

User Manual for
Amron International, Inc.

Model 8330-PM
Three Diver Air Control System



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1 INTRODUCTION, FEATURES AND SPECIFICATIONS

1.1 INTRODUCTION

The Amron model 8330-PM 3-Diver Air Control and Depth Monitoring System is a panel mount, high/low pressure air control with a depth monitoring (pneumo) system for surface supplied diving operations. This air control system is designed to provide a central control point for the supply of breathing air to three divers and to monitor their depth. Because the 8330-PM air control system is designed for panel mount applications, all air connections for inputs and outputs are located on the rear of the panel.

1.1.1 AIR CONTROL

The 8330-PM has two high pressure inputs and one low pressure input. The high pressure inputs are regulated by TESCO 44-1312-2081-056 regulators that can accept a maximum of 5000 PSIG air and are filtered by inline 50 micron filters located on the input side of each regulator. The regulators can output a maximum of 300 PSIG. The two HP inputs and the LP input can be cross-connected to any of the diver air supply outputs, and each has a 1 PSIG check valve to prevent backflow. The maximum pressure of all three diver air supply outputs are limited by a pressure relief valve set to 285 PSIG.

A low air pressure alarm module supplies a loud, 2.9 kHz audio signal to alert the operator when a diver's air pressure falls below a pre-set limit of 100 PSIG. The low pressure alarm has an on/off switch and is powered by a 9 VDC battery.

An additional and unique feature to the 8330-PM is a gas sample port on the front of the panel. The gas sample port is a stainless steel valve with a T-handle and a 3/16 in. vent tube that provides for a convenient way to connect a gas analyzer and extract and analyze air samples from the system to monitor gas composition and impurities. The gas sample port is located within the low pressure section of the air control system.

1.1.2 DEPTH MONITORING

The 8330-PM provides depth monitoring with cross connect capabilities, pressure gauge protectors and built-in snubbers that protect the precision pneumo gauges against over-pressurization. The pneumo system can cross-connect (and cross-check) any of the three pneumo gauges to any of the divers. The diver pneumo connections are O2 type fittings located on back side of panel. The pneumo valves are regulating type valves. Pneumo gauges are 6 in. high precision 0.25% of full-scale accuracy, dual scale 0-250 FSW/0-76 MSW with 1 ft. increments.

WARNING: DO NOT USE THE AMRON 8330-PM FOR THE FOLLOWING:

- Mixed gas diving operations with an oxygen level greater than 25%.
- Oxygen or oxygen enriched breathing mixtures above 25%.

1.2 FEATURES

The 8330-PM is a unique, all-in-one air control system designed for panel mounting.

- Two high pressure and one low pressure air input connections.
- Three low pressure diver breathing supply outputs.
- All air inputs and outputs are located on the rear of the panel.
- Two TESCOM 44-1312-2081-056 high pressure reducing regulators.
- 50 micron, inline, stainless steel filters on each regulator input.
- Convenient and easy switching between high pressure or low pressure inputs.
- Check valves on all source inputs top prevent backflow when switching.
- Gauge protectors and snubbers prevent pneumo gauge over pressurization.
- Low air pressure audio alarm set at 100 PSIG.

1.3 SPECIFICATIONS

1.3.1 AIR CONTROL – HIGH PRESSURE SECTION

High Pressure Regulators (x2): TESCOM 44-1312-2081-056
 HP Inlet Connections(x2): #6 JIC (located on rear of panel)
 Input Air Pressure Range: 500-5000 PSIG
 Inlet Valves (x2): Regulating Type, KEL-F Seat
 Input Pressure Gauges (x2): 0-6000 PSIG (accuracy ±1.5%)
 Input Air Filters, Inline Pre-Regulator (x2): 50 micron
 Output Air Pressure Range: 0-300 PSIG (relief valve limited to 285 PSIG)
 Max Input Air Pressure: 5000 PSIG

