

STANDARD TUBING SIZES
*1/4" - 0.049"
*3/8" - 0.049"
1/2" - 0.049"
3/4" - 0.065"
1" - 0.083"
*PER CLIENT SPEC
ALL TUBING TO BE 316SS

LOW POINT DRAIN DETAIL
PLUGGED NPT DRAINS TO BE PROVIDED AT ALL LOW POINTS IN PROCESS & UTILITY PIPING.

LINETYPE LEGEND
PROCESS PIPING
UTILITY PIPING
SEAMLESS TUBING
ELECTRICAL WIRING
INTERNAL LOGIC
OEM SUPPLIED
ASSEMBLY BOUNDARY
BUILDING WALL
DRIVETRAIN
CUSTOMER SUPPLIED
EXISTING EQUIPMENT

PNEUMATIC TERMINATIONS
INSTRUMENT AIR
PANEL AIR
VENT LOCALLY
VENT TO PROCESS GAS HEADER

INSTRUMENTATION TAGGING LEGEND
LOCAL MOUNTED DEVICE
PANEL MOUNTED DEVICE
OFF-SKID MOUNTED DEVICE
SIGNAL TO PANEL
SIGNAL TO OFF-SKID
PANEL LOGIC

THIS DRAWING IS SOLE PROPERTY OF BIDE LL EQUIPMENT AND SHALL NOT BE REPRODUCED, COPIED, LENT, ALTERED NOR USED FOR ANY PURPOSE OTHER THAN WHICH IT IS FURNISHED EXCEPT WITH THE WRITTEN PERMISSION OF BIDE LL EQUIPMENT

