

THREE DIVER MIX GAS PANEL (BACK PLUMBING) SY-3DMG-D037-XR-XDV-XM



PART NO : SY-3DMG-\D037-2R-3DV-6M

IMCA D037	DESIGN for Surface Oriented (Mixed) Gas Diving Systems
IMCA D018	Code of Practice for The Initial and Periodic Examination, Testing and Certification of Diving Plant and Equipment



THREE DIVER MIX GAS PANEL (BACK PLUMBING) SY-3DMG-D037-XR-XDV-XM






PART NO : SY-3DMG-D037-2R-3DV-3M

THREE DIVER MIX GAS PANEL (BACK PLUMBING) SY-3DMGP-BP-D037-XR-XDV-XM

TECHNICAL SPECIFICATIONS OF THREE DIVER MIX GAS PANEL

Sr.	Description
1	Powder coated aluminum non rust facia
2	All engraved lines with each valve/fitting/regulator etc clearly marked
3	SS Frame mounted
4	Backside access through container rear door, rubber lined to prevent water ingress (enables easy visuals, repairs, maintenance etc as required on the panel.

Design criteria for dive panel

Sr.	Description	Qty
1	Diver pneumo gauges – traffic light system for easy understanding, size 6” rated to 330fskl.	
	Diver 1 – with individual calibration point GREEN 	1
	Diver 2 – With individual calibration point YELLOW 	1
	Diver 3 – With individual calibration point RED 	1
	Each Diver provided with 5 supply lines (all mix gas regulated at source)	
A	Diver 1 – Common mix gas line 1 Diver 2 - Common mix gas line 1 Diver 3 - Common mix gas line 1	
B	Diver 1 – Common mix gas line 2 Diver 2 - Common mix gas line 2 Diver 3 - Common mix gas line 2	
C	Diver 1 – Common mix gas line 3 Diver 2 - Common mix gas line 3 Diver 3 - Common mix gas line 3	
D	Diver 1 – Independent high pressure air line 4 Diver 2 – Independent high pressure air line 4 Diver 3 – Independent high pressure air line 4	
E	Diver 1 – Common low pressure air line 5 Diver 2 – Common low pressure air line 5 Diver 3 – Common low pressure air line 5	
2	All air supply lines (inlet and outlet) are color coded per diver	
3	Oxygen analyzers with high low alarm (one per diver) (for mix gas use)	3
4	Flow meters (per analyzer)	3
5	Pressure gauges Diver 1 Hp air / Diver 1 Lp air/ Diver 1 Mix gas-1 Diver 2 Hp air / Diver 2 Lp air/ Diver 2 Mix gas-1 Diver 3 Hp air / Diver 3 Lp air/ Diver 3 Mix gas-1	
6	Tescom High pressure regulator, (Inlet 3,750 psi, outlet 1,000 psi) (one per diver)	3
7	Downstream gauges (one per diver) to show umbilical air supply pressure	3
8	Flow Restrictor (on Lp supply gauge & Downstream gauge)	3
9	BA set provided separate (optional)	1
10	All tubing used will be tungum tubing , high pressure	
11	All valves for incoming air supplies will be brass , high pressure	
12	All valves for regulated supplies will be brass, high pressure	
13	Diver communication Amron 3 diver helium unscramber Push to talk microphone for above	2 2
14	Diver underwater video system Diver 1/Diver 2 / Diver 3 with individual surface control unit for Video / Light operation Diver 1/Diver 2 / Diver 3 videos recorded on individual Mini Dvr with 32 GB Sd card Backup recorder (black box) 1 TB hard drive (simultaneous recording of all dives) Diver 1/Diver 2 / Diver 3 individual monitor 15”	3 3 1 3

THREE DIVER MIX GAS PANEL (BACK PLUMBING) SY-3DMG-D037-XR-XDV-XM

Sr.	Description	Qty
	Optional	
1	Surface External Camera (mounted on container above chamber entrance) with 15" monitor	1
2	R.O.V Camera monitor (connected to Rov operations)	1
3	Navigation camera monitor (connected to Bridge navigation)	1

THREE DIVER MIX GAS PANEL (BACK PLUMBING) SY-3DMG-D037-XR-XDV-XM



AMRON INTERNATIONAL

SY-2830A-12 AMCOM III THREE-DIVER PORTABLE DSP3 HELIUM SPEECH UNSCRAMBLER WITH OUTDOOR AC POWER MODULE AND INTERNATIONAL LOCKING POWER CORD



NEWLY DESIGNED ENHANCEMENTS:

High Audio Fidelity

Ultra-low noise circuit combined with noise suppression circuitry produces crystal clear speech. Automatic gain adjustment will guard audio signal from distortion, enhance speaker protection and audio quality. Increases bandwidth 47%.

