/4" 3/4" 3/4"	3/4"-WF-1039XX-XXXX-PT 3/4"-WF-1039XX-XXXX-PT 3/4"-WF-1039XX-XXXX-PT 3/4"-WF-1039XX-XXXX-PT 3/4"-WF-1039XX-XXXX-PT	3/4"-CD-1039XX-XXXX-PT 3/4"-CD-1039XX-XXXX-PT 3/4"-CD-1039XX-XXXX-PT 3/4"-CD-1039XX-XXXX-PT 3/4"-CD-1039XX-XXXX-PT	CDH CDH CDH CDH CDH
3981-10-DE-PR-PID-041	81-V-102	B2A1	L02-1 / L02-2	LT-104101 LG-R-104101	3/4" 3/4"	3/4"-WF-1041XX-XXXX-PT 3/4"-WF-1041XX-XXXX-PT	3/4"-CD-1041XX-XXXX-PT 3/4"-CD-1041XX-XXXX-PT	CDH CDH
3981-10-DE-PR-PID-051	81-V-103	B1A1	L02-1 / L02-2	LT-105101 LG-R-105101	3/4" 3/4"	3/4"-WF-1051XX-XXXX-PT 3/4"-WF-1051XX-XXXX-PT	3/4"-CD-1051XX-XXXX-PT 3/4"-CD-1051XX-XXXX-PT	CDH NAS
3981-10-DE-PR-PID-061	81-T-103	B1A1	L05-1 / L05-2	LT-106104 LG-M-106103	3/4" 3/4"	3/4"-WF-1061XX-XXXX-PT 3/4"-WF-1061XX-XXXX-PT	3/4"-CD-1061XX-XXXX-PT 3/4"-CD-1061XX-XXXX-PT	NAS NAS
3981-10-DE-PR-PID-063	81-V-105	B1A1	L02-1 / L02-2 K02-1 / K02-2 Q02-1 / Q02-4 Q02-2 / Q02-5 Q02-3 / Q02-6	LT-106304 LG-M-106304 LT-106303 LG-R-106303 LT-106301A LT-106301B LT-106301C	3/4" 3/4" 3/4" 3/4" 3/4" 3/4" 3/4"	3/4"-WF-1063XX-XXXX-PT 3/4"-WF-1063XX-XXXX-PT 3/4"-WF-1063XX-XXXX-PT 3/4"-WF-1063XX-XXXX-PT 3/4"-WF-1063XX-XXXX-PT 3/4"-WF-1063XX-XXXX-PT 3/4"-WF-1063XX-XXXX-PT	3/4"-CD-1063XX-XXXX-PT 3/4"-CD-1063XX-XXXX-PT 3/4"-CD-1063XX-XXXX-PT 3/4"-CD-1063XX-XXXX-PT 3/4"-CD-1063XX-XXXX-PT 3/4"-CD-1063XX-XXXX-PT 3/4"-CD-1063XX-XXXX-PT	CDH CDH CDH CDH CDH CDH CDH
3981-10-DE-PR-PID-064	81-V-106	B1A1	L02-1 / L02-2 K02-1 / K02-2 Q02-1 / Q02-4 Q02-2 / Q02-5 Q02-3 / Q02-6	LT-106403 LG-R-106405 LT-106401A LT-106401B LT-106401C	3/4" 3/4" 3/4" 3/4" 3/4"	3/4"-WF-1064XX-XXXX-PT 3/4"-WF-1064XX-XXXX-PT 3/4"-WF-1064XX-XXXX-PT 3/4"-WF-1064XX-XXXX-PT 3/4"-WF-1064XX-XXXX-PT	3/4"-CD-1064XX-XXXX-PT 3/4"-CD-1064XX-XXXX-PT 3/4"-CD-1064XX-XXXX-PT 3/4"-CD-1064XX-XXXX-PT 3/4"-CD-1064XX-XXXX-PT	CDH CDH CDH CDH CDH
3981-10-DE-PR-PID-065	81-V-107	B1A1	L02-1 / L02-2 K02-1 / K02-2 Q02-1 / Q02-4 Q02-2 / Q02-5 Q02-3 / Q02-6	LT-106503 LG-M-106502 LT-106505 LG-R-106505 LT-106501A LT-106501B LT-106501C	3/4" 3/4" 3/4" 3/4" 3/4" 3/4" 3/4"	3/4"-WF-1065XX-XXXX-PT 3/4"-WF-1065XX-XXXX-PT 3/4"-WF-1065XX-XXXX-PT 3/4"-WF-1065XX-XXXX-PT 3/4"-WF-1065XX-XXXX-PT 3/4"-WF-1065XX-XXXX-PT 3/4"-WF-1065XX-XXXX-PT	3/4"-CD-1065XX-XXXX-PT 3/4"-CD-1065XX-XXXX-PT 3/4"-CD-1065XX-XXXX-PT 3/4"-CD-1065XX-XXXX-PT 3/4"-CD-1065XX-XXXX-PT 3/4"-CD-1065XX-XXXX-PT 3/4"-CD-1065XX-XXXX-PT	CDH CDH CDH CDH CDH CDH CDH