1.3.2 AIR CONTROL – LOW PRESSURE SECTION

LP Inlet Connection (x1): #10 JIC (located on rear of panel)
 Check Valves (x3): 1 PSI
 Diver Outlet Connections (x3): O2 Fittings; CGA 1240 (located on rear of panel)
 Diver Outlet Valves (x3): 1/4 Turn Ball Valves
 Air Pressure Gauges (x3): 0-400 PSIG (accuracy ±1.5%)
 Over-Pressure Relief Valve: Set to 285 PSIG
 Gas Sample Valve (x1): Stainless Steel T-Handle with 3/16 in. Vent Tube

1.3.3 DEPTH MONITORING – PNEUMO SECTION

Pneumo Gauges (x3): 6 in. Precision
 Range Dual Scale: 0-250 FSW / 0-76 MSW (1 ft. divisions)
 Accuracy: 0.25% of Full Scale
 Pneumo Valves (x7): Regulating Type, KEL-F Seat
 Pneumo Outlet Connections (x3): O2 Fittings; CGA 1240 (located on rear of panel)
 Low Air Pressure Alarm: Pressure Range 22.5-125 PSIG, Factory Set at 100 PSIG

1.3.4 PANEL CONSTRUCTION

Panel Material:.....Stainless steel
Powder Coating:Black textured, semi-gloss
Graphics:White silkscreened
Panel Dimensions:..... 37.00 in. H x 25.50 in. W x 7.00 in. D
..... (Requires 7.00 in. D clearance)

