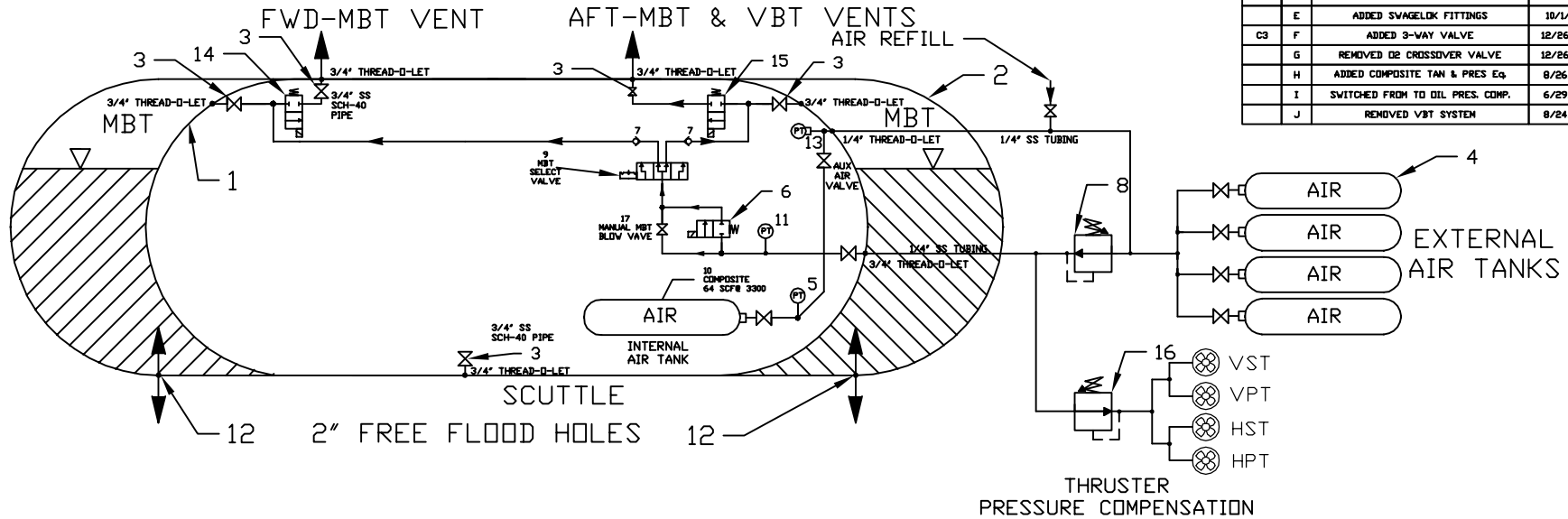


AIR TANKS 4 IS USED TO BLOW THE MAIN BALLAST TANKS (MBT) UNDER NOMRAL OPERATING CONDITIONS. THIS TANK HAS A MAXIMUM PRESSURE RATING OF 3300 PSIG. A SCUBA FIRST STAGE PRESSURE REGULATOR 8, IS USED TO REDUCE THE AIR PRESSURE TO 25 (ADJUSTIBLE) PSI ABOVE AMBIENT WATER PRESSURE. A 64 SCF COMPOSITE AIR TANK 10 IS USED FOR ADDITION AIR SUPPLY. THE AUXILIARY AIR VALVE IS USED TO CONNECT THIS AUXILIARY AIR SUPPLY TO THE MAIN AIR SUPPLY.

REFILLING OF AIR TANKS VIA HIGH PRESSURE WHIP.
CONTROL VALVES 14 AND 15, ARE ELECTRICALLY OPERATED 3/4 BALL VALVES.