Extended Battery Operation Time

Audio amplifier card deploys the state-of-the-art Class-D digital audio power amplifier. Has very low power dissipation, produces less heat, and extends battery life up to 32%.

Flexible Gain Settings

The audio amplifier card has adjustable gain settings to accommodate different communication applications and environments.

Ultra-Low Electromagnetic Interference (EMI)

EMI is achieved through spread-spectrum and de-phase control techniques providing for optimum integration with diving systems.

Outdoor Rated AC Power Module

Weather resistant, IP65 rated AC power entry module accommodates country specific AC power cords.

Country Specific V-Lock AC Power Cord

At time of order, simply choose the IP54 rated Locking AC power cord you need.

FEATURES:

- Helium Speech Unscrambler (HSU) is conveniently installed in the option panel of this portable communicator incorporates a state-of-the-art digital signal processor to correct raw helium speech to clear, intelligible voice. The Depth Control can be finely-tuned using a multi-turn potentiometer providing the tender with better speech quality.
- The Noise Reduction Filter (NRF) uses a complex Digital Signal Processor algorithm to capture the background noise and reduce it without affecting the diver's speech. Noise reduction levels can be reduced by up to 17 dB.
- Real-time audio processing uses both frequency and time domain technologies for optimized performance over a wide range of depths and background noise.
- Improved Treble Boost Control feature allows for optimum frequency enhancement and improved intelligible speech from the diver's voice.
- Separate channels and volume controls for each diver and tender to accommodate individual earphone and microphone adjustments, equipment variations and individual comfort levels.
- Divers' umbilicals can be set to 4-wire mode (full duplex) or 2-wire mode (push-to-talk) or any combination of the two modes for any diver.

AMRON INTERNATIONAL

- Ability to use both dynamic and pre-amplified diver microphones with a unique circuit that detects microphone type and automatically adjusts volume levels.
- Weatherproof push-to-talk microphone for better voice intelligibility topside. For optimum clarity, see Tech Note (below) for other recommended equipment.
- Internal charger allows for simultaneous charging and operation of the unit while protecting the rechargeable battery from being over-charged. Automatically supplies power to the audio amplifier when AC power is disconnected to allow for continued operation.

SPECIFICATIONS:

- Input Impedance (Each Input): 250 Ohms
- Frequency Response: 300 - 10000 Hz
- Common Mode Rejection: 40 dB Minimum
- Current Drain Maximum Full Volume: 3 Amps
- Minimum Quiescent: 0.190 Amps
- Output Impedance: 4 Ohm
- Power Supply Voltage: 12 VDC Nominal (9 Volts Minimum - 16 Volts Maximum)
- AC Power Operating Range: 90-264 VAC, 50-60 Hz
- Sensitivity (Input): 5 mV
- Output Power (RMS @ 4 Ohm Load, 12 VDC): 10 Watts Audio
- Battery Life: 29 hours
- Dimensions: 10 in. H x 9 in. W x 14.5 in. L (25.4 cm x 22.9 cm x 36.8 cm)
- Weight: 17.45 Lbs. (7.92 Kg)

INCLUDED WITH COMMUNICATOR:

SY-2830A-12 AMCOM™ II Three-Diver Portable DSP3 Helium Speech Unscrambler with Outdoor AC Power Module and International Locking Power Cord includes:

- (1) SY-2405-28 Amron Hand-Held Push-to-Talk Microphone
- (1) SY-2890-05 Amron 12 VDC Sealed Lead Acid Gel-Cell Rechargeable Battery with Slide terminals
- (1) SY-283XA-UM Amron Three-Diver Portable Communicator User Manual

AVAILABLE OPTIONS:

- SY-2460SM-28 Amron Single Muff Operator Headset with Boom Mic and Dual Banana Plugs
- SY-2401-28 Amron Deluxe Headset with Boom Mic
- SY-2822-28 Amron Remote Walk-and-Talk (4-wire mode)
- SY-2821-28 Amron Remote Walk-and-Talk (2-wire mode)