**AS BUILT**

**AS BUILT**

**BUILT**

2015/10/14

REVISIONS					DESCRIPTION
0	15-10-14	TT	CW	GM	AS BUILT

MAIN SHOP / OFFICE  
6900 - 112th AVENUE S.E.  
CALGARY, AB T2C 4Z1  
PHONE: (403) 235-5877  
FAX: (403) 272-7749

**BIDELL**™  
GAS COMPRESSION

APEGA PERMIT NUMBER P08318

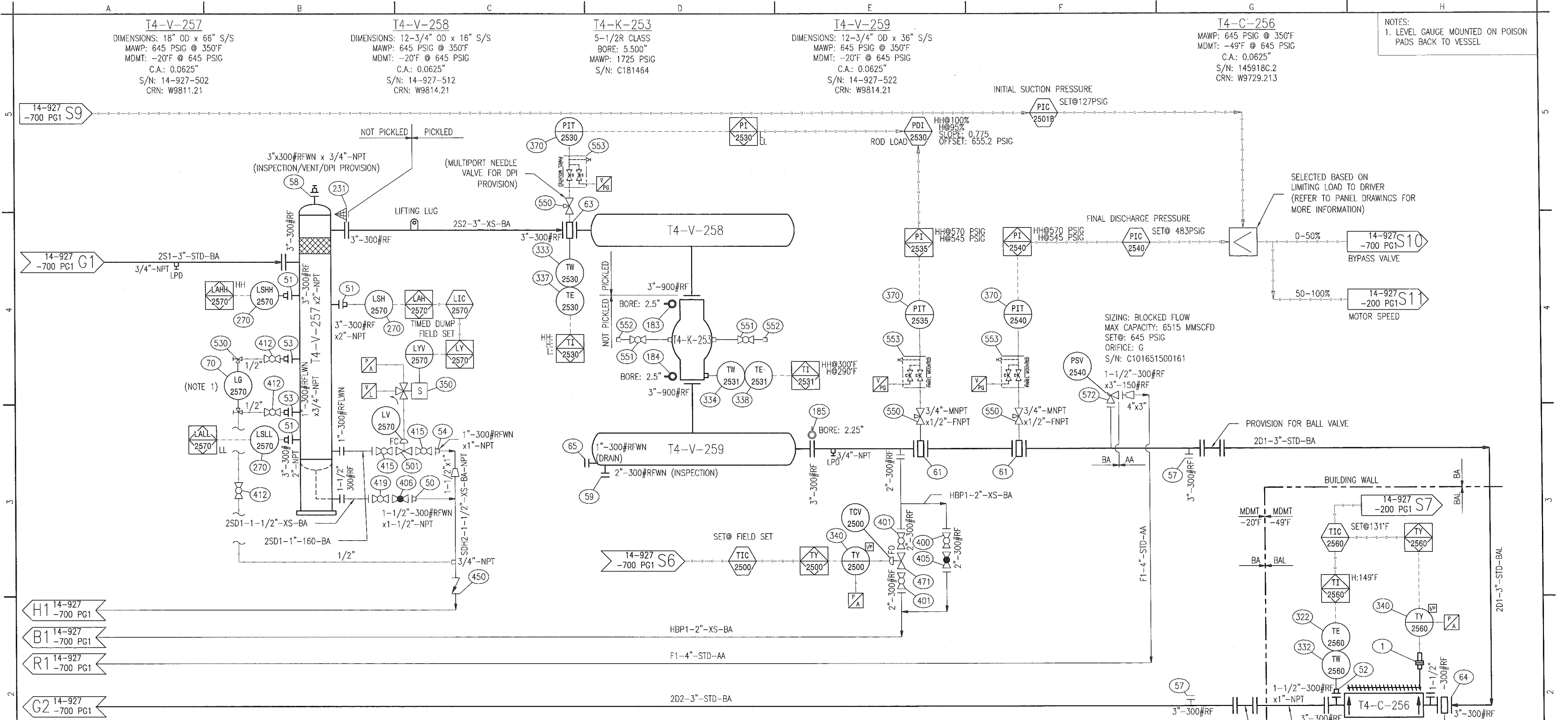
SWEET PROCESS FLOW  
WEG 350HP ELECTRIC/ARIEL JGR/2/AIR-X-LIMITED 96AEF

CUSTOMER: ENCANA c/o EQUINOX ENGINEERING  
LOCATION: KAYBOB GAS PLANT PHASE 3 (DE-ETHANIZER)  
LSD: 15-31-062-21 W5M

SHEET#: 1 OF 3  
JOB#: 14-927

PAPER SIZE 11"x17" SCALE NTS DWG# 14-927-700 REV 0

NOTES:  
1. LEVEL GAUGE MOUNTED ON POISON PADS BACK TO VESSEL