3981-10-DE-PR-PID-066	81-V-108	B2A1	L02-1 / L02-2 K02-1 / K02-2 Q02-1 / Q02-4 Q02-2 / Q02-5 Q02-3 / Q02-6	LT-106602 LG-M-106603 LT-106605 LG-R-106605 LT-106601A LT-106601B LT-106601C	3/4" 3/4" 3/4" 3/4" 3/4" 3/4" 3/4"	3/4"-WF-1066XX-XXXX-PT 3/4"-WF-1066XX-XXXX-PT 3/4"-WF-1066XX-XXXX-PT 3/4"-WF-1066XX-XXXX-PT 3/4"-WF-1066XX-XXXX-PT 3/4"-WF-1066XX-XXXX-PT 3/4"-WF-1066XX-XXXX-PT	3/4"-CD-1066XX-XXXX-PT 3/4"-CD-1066XX-XXXX-PT 3/4"-CD-1066XX-XXXX-PT 3/4"-CD-1066XX-XXXX-PT 3/4"-CD-1066XX-XXXX-PT 3/4"-CD-1066XX-XXXX-PT 3/4"-CD-1066XX-XXXX-PT	CDH CDH CDH CDH CDH CDH CDH
3981-10-DE-PR-PID-073	81-T-106	B1A1	L03-1 / L03-2	LG-R-107301	3/4"	3/4"-WF-1073XX-XXXX-PT	3/4"-CD-1073XX-XXXX-PT	CDH
3981-10-DE-PR-PID-075	81-T-107	B1A1	L03-1 / L03-2	LT-107302 LG-T-107302 LT-107501	3/4" 3/4" 3/4"	3/4"-WF-1073XX-XXXX-PT 3/4"-WF-1073XX-XXXX-PT 3/4"-WF-1075XX-XXXX-PT	3/4"-CD-1073XX-XXXX-PT 3/4"-CD-1073XX-XXXX-PT 3/4"-CD-1075XX-XXXX-PT	CDH CDH CDH
3981-10-DE-PR-PID-077 (1/2)	81-V-110	B1A1	L02-1 / L02-2	LG-R-107701	3/4"	3/4"-WF-1077XX-XXXX-PT	3/4"-CD-1077XX-XXXX-PT	CDH
3981-10-DE-PR-PID-077 (1/2)	81-V-112	B1A1	L1 / L2 L3 / L4 L5 / L5 L7 / L8	LT-107702 LG-M-107702 LT-107703 LG-M-107703	3/4" 3/4" 3/4" 3/4"	3/4"-WF-1077XX-XXXX-PT 3/4"-WF-1077XX-XXXX-PT 3/4"-WF-1077XX-XXXX-PT 3/4"-WF-1077XX-XXXX-PT	3/4"-CD-1077XX-XXXX-PT 3/4"-CD-1077XX-XXXX-PT 3/4"-CD-1077XX-XXXX-PT 3/4"-CD-1077XX-XXXX-PT	CDH CDH CDH CDH
3981-20-DE-PR-PID-027	81-V-201	B2A2	L02-1 / L02-2	LT-202701 LG-M-202702 LT-202703	3/4" 3/4" 3/4"	3/4"-WF-2027XX-XXXX-PT 3/4"-WF-2027XX-XXXX-PT 3/4"-WF-2027XX-XXXX-PT	3/4"-SY-2027XX-XXXX-PT 3/4"-SY-2027XX-XXXX-PT 3/4"-SY-2027XX-XXXX-PT	OWS OWS OWS
3981-20-DE-PR-PID-038	81-T-201	B2A1	L06-1 / L06-2	LT-203801 LG-M-203802	3/4" 3/4"	3/4"-WF-2038XX-XXXX-PT (CONNECT TO COLD RELIEF HEADER) 3/4"-DF-2027XX-XXXX-PT (CONNECT TO COLD RELIEF HEADER)	3/4"-CD-2038XX-XXXX-PT 3/4"-CD-2038XX-XXXX-PT	CDH CDH
3981-20-DE-PR-PID-062	81-V-206	B1A2	L01-1 / L01-2	LT-206201 LG-M-206201	3/4" 3/4"	3/4"-WF-2062XX-XXXX-PT 3/4"-WF-2062XX-XXXX-PT	3/4"-SY-2062XX-XXXX-PT 3/4"-SY-2062XX-XXXX-PT	OWS OWS