TECH NOTE:

All communicators will inherently transfer topside noise to the divers when the tender speaks directly into the communicator's panel speaker. To eliminate background noise at the surface, use the 2405-28 Push-to-Talk Microphone, included with this model. For optimum communications, we recommend purchasing the 2401-28 Deluxe Headset with Boom Mic for topside operation. For tender mobility, use the 2401-28 Deluxe Headset with Boom Mic along with the 2822-28 Remote Walk-and-Talk (4-wire mode) or the 2821-28 Remote Walk-and-Talk (2-wire mode). For wireless tender communications, order the 2830A-03 Three-Diver Deluxe Portable Communicator with Wireless Tender Option.

CERTIFICATES PROVIDED WITH EACH THREE DIVER MIX GAS PANEL

Diving panel	Bureau Veritas
IMCA	D018 / D023 / D037
Class	Bureau Veritas pressure test witness for entire system
Fmea	As built by Synergy
Fmea stamped by class	As built by Synergy and reviewed by Class (optional)
Warranty	One year Synergy manufacturing warranty

Industry & Facilities Division
Third Party Inspection Report
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INSPECTION REPORT No: D018.4.24.1167.20124.UR-09.001 Revision No: 0

Inspector: Khran Gavind
Inspector reports by: M/S. Synergy Innovative Diving Equipment Trading LLC Dubai, UAE
Inspection performed at: Physical Asset Authority

Project: Third Party Inspection Services
BY Client: M/S. Synergy Innovative Diving Equipment Trading LLC Dubai, UAE
Manufacturer/Vendor: Synergy Innovative Diving Equipment Trading LLC, Dubai, UAE
Sub-Vendor(s) applicable: N/A
Inspection Location: Al Qasab, Dubai
Inspection performed on: 11.03.2024

MATERIAL / SUBJECT OF INSPECTION	ITEM / TAG No	QTY	QTY Offered for inspection
Witness of Pneumatic Over Pressure Test of Three Diver Mix Gas Panel, High Pressure Lines @ 3300 psi & Low Pressure Lines @ 330 psi	Serial No: TRITON-733	01 No.	01 No.

A - INSPECTION RESULT

Witness of Pneumatic Over Pressure Test of Three Diver Mix Gas Panel, High Pressure Lines @ 3300 psi & Low Pressure Lines @ 330 psi, Serial No: TRITON-733, as per Annexure - A & Found Satisfactory.

Open Non Conformities: Yes, details in section G No
Open Punch List Items: Yes, details in section H No
Release Note Issued: Yes, number(s) No

BY: Yes No

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INSPECTION REPORT No: D018.4.24.1167.20124.UR-09.001 Revision No: 0

BY Inspector: Khran Gavind
BY Office: Dubai
BY Coordinator: Ebin Lal Gopal Looia
Inspection Report Date: 22.07.2024

B - REFERENCE DOCUMENTATION:

Title	Reference n°	Rev.	Approval Status	Approved by	Date
Diving Equipment System Inspection Schedule	IMCA, EX37	0.1	Approved	IMCA	October 2019
Pneumatic Over Pressure Test	SSEI, QMS M-01	01	Approved	Synergy	May 2018

C - ATTENDEES

Name	Position	Representing
Mr. Khran Gavind	Bye Inspected	Bureau Veritas
Mr. Ebin Lal Gopal Looia	Engineer	Synergy

D - MEASURING & TESTING EQUIPMENT USED

Equipment Type	Equipment Identity n°	Issue Calibration Date	Expiry Date
Pressure Gauge	85242	03/03/2024	09/02/2026

E - INSPECTION DETAILS

E1 - Details of Witness (W) & Hold (H) Inspection Points

- Manufacturing Progress Status: N/A
- Details of Inspection Activities carried out with reference to ITP:
 - Visual Inspection of Three Diver Mix Gas Panel and Found Satisfactory.
 - Verified the serial No. TRITON - 733 of Three Diver Mix Gas Panel
 - Witnessed pneumatic over pressure of Three Diver Mix Gas Panel as per Annexure - A & Found Satisfactory at the time of inspection.
 - Pressure leak test on pipe work, valves, fittings found satisfactory at the time of inspection.
- Confirmation of certificates:
 - Verified calibration certificates of measuring instruments and found satisfactory.