STANDARD TUBING SIZES	LOW POINT DRAIN DETAIL	LINETYPE LEGEND	PNEUMATIC TERMINATIONS	INSTRUMENTATION TAGGING LEGEND
*1/4" - 0.049" *3/8" - 0.049" 1/2" - 0.049" 3/4" - 0.065" 1" - 0.083" *PER CLIENT SPEC	 PLUGGED NPT DRAINS TO BE PROVIDED AT ALL LOW POINTS IN PROCESS & UTILITY PIPING.	PROCESS PIPING ——— UTILITY PIPING ——— SEAMLESS TUBING ——— ELECTRICAL WIRING - - - - INTERNAL LOGIC - - - - OEM SUPPLIED - - - - ASSEMBLY BOUNDARY - - - - BUILDING WALL - - - - DRIVETRAIN - - - - CUSTOMER SUPPLIED ..... EXISTING EQUIPMENT .....	 INSTRUMENT AIR  PANEL AIR  VENT LOCALLY  VENT TO PROCESS GAS HEADER	 LOCAL MOUNTED DEVICE  PANEL MOUNTED DEVICE  OFF-SKID MOUNTED DEVICE  SIGNAL TO PANEL  SIGNAL TO OFF-SKID  PANEL LOGIC
ALL TUBING TO BE 316SS				

