

SHEET REVISION STATUS											REVISIONS						
11	10	9	8	7	6	5	4	3	2	1	SHEET NO.	ZONE	LTR	DESCRIPTION	DATE	APPROVED	
A	B	D	B	B	C	A	A	A	A	D	LATEST REV LTR			-	ORIGINAL INPUT FROM HIGHSTAR DWGS AND CHHI DWG 98037-400		
												A	REVISED PER RN-R0010	12/6/00	MJB (S)		
												B	REVISED PER RN-R0012 AND RN-R0015	5/1/01	MJB (S)		
												21	REVISED PER N68836-07-C-0068-P00002 HIGH PRESSURE AIR COMPRESSOR INSTALLATION	7/24/08	RMW		
												D	REVISED PER SCA DRAWING INSPECTION, AND AIG 04-07 SAB NUT REPLACEMENT. INCLUDES HIGH PRESSURE AIR REDUCTION PANEL MODIFICATION.		RMW		

NOTES:

- THIS DRAWING TO BE USED IN CONJUNCTION WITH DRAWING 7371361, YDT 17 & 18 RECOMPRESSION CHAMBER ASSEMBLY.
- TUBE SIZES ARE EXPRESSED IN INCHES, O.D.
- PIPE SIZES ARE EXPRESSED IN INCHES, I.D.
- FABRICATE, WELD AND INSPECT IAW 59074-AR-GIB-010/278, CLASS P1, USING THE GTAW PROCESS OR USE PROCEDURES FOR AUTOMATIC GAS TUNGSTEN ARC WELDING, FOR PIPING SYSTEM, SOCKET TYPE JOINTS OF CORROSION RESISTING STEEL (300 SERIES CRES), WITHOUT THE USE OF FILLER METAL.
- FOR MONEL USE FILLER METAL RN60, PER MIL-E-21562.
- APPROPRIATE "WELD HISTORY RECORDS" SHALL BE MAINTAINED AS REQUIRED BY 59074-AR-GIB-010/278 FOR FINAL SUBMITTAL AT DELIVERY.
- TUBING SHALL BE ROUTED APPROXIMATELY AS SHOWN ON ASSEMBLY DRAWINGS. BEND RADII IAW MIL-STD-1627.
- PERMANENTLY MARK WELDED JOINTS WITH CORRESPONDING JOINT IDENTIFICATION NUMBER AND WITH SERIAL NUMBER (STARTING AT 001) UNDER THE JOINT IDENTIFICATION NUMBER.
EXAMPLE: 012
001
- CHAMBER PIPING CONNECTS TO SHIPS PIPING AT THIS POINT.
- NEEDLE AND GLOBE VALVES SHALL BE INSTALLED SO THE FLOW IS IN THE DIRECTION INDICATED BY THE FLOW ARROW OR BRIDGE MARK, WITH THE PRESSURE UNDER THE SEAT WHEN THE VALVE IS IN THE CLOSED POSITION.
- ALL TUBE AND PIPE SHALL BE CLEANED IAW MIL-STD-1330 USING A NAVSEA APPROVED CLEANING PROCEDURE. APPROPRIATE "CLEANING CERTIFICATES" SHALL BE MAINTAINED FOR EACH TUBE AND PIPE ASSEMBLY FOR FINAL SUBMITTAL AT DELIVERY.
- HYDROSTATICALLY TEST TUBE AND PIPE TO SPECIFICATIONS STATED ON INDIVIDUAL ASSEMBLY DRAWINGS. NO LEAKAGE OR PERMANENT DEFORMATION ALLOWED. A TEST PLAN SHALL BE PREPARED AND PROVIDED TO THE CONTRACTING AUTHORITY FOR APPROVAL PRIOR TO HYDROSTATIC TESTING OF TUBE ASSEMBLIES. VENDOR SHALL MAINTAIN "CERTIFIED TEST RECORDS" OF ALL HYDROSTATICALLY TESTED ASSEMBLIES FOR FINAL SUBMITTAL AT DELIVERY.
- A PRESSURE DROP (SYSTEM TIGHTNESS) TEST SHALL BE PERFORMED AFTER ASSEMBLY. THE HP CIRCUIT SHALL BE PRESSURIZED TO 5000 PSIG AND HELD FOR 24 HOURS WITH A 1% MAXIMUM PRESSURE DROP ALLOWED. THE LP CIRCUIT SHALL BE PRESSURIZED TO 250 PSIG AND HELD FOR 6 HOURS WITH A 5% MAXIMUM PRESSURE DROP ALLOWED. OXYGEN IAW MIL-PRF-27210 TYPE I, OR NITROGEN IAW A-A-59155 TYPE I, GRADE A, OIL FREE SHALL BE USED AS THE TEST GAS. A TEST PLAN SHALL BE PROVIDED TO AND APPROVED BY THE CONTRACTING AUTHORITY PRIOR TO TESTING. VENDOR SHALL SUPPLY TEST VERIFICATION AND "CERTIFICATE OF CONFORMANCE" THAT TEST WAS CONDUCTED AND HARDWARE SUCCESSFULLY PASSED.
- SET RELIEF VALVES TO VALUES STATED ON INDIVIDUAL ASSEMBLY DRAWINGS. VENDOR SHALL SUPPLY TEST VERIFICATION AND "CERTIFICATE OF COMPLIANCE" OF RELIEF VALVE SETTING.
- ALL RE-ENTRY INTO THE SYSTEM WILL BE DONE IAW APPROVED RE-ENTRY CONTROL PROCEDURES.