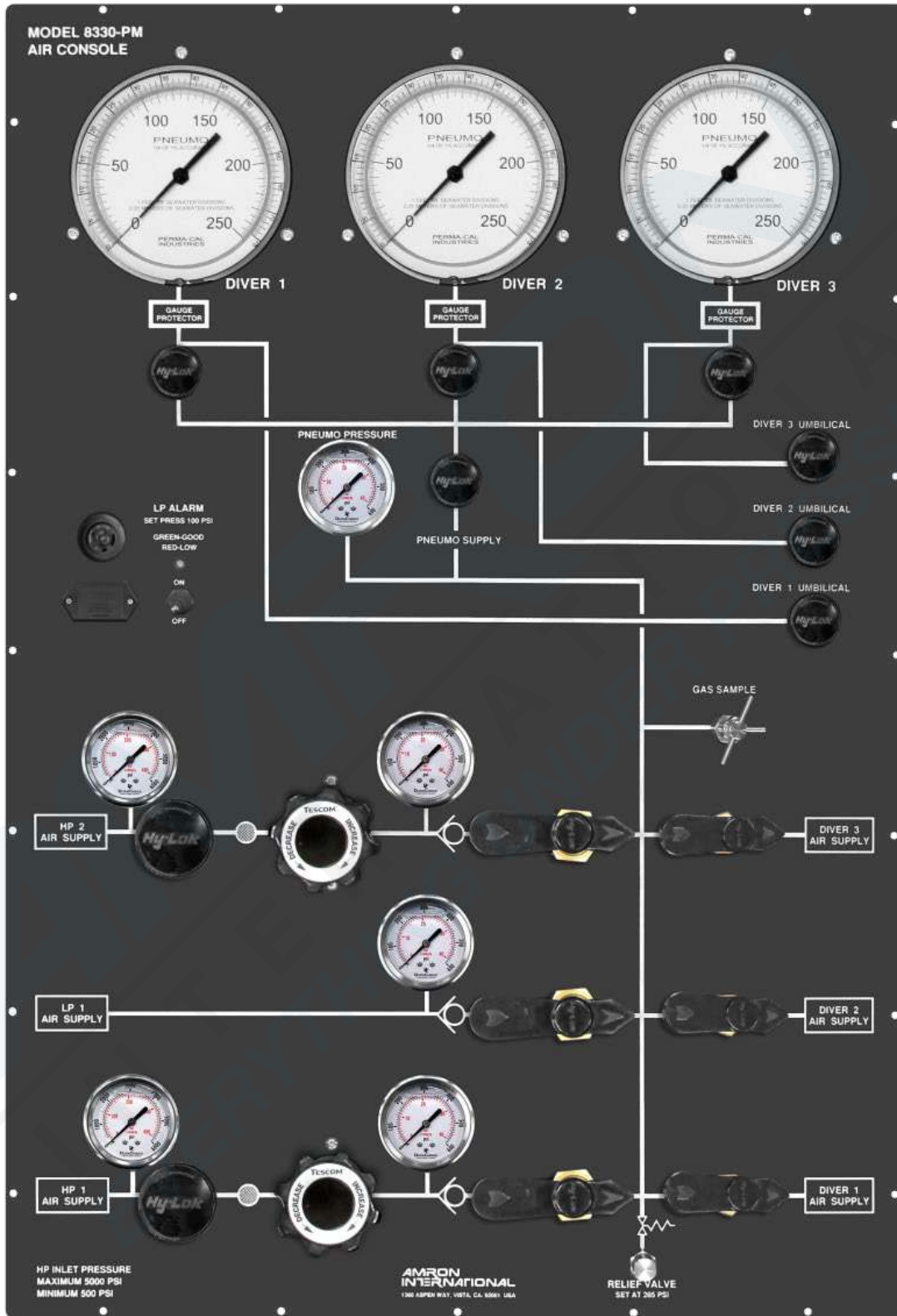


2 DRAWINGS

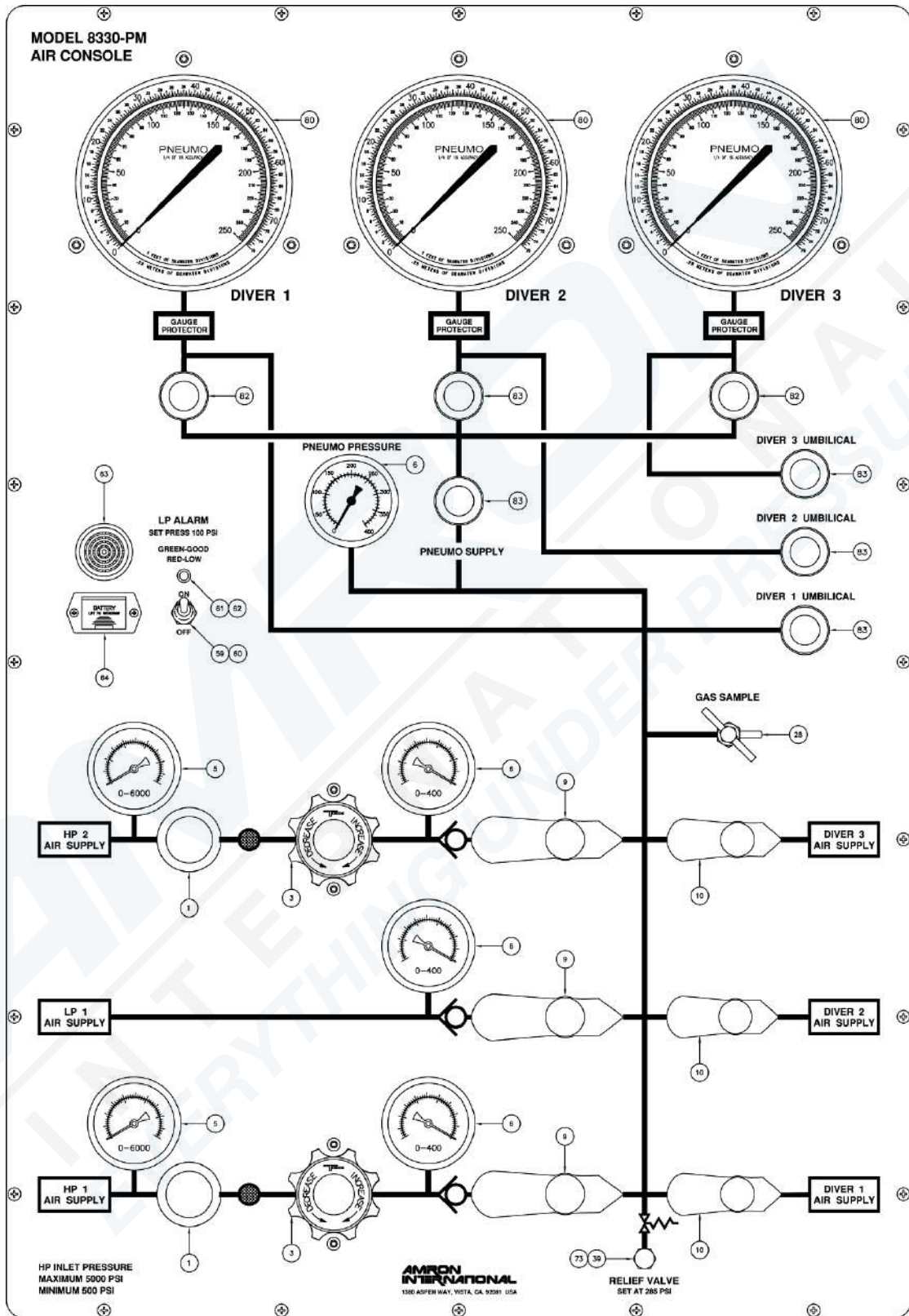
General

The following drawings illustrate the electrical and mechanical details of the