REFERENCE

DRAWINGS

NOTES

HOLDS

01	ISSUED FOR APPROVAL	08-Dec-2025	M.KHERADKAR	M.JAMSHIDI	M.H.ESHRAHJI
00	ISSUED FOR COMMENT	06-Aug-2025	M.KHERADKAR	M.JAMSHIDI	M.H.ESHRAHJI
REV.	PURPOSE OF ISSUE	ISSUE DATE	PREPARE	CHECKED	APPROVED
OWNER:	MC:		CONTRACTOR/CONSULTANT:		

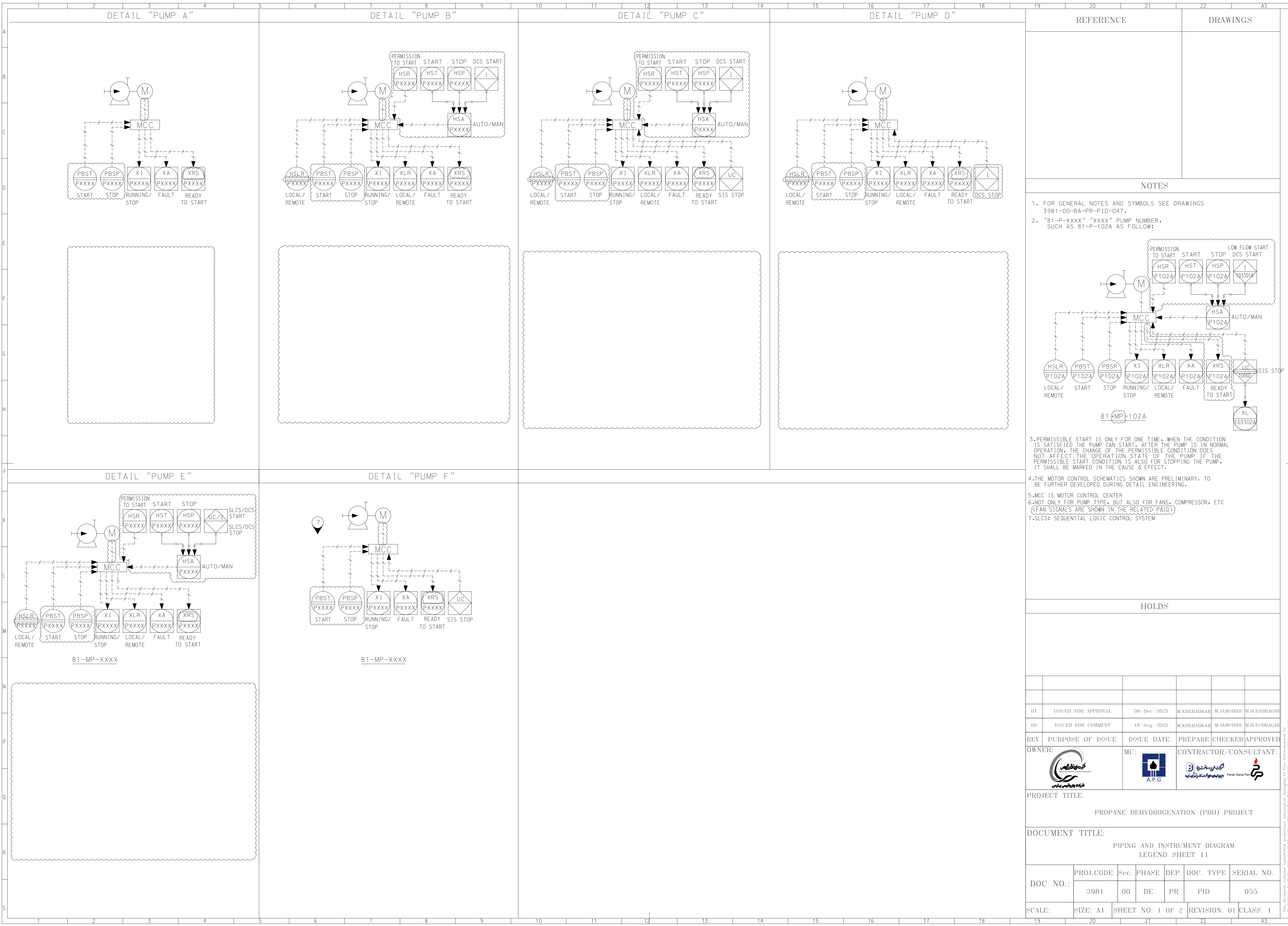
PROJECT TITLE:
PROPANE DEHYDROGENATION (PDH) PROJECT

DOCUMENT TITLE:
PIPING AND INSTRUMENT DIAGRAM
LEGEND SHEET 10 MAINTENANCE CLOSED VENT & DRAIN SYSTEM DETAILS

DOC NO.:	PROJ.CODE	Sec.	PHASE	DEP.	DOC. TYPE	SERIAL NO.
	3981	00	DE	PR	PID	054

SCALE: SIZE: A1 SHEET NO: 4 OF 4 REVISION: 01 CLASS: 1




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	1	2		3	4	5	6	7	8	9	
PUMP TAG NO.	DESCRIPTION	P&ID NO.	DETAIL "PUMP A"								
			PBST	PBSP	XI	XA	XRS				
81-P-101 A	SULFUR INJECTION PUMP	3981-10-DE-PR-PID-031	P101A	P101A	P101A	P101A	P101A				
81-P-116	DMDS LOADING PUMP	3981-10-DE-PR-PIBD-030	P116	P116	P116	P116	P116				
81-P-101 B	SULFUR INJECTION PUMP	3981-10-DE-PR-PID-031	P101B	P101B	P101B	P101B	P101B				
81-P-101 C	SULFUR INJECTION PUMP	3981-10-DE-PR-PID-031	P101C	P101C	P101C	P101C	P101C				
81-P-101 D	SULFUR INJECTION PUMP	3981-10-DE-PR-PID-031	P101D	P101D	P101D	P101D	P101D				
81-P-113	SOLVENT START-UP CIRCLATION PUMP	3981-10-DE-PR-PID-039	P113	P113	P113	P113	P113				
81-P-106A	SPENT CAUSTIC TRANSFER PUMPS	3981-10-DE-PR-PID-057	P106A	P106A	P106A	P106A	P106A				
81-P-106B	SPENT CAUSTIC TRANSFER PUMPS	3981-10-DE-PR-PID-057	P106B	P106B	P106B	P106B	P106B				
81-P-105A	WASH WATER INJECTION PUMP	3981-10-DE-PR-PID-059	P105A	P105A	P105A	P105A	P105A				
81-P-105B	WASH WATER INJECTION PUMP	3981-10-DE-PR-PID-059	P105B	P105B	P105B	P105B	P105B				
81-P-103A	WASH WATER CIRCULATION PUMP	3981-10-DE-PR-PID-060	P103A	P103A	P103A	P103A	P103A				
81-P-103B	WASH WATER CIRCULATION PUMP	3981-10-DE-PR-PID-060	P103B	P103B	P103B	P103B	P103B				
81-P-104A	CAUSTIC CIRCULATION PUMP	3981-10-DE-PR-PID-062	P104A	P104A	P104A	P104A	P104A				
81-P-104B	CAUSTIC CIRCULATION PUMP	3981-10-DE-PR-PID-062	P104B	P104B	P104B	P104B	P104B				
81-P-110A	SOLVENT RECOVERY COLUMN BOTTOMS PUMP	3981-10-DE-PR-PID-072	P110A	P110A	P110A	P110A	P110A				
81-P-110B	SOLVENT RECOVERY COLUMN BOTTOMS PUMP	3981-10-DE-PR-PIBD-072	P110B	P110B	P110B	P110B	P110B				