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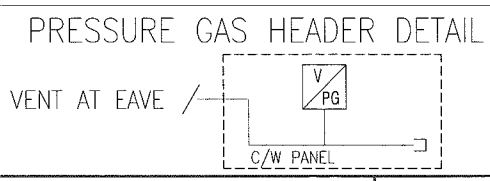
AS BUILT  
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2015/10/14

REV	DATE	CREATED	REVIEWED	APPROVED	DESCRIPTION
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MAIN SHOP / OFFICE 6900 - 112th AVENUE S.E. CALGARY, AB T2C 4Z1 PHONE: (403) 235-5877 FAX: (403) 272-7749		<b>BIDELL</b> GAS COMPRESSION		APEGA PERMIT NUMBER P08318	
SWEET PROCESS FLOW					
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CUSTOMER: ENCANA c/o EQUINOX ENGINEERING					
LOCATION: KAYBOB GAS PLANT PHASE 3 (DE-ETHANIZER)					
PAPER SIZE: 15-31-062-21 W5M				JOB#: 14-927	
SCALE: 11"x17"		SCALE: NTS		DWG#: 14-927-700	
					REV 0

BILL OF MATERIALS			
MK	QTY	PART NUMBER	DESCRIPTION
419	2	BVF-1016	VALVE, BALL, 1-1/2"-300#RF, FP, FL, NACE MFG: JAG MODEL: T3-F19R03N
421	2	BV-1189	VALVE, BALL, 3/4"-FNPT, CL1500, BODY:A350-LF2, SEAT:DELIN,TRIM:316 SS, FP, FLOATING, 3 PIECE THREADED, LOCKABLE LEVER, LOW TEMP, NACE0175 MFG: JAG MODEL: T3-F07T15L
450	2	NPN	VALVE, CHECK, SWING, 1-1/2"-FNPT, MAWP:1480PSIG@100F, BODY:350 LF2, SEAT:STELLITE, TRIM:STELLITE, LOW TEMP, NACE MFG: CROWN
451	1	SCF-1025	VALVE, CHECK, PISTON, 3"-300#RF, BODY:A352-LCC, SEAT:A351-CF8M, TRIM:316 SS, SPRING:ALLOYX750, NON-SLAM, SWEET, 12.5°F/F MFG: DFT MODEL: 31-8K1B-4A5
470	1	PCV-1307	VALVE, CONTROL, V-BALL, 3"-300/600#RF, FC, 750PSID MAX, CL IV, Cv(1)=321, LH D POS 1, BODY:WCC, TRIM:317 CR PLT, NACE0175, SIZE 2 ACTR, 0-30PSIG MFG: FISHER MODEL: 2052-2-V200-DVC6200
471	2	PCV-1318	VALVE, CONTROL, GLOBE, 2"-300#RF, FO, 740PSID MAX, 1-1/4" PORT, CL IV, Cv(1)=33.2, BODY:A352-LCC, MICRO FORM, NACE0175, SIZE 40 ACTR, 0-33PSIG MFG: FISHER MODEL: D4
472	1	PCV-1319	VALVE, CONTROL, GLOBE, 1"-300#RF, FO, 750PSID MAX, 3/4" PORT, CL V, Cv(1)=12.3, BODY:LCC, MICRO FORM, NACE0175, SIZE 30ACTR, 0-18PSIG, C/W LIMIT SWITCH MFG: FISHER / TOPWORX MODEL: 657-30 / LPS-DZ1NA2
501	2	PCV-1139	VALVE, CONTROL, GLOBE, 1"-300#RF, FC, 3/8" PORT, 740 PSID MAX, CLASS IV, Cv(1)=3.53, BODY:A352 LCC, TRIM:17-4PH SS, NACE0175 MFG: FISHER MODEL: D4
530	2	LLG-190N	VALVE SET, GAUGE, 3/4"-NPT,NACE MFG: PENBERTHY MODEL: 330J-NACE
550	7	NVS-1009	VALVE, NEEDLE, MULTIPORT GAUGE, 3/4"-MNPT (EXTENDED) X 3x1/2"-FNPT, MAWP:1000PSIG@100F, BODY:316 SS, SEAT:316 SS, TRIM:316 SS, PACKING:TEFLON,NACE0175 MFG: CENTURY MODEL: CM11L-1-M64T-CN-T-SP100
551	4	BV-1035	VALVE, COMPRESSOR ANALYZER, 1/2"NPT MFG: KIENE MODEL: CV-72LH
552	4	BV-1096	CAP, INDICATOR VALVE, W/ BRASS PLUG & LANYARD MFG: KIENE VALVE MODEL: AX-17A
553	0	PNL.0003	PANEL MOUNTED BLOCK AND BLEED MANIFOLD (1/2"-FNPT) AND TESTTEE, 316SS, NACE MR0175 / ISO15156 MFG: ROSEMOUNT MODEL: 0306BT22BA11SG (QTY: 7, c/w PANEL)
570	1	PSV-1245	VALVE, RELIEF, 1-1/2"-300#RF X 3"-150#RF, G, CONV, THREADED BONNET, BODY:A216-WCB, TRIM:316 SS, SEAT:316 SS, SPRING:INCONEL, NACE0175 MFG: CROSBY MODEL: 1-1/2 G 3 JOS-E-35-J-N2
571	1	PSV-1245	VALVE, RELIEF, 1-1/2"-300#RF X 3"-150#RF, G, CONV, THREADED BONNET, BODY:A216-WCB, TRIM:316 SS, SEAT:316 SS, SPRING:INCONEL, NACE0175 MFG: CROSBY MODEL: 1-1/2 G 3 JOS-E-35-J-N2
572	1	PSV-1245	VALVE, RELIEF, 1-1/2"-300#RF X 3"-150#RF, G, CONV, THREADED BONNET, BODY:A216-WCB, TRIM:316 SS, SEAT:316 SS, SPRING:INCONEL, NACE0175 MFG: CROSBY MODEL: 1-1/2 G 3 JOS-E-35-J-N2