diver communication unit. The corresponding parts lists for each drawing are detailed in the parts lists section.

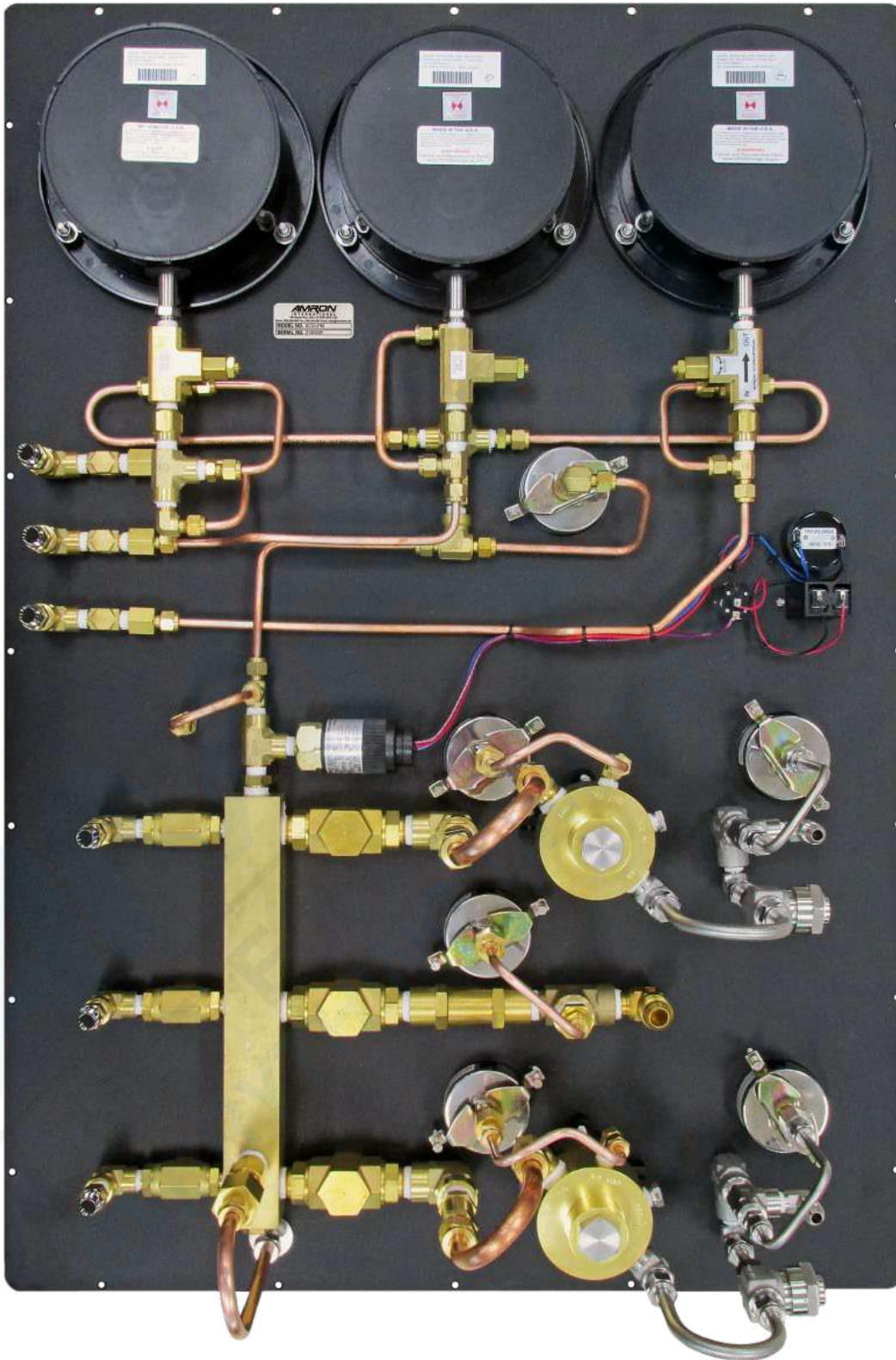
2.1 MODEL 8330-PM (FRONT VIEW)