- ALL GAUGES SHALL BE SUPPLIED WITH A CALIBRATION LABEL AND "CERTIFICATE OF COMPLIANCE" THAT THEY HAVE BEEN CLEANED IAW MIL-STD-1330 USING A NAVSEA APPROVED PROCEDURE AND CALIBRATED.
- THE BODIES OF ALL VALVES, REGULATORS, FILTERS, AND FITTINGS NOT WELDED TO TUBING BUT FORMING A PART OF THE PRESSURE BOUNDARY SHALL BE PROOF TESTED FOR 5 MINUTES TO 150% ±3% OF THE APPLICABLE SYSTEM WORKING PRESSURE. NO LEAKAGE OR PERMANENT DEFORMATION SHALL BE ALLOWED. ALL COMPONENTS SHALL BE CLEANED IAW MIL-STD-1330 USING A NAVSEA APPROVED CLEANING PROCEDURE PRIOR TO ASSEMBLY. APPROPRIATE TESTING AND CLEANING CERTIFICATES SHALL BE MAINTAINED FOR EACH COMPONENT AND FOR FINAL SUBMITTAL AT DELIVERY.
- SYSTEM WORKING PRESSURE: 250 PSIG - AIR LOW PRESSURE
250 PSIG - OXYGEN LOW PRESSURE
250 PSIG - HELIUM-OXYGEN LOW PRESSURE
25 PSIG - CHILL WATER PRESSURE
110 PSIG - CHILL WATER SYSTEM
(TEST PRESSURE)
- THE JOINT IDENTIFICATION NUMBERS SHOWN ON THIS PLAN SHALL BE IAW 59074-AR-GIB-010/278, CLASS P1 PIPING.
- PRESSURIZE EACH VALVE IN ITS INTENDED DIRECTION OF FLOW (UNDER THE SEAT) TO THE MAXIMUM SYSTEM WORKING PRESSURE OF THE PORTION OF THE SYSTEM WHERE IT IS TO BE INSTALLED. VALVES SHALL BE PRESSURIZED FOR A MINIMUM OF 5 MINUTES WHILE IMMersed IN WATER, AND SHALL EXHIBIT MINIMAL OR ZERO LEAKAGE. WITH HELIUM OR HELIUM-OXYGEN 0.6CC/MIN OR LESS LEAKAGE IS REQUIRED. WITH HIGH PRESSURE AIR OR NITROGEN, ZERO LEAKAGE SHALL BE EXHIBITED.
- APPLY A LIGHT COATING OF LUBRICANT TO O-RINGS AND PIPE THREADS PRIOR TO INSTALLATION. LUBRICANTS SHALL BE SAFE FOR LIFE SUPPORT SERVICE AND SHALL BE COMPATIBLE WITH 3000 PSIG HIGH PRESSURE GASEOUS OXYGEN. LUBRICANTS WITH NO PRIOR NAVSEA HISTORY SHALL REQUIRE NAVSEA ACCEPTANCE PRIOR TO USE. IF NO PRIOR NAVSEA ACCEPTANCE EXISTS, COMPATIBILITY WITH THE GUIDELINES OF ASTM G 63, STANDARD GUIDE FOR EVALUATING NONMETALLIC MATERIALS FOR OXYGEN SERVICE, AND LIFE SUPPORT SAFETY SHALL BE EVALUATED IN ACCORDANCE WITH DIRECTION PROVIDED BY THE COGNIZANT MEDICAL AUTHORITY. GREASE LUBRICANTS PREVIOUSLY FOUND ACCEPTABLE BY NAVSEA FOR HIGH PRESSURE OXYGEN LIFE SUPPORT SYSTEMS INCLUDE:
A. MIL-PRF-27617 TYPE III GREASES THAT ARE LISTED ON THE APPLICABLE QPL AND WHICH HAVE PASSED ASTM G 72 STANDARD TEST METHOD FOR AUTOGENOUS IGNITION TEMPERATURE OF LIQUIDS AND SOLIDS IN A HIGH PRESSURE OXYGEN ENRICHED ENVIRONMENT, OR EQUIVALENT.
B. DUPONT DE NEMOURS KRYTOX 240AC.

