



DIAGRAM TAG NUMBER	SIZE	ITEM DESCRIPTION	PRESSURE RATING (PSIG)	TEMPERATURE RATING
V-1, V-2	1"	OASIS BALL VALVE, 316 SS, LOW TEMP, BV-708-4N6LDDN-1000	4,700	-45° TO 38°C
V-3, V-4, V-18	2"	BALL VALVE, LOW TEMP	3,000	-40° TO 93°C
V-5, V-6, V-7, V-24, V-25	3"	BALL VALVE, LOW TEMP	3,000	-40° TO 93°C
V-9	1/4"	NEEDLE VALVE	5,000	-40° TO 93°C
V-8, V-10, V-71	1"	BALL VALVE	3,000	-40° TO 93°C
V-68, V-69, V-70	1/2"	BALL VALVE	3,000	-40° TO 93°C
V-14, V-15, V-19, V-20	1"	OASIS CHECK VALVE	4,700	-40° TO 93°C
V-21	1"	DHV 800lb, PISTON CHECK VALVE, 1,975 PSIG @ 100°F	-	-
V-13, V-50, V-53, V-54, V-60, V-61, V-62, V-63, V-64, V-65, V-66	1/2"	SWAGelok NEEDLE VALVE, P/N SS-12NBF8	6,000	-53° TO 93°C
V-55, V-56, V-58, V-59, V-68	1/4"	NEEDLE VALVE	6,000	-40° TO 93°C
V-66, V-67	2"	BALL VALVE THREADED	3,000	-40° TO 93°C
PCV-104	2"	CVS CONTROL VALVE (SET PRESSURE 1800 PSIG), PILOT REGULATOR CONTROLLER	3,750	-40° TO 93°C
PCV-108	2"	CVS CONTROL VALVE SET AT 1000 PSIG	3,750	-40° TO 93°C
PCV-109, PCV-110	1"	MOONEY FLOWGRID, CL600 NPT, FG-11	-	-
PCV-116	1/2"	FISHER 1301 REGULATOR SET AT 200 PSIG	6,000	-40° TO 93°C
PCV-117	1"	FISHER 627-453 REGULATOR, 1/4" TRIM, SET AT 80 PSIG	1,000	-40° TO 82°C
PCV-120	1/4"	FISHER FS-67CFR-362SC REGULATOR SET AT 30 PSIG	250	-29° TO 82°C
PI-102, PI-105, PI-108, PI-121, PI-122	2-1/2"	WIKA 233.53 GAUGE, LM, 0-5000 PSIG, SILCON FILL	5,000	-40° TO 70°C
PI-111, PI-112, PI-113, PI-119, PI-123	2-1/2"	WIKA 233.53 GAUGE, LM, 0-100 PSIG, SILCON FILL	1,400	-40° TO 70°C
PS-113	-	CVS 7970 HIGH-LOW PRESSURE PILOT SET AT 40 PSIG	10,000	-40° TO 116°C
PSV-106	2"x2"	MERCER, 2" MNPT X 2" FNPT, F ORIF., SET PRESSURE 2100 PSIG	9,500	-29° TO 93°C
PSV-107	2"x2"	MERCER, 2" MNPT X 2" FNPT, F ORIF., SET PRESSURE 2100 PSIG	9,500	-29° TO 93°C
PSV-108	2"x2"	MERCER, 2" MNPT X 2" FNPT, G ORIF., SET PRESSURE 800 PSIG	5,000	-29° TO 93°C
PSV-115	3"x4"	MERCER, 3" MNPT X 4" FNPT, K ORIF., SET PRESSURE 300 PSIG, 3" 300# RF X 4" 150# RF, CAPACITY: 10,006 scfm	300	-29° TO 93°C
PSV-118	1"x1"	MERCER, 1" FNPT X 1" MNPT, SET PRESSURE 125 PSIG	125	-29° TO 93°C
TI-103, TI-105, TI-108, TI-124	-	WIKA TEMPERATURE GAUGE, -40 TO 70 RANGE WITH GAUGETECH 316 SS THERMOWELL	7,000	-40° TO 70°C
TS-114	-	KIMRAY HT12 TEMPERATURE SWITCH	500	-40° TO 105°C
UY-119	-	4057 3-WAY AMOT PILOT VALVE	125	-40° TO 120°C
S-1	6"x36"	FUEL GAS SCRUBBER	285 @ 38°C	-