BILL OF MATERIALS			
MK	QTY	PART NUMBER	DESCRIPTION
322	1	TCP-1002	THERMOCOUPLE, K, 1/4" OD x 13.5" OAL, 316SS, 10FT ARM CABLE MFG: WIKA MODEL: 55319556
331	1	TOW-1079	THERMOWELL, STRAIGHT, 1"-MNPT X 1/2"-FNPT, 10.5" U, 12.25" OAL, .26" BORE, MAWP:5837PSIG@300F, BODY:316 SS, SOUR MFG: WESTERN GAUGE MODEL: TWO2A16L12
332	1	TOW-1079	THERMOWELL, STRAIGHT, 1"-MNPT X 1/2"-FNPT, 10.5" U, 12.25" OAL, .26" BORE, MAWP:5837PSIG@300F, BODY:316 SS, SOUR MFG: WESTERN GAUGE MODEL: TWO2A16L12
333	2	TOW-475N	THERMOWELL, STRAIGHT, 3/4"-MNPT X 1/2"-FNPT, 2.5" U, 4.25" OAL, 0.26" BORE, BODY:316 SS MFG: WESTERN GAUGE INSTRUMENTS MODEL: 3/4-040-316
334	3	TOW-1085	THERMOWELL, STRAIGHT, 1/2"-MNPT X 1/2"-FNPT, 3.5" U, 5.25" OAL, 0.26" BORE, MAWP:7038PSIG@300F, BODY:316SS, SWEET MFG: WESTERN GAUGE MODEL: -
336	1	NPN	MFG: ROSEMOUNT MODEL: 644HAK6XAJ6F6
337	2	TCP-K553	THERMOCOUPLE, TYPE "K", 1/2"-NPT, 5.5" U-LENGTH MFG: WESTERN GAUGE MODEL: 1K1BKU5.5Z23120FTA
338	3	TCP-K753	THERMOCOUPLE, "K", 1/2" NPT, 1/4" OD X 7-1/2" STEM, 316 SS MFG: WESTERN GAUGE MODEL: 1K1BKU7.5Z23120FTA
339	0	NPN	RTD,100 Ω, 3 WIRE, c/w TOW MFG: ROSEMOUNT MODEL: 0068N21C30A025T34E6XA (QTY:1, SHIPPED LOOSE W/ PANEL)
340	0	PNL-114	TRANSDUCER, I/P, 4-20 mA IN, 6-30 PSIG OUT, CSA MFG: FISHER MODEL: I2P-X2B (QTY: 4, c/w PANEL)
350	0	SOL-002	VALVE, SOL, 3/2, 1/4"FNPT, 115PSID MAX, 3/32"ORF, NC, 24VDC, SST MFG: ASCO MODEL: EF8320G202-24 (QTY: 3, c/w CONTROL PANEL)
370	0	NPN	TRANSMITTER, PRESSURE, 0-800 PSIG, 4-20 MA OUTPUT, MFG: ROSEMOUNT, MODEL: 2051, (QTY: 7, C/W PANEL)
400	2	BVF-1043	VALVE, BALL, 2"-300#RF, RP, 2PCS, NACE MFG: JAG MODEL: FB2-R20R03N
401	4	BV-1050	VALVE, BALL, 2"-300#RF, FP, NACE MFG: JAG MODEL: FB2-F20R03N
404	1	GBF-1058	VALVE, GLOBE, 1"-300#RF, BODY:A105, SEAT:A479-410 SS, TRIM:CR13 HF, BOLTED BONNET, SWEET MFG: NEWCO MODEL: 23F-FS2-1"
405	2	GBF-1059	VALVE, GLOBE, 2"-300#RF, BODY:A216-WCB, SEAT:A105, TRIM:CR13 HF, BOLTED BONNET, SWEET MFG: NEWCO MODEL: 23F-CB2-2"
406	2	GBF-1057	VALVE, GLOBE, 1-1/2"-300#RF, BODY:A105, SEAT:A479-410 SS, TRIM:CR13 HF, BOLTED BONNET, SWEET MFG: NEWCO MODEL: 23F-FS2-1.5"
410	1	BVS-022FN	VALVE, BALL, 1/4"-NPT, CL2000, FP, NACE MFG: NUTRON MODEL: 5A-T3F02S20SZ
412	6	BV-1193	VALVE, BALL, 1/2"-FNPT, CL1500, BODY:A105N, SEAT:DELIN, TRIM:316 SS, FP, FLOATING, 3 PIECE THREADED, LOCKABLE LEVER, NACE MFG: JAG MODEL: T3-F05T15N
415	7	BVF-103RNL	VALVE, BALL, 1"-300#RF, SOUR