- WARNING: CARE SHALL BE EXERCISED THAT ANY NAVSEA ACCEPTABLE LUBRICANTS SHALL NEVER BE MIXED TOGETHER.
21. DRAWING REVISION AUTHORIZATION APPROVAL BY DIRECTION OF LETTER; 3150 SER 00C35/3143, 24 JULY 2008.
22. OEM (TBV INC) NO LONGER SUPPORTS OR MANUFACTURES ORIGINAL VALVE, (V-30) EX-V-854. MANUFACTURE SEAL AS PER OEM SPECIFICATIONS IN-HOUSE. REF DRAWING 53711 592-7371361 NOTE: 31.

- A PRESSURE DROP (SYSTEM TIGHTNESS) TEST SHALL BE PERFORMED AFTER ASSEMBLY. SEE INDIVIDUAL ASSEMBLY DRAWINGS FOR SPECIFICATIONS. 100% HELIUM OR A HELIUM-OXYGEN MIXTURE WHERE OXYGEN IS NOT GREATER THAN 16% WITH THE HELIUM IAW MIL-PRF-27407 TYPE I, GRADE B AND THE OXYGEN IAW IAW MIL-PRF-27210 TYPE I, SHALL BE USED AS THE TEST GAS. A TEST PLAN SHALL BE PROVIDED TO AND APPROVED BY THE CONTRACTING AUTHORITY PRIOR TO TESTING. VENDOR SHALL SUPPLY TEST VERIFICATION AND "CERTIFICATE OF CONFORMANCE" THAT TEST WAS CONDUCTED AND HARDWARE SUCCESSFULLY PASSED.
- GAS UTILIZED FOR CLEANLINESS TESTING (BOMB SAMPLE) OF HE02 SYSTEMS SHALL BE 100% HELIUM OR NITROGEN. GAS UTILIZED FOR CLEANLINESS TESTING (BOMB SAMPLE) OF O2 SYSTEMS SHALL BE 100% NITROGEN.

LEGEND

JOINT IDENTIFICATION NUMBER

AHP-SW-90112

JOINT NO.: START AT 0001
1 = SYSTEM
9 = SHIPS PIPING
TYPE OF JOINT/TORQUE VALUE
FL = 37° FLARE
FG = FLANGE
OU = FACE SEAL/ 3/8 TO 1/2 TURN AFTER O-RING ENGAGEMENT

MARK VIII UNION NUTS:		O-SEAL UNION NUTS:	
SIZE (IN)	TORQUE (IN-LB)	P/N	SIZE (IN) TORQUE (FT-LB)
H950N-4-SS	18-36	50N-1	1/4 10-25
H850N-6-SS	24-48	50N-2	3/8 12-30
H850N-8-SS	36-72	50N-3	1/2 15-40
		50N-4	3/4 20-50
		50N-5	1 25-60
		50N-6	1-1/4 30-75
		50N-7	1-1/2 35-90
		50N-8	2 45-120
		50N-9	2-1/2 60-150