SHUTDOWN SETPOINTS:
 PS-113: 40 PSIG
 TS-114: 0°C

INITIAL BMS SETPOINTS:
 BURNER ON TEMP.: 70°C
 BURNER OFF TEMP.: 80°C
 ALARM TEMP.: 90°C

SYSTEM DESIGN SPECIFICATIONS:
 DESIGN PRESSURE (UPSTREAM OF PCV-104): 4000 PSIG
 DESIGN PRESSURE (PCV-104 TO PCV-107): 2100 PSIG
 DESIGN TEMPERATURE: -29°C TO 60°C
 DESIGN FLOW RATE: 800 SCFM
 DESIGN CODE: ASME B31.3 / CSA B51

LINE HEATER SPECIFICATIONS:
 HEAT CAPACITY: 500,000 BTU/HR
 CRN: F3086.231

HEATER COIL SPECIFICATIONS:
 DESIGN PRESS. DESIGN TEMP. CRN #
 COIL 1: 5280 PSIG 204°C/-28°C F-3086.23
 COIL 2: 3170 PSIG 204°C/-28°C F-3086.23
 COIL 3: 3170 PSIG 204°C/-28°C F-3317.23

- NOTES:**
- COIL #1 IS 1" NPT, 2500#, SA-106-B, 0" C.A.
 - COILS #2 AND #3 ARE 2" NPT, SCH.80, SA-106-B, 0" C.A.
 - HIGH PRESSURE PIPING IS 2" NPT, SCH.160, A333 GRADE 6, WELDED
 - LOW PRESSURE PIPING IS SCH.80, A333 GRADE 6, THREADED, DOWNSTREAM OF PCV-108 TO PCV-109 & 110. WELDED 3" SCH.80 DOWNSTREAM OF PCV-109 & 110 TO OUTLET.
 - 1/2" TUBING IS 0.065" W.T. SS SEAMLESS TUBING, FULLY ANEALD, A213, TYPE 316
 - 3/8" TUBING IS 0.049" W.T. SS SEAMLESS TUBING, FULLY ANEALD, A213, TYPE 316
 - ALL FLANGES TO PCV-104 ARE SCH.80, SA105-N 2500# ANSI RF
 - FLANGES FOR COIL #2 AND #3 ARE SCH.80, SA105-N 1500# ANSI RF
 - V-50, V-66 AND V-13 ARE NORMALLY CLOSED AND ARE ONLY OPEN DURING START UP
 - AMOT VALVE UY-119 IS CONNECTED SUCH THAT PCV-104 AND PCV-107 CLOSE WHEN PS-113 OR TS-114 GOES TRUE
 - ALL TUBE FITTINGS TO BE SWAGelok OR ENGINEERING APPROVED EQUAL
 - ENSURE VALVE M.O.P. MEETS OR EXCEEDS 5000 PSIG
 - PSV-106 & 107 MINIMUM COMBINED CAPACITY IS 22,000 SCFM
 - DOWNSTREAM OF PCV 109, 110 IS 285 PSI MAOP
 - DOWNSTREAM OF 2ND CUT PCV TO CUSTOMER IS 1000 PSI MAOP
 - PI-130 2.5" 0-6000
 - PI-131 2.5" 0-1500
 - PI-132 2.5" 0-1000
 - PI-133 2.5" 0-600
 - V-135 1/2" CHECK VALVE 6000 PSI

REV	REVISIONS	DATE (yyyy-mm-dd)	BY	CHK'D	PROJ.
0	AS BUILT	2023-01-24	WJH	GH	22-166
A	PRELIMINARY	2022-09-08	WJH	GH	22-166

DRAWN BY: WJH		DATE: 2022-09-08		<p>TULSA GAS TECHNOLOGIES, INC. 4809 S. 101st E. Ave. Tulsa, OK 74146 918-665-2641 FAX: 918-665-2657</p>	
CHECKED BY: GH		DATE: 2022-09-08			
APPROVED BY:		DATE:			
TITLE: PRS UNIT 1200-M PIPING AND INSTRUMENTATION DIAGRAM				DWG. NO.: PRS-1200M-PID-01	0