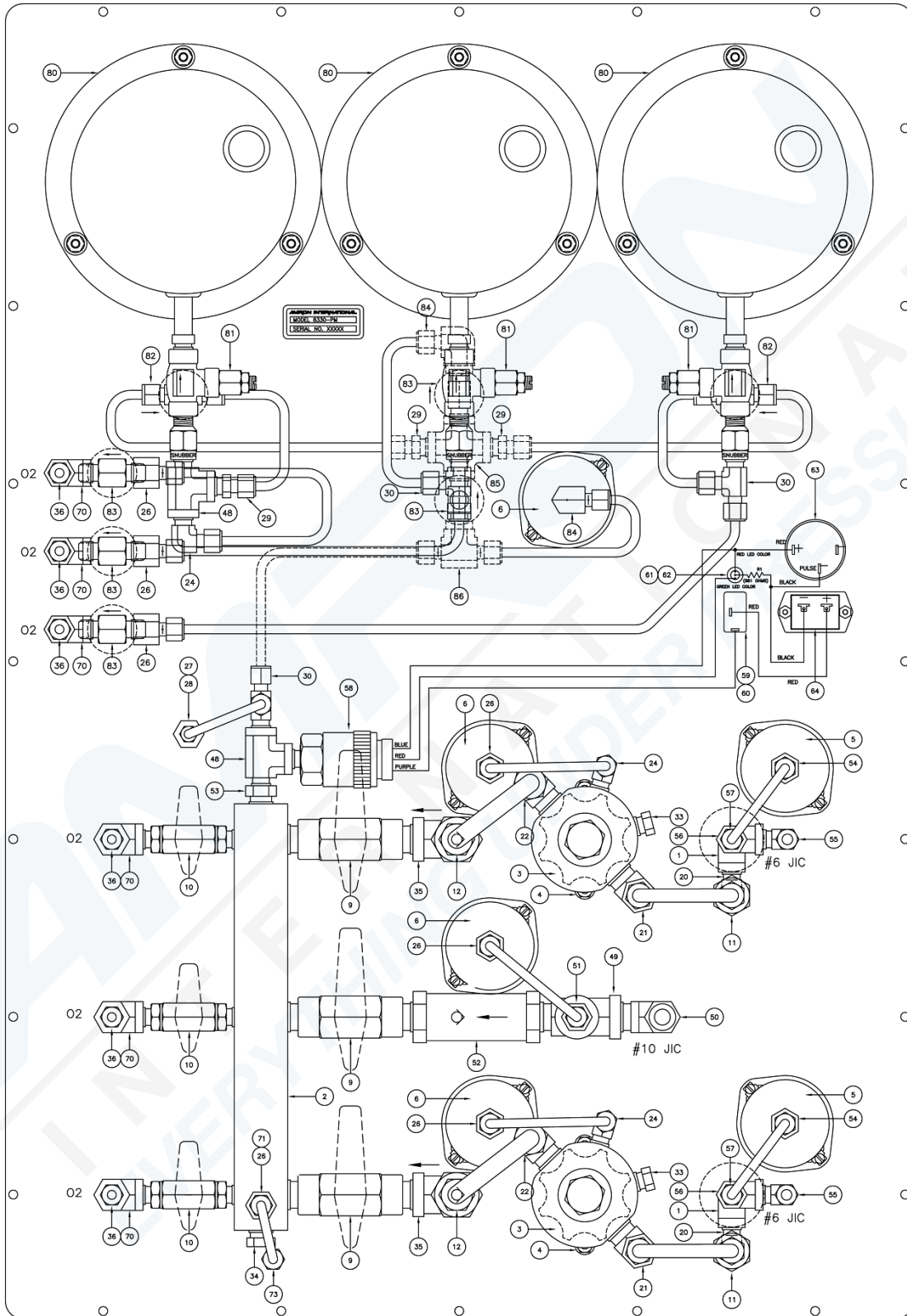
2.2 PARTS LOCATOR, MODEL 8330-PM (FRONT VIEW)