81-P-109A	SOLVENT RECOVERY OVERHEAD PUMP	3981-10-DE-PR-PIBD-074	P109A	P109A	P109A	P109A	P109A				
81-P-109B	SOLVENT RECOVERY OVERHEAD PUMP	3981-10-DE-PR-PIBD-074	P109B	P109B	P109B	P109B	P109B				
81-P-108A	DEPROPANIZER BOTTOMS STRIPPER PUMP	3981-10-DE-PR-PIBD-076	P108A	P108A	P108A	P108A	P108A				
81-P-108B	DEPROPANIZER BOTTOMS STRIPPER PUMP	3981-10-DE-PR-PIBD-076	P108B	P108B	P108B	P108B	P108B				
81-P-115	NEUTRALIZATION FILLING PUMP	3981-10-DE-PR-PIBD-079	P115	P115	P115	P115	P115				
81-P-205A	PROPANE RECYCLE PUMP	3981-20-DE-PR-PIBD-052	P205A	P205A	P205A	P205A	P205A				
81-P-205B	PROPANE RECYCLE PUMP	3981-20-DE-PR-PIBD-052	P205B	P205B	P205B	P205B	P205B				
81-F-403	COOLER BLOWER	3981-40-DE-PR-PID-016	P401	P401	P401	P401	P401				
81-F-404	FINES REMOVAL BLOWER	3981-40-DE-PR-PID-022	P404	P404	P404	P404	P404				
81-F-405A	LIFT GAS BLOWER	3981-40-DE-PR-PID-022	P405A	P405A	P405A	P405A	P405A				
81-F-405B	LIFT GAS BLOWER	3981-40-DE-PR-PID-022	P405B	P405B	P405B	P405B	P405B				
81-P-501 A	COOLING WATER PUMP	3981-50-DE-PR-PIID-003	P501A	P501A	P501A	P501A	P501A				
81-P-501 B	COOLING WATER PUMP	3981-50-DE-PR-PIID-003	P501B	P501B	P501B	P501B	P501B				
81-P-501 C	COOLING WATER PUMP	3981-50-DE-PR-PIID-003	P501C	P501C	P501C	P501C	P501C				
81-P-501 D	COOLING WATER PUMP	3981-50-DE-PR-PIID-003	P501D	P501D	P501D	P501D	P501D				
81-P-501 E	COOLING WATER PUMP	3981-50-DE-PR-PIID-003	P501E	P501E	P501E	P501E	P501E				
81-P-501 F	COOLING WATER PUMP	3981-50-DE-PR-PIID-003	P501F	P501F	P501F	P501F	P501F				
81-P-501G	COOLING WATER PUMP	3981-50-DE-PR-PIID-003	P501G	P501G	P501G	P501G	P501G				
81-P-603A	SCRUBBER 1% WT FRESH CAUSTIC INJECTION PUMP	3981-60-DE-PR-PID-501	P603A	P603A	P603A	P603A	P603A				
81-P-603B	SCRUBBER 1% WT FRESH CAUSTIC INJECTION PUMP	3981-60-DE-PR-PID-501	P603B	P603B	P603B	P603B	P603B				
81-P-604A	CCR 1% WT FRESH CAUSTIC INJECTION PUMP	3981-60-DE-PR-PID-501	P604A	P604A	P604A	P604A	P604A				
81-P-604B	CCR 1% WT FRESH CAUSTIC INJECTION PUMP	3981-60-DE-PR-PID-502	P604B	P604B	P604B	P604B	P604B				
81-P-702A	METHANOL SUPPLY PUMP	3981-70-DE-PR-PID-003	P702A	P702A	P702A	P702A	P702A				
81-P-702B	METHANOL SUPPLY PUMP	3981-70-DE-PR-PID-003	P702B	P702B	P702B	P702B	P702B				