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A	INITIAL DRAWING	11/12/03	CLR
	B	REVISED TO ADD SEAL AIR/OIL TANK	12/29/03	CLR
	C	MOVE DE AND AIR TANKS INSIDE HULL	1/6/04	CLR
C3	D	REVERT TO HYDRAULIC BALL VALVES-VBT	4/20/05	CLR
	E	ADDED SWAGELOK FITTINGS	10/1/05	CLR
C3	F	ADDED 3-WAY VALVE	12/26/06	CLR
	G	REMOVED DE CROSSOVER VALVE	12/26/09	CLR
	H	ADDED COMPOSITE TAN & PRES Eq	8/26/14	CLR
	I	SWITCHED FROM TO OIL PRES. COMP.	6/29/15	CLR
	J	REMOVED VBT SYSTEM	8/24/16	CLR



OPERATION OF THE MAIN BALLAST TANKS ARE CONTROLLED BY THREE NORMALLY CLOSED, CONTROL VALVES; ONE FOR AIR TO BLOW THE MBTS AND TWO TO VENT THE TANKS. WHEN THE MBT VENT BUTTON ON THE MAIN CONTROL BOX IS PRESSED, THE PROGRAMMABLE LOGIC CONTROLLER SENDS A SIGNAL TO CONTROL VALVES 14 AND 15 TO ALLOW AIR IN THE MBTS TO ESCAPE. THE FREE FLOOD HOLES 12, ALLOW WATER TO ENTER THE MBTS.

WHEN AN MBT BLOW BUTTON ON THE MAIN CONTROL BOX IS PRESSED, THE PROGRAMMABLE LOGIC CONTROLLER WILL SEND A SIGNAL TO CONTROL VALVE 6 WHICH WILL ALLOW AIR TO FLOW FROM REGULATOR 8 INTO THE MBTS 2 DISPLACING WATER IN THE TANKS.

IN AN EMERGENCY IN WHICH BOTH MAIN AND AUXILIARY POWER ARE LOST, MANUAL BYPASS VALVE 17 CAN BE USED TO BLOW THE MBT AT ANY DEPTH. MANUAL VALVE 9 ENABLES THE PILOT TO SELECTIVELY BLOW FORWARD, AFT OR BOTH (DEFAULT) MBTS.

ITEM	QTY	FSCM	PART NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL
17	1	-	SS-43GS4	SWAGELOK 2-WAY 1/4 TUBE	316-SS
16	1	-	R300-06-XXX	WATTS R364-02BSS/NI REGULATOR	314-SS
15	1	-	R300-6-057_2	2-WAY, NC, 3/4" CONTROLVAL. - AFT MBT VENT	314-SS
14	1	-	R300-6-057_1	2-WAY, NC, 3/4" CONTROLVAL. - FWD MBT VENT	314-SS
13	2	-	R300-06-009	AIR PRESSURE TRANSMITTER, 0-3000 PSIG	316-SS
12	2	-	NA	2" NPT FREE FLOOD HOLES IN MBTS	-
11	1	-	R300-06-011_2	REGULATED AIR PRESSURE TRANS, 0-250 PSIG	316-SS

ITEM	QTY	FSCM	PART NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL
10	4	-	R300-06-XXX	Drager 4500psi SCBA tank 60 carbon wrapped	CARBON
9	1	-	SS-43XHL54	SWAGELOK 3-WAY 1/4 TUBE, OUTS A,B OR BOTH	316-SS
8	1	-	R300-06-036	AIR PRESSURE REG, AQUALUNG TITAN 1ST STAGE	316L SS
7	2	-	SS-4C-1	SWAGELOK CHECKVALVE, 1/4 TUBE, 1 PSI BREAK	314-SS
6	1	-	R300-6-090_1	2-WAY, NC, 1/8" SOLENOID - MBT BLOW VALVE	314-SS
5	4	-	R300-06-011_3	AUX AIR PRESSURE TRANSMITER, 0-250 PSIG	316-SS
4	4	-	R300-06-001	AIR BOTTLE, CATALINA TANK, 19 SCF, 3000 PSIG	6061-T6
3	4	-	R300-06-058	HULL ISOLATION VALVE, GRAINGER 3/4"	316-SS
2	1	-	NA	MAIN BALLAST TANKS	PLASTIC
1	1	-	R300-01-001	PRESSURE HULL, 0.25 INCH	ASTM A516-70

REDUS ENGINEERING
612 INGRAM RD. DEVINE, TEXAS

BALLAST CIRCUITS

SIZE B	FSCM NO.	DWG NO. R-300-D02-002	REV
SCALE NONE	SHEET		