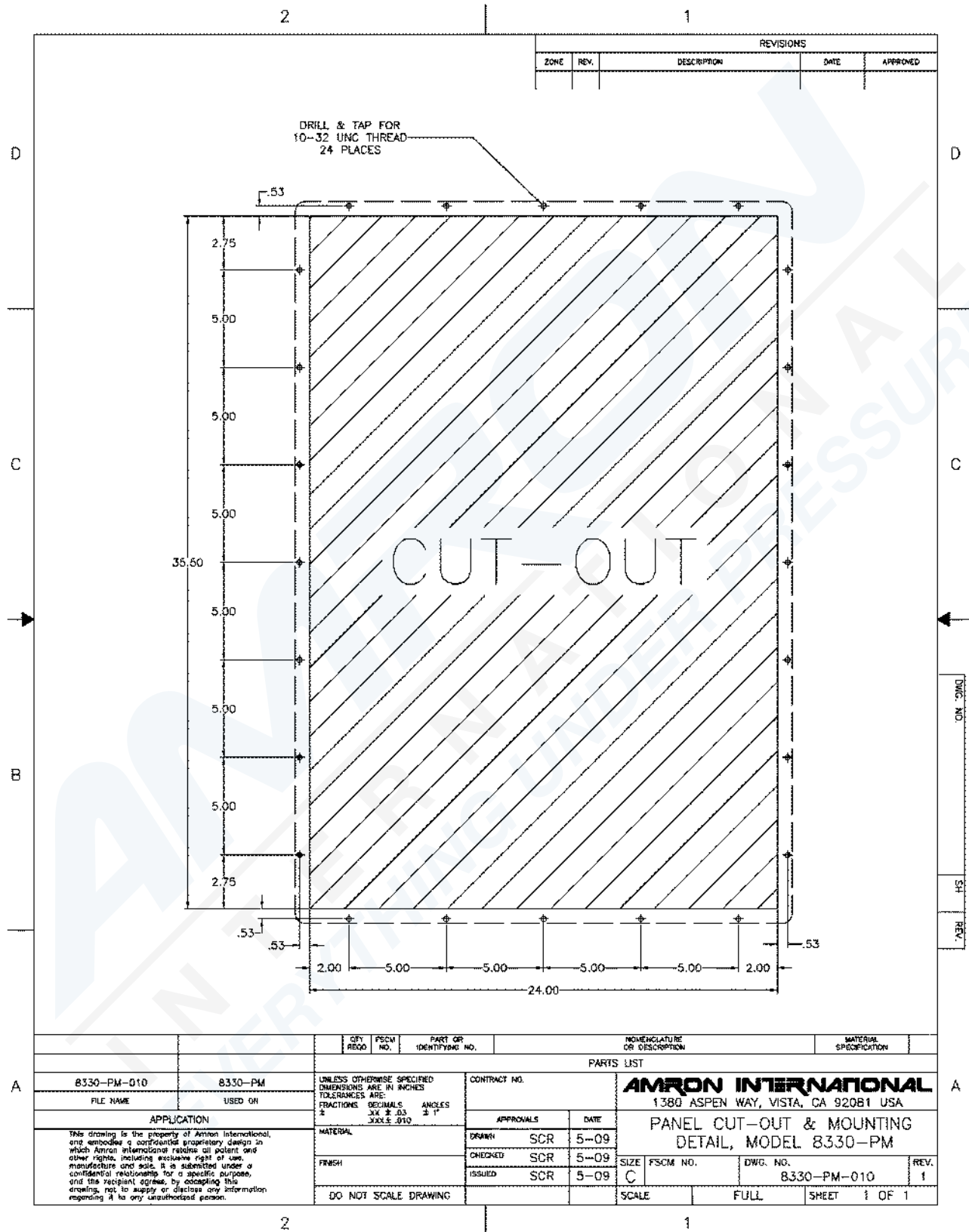
2.3 MODEL 8330-PM (REAR VIEW)