BILL OF MATERIALS			
MK	QTY	PART NUMBER	DESCRIPTION
1	0	NPN	COOLER LOUVRE ACTUATOR (QTY: 2, C/W COOLER)
40	2	FS-6946L	NIPPLE, 3/4" X 4", XXH, SA-333-6
49	1	BWF-D1CL	FLANGE, THREADED, 1-1/2"-300RF, SA350-LF2
50	2	BWF-1387	FLANGE, SCREWED, 1-1/2"-300#RF, SA-105N
51	6	BWF-1082	FLANGE, HUB, 3"-300#RF X 2"-NPT, SA105N
52	2	BWF-H1CL	FLANGE, HUB, 1-1/2"-300#RF X 1"-NPT, SA-350-LF2
53	4	BWF-1005	FLANGE, HUB, 1"-300#RF X 3/4"-NPT, SA105N
54	2	BWF-D1A	FLANGE, SCREWED, 1"-300#RF, SA105N
56	1	BWF-1288	FLANGE, HUB, 3"-300#RF X 3/4"-FNPT, SA-105-N
57	5	BWF-C1F	FLANGE, BLIND, RF, 3"-300#, SA105N
58	1	BWF-1288	FLANGE, HUB, 3"-300#RF X 3/4"-FNPT, SA-105-N
59	4	BWF-C1D	FLANGE, BLIND, RF, 2"-300#, SA105N
60	1	BLF-0034	BLEED RING, 4"-300#RF, 1-1/2" THK, SA-516-70N, 2 X TAPPED 3/4"-NPT @180°
61	3	BLF-0036	BLEED RING, 3"-300#RF, 1-1/2" THK, SA-516-70N, TAPPED 3/4"-NPT
62	1	BLR-1026	BLEED RING, 4"-300#RF, 1-1/2" THK, 1 X 3/4" DRILL & 2 X 3/4"-NPT TAP @90°, SA-516-70N
63	2	BLR-1022	BLEED RING, 3"-300#RF, 1-1/2" THK, 1 X 3/4" DRILL & 3/4"-NPT TAP, SA-516-70N
64	2	BLR-1028	BLEED RING, 3"-300#RF, 1-1/2" THK, 1 X 3/4" DRILL & 3/4"-NPT TAP, SA-516-70N, MDMT -49°C MFG: UCANU MODEL: 186286
65	2	BWF-C1A	FLANGE, BLIND, RF, 1"-300#, SA105N
70	2	LLG-119N	GAUGE, LEVEL, REFLEX, 1/2"-NPT, SOUR MFG: PENBERTHY MODEL: 1RM9-NACE
180	1	OP-1069	ORIFICE PLATE, 5"-300#RF, BORE:4.375", 1/8" THK, 316 SS, SQUARE EDGE
181	1	OP-1070	ORIFICE PLATE, 5"-300#RF, BORE:3.5", 1/8" THK, 316 SS, SQUARE EDGE
182	1	OP-1073	ORIFICE PLATE, 3"-300#RF, BORE:2.375", 1/8" THK, 316 SS, SQUARE EDGE
183	1	OP-1071	ORIFICE PLATE, 3"-900#RF, BORE:2.5", 1/4" THK, 316 SS, SQUARE EDGE
184	1	OP-1071	ORIFICE PLATE, 3"-900#RF, BORE:2.5", 1/4" THK, 316 SS, SQUARE EDGE
185	1	OP-1080	ORIFICE PLATE, 3"-300#RF, BORE:2.25", 1/8" THK, 316/316L SS, SQUARE EDGE
186	1	OP-1090	ORIFICE PLATE, 4"-300#RF, BORE: 2.875", 1/8" THK, 316SS, SQUARE EDGE
200	0	POS-1002	POSITIONER, 4-20mA HART, LOW BLEED, AUTO & REMOTE CALIBRATION, CSA, XP, INTRIN SAFE, C/W SUPPLY/OUTPUT GAUGES: 0-60PSIG, REGULATOR: 0-35PSIG (ADJ), 1/4"-NPT BONNET MFG: FISHER MODEL: DVC6200HC / 67CFR (QTY: 1, c/w SPCV)
230	1	CST-1082	STRAINER, CONE, CS, 4" 300# RF, S160, 150%OA, 316SS, 40 ME
231	1	CST-1081	STRAINER, CONE, CS, 3" 300# RF, S160, 150%OA, 316SS, 40 MESH
270	6	LLS-1029	SWITCH, LEVEL, FLOAT, 2"-MNPT, MAWP:1500PSIG@400F, 0.45 SGMIN, SPDT, ELECTRIC, MAN OVRIDE, 3.07" INS LG, CSA, CL I DIV II, BODY:316 SS, TRIM:316 SS, NACE0175 MFG: SOR MODEL: 1510C-G2A-CL1-ES-CSCVMC
321	1	TCP-1002	THERMOCOUPLE, K, 1/4" OD x 13.5" OAL, 316SS, 10FT ARM CABLE MFG: WIKA MODEL: 55319556



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