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F - HEALTH, SAFETY & ENVIRONMENT COMMENTS

Carried out 2 minutes safety check list & No Safety Concerns were found at the time of inspection.

G - NON CONFORMITIES

Item	Description	Status	Raised on	Report No.	Closed on	Report No.	Comments
N/A							

H - PUNCH LIST ITEMS

Item	Description	Status	Raised on	Report No.	Closed on	Report No.	Comments
N/A							

I - DIGITAL PICTURES

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J - ATTACHMENTS

Item	Attachment Name	Total Pages	Description

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Annexure - 01

Inspection Details:

- Witnessed Pneumatic over pressure test of three diver air panel with the following details:
 - Description: Three Diver Mix Gas Panel
 - Country of origin: U.A.E
 - Manufacturer Serial No: TRITON 733
 - Year of Manufacture: October 2024
 - Design pressure: 1.8 MPa / 18000 psi
 - Test pressure: 1.8 MPa / 18000 psi
 - Pneumatic Test Date: 11.03.2024

Pneumatic Test:

- Witnessed over pressure test of Three Diver Mix Gas Panel (Serial No. TRITON/733) has been witnessed as per the approval procedure and found the following:
 - Test Pressure gauge calibration certificate was reviewed and found satisfactory.
 - Low Pressure of 330 psi (1.1 times of 300) was applied to the low pressure piping of Three Diver Mix Gas Panel for 30 minutes, no leaks found, satisfactory at time of inspection.
 - High Pressure of 3300 psi (1.1 times of 300) was applied to the high pressure piping of Three Diver Mix Gas Panel for 30 minutes no leaks found, satisfactory at time of inspection.
 - Soap solution leak test was performed on piping, fittings & valves, no leakage found at the time of inspection. Results satisfactory.

END OF REPORT

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ORDERING INFORMATION

Sr.	Part Number	Description
1	SY-3DMG-D037-2R -3DV-6M	THREE DIVER MIX GAS PANEL, WITH 2 X AMRON 3 DIVER HELIUM UNSCRAMBLER OR AIR DIVER RADIO D1 / D2 / D3 VIDEO SYSTEMS, EXTERNAL CAMERA MONITOR, ROV MONITOR, NAVIGATION MONITOR
2	SY-3DMG-D037-2R -3DV-4M	THREE DIVER MIX GAS PANEL, WITH 2 X AMRON 3 DIVER HELIUM UNSCRAMBLER OR AIR DIVER RADIO D1 / D2 / D3 VIDEO SYSTEMS, AND 4TH MONITOR FOR EXTERNAL INPUT
3	SY-3DMG-D037-2R -3DV-3M	THREE DIVER MIX GAS PANEL WITH 2 X AMRON 3 DIVER HELIUM UNSCRAMBLER OR AIR DIVER RADIO D1 / D2 / D3 VIDEO SYSTEMS
4	SY-3DMG-D037-2R -3DV-6M-OPT-2	THREE DIVER MIX GAS PANEL, WITH 2 X AMRON 3 DIVER HELIUM UNSCRAMBLER OR AIR DIVER RADIO D1 / D2 / D3 VIDEO SYSTEMS, EXTERNAL CAMERA MONITOR, ROV MONITOR, NAVIGATION MONITOR, WITH 6 LINES
5	SY-3DM-D037-2R	THREE DIVER MIX GAS PANEL WITH 2 X AMRON 3 DIVER HELIUM UNSCRAMBLER OR AIR DIVER RADIO (NO CCTV)
6	SY-3DMG-D037	THREE DIVER MIX GAS PANEL (NO RADIO , NO CCTV)
7	SY-2830A-12	THREE-DIVER PORTABLE DSP3 HELIUM SPEECH UNSCRAMBLER WITH OUTDOOR AC POWER MODULE AND INTERNATIONAL LOCKING POWER CORD
8	SY-2830-11	THREE-DIVER PORTABLE AIR RADIO WITH OUTDOOR AC POWER MODULE AND INTERNATIONAL LOCKING POWER CORD

BESPOKE DESIGNS – ANY CONFIGURATION AS PER CLIENT REQUIREMENT

THREE DIVER MIX GAS PANEL (BACK PLUMBING) SY-3DMG-D037-XR-XDV-XM

Contact us



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