2.4 PARTS LOCATOR, MODEL 8330-PM (REAR VIEW)



2.5 MODEL 8330-PM (PANEL CUT-OUT & MOUNTING DETAIL)



3 PARTS LISTS

The parts lists include both mechanical and electrical parts. The following information will be useful in interpreting data which is not self-explanatory.

REVISIONS

The parts lists in this manual are for the current model of diver communicator as of the printing date.

To Order Replacement Parts Contact:

Amron International, Inc.
 1380 Aspen Way, Vista, California, 92081 U.S.A.
 Telephone: (760) 208-6500 Fax: (760) 599-3857
 Email: sales@amronintl.com
 Web: www.amronintl.com

When ordering replacement parts, you should give as much information as possible to enable us to supply the correct part. This information should include the part number, description, reference designator, value, radio model number, and serial number. Failure to provide sufficient information may hinder our ability to fill your parts orders promptly and correctly.

3.1 MODEL 8330-PM, HP/LP AIR MANIFOLD PANEL

REF	PART NO.	DESCRIPTION
1	NV3FA-4N-S-OS-S316	VALVE ANGLE 1/4 FNPT S/S KEL-F
2	8330-003	LP MANIFOLD BRASS 400 PSI WP
3	44-1312-2081-056	PRESSURE REDUCING REGULATOR; BRASS; 1/2 FNPT;
4	1129	BRACKET; MOUNTING ASSY
5	711725206000 (MFG PN: PB254B-K06)	PRESSURE GAUGE 2.5 IN 0-6000 PSI/BAR1/4 NPT
6	71172520600 (MFG PN: PB254B-600)	PRESSURE GAUGE 2.5 IN 1/4 NPT 0-600 PSI/BAR
9	HB3M-8N-BRAS	VALVE BALL BRASS 1/2 IN. MNPT
10	HB2M-4N-BRAS	VALVE BALL 3/8IN BRASS 1/4MNPT
11	FTH-6T-50-S316	FILTER INLINE 50 MICRON S/S
12	CV3-HM-8T8N-1-BRAS	VALVE CHECK 1 PSI CRACKING
20	CLMA6-4N-S316	ELBOW MALE S/S NO 6X 1/4 MNPT
21	CLMA6-8N-S316	MALE ELBOW S/S 3/8 X 1/2
22	CLMA8-8N-BRAS	MALE ELBOW BRASS1/2 X 1/2
24	CLMA4-4N-BRAS	MALE ELBOW 1/4 X 1/4
26	CFC4-4N-BRAS	FEMALE CONNECTOR 1/4 IN BRASS
27	CBFC4-4N-BRAS	FEMALE CONNECTOR BULKHEAD
28	SS-BVM4-SH	VALVE, BLEED W/T-HANDLE
29	CMC4-4N-BRAS	MALE CONNECTOR 1/4 X 1/4 NPT