PT = PIPE THREAD/TIGHTEN UNTIL NO LEAKAGE IS OBSERVED
ST = STRAIGHT THREAD/ 3/8 TO 1/2 TURN AFTER O-RING ENGAGEMENT
SW = SOCKET WELD/NONE REQUIRED

USAGE:
AHP = AIR HIGH PRESSURE
AMP = AIR MEDIUM PRESSURE
ECS = CHILL WATER SYSTEM
EX = CHAMBER EXHAUST
OHP = OXYGEN HIGH PRESSURE
OXHP = OXYGEN HIGH PRESSURE
HEOXHP = HELIUM-OXYGEN HIGH PRESSURE

TUBE ASSEMBLY IDENTIFICATION

X-XXX-XX

SIZE: 04=1/4, 06=3/8, 08=1/2, 12=3/4, 16=1, 20=1 1/4, 32=2

TUBE NO.: START AT 01

SYSTEM DESIGNATION:
9 = SHIPS PIPING

TYPE OF RUN:
P = PIPE
T = TUBING
H = HOSE

FITTINGS NUMBER

F-XXX

FITTING NO.: START AT 001

VALVE AND GAUGE IDENTIFICATION NUMBER

AHP-V912

GAUGE/VALVE NO.: START AT 01

SYSTEM DESIGNATION:
8 = CHAMBER
9 = SHIPS PIPING

DESIGNATION:
G = GAUGE
V = VALVE

USAGE:
AHP = AIR HIGH PRESSURE
ALP = AIR LOW PRESSURE
CW = CHILL WATER
OXHP = OXYGEN HIGH PRESSURE
OXLP = OXYGEN LOW PRESSURE
HEOXHP = HELIUM-OXYGEN HIGH PRESSURE
HEOXLP = HELIUM-OXYGEN LOW PRESSURE

COMPONENT LEGEND

○ QUICK DISCONNECT	SCUBA YOKE	DOME LOADED PRESSURE REDUCING VALVE	STOP CHECK VALVE	CAP OR PLUG (SCHEMATIC)
INLINE FILTER	REGULATOR MANUAL ADJUST	GAUGE VALVE	FLOW FUSE	THREE-WAY VALVE
BALL VALVE	PRESSURE GAUGE	O2 SENSOR	FLEXIBLE HOSE	THREE-WAY NEEDLE VALVE
SHUTOFF VALVE	SHUTOFF VALVE (ANGLE)	CO2 SENSOR	HARD PIPE	VENT OR DRAIN
RELIEF VALVE	FLOWMETER	PENETRATOR	FILTER	EXTERNAL DRAWING REFERENCE
TRIPORT SHUTOFF VALVE 1 = DENOTES COMMON PASSAGE	CAP	FLOW INDICATOR	BACK PRESSURE REGULATOR	DWG NUMBER VERT HORIZ
PLUG VALVE	CHECK VALVE	MOISTURE SEPARATOR	DIFFUSER	
BALL VALVE (ANGLE)	NEEDLE VALVE		MANIFOLD	

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7371361	7371357	YDT 17 & 18
NEXT ASSY	USED ON	
APPLICATION		
THIS DRAWING HAS BEEN COMPUTER GENERATED USING CAD. DO NOT MAKE MANUAL CHANGES.		
DO NOT SCALE DRAWING		

QTY REQD	UM	CAGE CODE	DRAWING OR SPECIFICATION NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL	FIND NO.
PARTS LIST OR (SEE SEPARATE PARTS LIST)							
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES. TOLERANCES ARE: DECIMAL FRACTIONS .X = ±.050 ± .XX = ±.015 ± .XXX = ±.005 ±				COASTAL SYSTEMS STATION DAHLGREN DIVISION PANAMA CITY, FL 32407 DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND WASHINGTON D.C. 20362			
PROJECT YDT 17 & 18				YDT 17 & 18			
REMOVED BURS				RECOMPRESSION CHAMBER			
BREAK SHARP EDGES				JOINT IDENTIFICATION DRAWING			
FINISH				SCALE UNLESS NOTED			
MATERIAL				SHEET 1 OF 11			