[illegible][illegible][illegible][illegible]

PUMP TAG NO.	DESCRIPTION	P&ID NO.	DETAIL "PUMP F"					
			PBST	PBSP	XI	XA	XRS	UC
81-P-206A	PROPYLENE PRODUCT PUMP	3981-20-DE-PR-PID-056	P206A	P206A	P206A	P206A	P206A	20006
81-P-206B	FEED DRIER REGENERANT PUMP	3981-20-DE-PR-PID-056	P206B	P206B	P206B	P206B	P206B	20006
81-P-601A	CONDENSATE PUMP	3981-60-DE-PR-PID-004	P601A	P601A	P601A	P601A	P601A	60001
81-P-601B	CONDENSATE PUMP	3981-60-DE-PR-PID-004	P601B	P601B	P601B	P601B	P601B	60001

19	20	21	22	A3		
REFERENCE			DRAWINGS			
NOTES						
HOLDS						
01	ISSUED FOR APPROVAL	08-Dec-2025	M.KHERADKAR	M.JAMSHIDI	M.H.ESHRAHGH	
00	ISSUED FOR COMMENT	18-Aug-2025	M.KHERADKAR	M.JAMSHIDI	M.H.ESHRAHGH	
REV. PURPOSE OF ISSUE		ISSUE DATE	PREPARE	CHECKED	APPROVED	
OWNER:		MC:	CONTRACTOR/CONSULTANT:			
						
PROJECT TITLE:						
PROPANE DEHYDROGENATION (PDH) PROJECT						
DOCUMENT TITLE:						
PIPING AND INSTRUMENT DIAGRAM LEGEND SHEET 11						
DOC NO.:	PROJ.CODE	Sec.	PHASE	DEP.	DOC. TYPE	SERIAL NO.
	3981	00	DE	PR	PID	055
SCALE:	SIZE: A1	SHEET NO: 2 OF 2		REVISION: 01	CLASS: 1	