REF	PART NO.	DESCRIPTION
30	CRTM4-4N-BRAS	MALE RUN TEE 1/4
33	HP-SS-1/4	HEX HEAD PLUG; STAINLESS STEEL
34	HP-B-3/8	HEX HEAD PLUG; BRASS
35	DD-B-1/2	BRASS FEMALE PIPE ELBOW;
36	340-0087-01	O2 BODY OUTLET ADAPTER; CHROME
39	8600-014	DIFFUSER VENT CAP
48	MRO-B-1/4	STREET TEE; MALE ON RUN 1/4IN
49	MRO-B-1/2	STREET TEE; MALE ON RUN 1/2IN
50	FLM10T-04N-BRAS	BRASS MALE 90 DEGREE ELBOW
51	CMC4-8N-BRAS	MALE CONNECTOR 1/4 X 1/2 MNPT
52	CV4-F-8N-1-BRAS	VALVE CHECK 1 PSI CRACKING
53	PTR-B-3/8X1/4	PIPE THREAD REDUCER; BRASS;
54	CFC4-4N-S316	FEMALE CONNECTOR 1/4X1/4 S/S
55	CTX-SS-6	SS MALE 90 DEGREE ELBOW
56	MRO-SS-1/4	S/S STREET TEE; MALE ON RUN;
57	CMC4-4N-S316	MALE CONNECTOR S/S 1/4IN
58	96211-BB4	PRESSURE SWITCH125RNG/1000PF
59	7580K6	SWITCH TOGGLE SPST
60	5168	SEALHALF BOOT TOGGLE GREY
61	LT2462-24-D51	LED, BI-COLOR RED/GREEN
62	LEDHOLDER-BLK.25	MOUNTING CLIP FOR 5MM LED
63	273-068	SONALERT 12 VDC 2900 HZ
64	B23	BATTERY HOLDER 9V
70	DD-B-1/4	BRASS FEMALE PIPE ELBOW;
71	B-8CPA2-150	VALVE RELIEF ADJUST 150/350
72	CFC6-8N-BRAS	FEMALE CONNECTOR 3/8 X 1/2
73	CMC6-4N-S316	MALE CONNECTOR STAINLESS
80	520-0013-01 (MFG PN: 200FTM88A21)	6 IN. SEAWATER PNEUMO GAUGE
81	ALV-BL-10-150	AMRON PRESSURE LIMITING VALVE
82	NV2H-4T-S-BRAS	VALVE NEEDLE 1/4IN BRASS
83	NV2M-4N-S-BRAS	VALVE NEEDLE 1/4 MNPT BRASS
84	CLF4-4N-BRAS	ELBOW FEMALE 1/4IN BRASS
85	KMMOO-B-1/4	PIPE CROSS BRASS 1/4IN
86	CBTF4-4N-BRAS	FEMALE TEE BRASS NO4xNO4x1/4

4 LIMITED WARRANTY AND SERVICE POLICY**Amron International, Inc.****LIMITED WARRANTY & SERVICE POLICY****LIMITED WARRANTY**

AMRON INTERNATIONAL, INC., (Amron) warrants that its manufactured products are free from defects in material and workmanship under normal use and service for a period of one year from date of shipment as described in Amron's literature covering this product. Oxygen Treatment Hoods and accessories are excluded and limited to 90 days. Amron's obligation under this warranty is limited to the repair of or replacement, at Amron's option, of defective material. This warranty shall not cover defects which are the result of misuse, negligence, accident, repair or alterations.

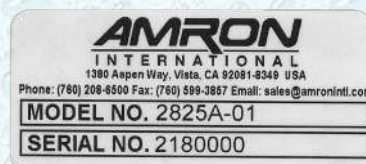
SERVICE POLICY

For technical assistance or to request a repair, please complete one of the following:

- *Amron Communicator Repair* : <HTTPS://WWW.AMRONINTL.COM/COMMUNICATOR-REPAIR-FORM>
- *Repair Request* (all other products): <HTTPS://WWW.AMRONINTL.COM/REPAIR-FORM>
- Call (760) 208-6500, Monday – Friday, 8 a.m. to 5 p.m. PST.

Both MODEL NO. and SERIAL NO. are required fields to be entered on the *Amron Communicator Repair Request* form and can be found on the products identification label as shown below.

“Sample” Product Identification Label



Do not return any product without obtaining a RMR (Return Materials Request).

Detailed return instructions will be provided at the time of request.